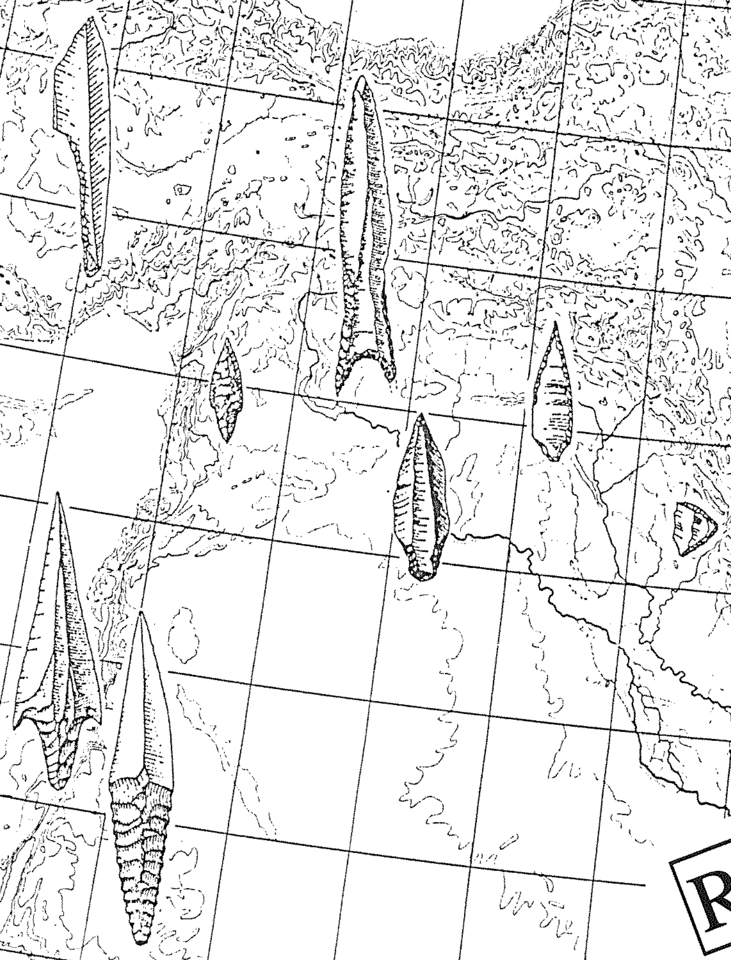

Reprint

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NEO- LITHICS 2/94

A Newsletter of Southwest Asian Lithics Research

map by the *Tübingen Atlas of the Near East*

Editorial Comment

This issue of the newsletter, which appears just before two major meetings, does not include the protocols of most of the working groups as we had promised in the first issue of NEO-LITHICS. The logistics problems of coordinating so many scholars from widely dispersed countries forced postponements of many working group meetings from the preliminary schedule dates. However, four subgroups (technology, projectile points, microliths, and glossed elements) will meet in Jalès end of March 1995. The Second PPN Chipped Lithics Workshop will begin in Warsaw 3rd of April, 1995. The spring 1995 thus will be again a time of intensive exchange among the members of the PPN chipped lithics "family", and we look forward presenting the minutes of these meetings in the next issue of NEO-LITHICS (deadline for contributions: 15th of May, 1995). *GOR, HGG, SKK*

Actualistic Studies on Near Eastern Sickle Blades

by Philip J. Wilke and Leslie A. Quintero

A current research project of the Lithic Technology Laboratory, University of California, Riverside, focuses on a practical analysis of Neolithic reaping tools. The research approach emphasizes replicative experiments to elicit information for interpretation of archaeological assemblages. Several analythical problems are being addressed, including the identification of unglossed sickle elements of archaeological origin and the technological basis of variation in form of sickle elements. Specifically, the research explores the cutting effectiveness of various configurations of sickle blade elements, and pragmatic factors that influence variation in form, wear pattern, and gloss formation.

A series of replicated sickles were used to cut experimental plots of wheat, barley, and oats totalling over 6,500 square meters. Various designs of sickles were crafted and fitted with several forms of blade elements of different lithologies. Both heat-treated and non-heat-treated stone was used, and several hafting methods and blade edge treatments were explored. Different reaping methods assessed the effectiveness of sickle and blade configurations. In addition, the extended period spent on the fieldwork permitted information to be gathered during all phases of cereal grain ripening.

The substantial body of data generated by the project is being used in a technological analysis of the sickle blades from 'Ain Ghazal.

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Neolithic Flint Mining in Jordan

by Leslie A. Quintero

A point of considerable interest to lithic studies in the southern Levant is the source of the exceptional pink flint that was used by Neolithic artisans as tool stone, particularly for the production of naviform cores and subsequent blade-tools. The spectacular nature of the stone (its high quality, luster, and color) has made it a notable but illusive resource for PPNB researchers. The flint has been identified in many assemblages on both sides of the Jordan River (Jericho, 'Ain Ghazal, and Munhatta, for example), but lithic quarry areas have not been located. This circumstance, as well as the unusual color and quality of the stone, has generated considerable speculation regarding the possibilities of flint trade networks and heat alteration of the flint.

In an effort to locate the flint source used by the Neolithic occupants of 'Ain Ghazal, and to address the issues of trade and heat treatment of flint, a surveying project was conducted during the field season of 1993 of the terrain surrounding 'Ain Ghazal. The project had great success. In limestone escarpments less than two kilometers from the town site, a series of flint "seam mines" were located in the walls of the local drainage, called Wadi Huweijir. Large excavated areas revealed long exposures of flint nodules within the limestone matrix. In several instances, the seams of flint had been mined to a depth of several meters into the face of the escarpment. Archaeological lithic debris, including testing flakes and core production debitage littered the ground.

Significantly, the Wadi Huweijir flint mines contain long seams of nodular flint that exactly duplicated the lustrous pink flint used by the flint knappers at 'Ain Ghazal. Colors are varied, ranging from pinks, reds and purples, to tans and greens. Of particular interest is the fact that the luster and color are natural attributes of this high quality stone, and that heat treatment was not necessary in Neolithic times to produce these characteristics. It is also noteworthy that the occupants of 'Ain Ghazal had located their town site near such an important resource. Clearly, local procurement of tool-stone was a major economic choice, and trade or importation of flint were not aspects of the lithic economy at 'Ain Ghazal.

A detailed treatment of the Wadi Huweijir mines will be presented at the Warsaw Workshop.

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A Brief Note on the Chipped Stone Assemblage from 'Iraq ed-Dubb, Jordan

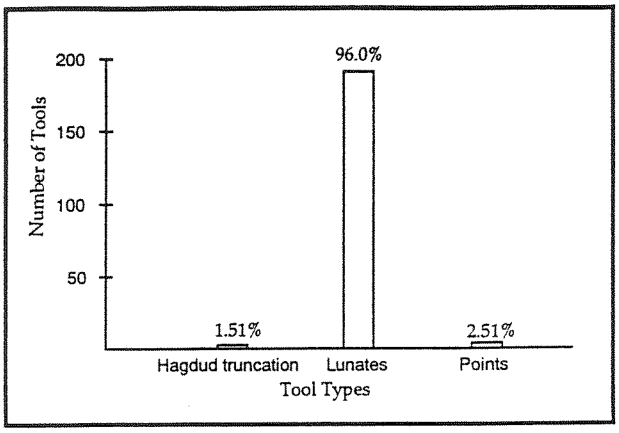
by Ian Kuijt

Archaeological research at 'Iraq ed-Dubb, Jordan, indicates that the cave was initially occupied in the Late/Final Natufian at about 11,000 BP with a later PPNA occupation at approximately 10,000 BP. Although not complete, detailed analysis of the chipped stone materials stratigraphically associated with these occupations exhibit strong similarities to other Late Natufian and PPNA assemblages, such as those from Hatoula and Netiv Hagdud, with one important difference: the PPNA chipped stone assemblage does not include lunates except in stratigraphically mixed contents.

To date, the excavations at 'Iraq ed-Dubb have concentrated primarily on two PPNA structures: structure I (dating to 9,950 ±100 (OxA-2567) uncalibrated BP from charcoal in the floor matrix) and structure II (dated by diagnostic cultural materials on the floor). Both structures are round/oval, with walls of upright stone walls and multiple prepared-mud floors. Excavation of an 18 m^2 area, of which 8 m^2 lies underneath structure I, examined the nature of cultural deposits below and between these structures. Radiocarbon dating of charcoal from below structure I and above bedrock indicates that the cave was first occupied in the Late/Final Natufian period. A radiocarbon sample from a large wooden post recovered below the floor of structure I, situated just above the bedrock, provides a date of 11,145±120 (GX-17077) uncalibrated BP, and a second radiocarbon sample from a bedrock pocket beneath the western area of structure I, and stratigraphically associated with burial II, provides a date of 10,785±285 (GX-17399) uncalibrated BP. Excavation of the cultural deposits and a single radiocarbon date of 11,175±400 (GX-17398) from below PPNA structure II also indicate that the first occupation of this area of the cave occurred at about 11,000 BP (see Kuijt *et al.* 1991; Kuijt n.d. for more detailed background information).

The on-going analysis of the chipped stone materials from these occupations illustrate clear differences between the Late Natufian and PPNA assemblages. In excavation units between the two structures, disregarding the top 10 centimeters of deposits, the Late Natufian assemblage of 430 tools is characterized by a predominance of backed lunates (190), retouched and backed bladelets, retouched blades, scrapers, and perforators. In contrast, the chipped stone assemblage of 154 tools from inside a sealed 1x1 meter unit of PPNA structure I, unit E5/9, is characterized by a predominance of Hagdud truncations (79), El-Khiam and Jordan Valley projectile points (17), a few perforators and retouched bladelet fragments. Collectively, the radiocarbon dates, their stratigraphic contexts and the associated chipped stone materials from these loci and other areas clearly illustrate that the chipped stone assemblage from PPNA levels at 'Iraq ed-Dubb does not include lunates. This point is illustrated by detailed comparisons of the frequency and percentages of combined classes of Hagdud truncations, lunates, and projectile points from a relatively sealed area of PPNA structure I and the Late Natufian deposits between the two structures (Figure 1). Needless to say, the number and percentage of projectile points, microliths, and Hagdud truncations varies depending on the degree to which Late Natufian and

Frequencies of combined classes of Hagdud truncations, lunates, and projectile points from Late Natufian (c.11,100-10,700 BP) deposits between PPNA structure I and II, 'Iraq ed-Dubb, Jordan. Note: all Hagdud truncations and projectile points are from the upper 10 cm of the units.



Frequencies of combined classes of Hagdud truncations, lunates, and projectile points from PPNA (c.10,000 BP) deposits (loci 7,14,16, and 17) inside structure I, 'Iraq ed-Dubb, Jordan. Note: all lunates are from the 5 cm interface between PPNA and Late Natufian levels.

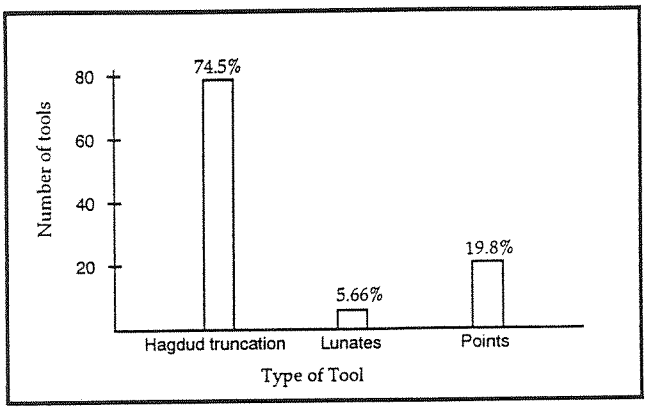


Figure 1. Comparison of select combined tool classes from excavation units dating to the Late Natufian period and from inside of PPNA structure I, 'Iraq ed-Dubb, Jordan.

PPNA sediments are mixed, such as in fill deposits in part of structure I. On the whole, however, the observed patterning illustrated in figure 1 is mirrored in other Late Natufian or PPNA areas of the site. It is interesting to note that the 1994 excavation of the PPNA component of Dhra', Jordan, radiocarbon dated to 10,000 BP, has produced several hundred chipped stone tools but not a single lunate (Kuijt and Mahasneh n.d.).

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Kreuzretusche: Bilateral Alternating Retouch with Distinctive IL and IP values

by Klaus Schmidt

The phenomenon of a standardized relationship between the location of retouch (IL = the part of the retouched edge) and the position of retouch (IP = whether direct, inverse, alternate, etc.) (cf. Inizan et al. 1992, and Rollefson, this issue) for non-formalized tools (NFTs) has not been previously documented even though it is easily distinguishable. An example of a left/right relationship is the *Kreuzretusche* (or cross retouch) as reported by Redlich (1982) in lithic industries of several prehistoric periods. Two alternate retouch areas on opposing edges form a cross or X- form (Fig. 1) in terms of the edge location and retouch position. The functional meaning of such a retouch pattern is not immediately apparent, but the *Kreuzretusche* pattern may be related to hafting or use patterns.

Redlich noted that this pattern is recognizable from the Upper Paleolithic through the Neolithic periods from Siberia through the Near East and European regions into North Africa (Redlich 1982: 31ff.). At early Neolithic Nevali Çori it occurs in several tool classes (Schmidt 1988: Fig. 4-7, 11, 12; 13-1). It is also seen in the Chalcolithic to EB III assemblages from Norşuntepe, but almost exclusively among the obsidian tools but not on flint implements (Schmidt n.d.).

The *Kreuzretusche* left/right relationship was defined by Redlich (1982: 27 ff.) for many sites in the Near East, the Mediterranean, and central Europe. The pattern is characteristic: a left-oriented direct basal-dorsal left and distal dorsal right vs. inverse basal-ventral right and distal ventral left (Fig. 1) and its right-oriented opposite. The right-oriented (i.e., with direct retouch at right proximal and left distal) appears only east of the Caspian Sea; the left-oriented pattern is predominantly at Nevali Çori and Norşuntepe, as expected in Redlich's results.

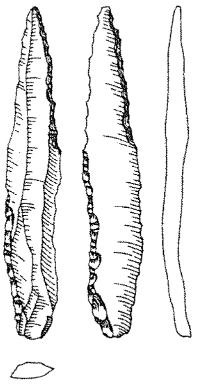

Fig. 1. Nevali Çori: borer with *Kreuzretusche (red. by c. 7/10)*

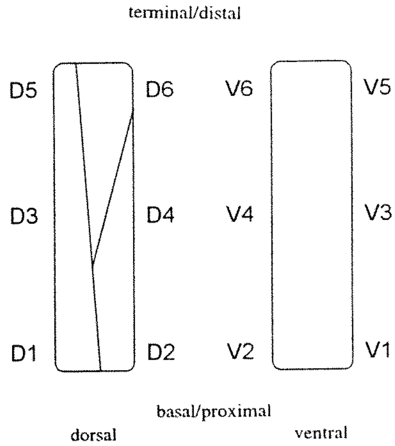

Fig. 2. Position of retouch, dorsal (D1-D6) and ventral (V1-V6)

Kreuzretusche can only be directly observed on complete artifacts, although relatively complete fragments can also be used. Several indices can be determined, including IL, IP (see Rollefson, this issue) and IK (Index of *Kreuzretusche*) (cf. Fig. 2). The IK is treated as follows:

1) If the ratio of (D1+D2)/D5+D6) and the ratio (V1+V2/V5+ V6) are c. 1, one can test for a distinctive *Kreuzretusche* if there is, e.g. left-oriented *Kreuzretusche* existing, the values should be distributed as follows, using the position of retouch of Fig.2:

D5,V6	low	D6,V5	high
D/V3	0	D/V4	0
D1,V2	high	D2, V1	low

2) The Index of *Kreuzretusche* (IK) = (D1+D6+V2+V5)/ (D2+D5+V1+V6)
If IK > 5: the left-oriented *Kreuzretusche* pattern is in effect (left basal direct)
If IK < 0.2, the right-oriented *Kreuzretusche* pattern pertains (right basal direct)

The left/right retouch patterns are not restricted to the *Kreuzretusche* circumstance. Among the Predynastic Egyptian blade knives one can see a distinct standardization in the type called Hemamija Knives (Schmidt 1989). The bulbar end is always the knife tip, with backing retouch consistently at the right dorsal edge, and the distal segment is consistently shaped to form the handle. Resharpening is almost always placed on the ventral face. Such blade knives are characteristic of the Buto Maadi Culture (Schmidt 1992), the Mostagedda industry of the Badari district (Holmes 1988: Fig 3-c; 1989; Caton-Thompson 1928: Pl. 79-36, 37, 81-97, 114, 119) and which are identical with the Gerzean blade knives of the Naqada-II Culture (Baumgartel 1960: 37ff; Figs. 9, 11-12; Pl.1-3; cf.

Quibell 1904 and 1905: Nos 14277-14289; Curelly 1913: Nos. 64817-64828, 64830, 64832-64839). In southern Palestine such knives have been called the Beth Pelet type (Noy 1970: 9, Fig. 3-1). IL-IP relationship is observable among the group of Egyptian ripple-flaked knives (beveled edge, rippled flakes, and ground face, tip and handle), forming a close parallel to the blade knives of the Hemamija type. This distinctive IL-IP relationship is also present among most bifacial knives. The steep retouch that forms the handle is on a different surface of the knife from the steep retouch that resharpens the working edge of the tool: e.g., direct hafting retouch left proximal versus steep retouch right distal. This observation makes it possible to determine IL-IP relationships even on fragments of such knives.

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Proposal on Minimum Standards of Flint Raw Material Description

by Hans Georg Gebel

No doubt raw material selection by established workshops producing on an industrial scale in permanent Neolithic villages provides a basic resource for the understanding of specialized processes of both primary and secondary production (core technologies and tool blank modification), and thus contributes to the understanding of the social environments and related developments. Even for small-scale lithic production with a high degree of improvisation, a restricted tool-kit, and different modes of exploitation (such as in industries connected with mobile economic activities), recognizable specialization aspects would offer a considerable contribution to the understanding of the technological processes and its social implications.

However, even though raw material evaluation would be an important source of information, this complex is ill-regarded at best if not neglected altogether in preliminary reports and poorly considered even in final reports. One important and general reason might be that raw material descriptions appear to be useless because they are expected not to be independently veryfiable and comparable on the publication level.

It is the opinion expressed here that chances do exist to evaluate the raw material classes and groups, even on the level of in-field recording, if a standard checklist of parameters is followed: raw material classes (RMCs) can be identified and described by a macroscopic approach on the basis of the checklist proposed in Table 1. Experience has shown that a parameters list provokes a fine subdivision of visually different raw materials by the non-minerologist, although the degree of "fine divisions" is often the result of a analytical insecurity. It cannot be expected to reflect any understanding of raw material separations made by the Neolithic craftsmen. In this pragmatic approach, rare raw materials receive attention as separate classes (important for trade questions) that create quite extensive lists (e.g. 19 for PPNB Basta, without the obsidian, limestone, quartzite, quartz etc. classes). Subjective use of the parameters is to be expected, but it remains independently veryfiable on a rather high level, especially if the classes recognized are later regrouped together in raw material groups (RMGs). This regrouping should be subject to mineralogical consultation and must regard the results of a site-oriented flint resource survey as well as the geological setting of the site. These groups then should reflect the resource situation of the site as well as quality and other selection aspects to be reconstructed for the Neolithic knapper preferences. The regrouping brings together materials which technologically served similar purposes, but the improvisation aspect remains an imponderable argument for any workshop producing at a non-industrial level.

A) Characteristics of pebble/ nodular and tabular bodies
1. dimensions *(pebble/ nodule dimensions, range of thicknesses of tabular raw material).*
2. shapes of pebble/ nodule/ tabular flint shapes *(e.g. with tabular flint: parallel-sided slabs, lenticular/ spherical bodies with hollows).*
3. marginal (= near cortex) areas *(e.g. coral-like parts).*

B) Natural surfaces
1. cortical and cleft surfaces of bedrock material *(e.g. formed in geologic source: chemical weathered cortex formed in bedrock/ bedrock-fresh cortex, partly silicified/ silicified cortex, hard/ scratchable/ easily worn cortex etc.).*
2. eroded chalky cortex *(thin (below 1mm) / medium thick (2-4mm) / thick larger (4mm) / irregular thick cortex).*
3. rolled (transport) surfaces *(e.g. cobble cortex from abrasive wadi processes, smoothed chalky cortex, only silicfied cortex parts left by abrasion, transport batterings and chippings, removals in flake sizes, etc.).*
4. characteristic patination of raw material etc.*(heavy/ light patination, patination colour(s), evidence of in- soil/ surface patination types, desert varnish, etc.).*
5. character of contact area between cortex and silicified core *(e.g. clear separation, gradual transition, indistinct contact area, etc.).*

C) Matrix/ texture and homogenity (characterized by chipped surfaces)
1) matrix/ texture *(very fine grained, fine grained, slightly fine grained, sligthly coarse grained, coarse grained, very coarse grained).*
2. homogeneity *(non-homogeneous, homogeneous, indeterminate).*

D) Inclusions, clefts/ pores, flaking ability
1. macroscopically recognizable inclusions and fossils *(e.g. lime inclusions)*
2. clefts/ hollows etc. *(e.g. "breccious" material, quartz veins, very small hollows (below 0.2mm)).*
3. status of silification of inclusions *(not silicified, partly silicified, mostly silicified, completely silicified).*
4. distribution of inclusions *(e.g. irregular, discontinous, parallel condensed with cortex, regular (density), etc.).*
5. flaking ability *(problematic/ parameters to be discussed: barely manageable, manageable, very manageable (e.g. parallel- sided blade manufacture).*

E) Translucency (characterized at edges of blade-flakes)
completely opaque, opaque with slight translucency at very thin edges, slightly translucent, milky translucent, vitreous/ highly translucent

F) Colour variation of main matrix (without coloured patterns; Munsell Soil Colour Chart notation(s))
1. notation.
2. variation *(e.g. considerable, little variation, not considerable)*

G) Coloured patterns (Munsell Soil Colour Chart notations)
1. character of pattern *(e.g. without evidence/ homogeneous, fine dotted, fine speckled, coarse speckled, cloudy, "marble veins", streaky, laminated, etc.).*
2. distribution of pattern *(e.g. irregular, discontinous, concentric, isolated, etc.).*

H) Lustre (characterized on fresh chipped surfaces, but sickle/ tempering sheen not considered)
highly lustrous, silky/ slightly high lustre, faintly lustrous, without lustre or dull

I) Geological context/ Allocated resource (areas)

J) Other characteristics, comments

Table 1. Proposed scheme for standard description of raw material classes (parameters in italics are proposed terms).

Raw material recording belongs to the primary classification level of flint analysis on which core, core trimming, debitage, and tool classes are listed by count and wheight for each raw material class. To reduce raw material recording to e.g. only core classes for reasons of analysis economy might appear legitimate but introduces limits for interpretations (not to be discussed here).

The regrouping of the classes with minerological assistance into groups requires interdisciplinary cooperation. Flaking ability and other flint knapping aspects (e.g. the dimension range of a tabular flint class) are not minerological categories, but minerological categories of course ignore the technological meanings of flint knapping. Such problems of minerological character and technological qualities can only be resolved through interactive discussions between the prehistorian and the minerologist in order to achieve useful raw material regroupings. We found no problems in the Basta analysis to regroup the detailed statistics of our original raw material classes. In rare cases, a misunderstood class could be assigned to two raw material groups.

As an example, in Table 2 one of the raw material class descriptions of Basta is presented.

A) cobbles of minimum sizes of 8 cm, sizes may range up to 20 cm; origin as nodular, lenticular, and/or tabular forms. B) abraded cortex surfaces: cortex preservation ranges from completely abraded (chalky) cortex to scratchable multi-layered chalky cortex with uneven surface; mostly "cloudy" but distinct transition into lower silicified cortex layer; in some cases sharp separation of the lowermost silicified cortex layer from the flint parts: when preserved, thin flint layers (below 0.5 mm) are interbedded into the cortex layers (status of silification reduces towards outer parts). C) fine grained to slightly fine grained; homogeneous. D) no inclusions, quartz hollows possible, occasionally non- silicified clefts; tough/ resistant against removal energy, good flaking quality. E) opaque with slight transluscence at thin edges; translucent parts: 5YR 7/2-4, 8/2-4 ("pinkish gray - pink", "pinkish white - pink"). F) 7.5 YR 5/0, 6/0-2, 7/0-2, 8/0-2 ("gray", "gray - pinkish gray", "light gray - pinkish gray", "white- pinkish white"). G) irregularly distributed whitish "clouds", occasionally roughly parallel or concentric whitish bands. H) faintly lustrous. I) Bender c3-5 wadi catchments; Basta area: surrounding heights and wadis. J) no.

Table 2. Description of the Basta Raw Material Class 3a (Example).

This proposal is meant to be a basis for discussion of this subject as part of the planned "Dictionary of PPN Chipped Lithics".

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Non-Formal Tool (NFT) Working Group Report

by Gary O. Rollefson

Four members of the Non-Formal Tool (NFT) Working Group (referred to as the Non-Hollywood Tool Group in NEO-LITHICS 1/94) met in Wembach for three days in May 1994 to discuss the development of a system for the technological and typological description of NFTs (Douglas Baird, Hans Georg Gebel, Gary O. Rollefson, and Klaus Schmidt; Bernd Müller-Neuhof as a guest). The aim of the session was to eliminate as much as possible the use of terms that have preset functional connotations. The following protocols are suggested as an initial foundation for such a system.

Definitions

Formal Tools Tools that have consistent and distinctive shapes (planforms) effected by their retouch.

Non-Formal Tools (NFTs) Tools without consistent patterns of planforms. The shapes of NFTs are governed principally by blank morphology.
Standardized features (retouch attributes, such as retouch location, angle, etc.) set apart classes and subclasses of NFTs. Among these attributes, the working group distinguished between edge angle and retouch angle:

Retouch angle is the angle formed between a retouched surface and the opposing surface (which, in the case of bifacial retouch, may also be retouched). Angle often modified by crushing through use or post-depositional damage.

Edge Angle is the actual angle between the ventral and dorsal surfaces at the retouched edge. Angle often modified by crushing through use or post-depositional damage.

Tools with Regular Retouch Areas or Edges

Regular retouch is defined as a continuous distribution of adjacent retouch scars with consistent size, shape and depth. The following definitions apply to each retouched area separately. Clactonian notches (see below) are special examples of isolated scars that constitute regular retouch.

Burin Edge = the presence of at least one burin facet. For non-simple burins, the spall platform preparation area is a retouch area. A chamfered edge is included as a distinct retouch pattern in this category.

Truncation = Proximal or distal retouch on a break, or which truncates the distal or proximal end.

Endscraper = A specific convex truncation, or convex-ended piece, that has retouch at the end between 45° and less than 90°.

Steep Angle Retouch (SAR) = Pieces with continuous retouch between 45° and 90°. Retouched edges with denticulate delineation in this angle range are Denticulate SARs. Retouched edges with a notch in this angle range are Notch SARs.

Denticulate = A set of three or more adjacent retouch notches on an area whose retouch angle is less than 45°.

Notch = Concave retouch areas as 1) Clactonian or 2) retouched notches (see Inizan, Tixier and Roche).

Backed pieces = Pieces with continuous abrupt (ca. 90) retouch.

Acute Angle Retouch (AAR) areas or edges = pieces with continuous retouch with angles less than 45° In general, these are retouched pieces in the conventional typelists. A notch with a retouch angle in this range is a Notch-AAR; a denticulated area of continous retouch less than 45° is a Denticulate-AAR.

Transverse Parallel Retouch (TPR) pieces= Flakes or blades with adjacent transverse parallel retouch scars. Includes TPF-SARs and TPF-AARs.

Pièces Esquillées = pieces with opposed, crushed bifacial scars resulting from battering. They could have a status as cores or tools, depending on the interpretation of the nature of the assemblage. Explicit clarification should be made if they are viewed as bipolar cores (and thus included in the core counts) or wedge-like implements (in tool counts).

Irregular Retouched Areas (IRA) = isolated scars or a continuous distribution of scars with very disparate sizes, shapes and depth on tools or otherwise unretouched flakes/blades.

Tools With Irregular Retouch Only

Irregular Retouched Pieces (IRP) = tools with only irregular retouch areas and no regular retouch areas.

Tools with two or more retouched areas are classified according to the combinations of the above definitions. E.g., Burin + Denticulate, Triple Burin + SAR, Double SAR, Quadruple SAR, Double SAR + Denticulate, etc.

Indexing Sorted Tools

Once NFTs have been sorted according to the above definitions, samples are to be analyzed and described according to some fea-tures in Inizan et al. in order to identify the retouch character of the assemblage. Each of the retouched edges or areas is to be described according to the indices listed below. It is presumed that the bulk of the assemblages will be AARs and IRPs, and the samples of these categories should be adequately large to reflect both the variability and possible recurrent patterns of retouch attributes.
The following indices should be determined for each retouch type described above:

Lateral Index (IL). Counts of retouch features on left edges and right edges, including the notation of proximal, medial, and distal location for all tool classes. (Left proximal, vs. right distal vs. left medial, etc.).

Index of Retouch Position (IP). For this index, tool classes with 1) single areas are set apart from tool classes with 2) multiple retouch areas.

1) For single cases, IP is calculated only for direct, inverse, and bifacial retouch.

2) For multiple retouch areas, IP is calculated for the following categories: Alternating, Alternate, Bilateral direct, Bilateral inverse, Bilateral alternating, and Bifacial.

Index of Retouch Delineation (ID). For all tool classes, this feature should be analyzed for the following states: straight, convex, concave, shouldered, sinusoidal, and irregular.

Index of Retouch Extent (IE). For all tool classes, this retouch feature should be analyzed in terms of short, long, or invasive attributes.

Index of Retouch Morphology (IM). For all tool classes, this feature should be analyzed in terms of scaled/stepped retouch (as a single attribute state), parallel, or Couze retouch.

It is planned that a test of this approach to tool sorting and indexing will be conducted prior to the next NFT Working Group meeting. Samples are to represent Abu Snesle Basta, Jilat, and Nevali Çori and will number 300-400 tools each.

Remarks: The members Working Group wish to iterate that the above agreements are to be taken as a first step in developing a systematic and objective approach to the description and analysis of NFTs. In the past, the treatment of NFTs has been unregulated in terms of unfounded assumptions and undefined or loosely defined approaches often connected with presumed and culturally loaded terms such as scrapers, utilized pieces, retouched pieces, etc. The use of such poorly defined terms, especially in the absence of the parameters defined by the Working Group, has led to a virtual impossibility of comparing the technological and typological characteristics of tools that constitute the bulk of almost all PPN lithics assemblages, obscuring a meaningful base for interpreting local and regional chronological changes in techno-typological developments before, during, and after the PPN in the Levant and adjacent or distant areas.

On the other hand, the Working Group members acknowledge that the conventions reached at Wembach are tentative, especially in view of the limited number of prehistorians who could attend the meeting. The preliminary findings of the Wembach meeting, therefore, are offered as a basis for continued discussion, particularly for those interested lithics analysts who can attend the next Working Group meeting in Warsaw on 1-2 April 1995. Certainly we expect lively discussions during the PPN Workshop meetings.

Coordination of the NFT- Subgroup:
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Notes, News and Meetings

1) In Jalès 4 subgroups will meet between 28th and 31st of March, which are: Technolgy (coordination: Marie-Louise Inizan), Projectile Points (coordination: Marie-Claire Cauvin and Avi Gopher), Microliths (Frank Hole), and Glossed Elements (Patricia Anderson). Accordingly, the preliminary program considers three sections concentrating on General Technology, Typology, and "From Debitage to Use". The organizers are Patricia Anderson, Jacques and Marie-Claire Cauvin and Marie-Louise Inizan (Institut de Préhistoire Orientale, Jalès, F-07460 Berrias). The meetings will be centered on group participation, and the work to be done is productive only with the limited number of colleagues already invited. The organizers therefore had to regret in their first circular that the number of invitations had to be limited, in addition to other logistical reasons. General contributions are to be given at the Warsaw Workshop.

2) At Warsaw University the Second Workshop on PPN Chipped Lithic Industries will be held from Monday 3rd- Friday 7th of April, 1995. Some 30 contributions have been received so far, and a preliminary program will appear with the 3rd circular. Based on the responses, the following workshop sections will be considered: 1) Taxon Discussions, 2) Pre-PPN Traditions, 3) Specialization in Industries and Tool Kits, 4) Industries Reconsidered/ New Site Inventories. Further registrations for the workshop can be made with Stefan Karol Kozłowski (Instytut Archaeologii, Universytet Warszawki, ul. Źwirki i Wigury 97/99, PL-02-089 Warszawa, tel. 0048 22 236229, fax 0048 22 231162, tel. res. 0048 2 6255389).

3) At es-Sifiya on a terrace of the Wadi Mujib / Wadi Salatya confluence, Jordan, a large PPNB village of 30 acres (12 hectares) was encountered during a survey. First investigations were carried out.; the site had been damaged by agricultural activity. The remains have some features resembling those of Basta architecture (reported by Hamzeh Muhasneh, Mu'tah University).

To appear on occasion of the
2nd Workshop on PPN Chipped Lithic Industries, Warsaw, 3rd-7th of April, 1995

Neolithic Chipped Stone Industries of the Fertile Crescent. Proceedings of the First Workshop on PPN Chipped Lithic Industries, Berlin 1993. Edited by Hans Georg Gebel and Stefan K. Kozłowski. Studies in Early Near Eastern Production, Subsistence, and Environment 1. Berlin, ex oriente (1994)

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