HSAP057 LITHIC DATABASE

This document provides supplemetary information to the HSAP057 lithic database. HSAP057 is a mid-holocene archaeological surface site by the Fourth Cataract of the Nile, Sudan. The site was sytematically collected and excavated by the Hungarian Sudanese Archaeological Project (HSAP) in 2007, part of the Merowe Dam archaeologcal salvage program.

The lithic material of the site is analyzied by Attila Király, a Hungarian palaeolithic archaeologist and egyptologist, member of the HSAP team. The measurements and other descriptive data about this assemblage is published via online. To ensure open access, this database is licensed under the Creative Commons CC-BY license.

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This is version 2 of the database.

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I. DOCUMENTATION

1. AIMS OF THIS DOCUMENT

This document provides supplemetary information to the HSAP057 lithic database. Lithics constitute the most durable and one of the most numerous artefact category from prehistoric times well until the Meroitic era in the Sudan. Our understanding about lithics here today rest on a modest segment of the total lithic variability that can be recorded. This segment approached by heterogenous classification schemas that forged in a gradual discovery of prehistoric Sudan. Complex technological analyses offer a more comprehensive understanding of local lithic traditions, site formation and intersite relations, with a more systematic, high resolution approach to lithic variability (ANDREFSKY 2009; BARTON ET AL. 2004; HISCOCK, TABRETT 2010; HOLDAWAY, WANDSNIDER 2006; LYCETT 2015; SCERRI ET AL. 2015). To achieve this aim, there is a need for substantial, standards-aligned datasets to share.

This database intends to meet this aim, following the practice of data publication. Data publication conforms to disciplinary standards, formal requirements of academic discourse and technical requirements of online dissemination (KANSA ET AL. 2014; KRATZ, STRASSER 2014). Creating such datasets requires at least the data itself and a supplement documentation which secure detailed informations about the sites, assemblages and meta-data for the convenient use of the dataset itself.

2. STRUCTURE AND VERSIONS OF THIS DOCUMENT

This document consists of four main parts. In the first part I describe the aims of the publication, the particularities of the archaeological project, the site and the assemblage on which the data were measured and the basic characteristics of the data format.

The second part contains the meta-data about the variables measured. This part lists the variables and the variates. One variable built up of the following informations:

- name of the variable
- definition and description of the variable
- abbreviation of the variable used in the database (four-letter mosaic words assembled by the initials of the definition in Hungarian)
- possible uses of the variable (not included in this document version)
- references for the variable (not included in this document version)
- list of variates and their definitions

The third part ensures the version control. As my study proceeds, the database and the documentation will be more comprehensive, more accurate and more detailed. To keep up with changes, some kind of version control is needed. On the Web version control usually secured by specific applications such as GitHub. In the case of the HSAP057 database, for the moment I reduced the applications for the publishing platform, Figshare. Figshare has a version-system incorporated in the Digital Object Identifiers (DOIs) that it provides, in the form of „v1", „v2" etc. at the end of the doi. The Figshare application always provides the visitor with the latest version of the uploaded sets. The description of the changes between versions is manual, i.e. provided here, in this document. The first version was a kind of a placeholder because a DOI was needed before the first comprehensive upload. So, the „real" dataset version history begins with version 2.

This is the 02 version of the dataset.

The fourth part contain picture and drawing tables with links to the full resolution images stored in a Flickr account. This part is not contained in the 02 version, it is under completion.

3. THE DATA FORMAT

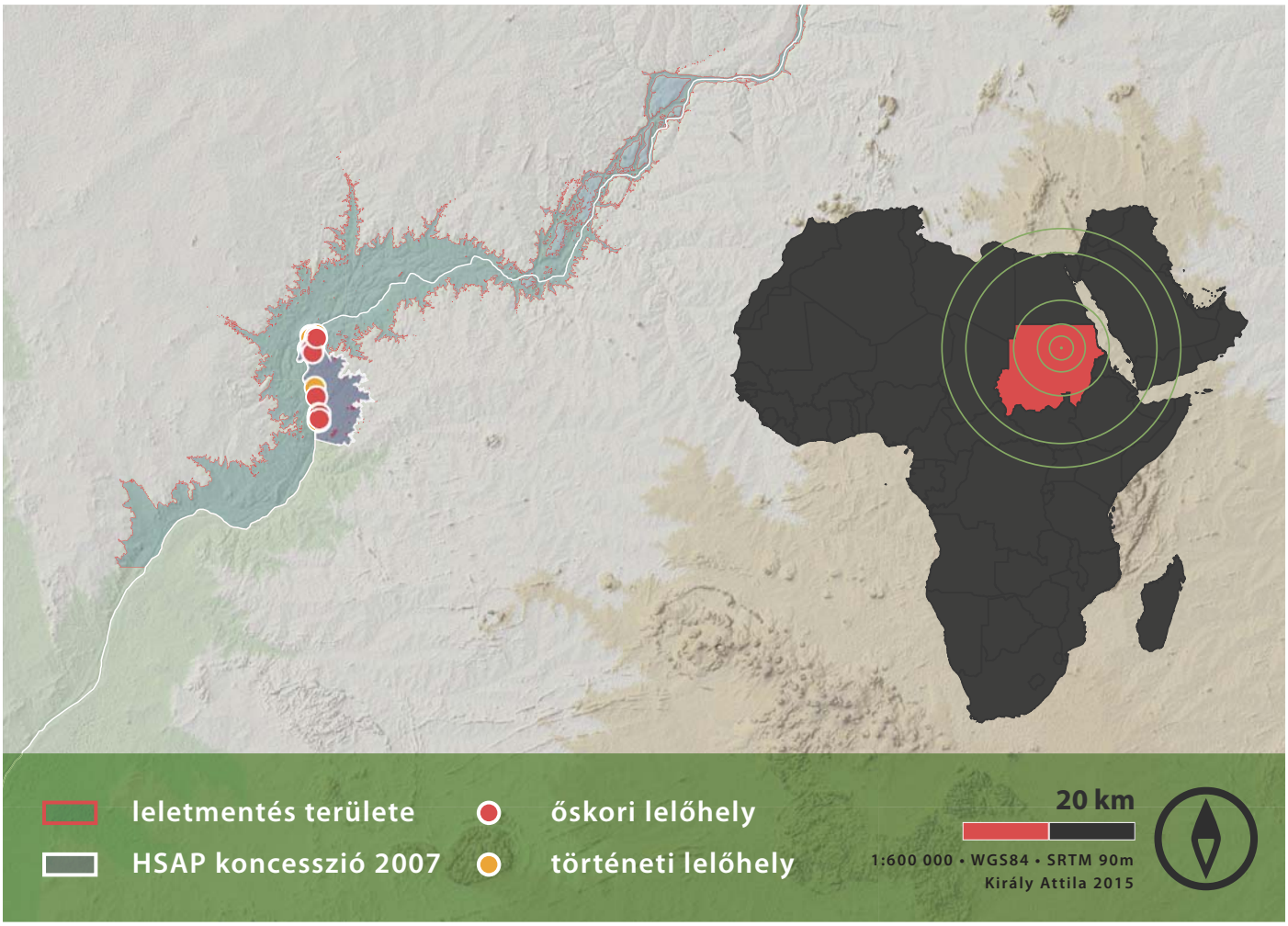
I recorded the data with simple measurement tools such as goniometer and caliper, and (macroscopic) visual inspection. For the raw materials a petrographic characterisation was made on a sample of eleven pieces, at 40x magnification. The basic categories of rocks could be described as chert and quartz. The raw data was recorded on Microsoft Excel sheets.

For the publication I used a *Microsoft Access* database document. In this version the structure of the dataset is quite simple. It contains eight data tables that list the different variables. The basic ID is a serial number for the analyzed piece (leletID), serving as base of the connections between tables. Separate Ids are created for every edge alteration and modification, that are connected to the pieces with the leletID. In the case of cores, each debitage and knapping surface has a separate ID, so one piece (core) can be related to several of those surfaces. The connection between a piece and the surfaces is secured by the leletID.

Values of nominal variables are decribed in the second part, units of the numerical values are explained there too. Elaboration of the Access database is planned with queries, macros and sheets.

4. THE HUNGARIAN SUDAN ARCHAEOLOGICAL PROJECT AND THE HSAP057 SITE

Descriptions of the project and the prehistoric sites are found in KIRÁLY 2008; 2012. During the first months of 2007, the Hungarian Sudanese Archaeological Project (HSAP) arranged it's second campaign in the vicinity of the fourth cataract, by the eastern bank of the Nile, at a strip of 16 km2 land near the dam construction area in Sudan (LASSÁNYI 2008). Within the frames of the



The Merowe dam Archaeological Salvage Project territory. HSAP concession in 2007 marked with lila; red dots are prehistoric, yellow dots are historic sites.

project, we excavated a site, called HSAP 057 between the 17th and 24th of February.

The prime aim was to explain the site's chronological and cultural stand by the investigation of findings. Besides, we tried to take reasonable statements about the organization of the site through the examination of relationships between natural and artificial phenomena there, as well as the micro-region around. In the course of the survey, we registered countless occurences with microlithic findings, ceramics with seemingly prehistoric character (KIRÁLY 2008). Against the usual light carpet of artefacts, the recorded spots shared distinctive traits, as heavy concentration of findings, and/or the presence of objects with the scatter, like artificial depressions or stone alignments. In consequence of the special ecological and geomorphological circumstances (lack of stratification, heavy erosion, transport factors, etc.), the disturbances, the poor knowledge about the region of the 4th cataract, in many cases we were unable to decide in the field, whether the phenomena are coherent, contemporaneous, or how can we evaluate the data in cultural terms.

HSAP 057 was lying near the village Dar el-Arab, on a granite djebel's plateau dissected by weathered boulders and cliffs, in the hill zone behind the habitation area. These boulders gave a kind of compartmental structure to the site, with which the traces of occupation accomodated. The plateau gently sloped towards the west, and outside the collection area this inclination became more pronounced. The lower sections of the jebel and the narrow valleys around were plotted with (sub)recent stone shelters and bones of small livestock. Besides, often we explored patches of prehistoric artefacts similar to the material on the plateau.

At the site, hints of recent intrusions were absent. At the northern margin of it, among cliffs, two rectangular humps of stone stretched, clearly isolated from the occupation in question. Although they remained unexcavated, according to our experiences elsewhere in the concession area, they were graves from later times. None of the cultural material around could be connected to them, or their material was identical with the prehistoric findings. The southern perimeter of the plateau was framed by naturally formed minor „compartments" with microlithic artefacts in a light density, compared with the main excavation surface.

After a 294 m2 grid was constructed, we made a piece-plotting, photo documentation and systematic collection at 80 m2 (Area A), and a total collection of

ceramics at 116 m2, which squares with the length of the plateau. From the plotted area, we had the possibility to keep only the typical and curious lithics and all the ceramic fragments. These were in a quite fresh condition, other categories of findings were absent. The restricted subsurface investigations showed fine homogenous, yellowish brown sandy sediments with the thickness of 10-15 cm, below that the base rock was lying. Only the upper 3-5 cms contained artefacts, in a very light density in comparsion with the surface. At the southern margin of the grid, an isolated compartment of 3 m2 was densely covered with chert and flint material (Area B). A total collection was made here, that served as the base of technological analysis.

4.1. The lithic industry

The technological traits on the collected pieces suggest a certain coherence for the artefact scatter. The industry used local raw materials, mostly small chert and quartz pebbles with different coloration, occuring everywhere along the wadis. The pebbles were sliced without preparation, with the help of an anvil and hard hammer, or a lisse striking platform was formed by a blow, from where flakes were detached with direct percussion until the platform became useless in the knapper's view. At this point, the core was abandoned or rotated to continue the operation.

The debitage consisted mostly of secondary flakes, which were used without further modifications. Some blanks, usually without cortex, were selected to make formal tools in a sense we understand it. These formal tools are made of almost exclusively flint and chert, they have an apparently microlithic character. The main types are the backed pieces, including characteristic lunates, double backed perforators, other backed tools. In sample A, besides the lunates we can find some rectangles, a trapeze among geometrics, and an atypical backed point which has not an exact analogy in the region. Besides, retouched artefacts, notched pieces, and two burins are present. The types and their distribution are similar in the two samples.

4.2. Ceramic material

The ceramic material counts 102 sherds with an average size of 10,2 cm2, in a quite good state of preservation. Wall thickness varies between 3 and 12 cms. The ware is well fired, usually brown or light-brown, but there are items with reddish and blackish colour. The fractal surface bears, mostly on the thicker shreds, a black strip in the middle. Almost all the pieces were smoothed or burnished inside and outside, a pair of them had a polish, and in two cases a red and a brown slip can be recognized. With a ratio of more than 90% the fabric is tempered with quartzitic sand and angular mineral particles. In the remaining cases the temper was of vegetal fibres, supposedly they are belonging to one vessel. The volume of tempering is medium-heavy, the granule size is mostly medium or smooth. There are not safe estimations of vessel forms; most of the pieces are too small to reconstruct shapes. Probably there were big open bowls with simple, linear profiled or lipped rims.

Along the fabric, three types can be differentiated. The first is represented by the sherds with organic temper; these are thick, quite badly fired pieces, some of them showing the technique of coiling at the inner surface. The second group contains well fired, thick sherds with mineral temper, their color varies between reddish-brown to black. In some instances, the fabric is heavily tempered with coarse particles. The third group consists of well fired, carefully smoothed thin sherds, tempered with fine sand. Their color is light brown or greyish-brown. Almost all the sherds are decorated, for their classification I used the system of Caneva and Marks (1990; GATTO 2002). The motifs were applied before firing with the methods of punctuation, rocker stamping with tools of evenly serrated edge leaving 4-7 dots behind, and simple impression. Striking was the absence of motifs made by incision or rocker stamp with a plain edge. In the majoritiy of cases, the impression of the tools used are dots and dashes. A few sherds wears lines originated from a cord wrapped implement. As the small fractions allowed, I set up the tightly packed zigzag of dots as the best represented motif, arranged in curved bands. Popular is the loosely packed zigzag, besides common are impressed lines of dots in straight and smoothly curved bands. Based on the dominance of continuously decorated sherds, the structure of application is covering, or in some instances, zonal patterns were made. One of the three rim shreds has a line of deep oblique dashes, on the other two, a line of tiny dots stretches along the intersection of rim and body.

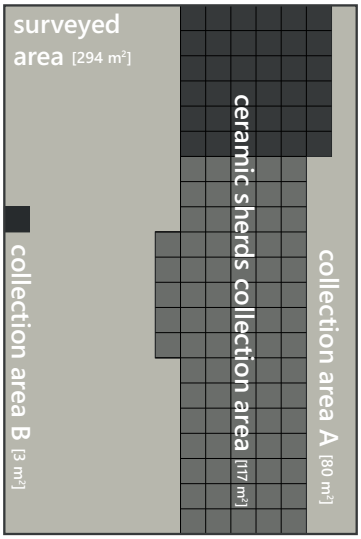
4.3. Features and spatial aspects

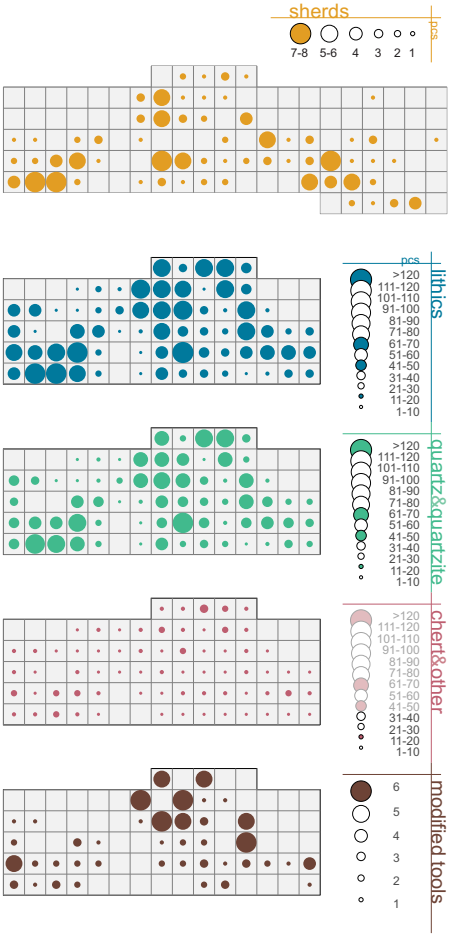
The distribution of the artefacts roughly followed the plateau's natural compartmentality at Area A, but there were anomalies of density that deserve more attention. Around stone alignment 1, the amount of ceramics and lithics was highly increased. The alignment itself consisted of 20-30 cms long, flat stones in an apparently conscious arched arrangement on the surface.

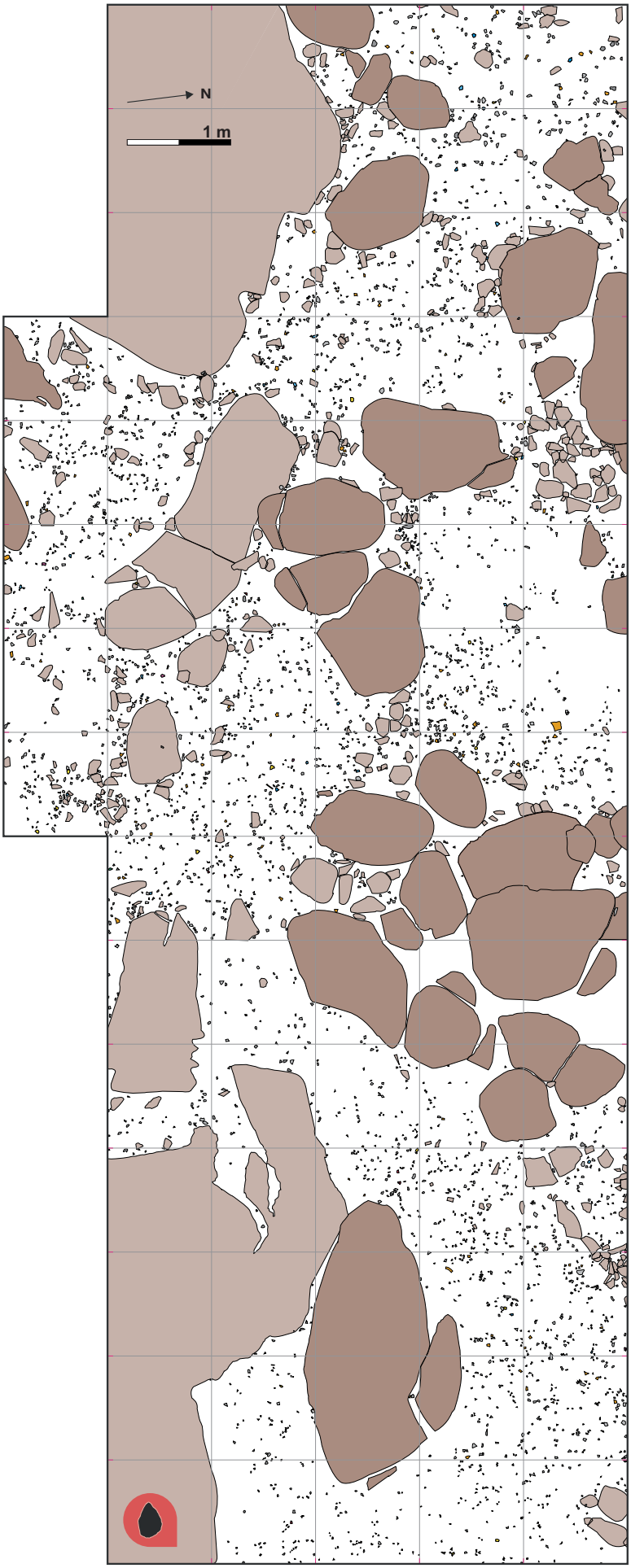
An other artefact concentration extended around alignment 3 and the quadrants southeast from it. Here again, the amount of debitage, tools and cores was more pronounced as elsewhere. Object 3 was a „patch", a phenomenon we observed at more places during our survey. These features were situated at deeper parts of the ground, their shapes were circular with a diameter between 1 and 1,5 m, slightly deepening towards the middle, with a filling consisted of very fine, homogenous, light-brown sediment. The archaeological material occured always around the perimeter of the patches. Similar phenomena were observed by Wolf and Welsby in the vicinity (WOLF, NOWOTNICK 2005; WELSBY 2006). Also interesting is the natural cliff-compartment that framing the patch,

HSAP 057

- cliff higher than 20 cms
- cliff lower than 20 cms
- ceramic sherds
- chert artefacts (without secondary modification)
- quartz artefacts (without secondary modification)







and the other such „niches" within the collection area.

One niche was lying just north from this compartment. The borders of this circular area was formed by huge boulders and smaller, flat stones humped at the hiatuses between them. The floor of that niche was systematically cleaned from gravels, these debris swept away into a curved hump around. This hump had a sharp contour in every direction, not absorbing in the gravel outside the compartment. The gravel-free area in the middle was lightly littered with lithic artefacts and some sherds. This phenomenon suggests that the cleaning of the niche pre-dated the deposition of the prehistoric artefacts.

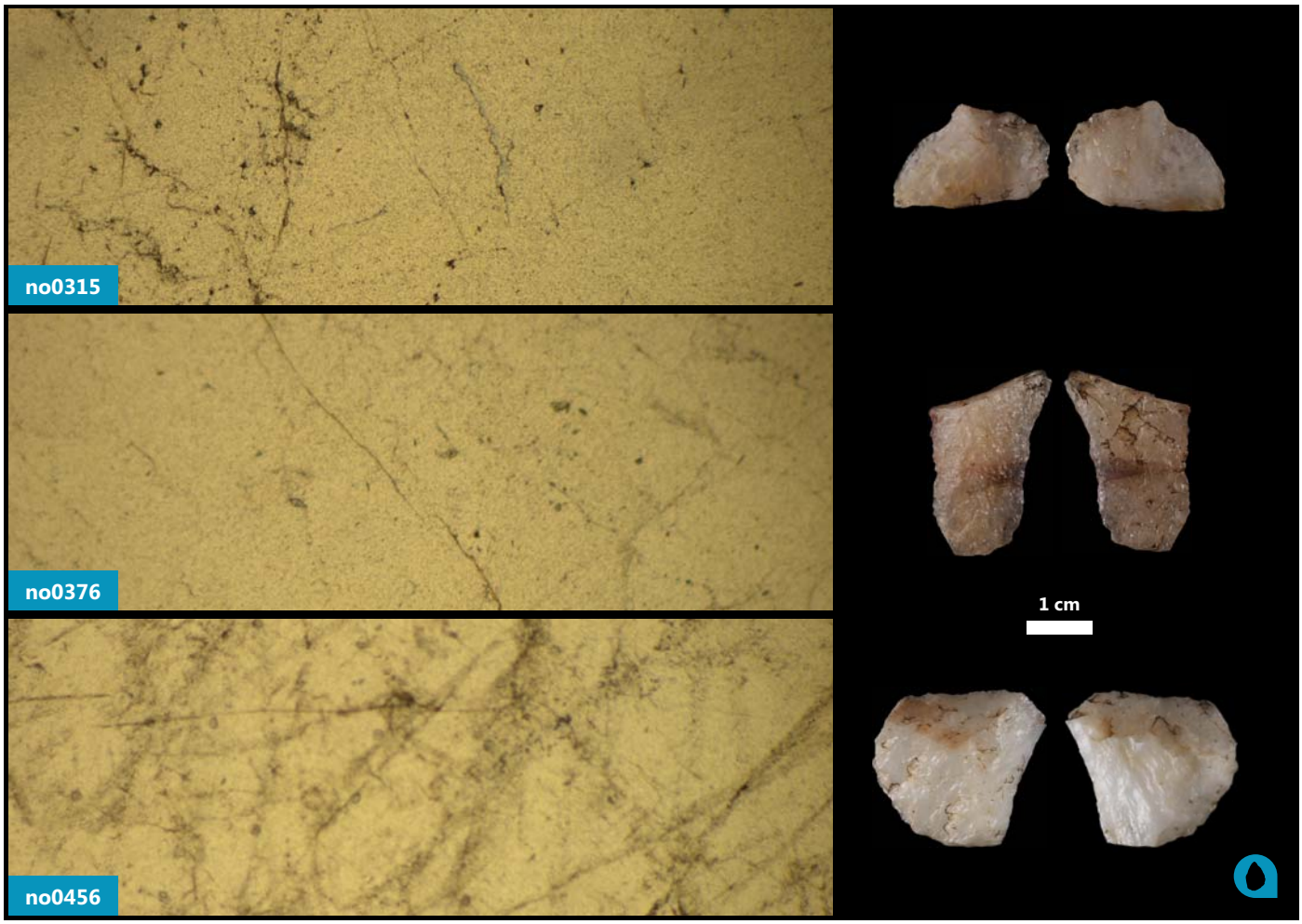
The next anomaly has to be mentioned is a more intensive ceramic sherd coverage west from area A, where, at the same time the amount of lithics dropped drastically. The last distinctive spatial phenomenon was Area B itself. The secondary nature of the deposit is quite sure in the light of those factors like the lack of quartz debitage and ceramics, the fact that much of the lithics was dropped down among millstone-huge cliffs, which was absolutely uncommon at Area A.

The relative homogenous composition of the recovered artefacts delineates quite a tight bracket of time for the use of HSAP 057, but the processes and meanings of their spatial distribution is somewhat obscure at the moment. As the first step towards the differentiation between site formation and subsequent taphonomic processes, a rubble analysis began in 2011 with promising preliminary results. In course of this analysis, we used high resolution orthorectified images, and pieceplot drawings of the surface. On these, we compared the spatial distribution of the natural granite rubble and the anthropogenic lithic material with respect to three size classes. The study covered one fourth of the 80 m2 Area A, that is, an 50 by 50 cm plot at every one square meter of our grid system.

Spatial distribution of non-anthropogenic, worn granite rubble and anthropogenic material was almost similar in respect of quantity, but there were discrepancies between the distribution of pebbles in different size classes. The previously mentioned niche was almost free from medium and big rubble, but considerable amounts of anthropogenic material occured here in these size-classes. The selective distribution of cultural and natural phenomena, the absence of later Holocene cultural material together suggest only a slightly altered spatial configuration since the earlier Holocene.

4.4. Age and cultural connotations

Ceramic material have a similarity with Late Mesolithic of the Middle Nile Valley (nomenclature sensu SALVATORI, USAI 2007): predominantly mineral temper; only decorated sherds; covering and banded decoration, mostly tightly packed zigzag applied by serrated implements, with a few dotted wavy line sherds; lack of incised decoration. Lithics can conform more described industries from the Nubian Middle Neolithic and the Middle Nile Valley Late Mesolithic (nomenclature sensu SALVATORI, USAI 2007): substantial quartz debitage but few „tools"; many backed implements, mostly lunates on flakes and double backed perforators; cores with one striking platform or sliced cores; dominance of flakes. Overall the site has a late mesolithic-early neolithic character, placing the occupations in the Middle Holocene chronozone, possibly the second half of the 6th millenium, 5500-5000 BC.



HSAP 057 quartz and quartzite raw materials. Left: petrographic structure at 40x magnification. Right: samples. The number denotes the artefact IDs.

METADATA

A) RAW MATERIAL

ATT001: Petrological category

Definition: short raw material designation, beased on petrological description provided by a 40X optical microscope examination of a sample (eleven pieces).

Variates: the two main categories are chert and quartz. Different subcategories were present by inclusions, homogenity. The used terms are: tűzkő (chert); kova (flint), kalc (chalcedony); kvarc (quartz); bazalt (basalt); kong (conglomerate); kristály (rock crystal).

ATT002: Raw material nodule form

Definition: raw material form of use.

Variates:

nyae01 – pebble: the original form was a rounded pebble

nyae02 – block: the original occurence had a continuous, blocklike appearance, e.g. vein of quartz; the block had angular edges

nyae03 – slab: the original occurence was a foliated blocklike appearance

nyae04 – nodule: irregular nodular form, shaped by the original host cavitys form.

nyae05 – non-identifiable

ATT003: Cortex color

Definition: dominant color of the cortex by (subjective) visual inspection. This attribute is one indication for raw material unit assessment and refitting.

Variates (nykc = nyersanyag + kéreg + color / nykc = raw material + cortex + color):

nykc00 – no remaining cortex

nykc1a – black

nykc1b – grey, dark

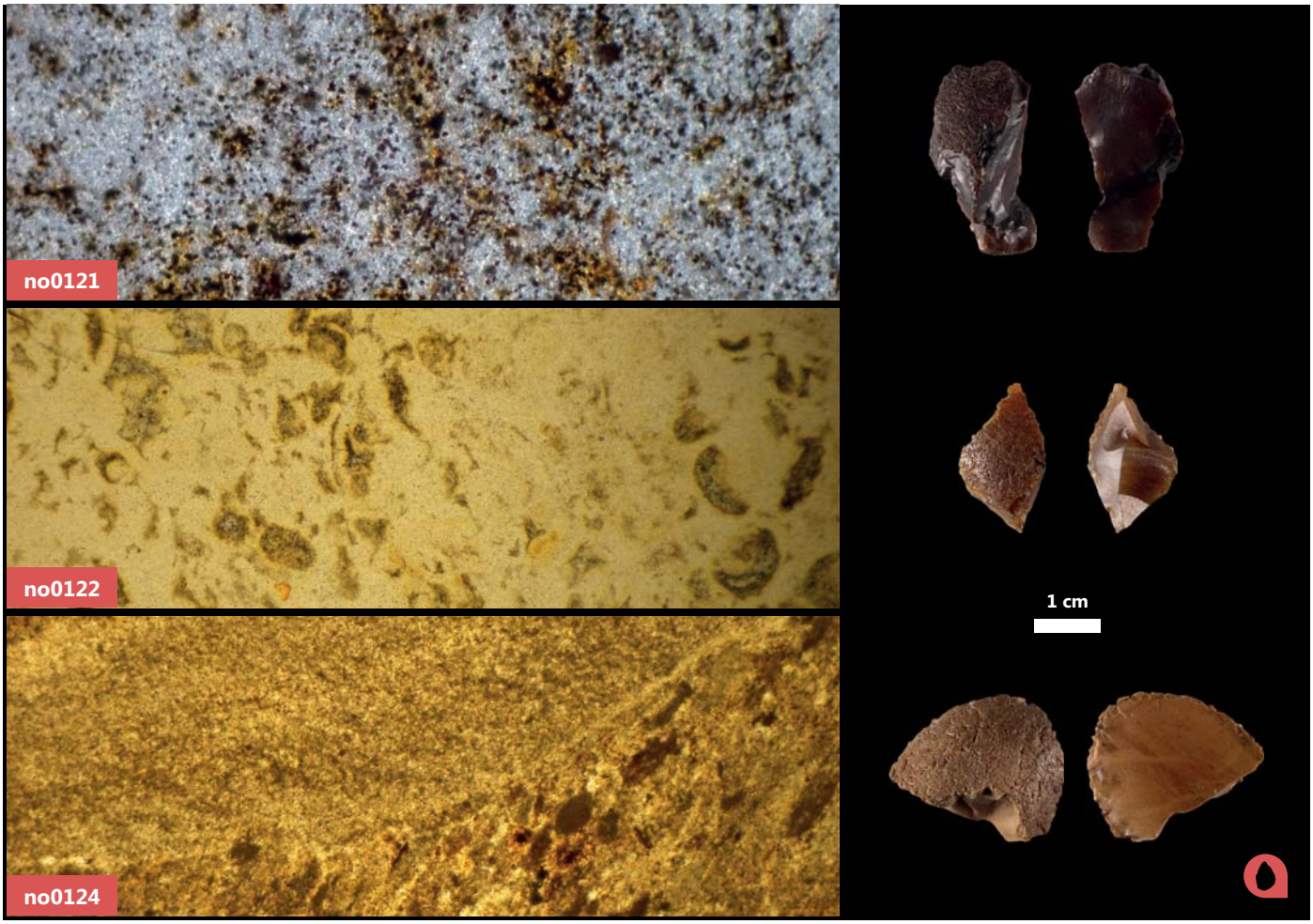
nykc1c – grey, light

nykc2a – brown, dark

nykc2b – brown

nykc2c – brown, light

nykc2d – brown, yellowish



HSAP 057 chert and flint raw materials. Left: petrographic structure at 40x magnification. Right: samples. The number denotes the artefact IDs.

nykc2e – yellow
nykc2f – beige
nykc3a – red, brownish
nykc3b – crimson
nykc3c – reddish, light
nykc3d – reddish
nykc4a – greenish-grey, dark
nykc4b – greenish grey, light
nykc4c – brown, greenish
nykc4d – brown, greyish
nykc4e – brown, lila
nykc5a – translucent (quartz)
nykc5b – white (quartz)
nykc5c – milky (quartz)
nykc5d – yellowish (quartz)
nykc5e – reddish (quartz)
nykc5f – blueish (quartz)
nykc5g – pink (quartz)

ATT004: Cortex texture

Definition: roughness of the original cortex by touch. This attribute is one indication for raw material unit assessment and refitting.

Variates (nykt = nyersanyag + kéreg + textúra / nykt = raw material + cortex + texture):

nykt00 – no remaining cortex
nykt01 – shiny smooth by its original state or by deliberate polishing
nykt02 – smooth
nykt03 – rough, lightly
nykt04 – rough
nykt05 – patchy: the cortex if partly smooth and partly rough

ATT005: Non-cortical surface color

Definition: dominant color of the non-cortex surfaces by (subjective) visual inspection. This attribute is one indication for raw material unit assessment and refitting.

Variates (nyfc = nyersanyag + felszín + color / raw material + surface + color): same as ATT003

ATT006: Non-cortical surface texture

Definition: roughness of the non-cortical surfaces by

touch. This attribute is one indication for raw material unit assessment and refitting.

Variates (nyft = nyersanyag + felszín + textúra / raw material + surface + texture):

nyft00 – homogeneous smooth

nyft01 – rough (quartz)

nyft02 – rough/granular, light

nyft03 – rough/granular

nyft04 – rough/granular, strong

nyft05 – heavy damage (pot-lids and other damage)

nyft06 – patchy: mixed texture types throughout the surface

ATT007: Non-cortical surface patterns, stripes

Definition: patterns of raw material inhomogenities, structural elements, in this case, stripes. This attribute is one indication for raw material unit assessment and refitting.

Variates (nyms = nyersanyag + mintázat + sávok / raw material + patterns + stripes):

nyms00 – homogeneous: no striped patterns by naked eye

nyms01 – smoky: bands with fuzzy borders are seen

nyms02 – veiny: millimetre wide stripes are seen

nyms03 – rings: millimetre wide concentric stripes are seen

nyms04 – striped: 1-3 mm wide stripes are seen

nyms05 – banded: >3 mm wide bands are seen

nyms06 – striped-banded: stripes with different width are seen

ATT008: Non-cortical surface patterns, spots

Definition: patterns of raw material inhomogenities, structural elements, in this case, spots. This attribute is one indication for raw material unit assessment and refitting.

Variates (nymf = nyersanyag + mintázat + foltok / raw material + patterns + spots):

nymf00 – homogeneous: no spotted patterns by naked eye

nymf01 – smoky: spots with fuzzy borders are seen

nymf02 – dotted: small spots are seen, usually small fossils

nymf03 – spotted: bigger spots are seen throughout the surface

nymf04 – blistered: bigger blisters are seen, usually small fossils

nymf05 – nymf01 + nymf02

nymf06 – nymf01 + nymf03

ATT009: Non-cortical surface patterns, bioclasts

Definition: fossils and bioclasts discoverable by the human eye. This attribute is one indication for raw material unit assessment and refitting.

Variates (nymb = nyersanyag + mintázat + bioklaszt / raw material + pattern + bioclast):

nymb00 – homogeneous: no bioclasts/fossils by naked eye

nymb01 – plant bioclasts and fossils are seen

nymb02 – animal bioclasts and fossils are seen

nymb03 – animal and plant fossils and bioclasts are seen; nymb01 + nymb02

nymb04 – uncertain type fossils and bioclasts are seen

ATT010: Non-cortical surface patterns, mineral inclusions and other

Definition: mineral inculsions and clasts discoverable by the human eye. This attribute is one indication for raw material unit assessment and refitting.

Variates (nymz = nyersanyag + mintázat + zárvány / raw material + pattern + inclusion):

nymz00 – homogeneous: no inclusions by naked eye

nymz01 – veiny: millimetre wide veins are seen

nymz02 – banded: at least 2 mm wide striped clasts are seen

nymz03 – spots: spot inclusions

nymb04 – more shape types of inclusions

nymb05 – cavity in texture of the piece

ATT011: Non-cortical surface brightness

Definition: brightness, i.e. reflective qualities of the non-cortical surface.

Variates (nyff= nyersanyag + felszín + fényesség / raw material + surface + brightness):

nyff00 – matte: not bright

nyff01 – waxy

nyff02 – oily

nyff03 – bright

nyff04 – pale, lack-luster

nyff05 – mixed brightness

ATT012: Non-cortical surface opacity

Definition: non-cortical surface opacity

Variates (nyfa = nyersanyag + felszín + átlátszóság / raw material + surface + opacity):

nyfa00 – not opaque

nyfa01 – milky

nyfa02 – opal
nyfa03 – glassy
nyfa04 – crystal clear

ATT013: Heat-realted alterations

Definition: coloured spots and other alterations by heat effect

Variates (tafh = tafonómiai jellemzők + hőhatás / taphonomy + heat):

tafh00 – none
tafh01 – slight color alteration
tafh02 – strong color alteration (whole surface)
tafh03 – color alteration in spots
tafh04 – color alteration and polygon cracks
tafh05 – color alteration and pot lids
tafh06 – color alteration, pot lids and polygon cracks

ATT014: Secondary cortex, patinae

Definition: patinae on the piece

Variates (tafp = tafonómiai jellemzők + patina / taphonomy + patina):

tafp00 – no patina
tafp01 – patinated in dots
tafp02 – patinated in spots
tafp03 – patinae in regions or total coverage
tafp04 – double patinae

ATT015: Bright spots

Definition: highly polished bright spots on the surface

Variates (taff = tafonómiai jellemzők + fényezettség / taphonomy + polish):

taff00 – none
taff01 – desert patina
taff02 – bright spots
taff03 – sickle sheen

ATT016: Roundedness

Definition: roundedness of the piece, rounded edges.

Variates (tafg = tafonómiai jellemzők + görgetettség / taphonomy + roundedness):

tafg00 – none
tafg01 – slight, partial
tafg02 – slight, whole surface
tafg03 – strong, partial
tafg04 – strong, whole surface

B) TECHNICAL

ATT017: Debitage category

Definition: category after place in chaîne opératoire and taphonomy.

Variates (debk = debitázs + kategória / debitage + category):

debk01 – core, whole: block that are detached. The cores do not have breakage that would ended their use as a core, hence the reduciton is stopped before exhaustion, without objective obstacles.

debk02 – core, fragment: core that has a breakage not part of an intentional reduction step, but made the block useless for further reduction

debk03 – core with „secondary" modification: core that has been used as a tool after reduction

debk04 – flake, whole: detachment without breakage

debk05 – flake, fragment: flake that has been broken during or after detachment. The break can be unintentional or intentional, and the breakage is more severe than it can be called modification (e.g. burin spall)

debk06 – tool on flake: flake with secondary modification

debk07 – blocklike flake: detachment with a substantial three dimensional extension. The theoretical target of flake debitage is to produce sharp working edges, i.e. pieces with an acute angle of their intersection between dorsal and ventral planes. Blocklike flakes do not have this acute angle, their edges tend to be blunt, or they have separate lateral planes. In technical sense, they are flakes, because they are detached pieces, and dominantly extend in one plane.

debk08 – blocklike flake fragment. Blocklike flake that has been broken during or after detachment. The break can be unintentional or intentional, and the breakage is more severe than it can be called modification (e.g. burin spall)

debk09 – tool on blocklike flake: blocklike flake with secondary modification

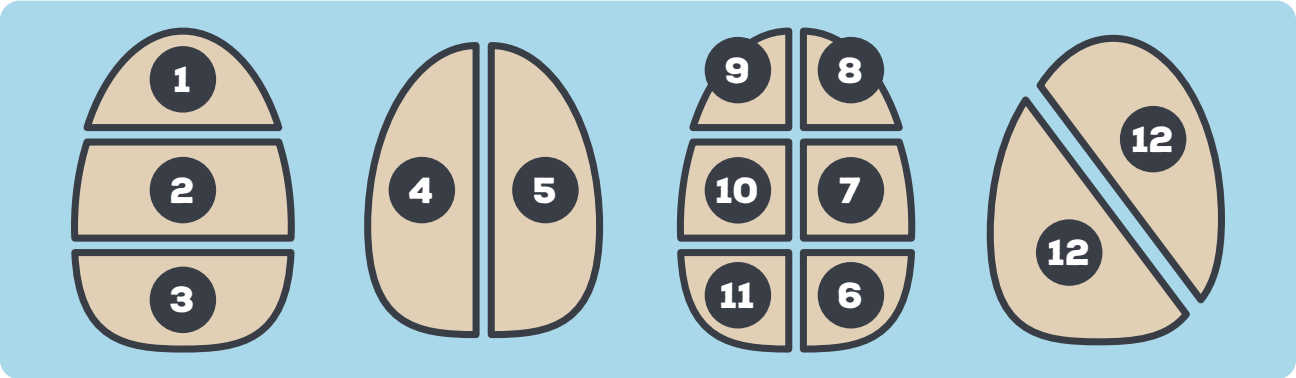
debk10 – block: lithic product that is not a detached piece, i.e. not product of a guided detachment, but not used as a core. Typical product of bipolar-on-anvil manufacture, in the literature it is often called chunk.

debk11 – tool on block: block with secondary modification

debk12 – characteristic non-modified piece: core rejuvenation tablet.

debk13 – characteristic non-modified piece: core trimming flake.

debk14 – characteristic non-modified piece: burin spall.



ATT018: broken pieces. 1: tord01 – proximal fragment; 2: tord02 – mesial fragment; 3: tord03 – distal fragment; 4: tord04 – whole left fragment; 5: tord05 – whole right fragment; 11: tord06 – proximal left fragment; 6: tord07 – proximal right fragment; 10: tord08 – mesial left fragment; 7: tord09 – mesial right fragment; 9: tord10 – distal left fragment; 8: tord11 – distal right fragment; 12: tord12 – diagonal fragment

ATT018: Broken piece

Definition: position of broken piece in relation to its axes.

Variates (tord = törött darabok / broken pieces):

tord00 – no break

tord01 – proximal fragment

tord02 – mesial fragment

tord03 – distal fragment

tord04 – whole left fragment

tord05 – whole right fragment

tord06 – proximal left fragment

tord07 – proximal right fragment

tord08 – mesial left fragment

tord09 – mesial right fragment

tord10 – distal left fragment

tord11 – distal right fragment

tord12 – diagonal fragment

tord97 – non identifiable (because of secondary modification)

tord98 – not relevant (blocks and cores)

tord99 – non identifiable (because of the lack of stigmata to align the piece)

ATT019: Breakage type

Definition: types of breakage seen

Variates (tort = törött darabok + törési típus / broken pieces + break type):

tort00 – no breakage

tort01 – knapping accident, Siret

tort02 – accidental break

tort03 – deliberate break, consequence of break techniques

tort04 – mixed accidental and deliberate breaks

tort05 – accidental and accidental Siret breaks

tort06 – deliberate and accidental Siret break

tort07 – other breakage patterns

tort97 – non identifiable (because of secondary modification)

tort98 – not relevant (blocks)

tort99 – non identifiable (because of the lack of stigmata to align the piece)

ATT020: Shape

Definition: shape in dorsal view

Variates (mrfa = morfológia + alak / morphology + shape):

mrfa00 – cap (end of pebble): flake with a whole dorsal cortex coverage in an approximately shape of a semisphere

mrfa01 – cap with one dorsal negative surrounded by cortex.

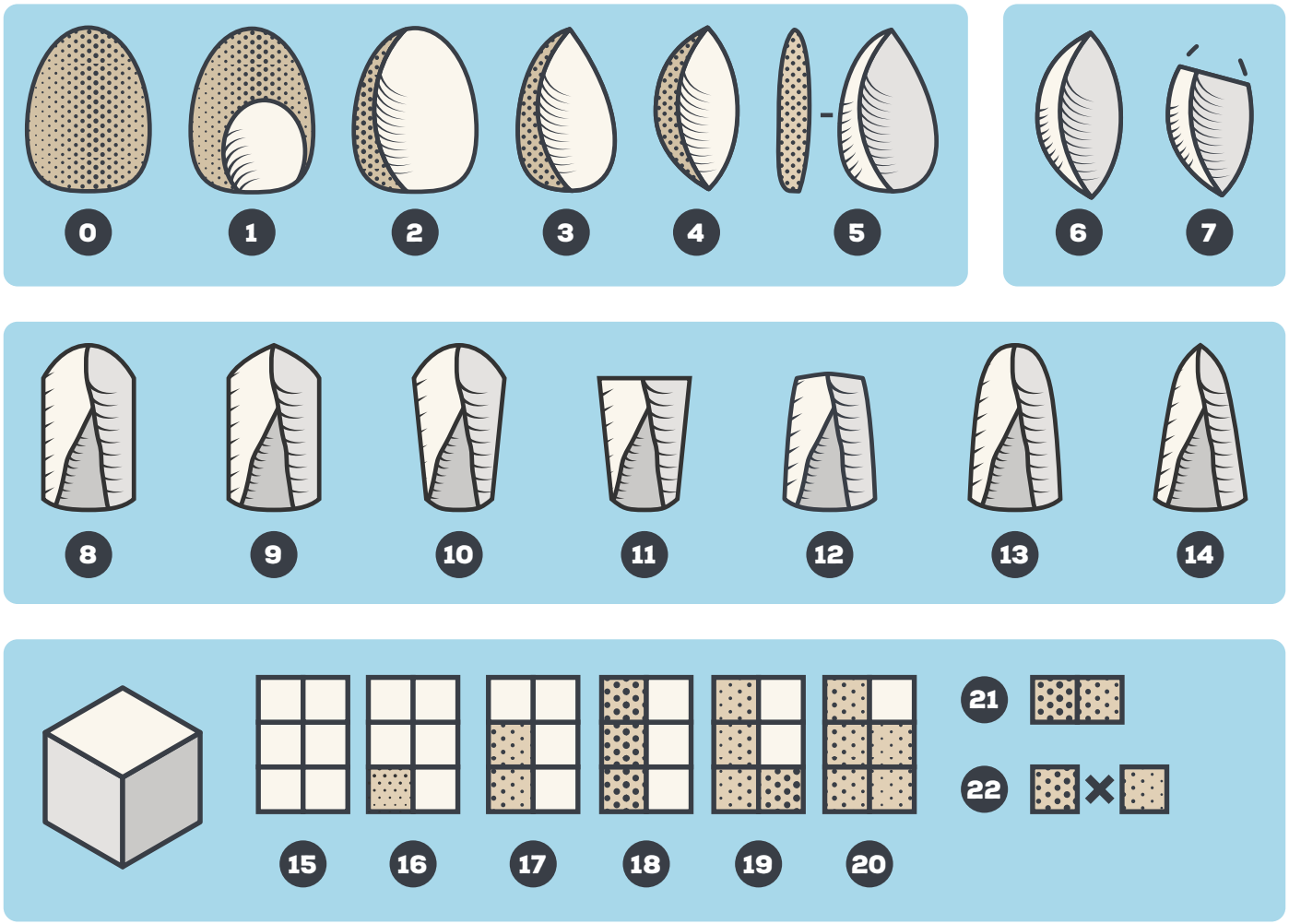
mrfa02 – slice with rounded ends. One lateral edge of the flake is not sharp but a cortical surcafe as a connotation of dorsal cortex, as a back. This lateral edge can be left or right, extending the proximal and distal part. The proximal and distal ends are rounded.

mrfa03 – slice with one pointed end (usually by the meeting point of the cortical back and the opposite edge

mrfa04 – slice with two pointed end (usually by the meeting points of the cortical back and the opposite edge

mrfa05 – slice, lateral: there is a separate lateral plane as in a case of a slice of bread. This plane is not the continuation of the dorsal surface, there is no smooth transition between the planes.

mrfa06 – flake with opposed pointed ends, usually secondary modified microliths



ATT020: Shape. mrfa00 – cap; mrfa01 – cap; mrfa02 – slice with rounded ends; mrfa03 – slice with one pointed end; mrfa04 – slice with two pointed end; mrfa05 – slice, lateral; mrfa06 – flake with opposed pointed ends; mrfa07 – flake with pointed and angular ends; mrfa08 – paralell lateral edges; mrfa09 – paralell lateral edges with pointed end; mrfa10 – divergent lateral edges; mrfa11 – divergent lateral edges; mrfa12 – convergent lateral edges; mrfa13 – convergent lateral edges; mrfa14 – convergent lateral edges; mrfa15 – block; mrfa16 – block with one cortical plane; mrfa17 – block with two consecutive cortical planes; mrfa18 – block with three consecutive cortical planes; mrfa19 – block with four consecutive cortical planes; mrfa20 – block with five consecutive cortical planes; mrfa21 – block with two opposed cortical planes; mrfa22 – block with two cortical planes

mrfa07 – flake with pointed and angular ends, usually broken secondary modified microlithis

mrfa08 – paralell lateral edges with a distinctly separate distal edge segment

mrfa09 – paralell lateral edges with pointed end

mrfa10 – divergent lateral edges with a smooth curved distal edge segment

mrfa11 – divergent lateral edges with a distinctly separate distal edge segment

mrfa12 – convergent lateral edges with a distinctly separate distal edge segment

mrfa13 – convergent lateral edges with a smooth curved distal edge segment

mrfa14 – convergent lateral edges with pointed end.

mrfa15 – block with dominant three dimensional extent. Aligned to their maximum dimension a theoretical geometric block with six planes is used to differentiate the block types. Mrfa15 is free from cortex.

mrfa16 – block with one cortical plane (see mrfa15 for the definition of block and plane)

mrfa17 – block with two consecutive cortical planes (see mrfa15 for the definition of block and plane)

mrfa18 – block with three consecutive cortical planes (see mrfa15 for the definition of block and plane)

mrfa19 – block with four consecutive cortical planes (see mrfa15 for the definition of block and plane)

mrfa20 – block with five consecutive cortical planes (see mrfa15 for the definition of block and plane)

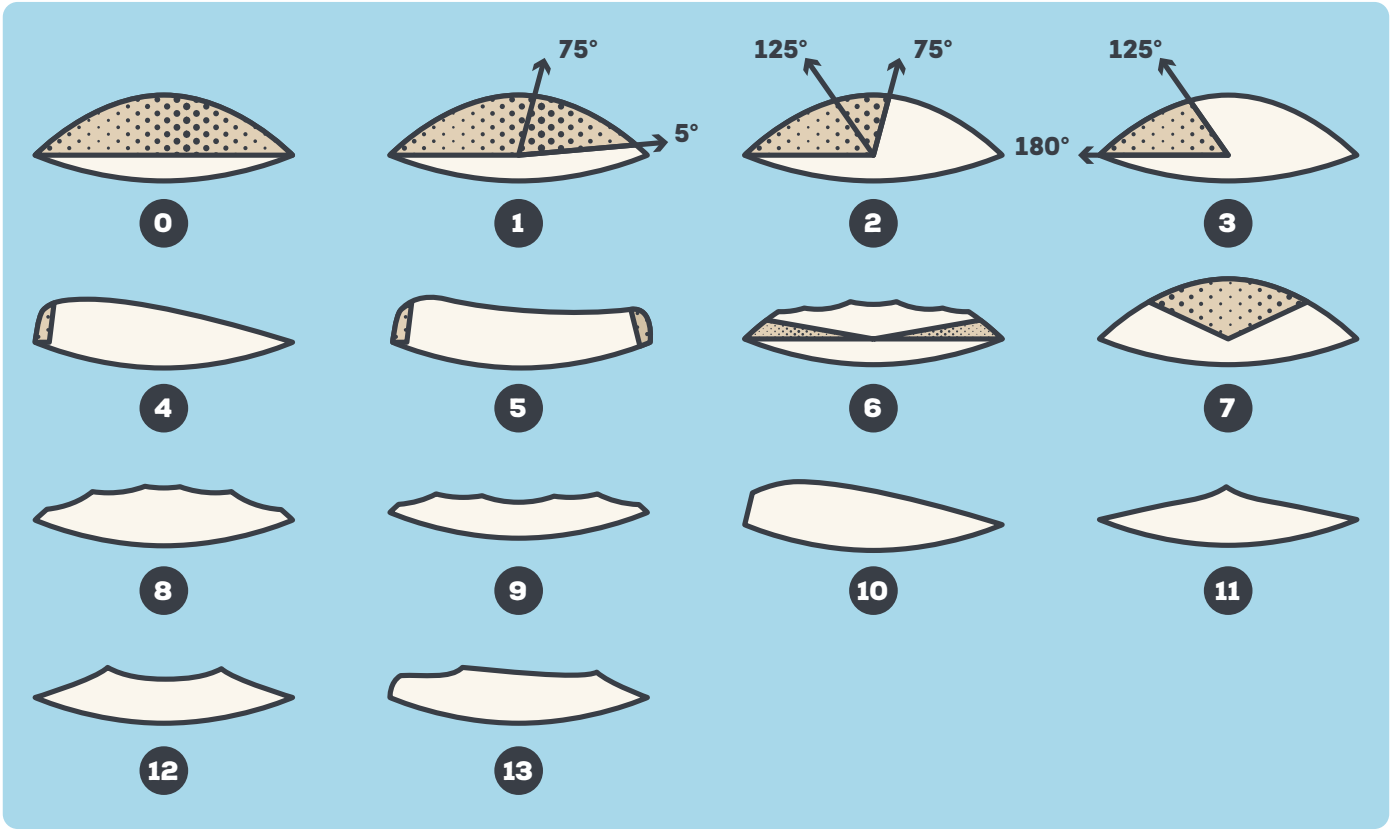
mrfa21 – block with two opposed cortical planes (see mrfa15 for the definition of block and plane)

mrfa22 – block with two cortical planes that are not consecutive and not opposed (see mrfa15 for the definition of block and plane)

mrfa23 – block with other cortical configuration

mrfa24 – other shapes

mrfa99 – shape can not be securely characterised because of fragmentation



ATT021: Shape of cross-section. mrfk00 – hemisphere mrfk01 – overwhelmingly cortical mrfk02 – strongly cortical mrfk03 – cortical mrfk04 – lateral cortex mrfk05 – double lateral cortex mrfk06 – double cortex mrfk07 – cortical middle section mrfk08 – slightly vaulted, convex mrfk09 – slightly vaulted, concave mrfk10 – knife mrfk11 – triangular cross section, non-cortical mrfk12 – trapezoid cross section, non-cortical mrfk13 – other rectangular or angular

ATT021: Shape of cross-section

Definition: shape of cross section at the thickest part of the piece.

Variates (mrfk = morfológia + keresztmetszet / morphology + cross-section)

mrfk00 – hemisphere: the dorsal surface is wholly cortical

mrfk01 – overwhelmingly cortical: the dorsal surface is overwhelmingly cortical. If the plane of measurement is the meeting of the dorsal and ventral surfaces, then meeting of cortical and non-cortical sections is at 5-75°

mrfk02 – strongly cortical: the dorsal surface section is cortical at 75-125°

mrfk03 – cortical: the dorsal surface section is cortical at 126-179°

mrfk04 – lateral cortex: the cross section is triangular, reminiscent of a knife blade; the smallest side of the triangle is cortical

mrfk05 – double lateral cortex: there are two distinct lateral plane with cortex

mrfk06 – double cortex: there are two non-distinct cortical section in opposition

mrfk07 – cortical middle section, the edges are free from cortex

mrfk08 – slightly vaulted, convex dorsal surface non-cortical piece

mrfk09 – slightly vaulted, concave dorsal surface non-cortical piece

mrfk10 – knife: non-cortical piece with a right triangle cross-section

mrfk11 – triangular cross section, non-cortical; the shape is caused by a dominant ridge at the dorsal surface

mrfk12 – trapezoid cross section, non-cortical

mrfk13 – other rectangular or angular cross-section, non-cortical pieces

mrfk14 – facial retouched piece, where the shape of cross section mirrors the secondary modification not the debitage

mrfk16 – other

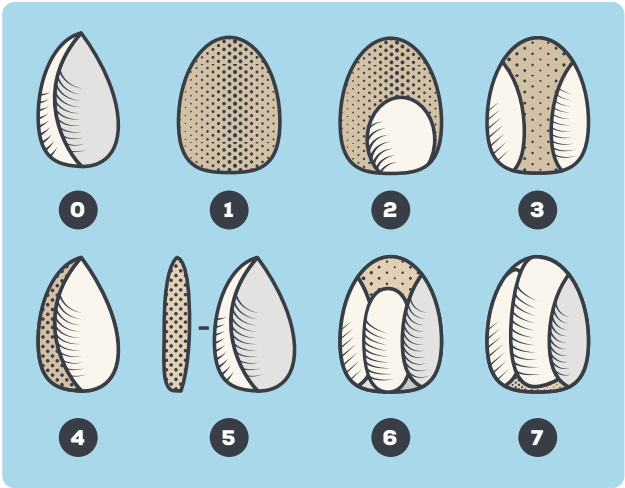
mrfk98 – not relevant (cores, core fragments and blocks)

mrfk99 – non-identifiable (longitudal broken pieces)

ATT022: Dorsal cortex location

Definition: distribution of cortex on the dorsal surface, after Marwick 2008.

Variates (crdl = cortex + dorzális + lokáció / cortex + dorsal + location):



ATT022: Dorsal cortex location. crdl00 – non-cortical piece crdl01 – wholly cortical crdl02 – cortex on two sides and distal parts crdl03 – cortex on the dorsal surface except the edges crdl04 – sliced crdl05 – lateral crdl06 – distal crdl07 – cortical talon (butt)

crdl00 – non-cortical piece

crdl01 – wholly cortical

crdl02 – cortex on two sides and distal parts of the dorsal surface

crdl03 – cortex on the dorsal surface except the edges

crdl04 – sliced: crescent-shaped cortex remnant at the dorsal surface

crdl05 – lateral: cortex at one lateral plane, not at the dorsal surface

crdl06 – distal: cortex at the distal part of the dorsal surface

crdl07 – cortical talon (butt)

crdl08 – other cortex configuration

crdl97 – pieces with secondary modification which prevents the recognition of the original cortex configuration of the detachment

crdl98 – not relevant (cores, core fragments and blocks)

crdl99 – non identifiable

ATT023: Type of cortical edge

Definition: catching of cortical and non-cortical surfaces

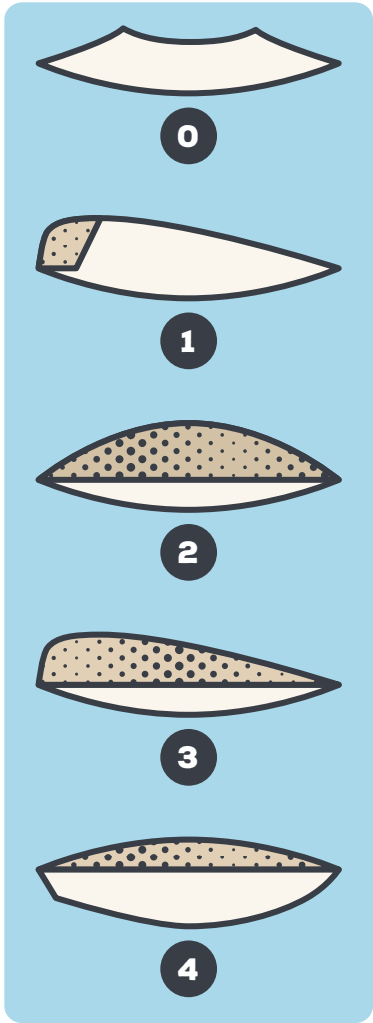
Variates (crlk = cortex + laterális kéreg + kiterjedés / cortex + lateral + extent):

crlk00 – non-cortical piece

crlk01 – cortical back and edge: dorsal and ventral surfaces are not meet directly, „between" them there is a cortical back as a separate plane (knife cross section)

crlk02 – cortical edge and edge: dorsal and ventral surfaces are meeting at <75°, dorsal surface is cortical

crlk03 – cortical back and cortical edge: typical configuration for pieces with total dorsal cortex coverage



ATT023: Type of cortical edge. crlk00 – non-cortical piece crlk01 – cortical back and edge crlk02 – cortical edge and edge crlk03 – cortical back and cortical edge crlk04 – ledge

crlk04 – ledge: the dorsal cortical surface meets in right or obtuse angle with the non-cortical surface

crlk05 – other

crlk97 – piece with secondary modification where the cortex position can not described with variates crlk01–05

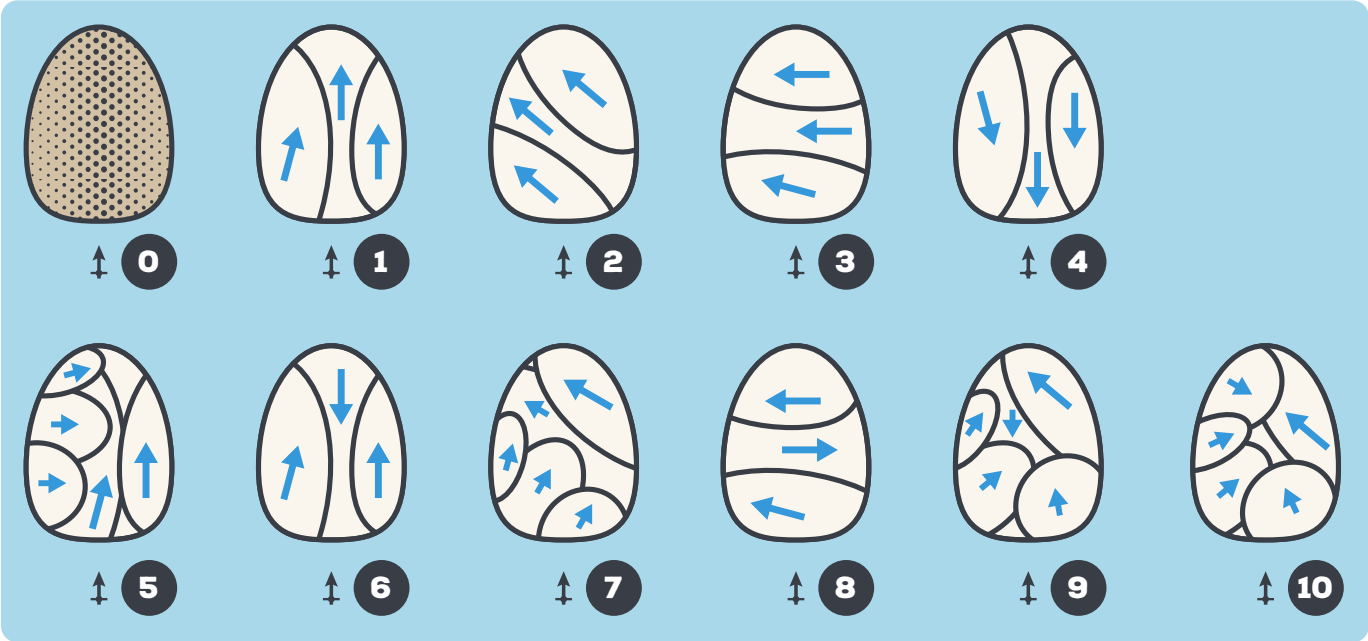
crlk98 – not relevant (cores, core fragments and blocks)

crlk99 – non identifiable

ATT024: Dorsal scar count

Definition: number of dorsal scars with a maximum dimension bigger than 5 mm

Variates (drnd = dorzális negatívok + darab / dorsal negative + pieces): pieces



ATT025: Dorsal scar pattern. drnm00 – no dorsal scars; drnm01 – one direction, unipolar; drnm02 – one direction, divergent; drnm03 – one direction, perpendicular; drnm04 – one direction, opposed; drnm05 – two directions, convergent, perpendicular; drnm06 – two directions, convergent, opposed; drnm07 – two directions, divergent, perpendicular; drnm08 – two directions, divergent, opposed; drnm09 – multidirectional; drnm10 – circular.

ATT025: Dorsal scar pattern

Definition: direction of dorsal scars, and their relationships

Variates (drnm = dorzális negatívok + mintázat / dorsal negative + pattern):

drnm00 – no dorsal scars

drnm01 – one direction, unipolar: dorsal negatives are in the same direction as the detachment that created the flake. Tolerance of unipolarity between 1–45°

drnm02 – one direction, divergent: dorsal negatives are in the same direction as the detachment that created the flake. Divergence between the vectors are 46–75°

drnm03 – one direction, perpendicular: dorsal negatives are in the same direction between 1–45°, but this direction is perpendicular to the direction of the detachment that created the flake

drnm04 – one direction, opposed: dorsal negatives are in the same direction between 1–45°, but this direction is opposed to the direction of the detachment that created the flake

drnm05 – two directions, convergent, perpendicular: negatives are from two directions at the surface that are perpendicular to each other. One of the directions is the same as the direction of the detachment that created the flake, between 1–45°

drnm06 – two directions, convergent, opposed: negatives are from two directions at the surface that are opposed to each other. One of the directions is the same as the direction of the detachment that created the flake, between 1–45°

drnm07 – two directions, divergent, perpendicular: negatives are from two directions at the surface that are perpendicular to each other. None of the directions is the same as the direction of the detachment that created the flake

drnm08 – two directions, divergent, opposed: negatives are from two directions at the surface that are opposed to each other. None of the directions is the same as the direction of the detachment that created the flake

drnm09 – multidirectional: dorsal negatives are starting from at least three different directions but the pattern is not circular

drnm10 – circular: dorsal negatives are starting from at least three different directions, the pattern is circular

drnm11 – other pattern

drnm98 – not relevant (cores, core fragments and blocks)

drnm99 – non identifiable

ATT026: Propagation of force

Definition: modes of the propagation of force through the raw material.

Variates (baze = bázis + erőhatás / butt + force):

baze00 –can not be studied

baze01 – Hertzian

baze02 – bending

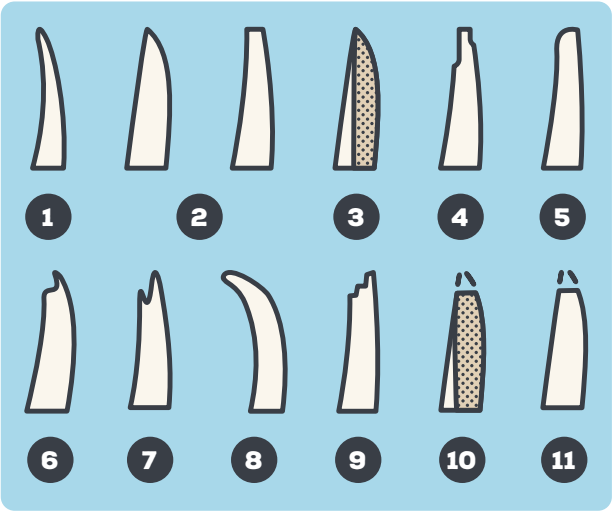
baze03 – wedging

baze04 – bending and wedging

baze05 – Hertzian and wedging

baze06 – Hertzian and bending

baze07 – cleavage



ATT027: Termination of force.

baze98 – not relevant (cores, core fragments and blocks)

baze99 – non identifiable

ATT027: Termination of force

Definition: termination of detached pieces accroding caused by the force leaving the piece.

Variates (dstk = disztális + kifutás / distal + termination):

dstk00 – can not be studied (missing distal section)

dstk01 – feather: the force leaves without a hitch, indicating a flawless detachment

dstk02 – padded: the distal end is angular in lateral view not feathered, but not broken or reflexed

dstk03 – cortical: in the case of cortical pebble flakes flawless detachment can result firm, thick terminations covered by cortex on the dorsal plane

dstk04 – scaled termination with obtuse or acute angle from lateral view

dstk05 – réflechi

dstk06 – inflex

dstk07 – reflex

dstk08 – outrepassé

dstk09 – stepped

dstk10 – broken distal edge, cortical dorsal surface: the very end of the piece is broken during the detachment, i.e. the fracture is not a follow-up phenomenon. The dorsal surface is cortical.

dstk11 – broken distal edge: the very end of the piece is broken during the detachment, i.e. the fracture is not a follow-up phenomenon. The dorsal surface does not wear cortex. If the pieces would not broken, they will be dstk01, 04, 05, 06, 07, 08.

dstk97 – non identifiabel because of secondary modification

dstk98 – not relevant (cores, core fragments and blocks)

dstk99 – non identifiable

ATT028: Impact zone

Definition: a leválasztást eredményező erőhatás érkezési pontjának fejlettsége characteristics of the contact zone on the piece between the mass and the tool initiated the detachment

Variates (tale = talon + érkezési pont / talon + contact point):

tale00 – can not be studies (missing talon)

tale01 – not pronounced

tale02 – one point of impact at the middle of the talon width

tale03 – pronounced point of impact on the talon, but not at the middle

tale04 – pronounced point of impact on the talon, but its original position on the talon can not recognized because of breakage

tale05 – double: the detachment initiates two waves of force

tale98 – not relevant (cores, core fragments and blocks)

tale99 – non identifiable

ATT029: Type of talon

Definition: type of talon according to the amount of cortex and preparation.

Variates (talt = talon + típus / talon +type):

talt00 – missing, damaged talon: the stigmata are unrecognizable

talt01 – cortical talon: the force was applied to the cortical surface hence the whole talon is a cortex area

talt02 – lisse talon: the talon consists of one flake negative (flat talon)

talt03 – dihedral talon: the talon consists of two flake negatives

talt04 – unpatterned talon: the talon bears more than two scars that are not negatives from the preparation of the detachment.

talt05 – faceted talon, whole: the talon covered by preparatory negatives of removals. The bulbs of these negatives are seen, the direction of preparation was (of course) from the dorsal surface

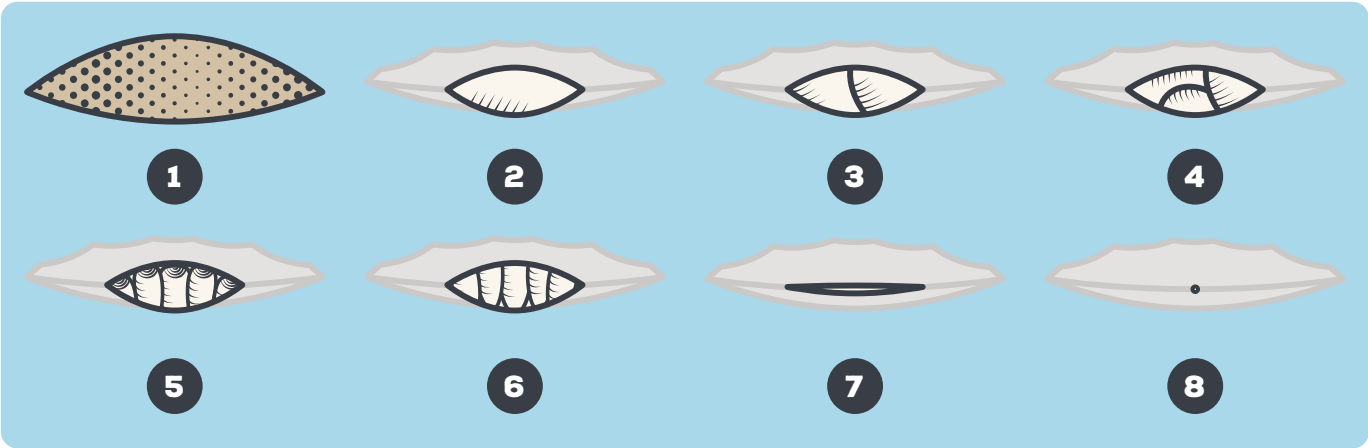
talt06 – faceted talon, partial: the talon covered by preparatory negatives of removals. The bulbs of these negatives are not seen

talt07 – linear talon: the piece do not inherit surface remnant from the core platform, the dorsal and ventral surfaces meet in a line (i.e. piece without a distinct talon area).

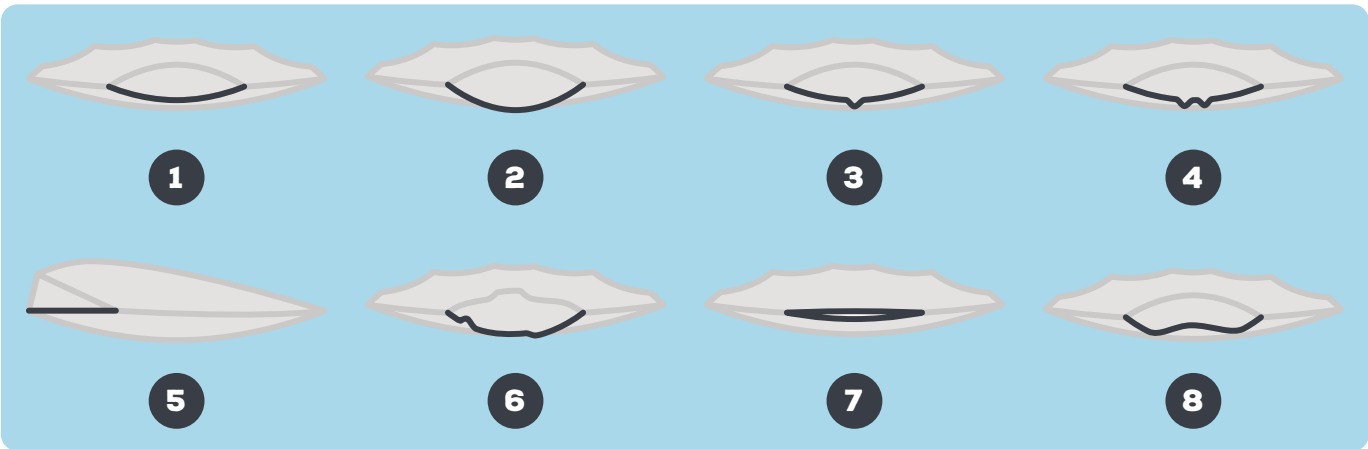
talt08 – punctual talon: the piece do not inherit surface remnant from the core platform, the dorsal and ventral surfaces meet in a point (i.e. piece without a distinct talon area).

talt97 – the original talon configuration is not recognizable because of secondary modification

talt98 – not relevant (cores, core fragments and blocks)



ATT029: Type of talon. talt01 – cortical talon; talt02 – lisse talon; talt03 – dihedral talon; talt04 – unpatterned talon; talt05 – faceted talon, whole; talt06 – faceted talon, partial; talt07 – linear talon; talt08 – punctual talon



ATT030: Shape of ventral surface and talon intersection.

talt99 – non identifiable: type of talon can not be recognized from causes other than mentioned under talt00 variate.

ATT030: Shape of ventral surface and talon intersection

Definition: shape of ventral surface and talon intersection in inferior transversal view.

Variates (talm = talon + morfológia / talon + morphology):

talm00 – missing or damaged talon beyond recognition

talm01 – slightly convex

talm02 – convex

talm03 – convex with a gibbous section at the point of force

talm04 – double convex because two gibbous sections at two points of force

talm05 – straight

talm06 – irregular

talm07 – uninterpretable (linear and punctual talon types)

talm08 – concave

talm09 – other shape

talm97 – the original talon configuration is not recognizable because of secondary modification

talm98 – not relevant (cores, core fragments and blocks)

talm99 – non identifiable: type of talon can not be recognized from causes other than mentioned under talm00 variate.

ATT031: Talon soundness

Definition: damage of the talon area.

Variates (tale = talon + roncsolódás / talon + damage):

talr00 – missing talon

talr01 – sound talon: without any damage

talr02 – slightly damaged talon. The talon is present in its entirety but there are damages on it that were not existed before the detachment of the flake.

talr03 – damaged talon. The talon is present in its

entirety but there are damages on it that were not existed before the detachment of the flake.

talr04 – fragmentary talon. Part of the talon is missing (broken) but the remaining talon region is not damaged.

talr05 – damaged and fragmentary talon. Part of the talon is missing, the remaining area bears damages that were not existed before the detachment of the flake.

talr97 – the original talon configuration is not recognizable because of secondary modification

talr98 – not relevant (cores, core fragments and blocks)

talr99 – non identifiable: the talon can not be recognized from causes other than mentioned under talr00 variate.

ATT032: Talon recognition

Definition: this variable concerns the fitness for interpretation of talon characteristics, irrespective of damages and breakages

Variates (talf = talon + felismerhetőség / talon + recognition):

talf00 – missiong talon

talf01 – sound talon: without any damage, it can be interpreted

talf02 – damaged but recognizable talon. Despite of damages the original talon type can be recognized.

talf03 – damaged unrecognizable talon. The original talon type can not be recognized because of damages.

talf97 – the original talon configuration is not recognizable because of secondary modification

talf98 – not relevant (cores, core fragments and blocks)

talf99 – non identifiable: the talon can not be recognized from causes other than mentioned under talf00 and talf03 variates.

ATT033: Dorsal proximal damage

Definition: fractures, damage and spalls on the dorsal face in the proximal section that came about during the detachment of the flake

Variates (prdr = proximális + dorzális + roncsolódás / proximal + dorsal + damage):

prdr00 – missing basal area

prdr01 – without damage and/or cortex cover

prdr02 – slight damage: during detachment moderate amount of fissuration and extra scars are created

prdr03 – heavy damage: during detachment considerable amount of fissuration and extra scars are created; these are close to each other, they are relatively deep often with stepped termination and pattern

prdr04 – damaged and fragmentary base: during detachment the base becomes seriously fragmented, spalls are deep and cover the area

prdr05 – the base is covered by secondary modification scars

prdr98 – not relevant (cores, core fragments and blocks)

ATT034: Ventral proximal damage

Definition: fractures, damage and spalls on the ventral face in the proximal section that came about during the detachment of the flake

Variates (prvr = proximális + dorzális + roncsolódás / proximal + ventral + damage):

prvr00 – missing basal area

prvr01 – without damage

prvr02 – slight damage: during detachment moderate amount of fissuration and extra scars are created

prvr03 – heavy damage: during detachment considerable amount of fissuration and extra scars are created; these are close to each other, they are relatively deep often with stepped termination and pattern

prvr04 – slight damage and stigmata on the bulb: during detachment moderate amount of fissuration and extra scars are created; besides there are stigmata of force on the bulb, as: parasite flake negative; fissures radiating from the point of percussion

prvr05 – damaged and fragmentary base: during detachment the base becomes seriously fragmented, spalls are deep and cover the area

prvr06 – the base is covered by secondary modification scars

prvr98 – not relevant (cores, core fragments and blocks)

ATT035: Type of proximal bulb

Definition: extent, expansion and special stigmata of the bulb

Variates (bult = bulbus + típus / bulb + type):

bult00 – missing bulb

bult01 – not explicit (flat) bulb

bult02 – one positive, pronounced bulb

bult03 – one positive, strongly pronounced bulb

bult04 – one positive, pronounced dihedral bulb (transverse fracture)

bult05 – one positive, pronounced dihedral bulb (longitudal fracture)

bult06 – one positive bulb with a spall negative, a dent or other hollow divider

bult97 – thinned / modified bulb

bult98 – not relevant (cores, core fragments and blocks)

bult99 – non identifiable

ATT036: Detachment cone

Definition: pronounciation of the cone starting from the point of applied force.

Variates (kupf = kúp + fejlettség / cone + pronounciation):

kupf00 – missing bulb

kupf01 – no visible cone

kupf02 – visible cone

kupf03 – strongly pronounced cone

kupf04 – strongly pronounced cone and radiating fissures

kupf97 – non identifiable because of secondary modification

kupf98 – not relevant (cores, core fragments and blocks)

kupf99 – non identifiable

ATT037: Position and number of bulbs

Definition: number and position of bulbs in relation to each other

Variates (bulp = bulbus + pozíció / bulb + position):

bulp00 – missing bulb

bulp01 – one proximal bulb

bulp02 –two bulbs at the same proximal zone, one on the dorsal, one on the ventral surface (Kombewa)

bulp03 – two bulbs on one surface in opposition to each other

bulp04 – two bulbs on two surfaces in opposite position (proximal/distal)

bulp05 – two bulbs on one surface more-the-less in right angle

bulp06 – two bulbs on two surfaces more-the-less in right angle

bulp07 – other position/number

bulp08 – not explicit (flat) bulb

bulp98 – not relevant (cores, core fragments and blocks)

bulp99 – non identifiable

ATT038: Traces of bipolar-on-anvil techniques, damage

Definition: number and position of stigmata pointing at bipolar-on-anvil techniques. Type of damages and traces can be manifold, usually the scaled „retouch" is mentioned. There are distinct cases when scaled „retouch" is not formed in spite of the anvil techniques.

One possible scenario that the pebble raw material is turned after almost every strike, as in the case of the so-called slicing technique, described by Michał Kobusiewicz (1996). In the absence of multiple blows and counterforce at the same spots, scaled damage will not be pronounced.

The morphology of small pebbles can be so dense or compact that the edges are not damaged as seriously as in other cases. In the HSAP 057 collection, there are numerous pieces that are not scaled at the distal part, but the cortex covered distal edges are completely broken.

If the pebble is placed on the anvil diagonal to its knapping axis, the blow will cause counterblow at the point resting on the anvil, not in the area from where the flake will be detached.

There are clues to the use of anvil in those cases: pronounced ripples on the ventral surface; weak bulb; severity of proximal damage; type of distal breakages; type of talon; morphology of the piece; direction of force(s).

ATT033-034 and ATT038 are similar. The main difference is that the latter case can contain real bipolar damages, i.e. damages in opposed areas of a piece.

Variates (bipr = bipoláris + roncsolódás / bipolar + damage):

bipr00 – missing base; in this case the bipolar damages in the proximal-distal axis can not be proven

bipr01 – no bipolar damage or no damage

bipr02 – proximal damage

bipr03 – distal damage

bipr04 – proximal-distal damage

bipr05 – damage on two opposed edges that are not the proximal-distal pair

bipr06 – damage on three edges

bipr07 – damage on four edges

bipr08 – other combinations

bipr97 – non identifiable because of secondary modification

bipr98 – not relevant (cores, core fragments and blocks)

bipr99 – non identifiable

ATT039: Traces of bipolar-on-anvil techniques, ventral ripples

Definíció: Number and direction of characteristically pronounced ripples at the ventral surface

Variates (biph = bipoláris + hullámfodrok / bipolar + ripples):

biph00 – ripples are not pronounced

biph01 – pronounced ripples, from proximal direction

biph02 – pronounced ripples, from distal direction

biph03 – pronounced ripples, from two directions, perpendicular to each other

biph04 – pronounced ripples, from two opposed directions (proximal/distal or left/right)

biph05 – pronounced ripples, from three directions

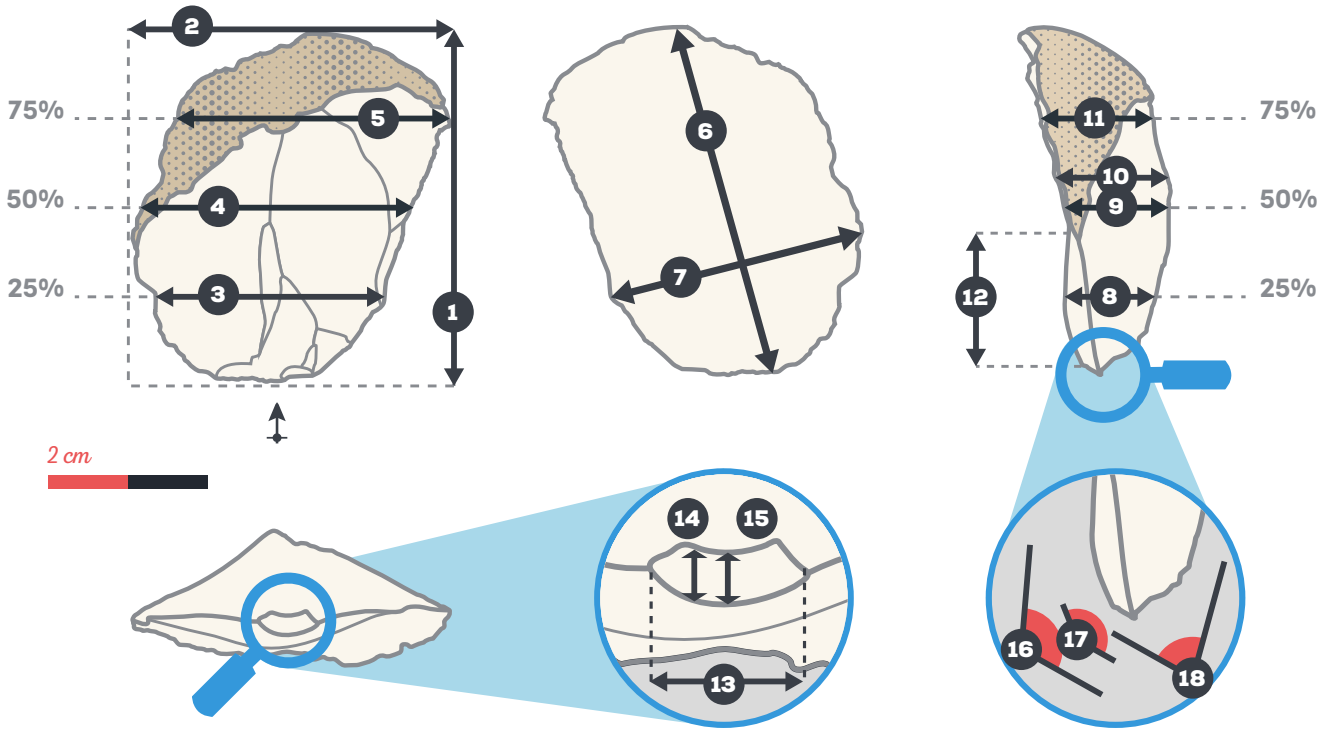
biph06 – pronounced ripples, from four directions

biph97 – non identifiable because of secondary modification

biph98 – not relevant (cores, core fragments and blocks)

biph99 – non identifiable

ATT040: Detachment from dorsal/ventral direction



Metric attributes of flakes. 1 - ATT044: Length, technical; 2 - ATT046: Width, technical; 3 - ATT049: Width, proximal; 4 - ATT050: Width, mesial; 5 - ATT051: Width, distal; 6 - ATT043: Maximum dimension; 7 - ATT045: Width, maximum; 8 - ATT053: Thickness, proximal and ATT065: Bulb thickness; 9 - ATT054: Thickness, mesial; 10 - ATT052: Thickness, maximum; 11 - ATT055: Thickness, distal; 12 - ATT064: Bulb length; 13 - ATT056: Talon width; 14 - ATT057: Talon maximum thickness; 15 - ATT058: Talon thickness at the middle; 16 - ATT063: Interior platform angle 2; 17 - ATT062: Interior platform angle 1; 18 - ATT060: Exterior platform angle.

Definition: bipolar detachments from direction perpendicular to the plane of the piece („notch")

Variates (bipl = bipoláris + leválasztás / bipolar + detachment):

bipl00 – absent

bipl01 – present

bipl98 – not relevant (cores, core fragments and blocks)

C) METRIC DATA

ATT041: Circumference

Definition: length of circumference in dorsal view.

Variates (mtke = metrikus adatok + kerület / metric data + circumference): millimetres

ATT042: Weight

Definition: weight in grams

Variates (mtws = metrikus adatok + weight + súly / metric data + weight + weight): grams

ATT043: Maximum dimension

Definition: maximum dimension of the dorsal plane irrespective of the direction of the detachment.

Variates (mthm = metrikus adatok + hosszúság + maximális /metric data + length + maximum): millimetres

ATT044: Length, technical

Definition: length of the rectangle framing the piece, which is in alignment with the debitage plane. This measurement is preferred against the length as the distance between the midpoint of the talon and the furthest point from this point. This latter measurement can result a very skewed axis of the piece which is risky to use in technological analysis. For example, it is very misleading to compare a skewed piece's length and length of a core's debitage surface.

Variates (mtht = metrikus adatok + hosszúság + technikai / metric + length + technical): millimetre

ATT045: Width, maximum

Definition: the longest section perpendicular to the maximum dimension (ATT043)

Variates (mtsm = metrikus adatok + szélesség + maximális / metrics + width + maximal): millimetre

ATT046: Width, technical

Definition: width of the rectangle drawn around the piece in dorsal view (as in ATT044).

Variates (mtst = metrikus adatok + szélesség + technikai / metrics + width + technical): millimetre

ATT049: Width, proximal

Definition: width at the 25% of technical length (ATT044).

Variates (mtsp = metrikus adatok + szélesség [technikai] + proximális / metrics + width + proximal): millimetre

ATT050: Width, mesial

Definition: width at the 50% of technical length (ATT044).

Variates (mtsk = metrikus adatok + szélesség [technikai] + középen / metrics + width + mesial): millimetre

ATT051: Width, distal

Definition: width at the 75% of technical length (ATT044).

Variates (mtsd = metrikus adatok + szélesség [technikai] + disztális / metrics + width + distal): millimetre

ATT052: Thickness, maximum

Definition: maximum dimension perpendicular to the dorsal plane and technical width (ATT046).

Variates (mtvm = metrikus adatok + vastagság + maximális / metrics + thickness + maximum): millimetre

ATT053: Thickness, proximal

Definition: thickness at the 25% of technical length (ATT044).

Variates (mtvp = metrikus adatok + vastagság + proximális / metrics + thickness + proximal): millimetre

ATT054: Thickness, mesial

Definition: thickness at the 50% of technical length (ATT044).

Variates (mtvm = metrikus adatok + vastagság + közép / metrics + thickness + mesial): millimetre

ATT055: Thickness, distal

Definition: thickness at the 75% of technical length (ATT044).

Variates (mtvd = metrikus adatok + vastagság + disztális / metrics + thickness + distal): millimetre

ATT056: Talon width

Definition: width of talon in frontal view (dorsal view).

Variates (tals = talon + szélesség / talon + width): millimetre. The zero value means non relevant information: the talon is fully cortical; not detached piece; non identifiable because of secondary modification.

ATT057: Talon maximum thickness

Definition: longest section perpendicular to the width of the talon.

Variates (tlvm = talon + vastagság + maximum / talon + thickness + maximum): millimetre. The zero value means non relevant information: the talon is fully cortical; not detached piece; non identifiable because of secondary modification.

ATT058: Talon thickness at the middle

Definition: section length perpendicular to the width, measured at the middle of the width.

Variates (tlvk = talon + vastagság + közép / talon + thickness + middle): millimetre. The zero value means non relevant information: the talon is fully cortical; not detached piece; non identifiable because of secondary modification.

ATT059: Theoretical talon thickness

Definition: distance between the ventral end of the talon and the theoretical intersection of the talon plane and the dorsal plane.

Variates (tale = talon + elméleti vastagság / talon + theoretical + thickness): millimetre. The zero value means non relevant information: the talon is fully cortical; not detached piece; non identifiable because of secondary modification.

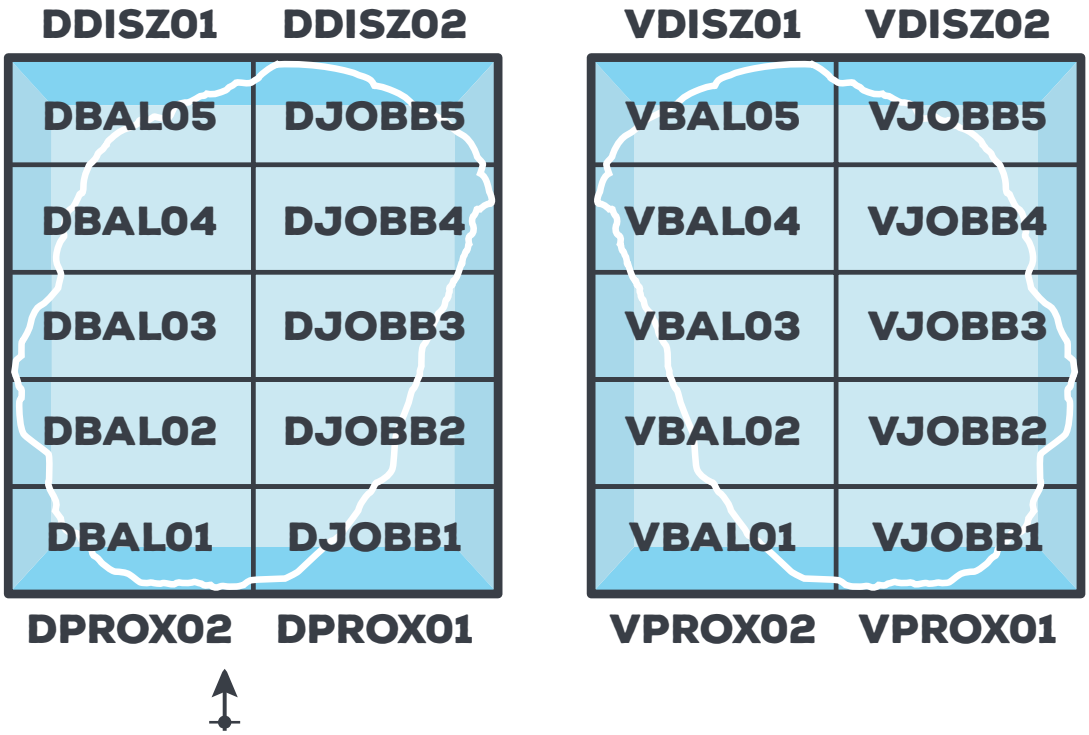
ATT060: Exterior platform angle

Definition: angle of the talon plane and the dorsal surface.

Variates (talk = talon + külső szög / talon + exterior angle): degrees. The zero value means non relevant information: the talon is fully cortical; not detached piece; non identifiable because of secondary modification.

ATT061: Dorsal cortex and platform angle

Definition: this attribute denotes whether the dorsal surface and/or talon is knapped or cortical. If there is



Zones of the dorsal and ventral surfaces.

pebble cortex, the exterior platform angle is not related to technology but the natural shape of the raw material block. In these cases the ATT060 value is considered invalid.

Variates (tldk = talon + dorzális felszín + külső szög / talon + dorsal surface + outer angle):

tldk00 – not cortical

tldk01 – cortical

tldk98 – not relevant (cores, core fragments and blocks)

tldk99 – not identifiable because of damage or secondary modification.

ATT062: Interior platform angle 1

Definition: angle of the talon plane and the ventral surface. The angle is measured at the very proximal part, where the two planes meet.

Variates (talb = talon + belső szög / talon + inner angle): degrees. The zero value means non relevant information: the talon is fully cortical; not detached piece; non identifiable because of secondary modification.

ATT063: Interior platform angle 2

Definition: angle of the talon plane and the ventral surface. The angle is measured by the mesial part of the ventral surface, passing the bulb area. ATT062 and ATT063 can be very different because the bulb bias. However, there are some small pieces where the bulb stretches almost the whole ventral surface.

Variates (talb = talon + belső szög / talon + inner angle): degrees. The zero value means non relevant information: the talon is fully cortical; not detached piece; non identifiable because of secondary modification.

ATT064: Bulb length

Definition: length of the bulb on the ventral surface from the talon until the end of the gibbous area. The value is zero when no protuding bulb is observable.

Variates (bulh = bulbus + hosszúság / bulb + length): millimetre.

ATT065: Bulb thickness

Definition: thickness of the piece perpendicular to the width (ATT046) where the bulb is the most prominent. If protuding bulb is absent, this value equals to the proximal thickness (ATT053).

Variates (bulv = bulbus + vastagság / bulb + thickness): millimetre.

D) ZONAL DATA

Location and extent of the different edge and surface characteristics on detached pieces are variables of crucial importance in lithic analysis. Instead of the usual left/right, proximal/mesial/distal locational terms, I applied a grid system to describe locational data.

	worked-worked surface	cortical surface	broken surface
acute angle (0-75°)	elpd01	elpd02	elpd03
obtuse angle (>75°)	elpd07	elpd08	elpd09
right angle (90°)	elpd04	elpd05	elpd06
not relevant	elpd98		

Table 1. ATT067

I created five-five sections along left-right halves, at the dorsal and ventral planes each. This created ten fields per plane. These fields were sectioned into two zones each, an outer (edge) and an inner zone. After this there were twenty zones per plane. Finally I delineated edge zones in the fields at the proximal and distal ends too. To summarize, there are twenty-four zones per plane.

The different variables were located by this zonal grid, for example, a marginally retouched side-scraper can present retouch four outer zones of the left dorsal side. The variables are marked as present/absent in a given zone, so a matrix of data created.

ATT066: Dorsal cortex coverage

Definition: dorsal cortex coverage according to the zones.

Variates (crdm = cortex + dorzális + mennyiség / cortex + dorsal + volume): zones that are covered by cortex less than 50% have a value of 0,5. Zones that are covered by cortex more than 50% have a value of 1. Zones without cortex have zero value.

ATT067: Potential working edges, loci and steepness

Definition: location of edges that have a steepness of 75 degrees or less (angle of the dorsal and ventral surface), but are not modified (retouched etc.). This variable tells the potential amount and location of usable edges on detached pieces that were not modified into formal retouched tools.

Variates (elpd = élek + potenciális + darab / edges + potential + piece). Difference is made between edges without cortex and with cortex, i.e. the dorsal surface is covered with cortex. 0-75° edges without cortex valued as 1, with cortex valued as 2. >75°edges without cortex is 3, with cortex is 4. Distinct categories are the broken edges, where the original edge angle can not observed. The fractured edges can have acute and blunt angles. There are pieces that have distinct lateral planes. In these cases, angle between the lateral plane and dorsal plane was measured. The matrix is on table 1.

ATT068: Potential working edges, steepness

Definition: dorsal and ventral sirface angles along the potential working edges. If one piece had one continuous working edge, the biggest value was recorded. If one piece had more working edges, the averaged value was recorded.

Variates (elpm = élek + potenciális + meredekség / edges + potential + steepness): degree.

ATT069: Altered edge location and extent

Definition: location of altered edge sections. Marginal alterations have the value of 1, invasive and covering alterations have the value of 2. The distinction between marginal and invasive is arbitrary, created by visual inspection of the whole collection.

Variates (elmz = élek + módosulás + zóna / edges + alterations + zone): zone.

ATT070: Types of edge alterations

Definition: nominal types of edge alterations. One piece can have multiple and diverse alterations, recorded separatedly.

Variates (elmt = élek + módosulás + típus / edges + alterations + type):

elmt00 – no observable alteration

elmt01 – slight irregular edge damage: small and shallow scars. The negatives are not constitute one continuous section and/or so small that they can not be treated as an altered edge section. Size of the negatives are uneven, the impression is simple damage.

elmt02 – regular edge damage („use-retouch"): the small, relatively uniform negatives constitute a distinct section. The impression is that these pattern is result of use, possibly deliberate retouching.

elmt03 – heavy irregular edge damage: clusters of scars with uneven distribution, size and depth, often combined with breaks, serration.

elmt04 – scaled retouch (écaillé): scaled negative clusters, characteristic of bipolar-on-anvil knapping methods.

elmt05 – dull, rounded edges: the edges are rounded bí different taphonomic agents

elmt06 – unifacial spin-off fracture, small: breakage and a resulting flake scar smaller than 5 millimetres along the edge. The proximal end of the scar is characteristicly stepped.

elmt07 – unifacial spin-off fracture, big: breakage and a resulting flake scar bigger than 5 millimetres along the edge. The proximal end of the scar is characteristicly stepped.

elmt08 – burin-like fracture along the edge: in consequence of this fracture a distinct lateral plane is formed along the edge. The difference in comparsion with the real burin is the absence of a bulb negative, point of impact, and often, the damage of distal termination.

elmt09 – microburin-like alteration: unintentional, not part of the microburin technique.

elmt10 – notch alteration: possibly unintentional notches along the edges, breaks from dorsal or ventral direction

elmt11 – fracture with step termination. Two phenomena belong here, fracture along the edge and fracture perpendicular to the edge. None of these are cause serious volume loss (dismembering breaks) of the piece, only the edges are damaged, and the angle of the edge is altered. The fracture termination is stepped.

elmt12 – fracture with feather termination. Two phenomena belong here, fracture along the edge and fracture perpendicular to the edge. None of these are cause serious volume loss (dismembering breaks) of the piece, only the edges are damaged, and the angle of the edge is altered. The fracture termination is feather-shaped.

elmt13 – fracture with hinge termination. Two phenomena belong here, fracture along the edge and fracture perpendicular to the edge. None of these are cause serious volume loss (dismembering breaks) of the piece, only the edges are damaged, and the angle of the edge is altered. The fracture termination is hinged.

elmt14 – total edge break. Break which causes the total loss of an edge portion but not serious volume loss of the piece.

elmt15 – break. Break that cause serious volume loss of the piece. the distinct fracture plane alters the original angle of intersection between dorsal and ventral surface.

elmt98 – not relevant (cores, core fragments and blocks)

elmt99 – other or non identifiable

ATT071: Altered edge steepness

Definition: averaged angle of three measurements along altered edge sections. The steepness is recorded between dorsal and ventral surface, or, in case of a distinct lateral plane, between dorsal surface and lateral surface.

Variates (elmm = élek + módosult + meredekség / edges + alteration + steepness): degrees.

ATT072: Modified edge location and extent

Definition: location of secondary modified edge sections. Marginal modifications have the value of 1, invasive and covering modifications have the value of 2. The distinction between marginal and invasive is arbitrary, created by visual inspection of the whole collection.

Variates (elrz = élek + retus + zóna / edges + retouch + zone): zone.

ATT073: Types of edge modifications

Definition: nominal types of edge modifications. One piece can have multiple and diverse modifications, recorded separatedly.

Variates (elrt = élek + retus + típus / edges + modification + type):

elrt00 – no modification: there are no intentional secondary modifications

elrt01 – intentional break, microburin: the piece is deliberately severed by the microburin technique.

elrt02 – intentional break, piquant trièdre: the piece is deliberately severed by the microburin technique.

elrt03 – burin blow: detachment that causes a distinct lateral plane along the edge with special markers as presence of bulb negative and point of force.

elrt04 – chanfrein: transverse burin blow conducted on truncation.

elrt05 – other burinlike detachments (e.g. Prodnik etc.)

elrt06 – notch: trace of one big blow perpendicular to the dorsal-ventral plane, with or without additional forming retouch

elrt07 – borer and perforator: protruding tool created by notches and/or steep retouch

elrt08 – tang: handle created by notches and/or steep retouch on two opposed edges, usually in the proximal region

elrt09 – strangulation: edge thinning applied simultaneously on two oppsed edges with notching and retouch

elrt10 – shoulder: handle created by notches and/or steep retouch on one edge, usually in the proximal region

elrt11 – serration/denticulate: small notches creating a continuous section

elrt12 – irregular backing/truncation: steep, at least 75° retouch applied along the edges, consisting of negatives with different size, direction and density.

elrt13 – regular backing/truncation: steep, at least 75° retouch applied along the edges, consisting of negatives with similar size, direction and density.

elrt14 – endscraper: steep retouch which forms a slightly convex, fan-like front along the edges, usually on the distal section of the tool.

elrt15 – irregular edge retouch: acute, maximum 75° retouch applied along the edges, consisting of negatives with different size, direction and density.

elrt16 – regular edge retouch: acute, maximum 75° retouch applied along the edges, consisting of negatives with similar size, direction and density.

elrt17 – notch/caréné detachments: great edge shaping detachments with a direction perpendicular to the dorsal-ventral plane, supposedly with bipolar-on-anvil techniques.

elrt99 – other (mostly special bifacial traits).

ATT074: Modified edge steepness

Definition: averaged angle of three measurements along modified edge sections. The steepness is recorded between dorsal and ventral surface, or, in case of a distinct lateral plane, between dorsal surface and lateral surface.

Variates (elrm = élek + retus + meredekség / edges + retouch + steepness): degrees.

ATT075: Secondary surface modification

Definition: facial shaping modifications.

Variates (bift = bifaciális megmukálás + típus / bifacial + modification + type):

bift00 – no secondary facial modification

bift01 – unifacial modification

bift02 – bifacial modification

E) CORES (POSITIVES)

ATT076: Method of knapping (cores)

Definition: the basic set of gestures (methods) applied for knapping. One reduction process could be obtained by more methods, the classification was based on the state in which the core was abandoned.

Variates (mmet = magkő + metódus / core + method):

mmet01 – freehand volumetric: cores held in the hand, the mass of the piece was reduced by detachments.

mmet02 – freehand predetermined: cores held in the hand, target of the detachments were one or more specific blank with predetermined morphology

mmet03 – bipolar-on-anvil: the core set against an anvil which resulted opposed detachments, from the direction of the blow and from the direction of the counterforce created by the anvil.

mmet04 – unipolar anvil and slicing: during knapping an anvil was used in a way that the counterforce it created did not caused detachments from the anvil direction. In spite of this, from the various stigmata it can be hypothesized the presence of an anvil and a counterforce. During slicing the pebble core was continuously rotated that prevented the formation of stigmata characteristic of the bipolar methods.

mmet05 – both freehand and anvil stigmata are present or the core can not be classified firmly into one category.

mmet99 – non identifiable

ATT077: Type of core (cores)

Definition: characteristic constellation of debitage planes and preparation on cores. In the descriptions, position of debitage surface negatives are indicative of the position of striking platforms (surfaces).

Knapping platforms are those surfaces that were hit during detachment. Consequently, there has to be negatives on the debitage surface that start at the rim of a knapping platform. Knapping platforms are isolated by cortical areas or the can be distinguished by the succesion of removals forming them. „Cortical strking platforms" are not encountered because in those cases, no platfom was prepared, only the cortical edges were used by the knapper.

Variates (magt = magkő + típus / core + type):

magt00 – initial: maximum four detachments.

magt01 – split: initial core with one predominant cleavage plane.

magt02 – one knapping and one debitage surfaces. Negatives on the debitage surface are roughly parallel (1-30 degrees tolerance), and align in one direction with the length axis of the surface, 1-30 degrees tolerance. Conventionally: single platform core.

magt03 – two knapping and one debitage surfaces. Negatives on the debitage surface aligned 31-75 degrees to each other, and with the length axis of the surface. Conventionally: single platform core.

magt04 – two knapping and one debitage surfaces. Negatives on the debitage surface are perpendicular. Conventionally: ninety-degree core.

magt05 – two knapping and one debitage surfaces. Negatives on the debitage surface are opposed-parallel. Conventionally: opposed platform core.

magt06 – three knapping and one debitage surfaces. The debitage surface negatives are arranged to three directions. In case of the bipolar-on-anvil method, these cores are rotated.

magt07 – four knapping and one debitage surfaces. The debitage surface negatives are arranged to four directions. In case of the bipolar-on-anvil method, these cores are rotated.

magt08 – one knapping and two debitage surfaces.

magt09 – two knapping and two debitage surfaces. The debitage surfaces are positioned at different sections of the cores. The negatives on the distinct debitage surfaces are roughly parallel (0-30 degrees), the two debitage surfaces are perpendicular to each other.

magt10 – two knapping and two debitage surfaces. The debitage surfaces are positioned at different sections of the cores. The negatives on the distinct debitage surfaces are roughly parallel (0-30 degrees), the two debitage surfaces are opposed to each other.

magt11 – two knapping and two debitage surfaces. One

knapping surface is the other knapping surface's debitage surface.

magt12 – two knapping and two debitage surfaces. One knapping surface is the other knapping surface's debitage surface.

magt13 – predetermined opposed. The prepared knapping platforms are situated on opposing surfaces.

magt14 – predetermined circular. The prepared knapping platform surrounds the debitage surface.

magt15 – Levallois, preferential; after Boëda definition.

magt16 – Levallois, recurrent, unipolar; after Boëda definition.

magt17 – Levallois, recurrent, bipolar; after Boëda definition.

magt18 – Levallois, recurrent, circular; after Boëda definition.

magt19 – Levallois, point; after Boëda definition.

magt20 – Nubian I. cores, Levallois conception. On the distal part of the debitage surface, a central ridge is formed by which a symmetrical Levallois point can be detached. The ridge is formed by detachments from distal direction.

magt21 – Nubian II. cores, Levallois conception. On the distal part of the debitage surface, a central ridge is formed by which a symmetrical Levallois point can be detached. The ridge is formed by lateral detachments.

magt22 – Halfan core, Levallois conception. Before the removing the „preferential" flake, a series of small, parallel distal detachments are made.

magt23 – Aduma preferential. The Aduma type cores are basically Levallois cores on pebbles, where the lower part of the piece is naturally formed, cortical.

magt24 – Aduma, recurrent, unipolar; after Boëda definition.

magt25 – Aduma, recurrent, bipolar; after Boëda definition.

magt26 – Aduma, recurrent, circular; after Boëda definition.

magt27 – Aduma, point; after Boëda definition.

magt28 – globular, irregular cores.

magt99 – other and non-identifiable.

ATT078: Perimeter (cores)

Definition: circumference of the core along the plane of the main (biggest) debitage surface.

Variates (mdfk = magkő + debitázsfelszín + kerület / core + debitage surface + perimeter): millimetre.

ATT079: Worked perimeter (cores)

Definition: along the biggest debitage surface plane, sum length of the non-cortical sections.

Variates (mdfm = magkő + debitázsfelszín + megmunkált kerület / core + debitage surface + worked perimeter): millimetre.

ATT080: Number of cortical knapping surfaces (cores)

Definition: along the biggest debitage surface plane, number of cortical areas from where detachments are initiated.

Variates (mklf = magkő + kérges + leválasztási felszín / core + cortical + debitage surface): pieces.

ATT081: Number of knapping surfaces (cores)

Definition: number of knapping surfaces, i.e. surfaces of force causes detachments, prepared by knapping.

Variates (malf = magkő + leválasztási felszín / core + knapping surface): pieces.

ATT082: Number of debitage surfaces (cores)

Definition: number of debitage surfaces, i.e. surfaces of volume loss, from where the blanks are detached

Variates (madf = magkő + leválasztási felszín / core + debitage surface): pieces.

ATT083: Number of negatives (cores)

Definition: number of detachment negatives bigger than 5 millimetres found on the entire surface of the core. The 5 mm boundary is arbitrary, below that one expect preparatory removals or retouch.

Variates (maln = magkő + leválasztási negatívok / core + detachments): pieces.

ATT084: Number of negatives on debitage surfaces (predetermined cores)

Definíció: number of detachment negatives bigger than 5 millimetres found on the debitage surfaces of the core. The 5 mm boundary is arbitrary, below that one expect preparatory removals or retouch.

Variates (mprd = magkő + preparációs negatívok + debitázsfelszín / core + detachments + debitage surface): pieces.

ATT085: Number of negatives on knapping surfaces (predetermined cores)

Definition: number of detachment negatives bigger than 5 millimetres found on the knapping surfaces of the core. The 5 mm boundary is arbitrary, below that one expect preparatory removals or retouch.

Variates (mprl = magkő + preparációs negatívok + leválasztási felszín / core + detachments + knapping surface): pieces.

ATT086: Number of whole removal negatives (cores)

Definition: number of removal negatives that bigger than 5 millimetres and its whole circumference is detectable.

Variates (meln = magkő + ép + leválasztási negatívok / core + sound + negatives): pieces.

ATT087: Number of negatives reaching core margins (cores)

Definition: number of removal negatives bigger than 5 millimeters that reach the core margins.

Variates (mpln = magkő + perem + leválasztási negatívok / core + margin + negatives): pieces.

ATT088: Number of imperfect negatives (cores)

Definition: number of removal negatives bigger than 5 millimeters with non-feather termination.

Variates (mtln = magkő + tökéletlen + leválasztási negatívok / core + imperfect negatives): pieces.

ATT089: Length of biggest whole negative (cores)

Definition: length of biggest whole negative on the biggest debitage surface. Length: as in ATT044.

Variates (mlnh = magkő + leválasztási negatív + hossz / core + negative + length): millimetre. In case of zero, there is no whole negative scar.

ATT090: Width of biggest whole negative (cores)

Definition: width of biggest whole negative on the biggest debitage surface. Width: longest section perpendicular to ATT089.

Variates (mlns = magkő + leválasztási negatív + szél / core + negative + width): millimetre. In case of zero, there is no whole negative scar.

ATT091: Debitage surface length (core debitage surfaces)

Definition: length of debitage surface. Alignment: according to the morphological axes of the most numerous paralell negatives. One core can have more debitage surface. Each surface is measured under specific identification numbers.

Variates (dfho = debitázsfelszín + hosszúság / debitage surface + length): millimetre.

ATT092: Debitage surface width (core debitage surfaces)

Definition: width of the debitage surface. Alignment: longest section perpendicular to ATT091.

Variates (dfsz = debitázsfelszín + szélesség / debitage surface + width): millimetre.

ATT093: Debitage plane circumference (core debitage surfaces)

Definition: circumference of the core in the plane of the debitage surface.

Variates (dftk = debitázsfelszín + teljes + kerület / debitage surface + whole + circumference): millimetre.

ATT094: Debitage surface circumference (core debitage surfaces)

Definition: circumference of the debitage surface. Some cases it is not equal to the ATT093 but smaller as unworked, other worked or cortical areas are part of the plane where the actual debitage surface is formed.

Variates (dfmk = debitázsfelszín + megmunkált + kerület / debitage surface + worked + circumference): millimetre.

ATT095: Soundness (core debitage surfaces)

Definition: wholeness of the debitage surface. There are cases when parts of the debitage surface is broken, knapped away etc.

Variates (dfep = debitázsfelszín + épség / debitage surface + soundness):

dfep01 – whole, sound.

dfep02 – broken, parts of it are missing.

dfep03 – damaged (e.g. extreme heat damage).

dfep04 – broken and damaged.

ATT096: Bluntness (core debitage surfaces)

Definition: roundedness and bluntness of the debitage surface rim, caused by throughout preparation or overexploitation.

Variates (dfto = debitázsfelszín + tompaság / debitage surface + bluntness):

dfto00 – no bluntness

dfto01 – one direction (from the direction of the attached knapping surfaces)

dfto02 – one direction (opposed to the section attached to the knapping surface)

dfto03 – one direction (other position, non-related to

knapping surfaces)

dfto04 – two directions (according to two opposed knapping surfaces)

dfto05 – two directions (not according to two opposed knapping surfaces)

dfto06 – three directions

dfto07 – four directions

ATT097: Fissuration (core debitage surfaces)

Definition: fissures and cracks along the debitage surface rim, caused by throughout preparation or overexploitation.

Variates (dfre = debitázsfelszín + repedezettség / debitage surface + fissures):

dfre00 – no fissures

dfre01 – one direction (from the direction of the attached knapping surfaces)

dfre02 – one direction (opposed to the section attached to the knapping surface)

dfre03 – one direction (other position, non-related to knapping surfaces)

dfre04 – two directions (according to two opposed knapping surfaces)

dfre05 – two directions (not according to two opposed knapping surfaces)

dfre06 – three directions

dfre07 – four directions

ATT098: Scaled damage (core debitage surfaces)

Definition: scalar damage along the perimeter of the debitage surface, caused by preparation or overexploitation. Scalar damages consist of overlapping, non-normal termination negatives.

Variates (dfpr = debitázsfelszín + pikkelyes roncsolódás / debitage surface + scalar damage):

dfpr00 – no scala damages

dfpr01 – one direction (from the direction of the attached knapping surfaces)

dfpr02 – one direction (opposed to the section attached to the knapping surface)

dfpr03 – one direction (other position, non-related to knapping surfaces)

dfpr04 – two directions (according to two opposed knapping surfaces)

dfpr05 – two directions (not according to two opposed knapping surfaces)

dfpr06 – three directions

dfpr07 – four directions

ATT099: Scar pattern (core debitage surfaces)

Definition: direction of negatives that build up the debitage surface, relative to each other.

Variates (dfmi = debitázsfelszín + minta / debitage surface + pattern):

dfmi01 – one direction 0–45 degrees tolerance

dfmi02 – one direction 45–75 degrees tolerance

dfmi03 – two directions, perpendicular, 75–115 degrees tolerance

dfmi04 – two directions, obtuse angle, 115–165 degrees tolerance

dfmi05 – two directions, opposed, ca. 180 degrees

dfmi06 – three directions

dfmi07 – more directions than three

ATT100: Cortical knapping surfaces (core debitage surfaces)

Definition: number of cortical areas used as knapping surfaces. This use can be determined bí the debitage surface scar directions.

Variates (dfkl = debitázsfelszín + kérges leválasztási felszín / debitage surface + cortical knapping surface): pieces

ATT101: Worked knapping surfaces (core debitage surfaces)

Definition: number of distinct worked knapping surfaces attached to the debitage surface under study.

Variates (dfml = debitázsfelszín + megmunkált leválasztási felszín / debitage surface + worked knapping surface): pieces.

ATT102: Number of negatives (core debitage surfaces)

Definíció: number of detachment negatives bigger than 5 millimetres found on the debitage surface. The 5 mm boundary is arbitrary, below that one expect preparatory removals or retouch.

Variates (dfnn = debitázsfelszín + negatívok + number / debitage surface + negatives + number): pieces.

ATT103: Number of whole removal negatives (core debitage surfaces)

Definition: number of removal negatives on the debitage surface, that bigger than 5 millimetres and its whole circumference is detectable.

Variates (dfne = debitázsfelszín + negatívok + ép / debitage surface + negatives + sound): pieces.

ATT104: Number of negatives reaching margins (core debitage surfaces)

Definition: number of removal negatives bigger than 5 millimeters that reach the debitage surface margins.

Variates (dfpn = debitázsfelszín + peremes + negatívok / debitage surface + margin + negatives): pieces.

ATT105: Number of imperfect negatives (core debitage surfaces)

Definition: number of removal negatives bigger than 5 millimeters with non-feather termination.

Variates (dftn = debitázsfelszín + tökéletlen + negatívok / debitage surface + imperfect + negatives): pieces.

ATT106: Length of biggest whole negative (core debitage surfaces)

Definition: length of biggest whole negative on the debitage surface. Length: as in ATT044.

Variates (denh = debitázsfelszín + ép + negatív + hosszúság / debitage surface + whole + negative + length): millimetre.

ATT107: Width of biggest whole negative (core debitage surfaces)

Definition: width of biggest whole negative on the debitage surface. Width: longest section perpendicular to ATT106.

Variates (dens = debitázsfelszín + ép + negatív + szélesség / debitage surface + whole + negative + width): millimerte.

ATT108: Direction of biggest whole negative (core debitage surfaces)

Definition: direction of biggest whole negative in relation to the debitage surface alignment.

Variates (deni = debitázsfelszín + ép + negatív + irány / debitage surface + whole + negative + direction):

deni01 – same direction 0–45 degrees tolerance

deni02 – same direction 45–75 degrees tolerance

deni03 – two directions, 75–115 degrees tolerance

deni04 – two directions, 115–165 degrees tolerance

deni05 – two directions, opposed, ca. 180 degrees

deni06 – three directions

deni07 – more directions than three

ATT109: Length of last detached negative (core debitage surfaces)

Definition: length of the lastly detached flake negative on the debitage surface. Length: as in ATT044.

Variates (dunh = debitázsfelszín + utolsó + negatív + hosszúság / debitage surface + last + negative + length): millimetre.

ATT110: Width of last detached negative (core debitage surfaces)

Definition: width of the lastly detached flake negative on the debitage surface. Width: longest section perpendicular to ATT109.

Variates (duns = debitázsfelszín + utolsó + negatív + szélesség / debitage surface + last + negative + width): millimetre.

ATT111: Soundness of last detached negative (core debitage surfaces)

Definition: soundness of the lastly detached flake negative on the debitage surface. The negative is sound if its whole perimeter can be seen.

Variates (dune = debitázsfelszín + utolsó + negatív + épség / debitage surface + last + negative + soundness): whole / not whole

ATT112: Direction of last detached negative (core debitage surfaces)

Definition: direction of the lastly detached flake negative in relation to the debitage surface alignment.

Variates (duni = debitázsfelszín + utolsó + negatív + irány / debitage surface + last + negative + direction):

duni01 – same direction 0–45 degrees tolerance

duni02 – same direction 45–75 degrees tolerance

duni03 – two directions, 75–115 degrees tolerance

duni04 – two directions, 115–165 degrees tolerance

duni05 – two directions, opposed, ca. 180 degrees

duni06 – three directions

duni07 – more directions than three

ATT113: Soundness (core knapping surfaces)

Definition: wholesomeness of the worked knapping surface. There are cases when parts of the surface is broken, knapped away etc.

Variates (lfep = leválasztási felszín + épség / knapping surface + soundness): whole / not whole.

ATT114: Knapping surface type (core knapping surfaces)

Definition: number of negatives that form the knapping surface. Cortical surfaces are not encountered here.

Variates (lfti = leválasztási felszín + típus / knapping surface + type):

lfti01 – one detachment

lfti02 – two detachments

lfti03 – more detachments than two

lfti04 – earlier debitage surface

lfti99 – non identifiable

ATT115: Knapping surface curvature (core knapping surfaces)

Definition: shape of the intersection of knapping and debitage surfaces, viewed from the direction of the knapping surface.

Variates (lfiv = leválasztási felszín + ív / knapping surface + curvature):

lfiv01 – straight

lfiv02 – slightly convex

lfiv03 – strongly convex

lfiv04 – slightly concave

lfiv05 – stronlgy concave

lfiv06 – angular

lfiv07 – other

ATT116: Knapping and debitage surface angle (core knapping surfaces)

Definition: angle of the knapping and debitage surfaces in lateral view. The value is an average of three measurements.

Variates (lfdf = leválasztási felszín + debitázsfelszín / knapping surface + debitage surface): fok

ATT117: Knapping surface width (core knapping surfaces)

Definition: biggest width of the knapping surface.

Variates (lfsz = leválasztási felszín + szélesség / knapping surface + width): millimetre.

ATT118: Knapping surface depth (core knapping surfaces)

Definition: depth of the knapping surface. Depth: longest section perpendicular to ATT117.

Variates (lfms = leválasztási felszín + mélység / knapping surface + depth): millimetre.

ATT119: Knapping surface circumference (core knapping surfaces)

Definition: perimeter length of the whole core in the knapping surface plane. The circumference of the knapping surface itself were not measured.

Variates (lfke = leválasztási felszín + kerület / knapping surface + circumference): millimetre.

ATT120: Knapping plane cortical areas (core knapping surfaces)

Definition: cumulative length of cortical sections on the plane where the knapping surface was situated.

Variates (lfkk = leválasztási felszín + kérges + kerület / knapping surface + cortical + circumference): millimetre.

F) SECONDARY MODIFIED MICROLITHS

ATT121: Support type (microliths)

Definition: type of flake on which the microlithic tool was created.

Variates (mtsu = mikrolit + szupport / microlith + support):

mtsu01 – whole flake

mtsu02 – proximal fragment

mtsu03 – mesial fragment

mtsu04 – distal fragment

mtsu98 – not relevant (not microlithic tool)

mtsu99 – non-identifiable and other

ATT122: Shape of backed section (microliths)

Definition: shape of the backed edge section in dorsal (frontal) view. Original shape of some partially broken pieces could be identified with certainty. Dubious cases encountered as non-identifiable.

Variates (mtta = mikrolit + tompított él + alak / microlith + backing + shape):

mtta01 – straight

mtta02 – convex

mtta03 – concave

mtta04 – convex-concave

mtta05 – other

mtta98 – not relevant (not backed microlithic tool)

mtta99 – non-identifiable

ATT123: Shape of non-backed section (microliths)

Definition: shape of the edge in opposition of the backed section (i.e. „working edge").

Variates (mtma = mikrolit + munkaél + alak / microlith + working edge + shape):

mtma01 – straight

mtma02 – convex

mtma03 – concave

mtma04 – convex-concave

mtma05 – other

mtma98 – not relevant (not backed microlithic tool)

mtma99 – non-identifiable

ATT124: Shape of proximal section (microliths)

Definition: shape of the proximal section. If the two edges start in a point (there is not a distinct proximal section or edge), the piece classified in the 00 category. If the support can not be aligned in lack of stigmata, the alignment is arbitrary.

Variates (mtpa = mikrolit + proximális vég + alak / microlith + proximal + end + shape):

mtpa00 – no distinct proximal section, starting with a point

mtpa01 – straight

mtpa02 – oblique, directed up towards the left edge

mtpa03 – oblique, directed up towards the right edge

mtpa04 – convex

mtpa05 – concave

mtpa06 – tipped

mtpa07 – other

mtpa98 – not relevant (not microlithic tool)

mtpa99 – non-identifiable (broken after secondary modification)

ATT125: Shape of distal section (microliths)

Definition: shape of the distal section. If the two edges end in a point (there is not a distinct distal section or edge), the piece classified in the 00 category. If the support can not be aligned in lack of stigmata, the alignment is arbitrary.

Variates (mtda = mikrolit + disztális vég + alak / microlith + distal end + shape):

mtda00 – no distinct proximal section, starting with a point

mtda01 – straight

mtda02 – oblique, directed down towards the left edge

mtda03 – oblique, directed down towards the right edge

mtda04 – convex

mtda05 – concave

mtda06 – tipped

mtda07 – other

mtda98 – not relevant (not microlithic tool)

mtda99 – non-identifiable (broken after secondary modification)

ATT126: Shape of profile (microliths)

Definition: curvature of the piece in lateral view. If the support can not be aligned in lack of stigmata, the alignment is arbitrary.

Variates (mtpr = mikrolit + profil / microlith + profile):

mtpr01 – straight

mtpr02 – bends toward the ventral surface

mtpr03 – bends toward the dorsal surface

mtpr04 – twisted

mtpr98 – not relevant (not microlithic tool)

ATT127: Direction of backing (microliths)

Definition: direction of knapping observed on the pieces with backing retouch.

Variates (mtri = mikrolit + retus + irány / microlith + retouch + direction):

mtri01 – from the direction of the dorsal surface

mtri02 – from the direction of the ventral surface

mtri03 – from the directions both of the dorsal and the ventral surfaces

mtri04 – from the directions of dorsal and other, non-ventral direction

mtri05 – from the directions of ventral and other, non-dorsal direction

mtri06 – more directions (dorsal, ventral and other)

mtri98 – not relevant (not backing)

ATT128: Side of backing (microliths)

Definition: side of retouch on backed pieces. If the support can not be aligned in lack of stigmata, the alignment is arbitrary.

Variates (tool = tompítás + oldal / backing + side):

tool01 – left

tool02 – right

tool03 – double (both sides)

tool98 – not relevant (not backing)

G) OTHER MEASUREMENTS

ATT129: Number of edges (detachments)

Definition: number of distinct potential working edges on the piece. Working edge definition accords to ATT067.

Variates (elpn = élek + potenciális + number / edges + potential + number): pieces. Zero value marks absence of working edge (detached pieces, cores and blocks).

ATT130: Presence of distal edge (detachments)

Definition: if the sides of the piece are not meet in a point, there can be a distinct distal edge section. Edge section defined with a length at least the third of a side's length.

Variates (eldi = élek + disztális / edges + distal):

eldi00 – no distal edge

eldi01 – distal edge

eldi98 – not relevant (cores, core fragments and blocks)

ATT131: Number of negatives (blocks)

Definition: number of negatives on the whole surface of blocks (debk010).

Variates (toln = tömb + leválasztási negatív / block + negative): pieces.

VERSION AND REFERENCES

This is the second version of the HSAP057 datbase.

In the next version:

- more drawings
- lithic phototables
- Access file update

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