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Reprint

Report on the Second Workshop on PPN Chipped Lithic Industries, held in Warsaw, 3rd-7th of April, 1995.  
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Editorial Board

Hans Georg Gebel  
Stefan Karol Kozłowski  
Gary O. Rollefson

Address

NEO-LITHICS  
c/o Gary O. Rollefson  
'Ain Ghazal Research Institute  
Prägelatostr. 20  
D - 64372 Ober-Ramstadt  
tel./fax 0049 6154 53642

NEO-LITHICS 1/95

A Newsletter of

Southwest Asian Lithics Research

## Report on the Second Workshop on PPN Chipped Lithic Industries, held in Warsaw, 3rd-7th of April, 1995

More than 30 colleagues were able to attend the workshop hosted by the Institute of Archaeology, in collaboration with the Polish Center of Mediterranean Archaeology, of the University of Warsaw. Organized by Stefan K. Kozłowski and Hans Georg Gebel, financial and technical support was provided by the Polish Ministry of Education and the University of Warsaw. The attendance would have been significantly higher, but several colleagues had to cancel their participation for a variety of reasons.



The major topics of the papers included discussions of taxa problems; the presence of EPPNB sites in the southern Levant; pre-PPN lithic traditions; specialization in raw materials, industries and tool kits; and reports on new studies of PPN assemblages. The Warsaw venue also permitted presentation of studies of contemporaneous industries from Central Asia, northeastern Africa and southeastern Europe to provide comparative evidence from regions adjacent to the PPN Near East (see below).

Reports were also given on the Points/Borers, Microliths, Glossy Tools, and Technology working groups, all of which had convened in Jalès the previous week; these reports are printed in this issue of NEO-LITHICS.

The scheduled presentations occasionally ran far over their allotted times, and accordingly the Closing Session was very brief. There was, as a consequence, no time for "Final Discussions" or "Conclusions", although several final announcements were made.

The first of these was in response to many comments that the biennial schedule of the PPN workshops was too short for meaningful research, and that a triennial format would provide more adequately to address lithics problems between the meetings. The acceptance was announced of the gracious invitation by the University of Rome (passed on by Isabella Caneva) to host the 3rd PPN Workshop in Rome in 1998.

Secondly, it was regrettable that last-minute technical problems at the printer had delayed the appearance of the volume of the Berlin workshop proceedings and prevented its distribution to the participants of the Warsaw meeting. It is hoped that the book will be in the mail to the subscribers by the time the current issue of NEO-LITHICS is received by its subscribers.

Finally, the proceedings of the Warsaw meeting will also be published as a SENEPSE volume as soon as possible. Manuscripts and diskettes should be sent to Stefan K. Kozłowski (see letter enclosed) **not later than 31 July 1995**. Note, all colleagues are invited to submit manuscripts for publication in this volume, including those who had either to cancel their participation or were unable to attend the workshop, as well as other contributions on lithics analysis dealing with the PPN of the Near East and related techno-taxa.

In the following we present contributions given at the Warsaw meeting:

### 1st Day: Workshop Opening

Piotr Bieliński, Dean of the History Faculty of Warsaw University: Opening Address.  
Stefan K. Kozłowski and Hans Georg Gebel: Welcome to Warsaw: Research De-

velopments.  
Warsaw University: Reception.

### 2nd Day: Section I: Taxa Discussions (Chair: Vadim Masson)

Frank Hole (New Haven): A Syrian Bridge Between the Levant and the Zagros?  
Josef Garfinkel (Jerusalem): Critical Observations on the So-called Khiamian Flint Industry.

Nigel Goring-Morris (Jerusalem): The Harifian: Epipalaeolithic or Neolithic?  
Michał Kobusiewicz (Poznań): Early Holocene Industries of NE-Africa.  
Galina Korobkova (St. Petersburg): Chipped Industry of Jeitun Culture, Southern Turkmenistan.

Vadim Masson (St. Petersburg): Cultural Zones of Central Asia and the Variety of Chipped Neolithic Lithic Industries.

Klaus Schmidt (Heidelberg): Helwan in Egypt: A PPN Site?

Karol Szymczak (Warszawa): PPN Flint Assemblages with Microliths: What Do We find, What Do We Lose?

Janusz Kozłowski (Cracow): Techno-Morphological Changes in the Early Holocene Lithic Industries in South-Eastern Europe.

### Section II: EPPNB- Problems (Chair: Avi Gopher)

Avi Gopher (Tel Aviv): What Happened to the EPPNB? An Introduction.

Gary O. Rollefson (Wembach): A Brief Note on the EPPNB Abu Hudhud in the Wadi el-Hasa, Jordan.

Hans Georg Gebel (Berlin): EPPNB-Evidence from the Greater Petra- Area.

Avi Gopher (Tel Aviv): EPPNB Sites in Israel. Flint Tool Assemblages and a Note on Obsidian.

Avi Gopher (Tel Aviv): EPPNB. The Cultural Aspect.

### 3rd Day: Section III: Pre- and Post-PPN Traditions (Chair: Deborah Olszewski)

Stefan Karol Kozłowski: From Zawi Chemi to M'lefaat.

Deborah Olszewski (Tucson): A Consideration of a Transition from the Zarzian to M'lefaat Industries in the Zagros.

Ofer Bar-Yosef (Cambridge, USA): Late Pleistocene Lithic Traditions in the Near East and Their Expression in Early Neolithic Assemblages.

Anna Belfer-Cohen and Nigel Goring-Morris (Jerusalem): The Late Epipalaeolithic as the Precursor of the Neolithic: The Lithic Evidence.

Tamar Noy (Jerusalem) and Stefan K. Kozłowski (Warsaw): PPNB Technology in PNNA Context. The Gilgal Example.

### Section IV: Specializations in Raw materials, Industries, and Tool Kits I (Chair: Frank Hole)

Patricia Andersen (Jalès), Eric Coqueugniot (Lyon), Avi Gopher (Tel Aviv), and Frank Hole (New Haven): Reports from the Jalès - Sub-Group Meetings.

Gary O. Rollefson (Wembach): Report from the NFT- Sub-Group.

Leslie A. Quintero (Riverside): The Role of Flint Mining in the Pre-Pottery Neolithic.

Hans Georg Gebel (Berlin): Basta: Specialization in Chipped Industries.

Elisabeth Hildebrand (St. Louis): Changes in Blade Core Technology in the Zagros Mountains during the Epipalaeolithic/ PPN.

Leslie A. Quintero and Phil J. Wilke (Riverside): Technological Analysis of Debitage From Naviform Core Reduction. (*Discussion of the Poster*)

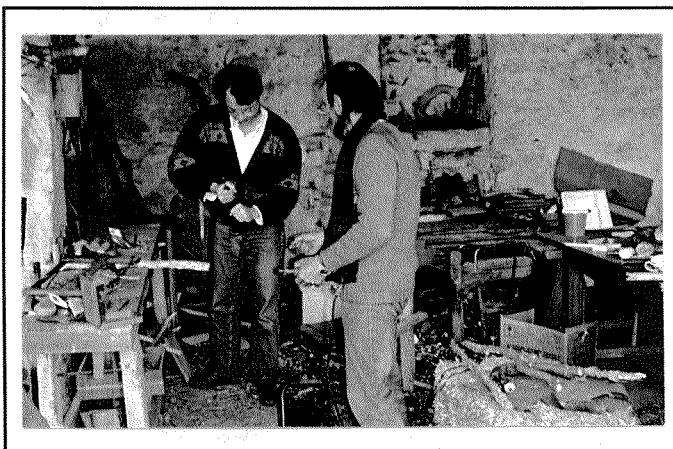
Leslie A. Quintero and Phil J. Wilke (Riverside): Pre-Pottery Neolithic Blade Technology and the Origins of Craft Specialization in the Levant.

Nigel Goring-Morris (Jerusalem): PPNB Lithic Reduction Sequences: The Evidence From Kfar ha-Horesh.

Phil J. Wilke (Riverside): Derivation of Bullet-Shaped Microblade Cores in Prehistory: Preliminary Results of Experimental Replicative Studies. (*Discussion of the Poster*)

Yoshihiro Nishiyaki (Tokai): Terminology, Technology and Function of the Obsidian Side-Blow Blade-Flake.

Workshop Dinner.



### 3rd Day: Section IV: Specializations in Raw materials, Industries, and Tool Kits II (Chair: Ofer Bar-Yosef)

Galina Korobkova (St. Petersburg): Perspectives of Use-Wear Analysis of Lithic Industries of Acemic Near East and Central Asia.

Loraine Copeland (Tocane St.-Apres) and Marc Verhoeven: Bitumen-Coated Sickie Blade Elements at Tell Sabi Abyad II, Northern Syria. (*Lecture text distributed for discussion*)

Manuela Beile (Heidelberg): The Glossed Blades from Nevalı Çori: Prel. Results.

Patricia Anderson (Jalès): On Overview of Similarities and Differences in Activities from the Natufian to PPNB, according to Functional Analysis.

Patricia Anderson (Jalès) and François Valla (Paris): Insights into Activities of Hayonim Terrace Natufian. / Les pièces lustrées de la Terrasse de Hayonim (Natufien évolué), des faucilles?.

Klaus Schmidt (Heidelberg): Nevalı Çori: Intrasite Distribution of Lithic Tool Classes. Preliminary Results.

Tamar Noy (Jerusalem): Long Sickle Blades. A Test of Cultural Identity of the PPN in the Southern Levant.  
*Free afternoon.*

#### 4th Day: Section V: Industries Reconsidered/ New Industries

James Conolly (London): The Knapped Stone Artefacts From Current Excavations at Çatal Höyük, Turkey: Techno-Typological Characteristics and Preliminary Interpretations of the Industry.

Isabella Caneva, Cristina Lemorini, Daniela Zampetti (Roma): More on the Lithic Production From Aceramic Çayönü.

Eric Coqueugniot (Lyon): Industrie Khiamien d'Aouï el-Safa à l'est de Jebel Drouze en Syrie. (read by François Valla)

Avi Gopher (Tel Aviv): 'Ain Darat. A PPNa Site in the Judean Desert. Lithic Assemblage of the 1994 Season.

#### Section VI: Closing Session

Stefan K. Kozłowski (Warsaw) and Gary O. Rollefson (Wernbach): Final Discussion and Decisions.

### Presentations at the Jalès Sub-Group Meetings, held at the Institut de Préhistoire Orientale, 28th-31st of March, 1995

A joint meeting of the Microliths, Points/Borers, Glossy Tools and Technology working groups was hosted by the Institut de Préhistoire Orientale in Jalès from 28-31 March 1995 before the Warsaw workshop. In addition, here a series of informal presentations on various topics of lithics analysis was presented, and the titles are given below:

Marie-Claire Cauvin (Jalès): Introduction

Jacques Cauvin (Jalès): Place de la typologie au Néolithique - La séquence de Mureybet.

Frank Hole (New Haven): Strategies for analyzing microliths.

Elizabeth Hildebrand (St. Louis): Changes in core-reduction in the Zagros from the Epipaleolithic to the Early PN.

François Valla: Choix des supports dans une industrie natoufienne (Hayonim Terrace, Israël).

Anna Belfer-Cohen and Nigel Goring-Morris (Jerusalem): The Natufian and Harifian of the Central Levant.

Monique Lechevallier (Paris): Remarques sur la sélection des pointes de flèche à Hatoula (Israël).

Frédéric Abbès (Jalès): Evolution du débitage bipolaire à travers la séquence de Mureybet et Cheikh Hassan, c'est à dire les caractéristiques à travers le PPNa par rapport au PPNB.

Frédéric Abbès, Patricia Anderson, Marie-Claire Cauvin, Juan-José Ibanez-Estevéz and Jesus Gonzales (Jalès): Cycle de production, transformation et utilisations d'outils PPNB ancien de Mureybet.

Eric Coqueugniot (Lyon): L'industrie à Dj'ade (Syrie).

Isabella Caneva (Rome): Lithic industries from aceramic çayönü.

Yoshihiro Nishiaki (Tokai): Additional notes on the naviform method at Douara, Syria.

Jacques Pélegrin: Elements de reconnaissance des techniques de taille.



### Report of the Technology Sub-Group

Eric Coqueugniot, Lyon

Marie-Louise Inizan (the Technology Sub-Group coordinator) and Jacques Pélegrin asked me to make a synthesis of the activities of the Technology Sub-Group (including Marie-Louise Inizan, Jacques Pélegrin, Phillip Wilke, Leslie Quintero, Frédéric Abbès, Monique Lechevallier, Kats Ohnuma, Yoshihiro Nishiaki,

Eric Coqueugniot, and Elizabeth Hildebrand) that was held in Jalès. I myself did not participate in all of the meetings, and they sent me notes in French, translated by Patricia Anderson and read by Leslie Quintero.



Overall, technological questions were handled in three ways: a) informal presentations and discussions involved participants in other working groups so that the latter had the opportunity to express their questions about techniques and blanks used for tool production; b) there were also more specialized exchanges among knappers and other technology specialists that entailed replication experiments with regard to specific archaeological pieces and c) particular technology problems were discussed among the members of the Technology Sub-Group.

To summarize the first part, *methods* must be deduced from the observation of the archaeological material. Conversely, the identification of techniques is based on knapping experiments that permit comparisons of archaeological pieces with experimental ones. Secondly, a knapping method is often an ordered sequence or process carried out with different techniques used sequentially: for example, the shaping of a core by hard hammer and blade debitage with a soft hammer.



In the case of a "predetermined" debitage, whose aim is to produce standardized pieces, it is an absolute *necessity* to look for tools needing such blanks, for prehistoric knappers didn't develop specialized and elaborate patterns simply for the pleasure of knapping!

During the sub-group meeting, the following problems were considered:

- "*Naviform debitage*" is an excellent chronological marker for the PPNB even if, in the northern Levant, it appears in the preceding Mureybetian period. This debitage method is part of the "*opposed platform, bidirectional blade debitage*", with one debitage surface and two opposed striking platforms. Nevertheless, naviform debitage is defined by knapping patterns and not just by the appearance of the core. It also seems that the particular knapping methods may have differed from one region to the next during the PPN.

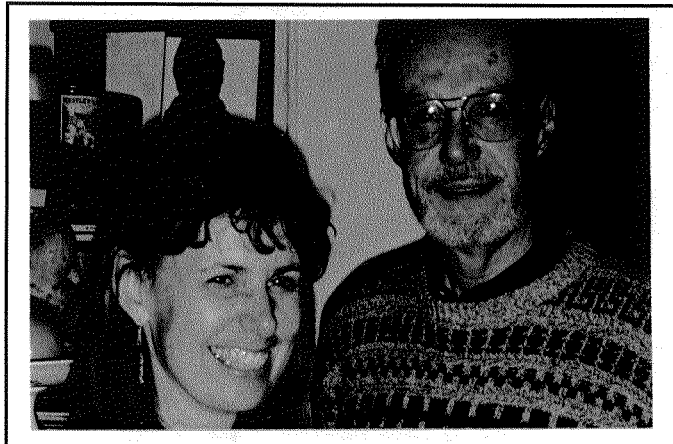
- *Pressure-flaking* of blades and bladelets characterizes the Zagros region, and during the PPN period it also occurs in Nemrik, Mlefa'at, Jarmo, and in East Anatolia at Çafar Harabesi, Çayönü, Hallan Çemi, etc.

- It was suggested that samples of raw material used by Neolithic knappers be curated at central locations in the Near East where researchers could study them. Such lithic resource collections could also contain experimentally heat treated specimens so that the effects of varying heat ranges could be recognized in archaeological collections. Such reference collections for the Middle Euphrates are already being assembled in Jalès, for example. Exchanges of reference collections among different centers must be developed into a true network. For old and new collections, the exact geological origins of the raw material, its availability (rare/abundant, easy/difficult to extract), and the shapes and sizes of the blocks or nodules must be specified.

- Groundstone (milling stone) quarries and production sites should be sought throughout the Near East. Previous field work and replication studies in America by Phil Wilke and Leslie Quintero have established the characteristics of such sites and the *knapping* processes that led to the production of milling equipment.

## Strategy

The principal reason to systematize lithics is to recognize how they vary in time and space. Once variability has been accurately observed and described, we can use it as a tool to help define "cultural" boundaries and to set sites into their correct temporal position. Secondly, we can use a knowledge of variability to infer different ways of life. However, such inferences come not from classification of lithics alone, but rather from analysis of use-wear and associations of the lithics with fauna, plant remains and types of sites.



Following this rationale, our tasks are a) define the subject of our inquiry e.g., "microliths;" b) review the time/space coordinates of artifacts that have been called microliths; c) decide on what criteria (e.g., size, form, type of retouch) are important in time and space; d) develop consistent definitions that should be used in any description; e) for each geographical region, construct a chart that shows the time and space distributions of each variant; f) develop a protocol for illustrating and describing the variability and g) conduct experiments and use-wear analyses that will help explain variability and give insight into prehistoric ways of life.

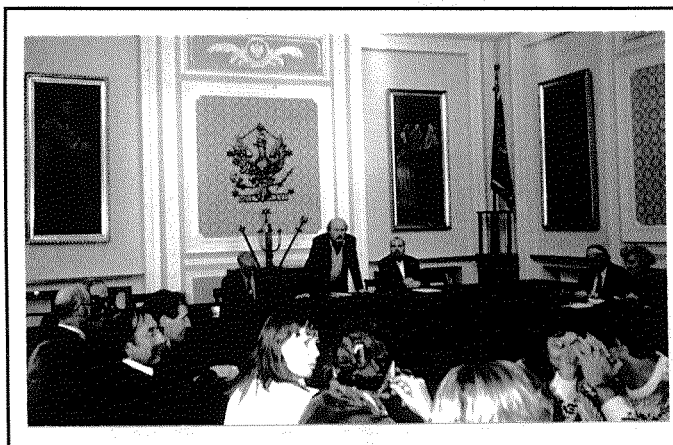
## General Conclusions

1. Microliths are an Epipaleolithic legacy that continues into the Neolithic, so that to properly describe them we must extend our temporal range into the Epipaleolithic period.

2. Microliths disappear for the most part when arrowheads appear; therefore in some sense they may relate to similar functions, such as hunting but with different techniques and equipment.

3. By the PPNB microliths are generally absent from assemblages except in the Zagros.

4. Microliths last longest in the region where there is also a micro-core tradition, i.e., the Zagros and regions to the north and east.



## Agreements and Future Activities

1. Definitions of microliths: a) the size follows Tixier, namely width <12 mm for unretouched pieces and <9 mm for retouched and backed pieces, and length <50 mm; b) only geometrics



During the session, experimental knapping of flint was undertaken by Jacques Pélegrin in order to answer questions and needs of members of other sub-groups meeting at Jalès (e.g., to recognize hard hammer vs. soft hammer percussion, pressure flaking, microburin technique, etc.). Phil Wilke and Leslie Quintero showed examples of their own replication experiments.

If I may add some personal observations, first I think that the meeting was a very good opportunity to discuss problems, even if it was not possible to resolve them. Secondly, the integration of this session with the typological and function sub-groups was fundamentally sound. Prehistoric knappers never knapped simply to pass the time: they had constraints linked to the suitability of raw material, and they also made cultural choices between the tools they wanted and the methods to produce the appropriate balnks. We simply cannot separate technological questions from other aspects of lithics studies. Finally, the Levant is a huge region, so it is expected that we will find variability within the same general technological pattern, as we have seen concerning naviform debitage.

## Report on the Microliths Sub-Group

Frank Hole (Coordinator), Yale University

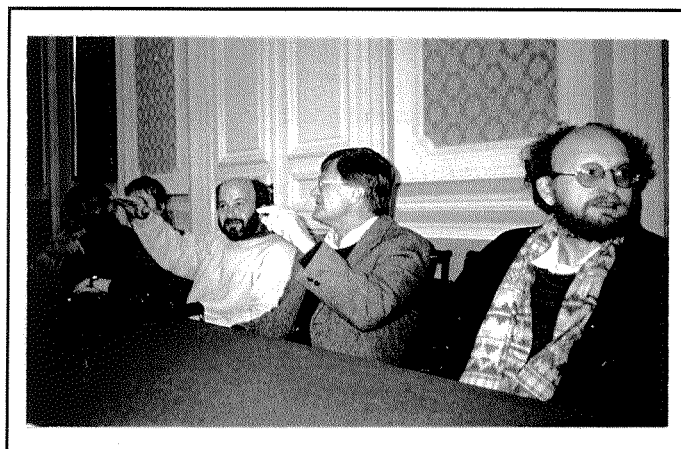
The following members of the Microlithic sub-group met at Jalès in March: Frank Hole (coordinator), Michael Rosenberg, Avi Gopher, Anna Belfer-Cohen, Marie-Claire Cauvin, François Valla, Deborah Olszewski, and Nigel Goring-Morris. Following an initial presentation of a "strategy for analysis of microliths" by Frank Hole that helped to establish an agenda, the sub-group met two days later for a half-day session.



and various retouched and backed pieces are included; c) bladelets and flakes that are in the microlithic size range are excluded; d) also excluded are microlithic-size types such as borers, points, microscrapers, etc.

2. How to describe the types: a) geometric shape, such as scalene triangle, trapeze, lunate; b) type of blank, such as bladelet, blade, flake; c) how standardized the artifacts are; d) type of retouch, such as backed (unipolar, bipolar, anvil), alternate-opposite, Helwan, nibbling, Ouchtata, *sur enclume*, microburin technique).

3. Each member of the sub-group agreed to construct a techno-typological chart or framework for his/her geographic region in order to map change and variability through time and space. At the end of the meeting, I received a list of terms and some information on dating, but I have not had time to compile them into a comprehensive framework. More needs to be done with this, particularly on spatial and chronological variability.



4. We did not have time at Jalès to debate ways to define a) shape categories with reference to actual examples; b) blank types; c) various types of retouch or backing or d) how to express variability except through illustrations.

#### **Definitions to be written and illustrated**

Geometric forms: lunate, triangle (equilateral, isosceles, scalene), rectangle, trapeze.

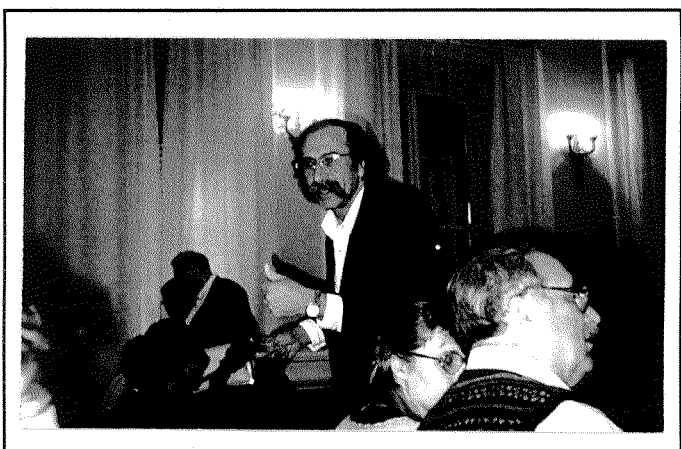
Non-geometric forms: backed bladelet, "Gravettian", Hagdud truncation.

Type of retouch: abrupt-backed, semi-abrupt, mixed abrupt, *sur enclume*/anvil, Helwan, inverse, alternate, nibbling.

Other: dimensions, blank type.

#### **Request**

Members of the sub-group are urged to complete the task we began in Jalès by providing definitions and illustrations for the above terms (and any others that may have been overlooked), as well as the chronological and spatial frameworks. The terms should be translated into their equivalents in each of the relevant languages. Frank Hole will collect these contributions and distribute them to other members of the sub-group (and others interested) for further comment and finally consensus that can be used as the basis for our "dictionary" contribution.



## **Report of the Points/Borers Sub-Group**

Avi Gopher, Marie-Claire and Jacques Cauvin (Coordinators),  
Tel Aviv and Jalès

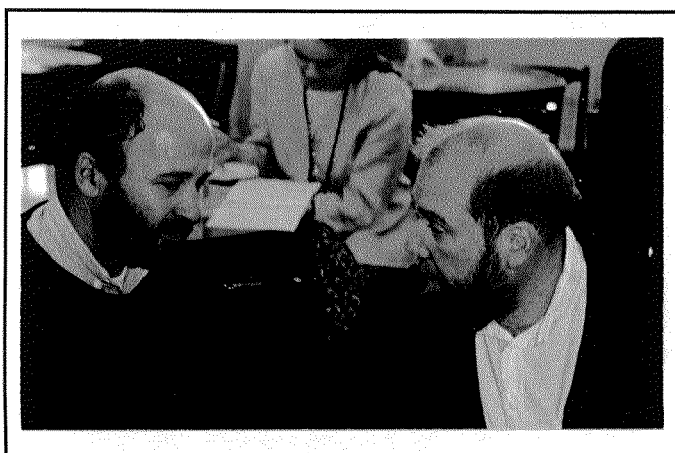
The Points/Borers Sub-Group met in Jalès on 30 March 1995, an afternoon devoted mainly to discussing matters of projectile point typology. A typology of points based principally on material from northern Syria was presented by Jacques Cauvin, followed by a discussion of specific arrowhead assemblages, including Mureybet, el-Kowm, Tell Ramad, etc., and general issues of classification.

It was generally accepted that the basic criterion for point classification is "form". For J. Cauvin, such formal expression can be grouped into "family" variants, subdivided into subfamilies according to specific features of retouch, blank characteristics, and metrical relationships.

Cauvin's families include:

- Points with a truncated base (pointes à bas tronquée)
- Notched points with a truncated base (pointes à encoches et base tronquée)
- Tanged points (pointes pédonculées)
- Notched and tanged points (pointes à pédoncules et encoches)
- Points with a lozenge base (pointes à base losangique)
- Oval points (pointes ovalaires)

Within these "point families", types were defined by secondary details of form, including tang shape; number of notches and their location, etc.; retouch variations; and blank characteristics. These characters (and the types) have definite chronological, regional and/or cultural significance. For example, the "Notched Point" family includes two types: the Aswad point (shaped by flat bifacial retouch, and, most frequently, with several pairs of notches) and the Helwan point (abrupt retouch only). The latter seems to characterize the end of the Khiamian period in the whole Levant, while the Aswad point is typical of the Aswadian industry of the Damascus basin. Another example is the change in basal shaping in points with a truncated base, from abrupt and direct retouch (Khiamian) to bifacial semi-abrupt or flat retouch (Mureybetian) to flat covering retouch (PPNB), as shown in the sequence at Mureybet. Different types were also suggested for tanged arrowhead families.



Several aspects of classification could not be fully addressed due to the lack of time. It would be profitable to hold discussions of classification systematics, including the relative merits of type definitions based solely on form versus those based on retouch type. Differentiation by blank and metrics was only briefly mentioned, as were the effects of stylistic attributes, such as symmetry. Topics that received no discussion included a) production stages of arrowheads, which is relevant to distinctions between point families such as points with truncated bases and the notched points; b) problematics of point hafting; c) arrowheads on blanks in secondary use (on glossed pieces, for example); and d) arrowhead breakage and reuse. These problems will be dealt with in a future meeting, when a basic typological list for arrowhead types is finally developed.



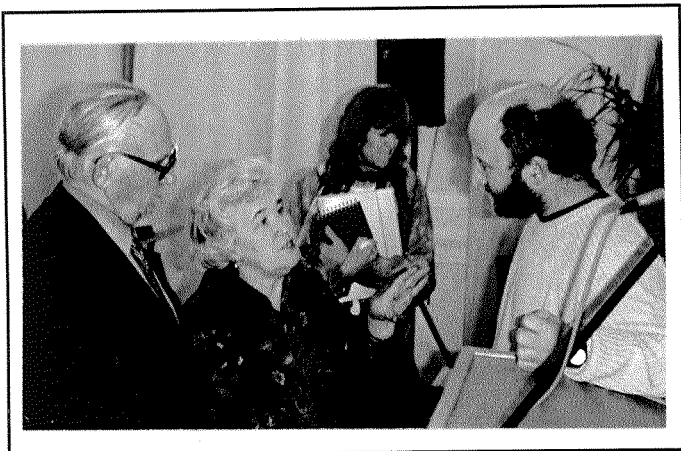
## Report of the Glossy Tools Sub-Group

Patricia Anderson (Coordinator), Jalès

An expanded meeting of the Glossy Tools Sub-group included Patricia Anderson (coordinator), Deborah Olszewski, Isabella Caneva, Avi Gopher, Frank Hole, Michael Rosenberg, Jacques and Marie-Claire Cauvin, Monique Lechevallier, Anna Belfer-Cohen, Marie-Louise Inizan, Alison Betts, Eric Coqueugniot, Nigel Goring-Morris, François Valla and Gary Rollefson. They were joined by George Willcox (archaeobotanist) and Sylvie Philibert, Laurence Astruc and Juan-José Ibanez (micro-wear analysts).

The size of the group was helpful to broaden the discussion of various problems and issues inherent in a tool class defined by the presence of use-traces (gloss). Nomenclature, drawing conventions, and functional interpretation were all addressed.

Regarding the "glossy tool" designation, it was recalled that this term should be used in preference to "sickle", since gloss can develop on blanks in ways other than harvesting, such as working stone, clay or ochre-impregnated hide. The presence of gloss is the *sine qua non* for inclusion in this class, regardless of the presence or absence of retouch. (Incidentally, experiments show that any systematic use of a blank for cereal harvesting will produce gloss visible to the eye). It was also decided that abraded obsidian pieces ("Çayönü tools", backed blades) should not be included in the Glossy Tool class.



Other agreements reached by the Sub-Group include:

- After reviewing a partial bibliography compiled by D. Olszewski that dealt with illustrations of glossy pieces, it was agreed that the location and extent of gloss be indicated precisely using shaded or colored areas or by using dashes to outline the glossed areas; the use of dots or small circles along the length of the edge is not sufficiently informative.

- Retouch should be drawn carefully in order to show, if possible, whether gloss has formed inside retouch scars or if the retouch instead removed gloss traces. Retouch should be described according to the conventions defined by the Non-Formal Tool Sub-Group (NEO-LITHICS 2/94).

- It is vital to describe the blank so that relationships to debitage "strategy" can be determined.

- Microwear studies on glossy tools conducted between the Berlin and Jalès meetings suggest the following tendencies for the PPN: 1) retouch on a non-active edge usually is a modification for insertion of the pieces into haft slots; 2) retouch on an active edge was for either resharpening or for modification of the edge for secondary use not associated with the activity that produced the gloss and 3) the hafting of tools used for harvesting is usually lateral and the use-motion longitudinal.

- Patricia Anderson urged members to continue to submit samples to her for wear analysis to help clarify issues and define tendencies.

- A date for a future meeting of the Glossy Tools Sub-Group has not yet been set.



## Note on the Non-Formal Tool Sub-Group

Gary O. Rollefson (Coordinator), Wembach

Invitations for the third meeting of the NFT Sub-Group will be held at the 'Ain Ghazal Research Institute in Wembach on 17-18 June 1995 were sent out in mid-May. The group will consider the following issues: 1) Should NFTs and Mixed/Multiple Tools be considered as separate tool classes? 2) The development of coding systems for the description of NFTs and Mixed Tools and 3) Discussion of available spreadsheet/database and statistical processing programs. A report on this meeting will appear in NEO-LITHICS 2/95.



## 'Ain Darat. A PPNA Site in the Judean Desert

Avi Gopher, Tel Aviv University

The PPNA site of 'Ain Darat lies at an elevation of 510 m asl. on a narrow, steep-cliffed ridge ca. 16 km west of the Dead Sea shore about 12 km east of Hebron. Scattered finds and features cover an area of some 700-900 m<sup>2</sup> and includes about 15 stone-built structures and installations badly disturbed by robbers, several of which were excavated in two short seasons in 1994.

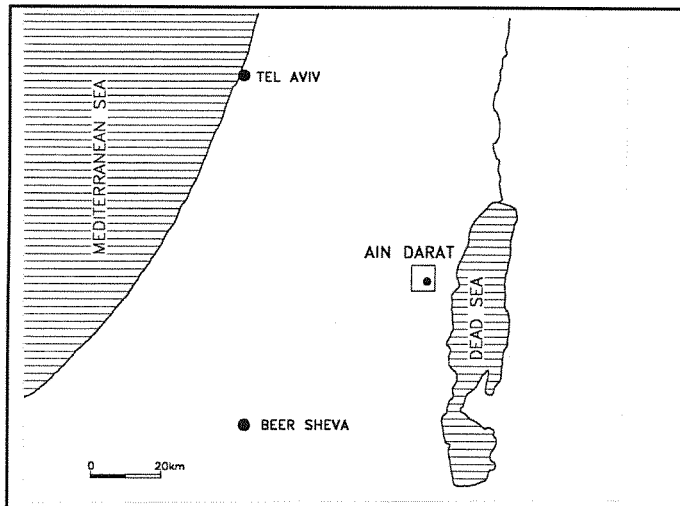


Fig. 1. 'Ain Darat. Location

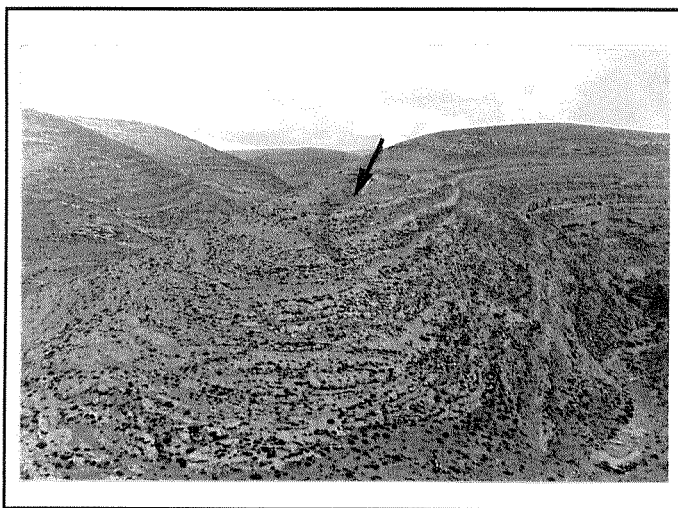


Fig. 2. 'Ain Darat. View of the site looking north.



Fig. 3. 'Ain Darat. Structure 18.

All structures were circular (3-4 m diameter) built in natural bedrock basins or dug into sedimentary pockets on the rocky ridge. Walls were constructed of many courses of small stones and preserved up to one meter in height; some structures show phasing, and some wall repairs included groundstone material.

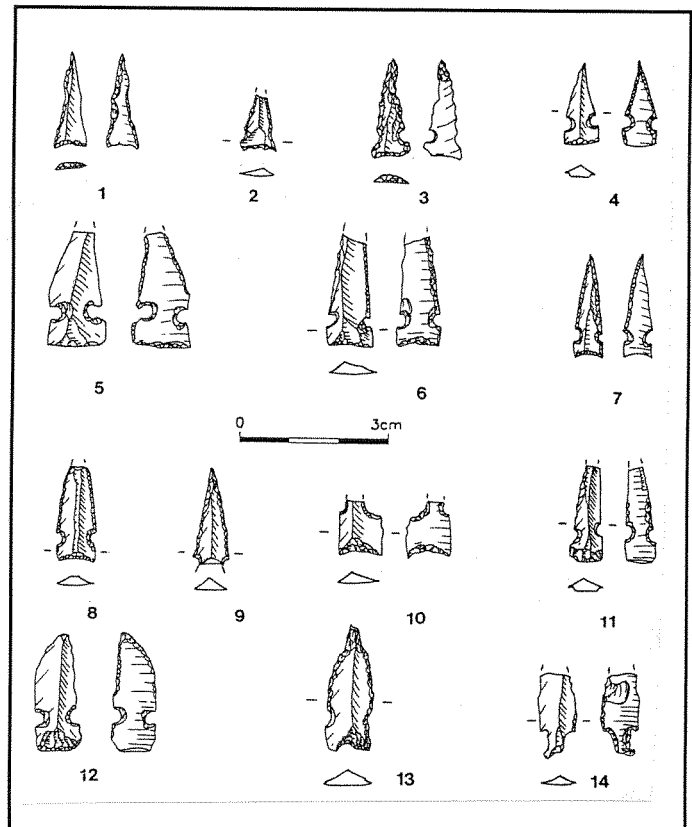


Fig. 4. 'Ain Darat. Arrowheads.

Recovered artifacts include a rich variety of stone bowls, cupmarks on blocks, mortars and pestles, and grinding slabs often bearing a central cupmark. Pendants and other items of greenstone, beads of a variety of materials, marine shells, and soem bone tools were also recovered. The analysis of faunal remains has not been finished.

A preliminary study of the lithics reveals a broad and relatively unspecialized tool inventory. The total of 550 retouched elements is dominated by retouched blades (148) and flakes (55), and other tools include 41 arrowheads (mainly Khiam points), 26 glossy tools (including one Beit Taamir knife), 14 Hagdud truncations, and 10 microliths (mostly retouched bladlets, a few backed pieces and some isolated lunates). A single and dubious pick/axe is the only representative of the bifacial class, and it comes from the surface.

Cores reveal no indication of bidirectional knapping; C.T.E.s are mainly crested elements. Flakes heavily dominate the debitage (>6:1 flake:blade ratio). Bladelets occur in only minute amounts in the various locus assemblages. In contrast to the cores, the presence of bidirectional blades may indicate that they were imported onto the site.

In summary, the context of 'Ain Darat on an isolated spur overlooking the confluence of several drainages in the modern desert area makes it an intriguing example of PPNA exploitation of this ecological setting. More detailed study of the lithics and associated cultural and natural features will provide a clearer insight into PPNA adaptations in the arid zones of the Levant.

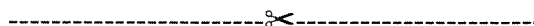
## Editorial Notes

- 1) We kindly ask those colleagues working on -or supervising- master or PhD dissertation thesis projects on the Near Eastern Neolithic to send us the titles with possibly a short description of the materials to be analyzed, the aims, special methods etc. applied. We consider such (updated) informations as extremely important, in order to stimulate exchange and to avoid parallel research without such exchange.
- 2) Also other research projects on the Near Eastern Neolithic should be presented in NEO-LITHICS. The next deadline is 1st of December 1995.
- 3) The editors again would like to stress that NEO-LITHICS should be used by the colleagues as a forum of informal exchange and preliminary presentations.



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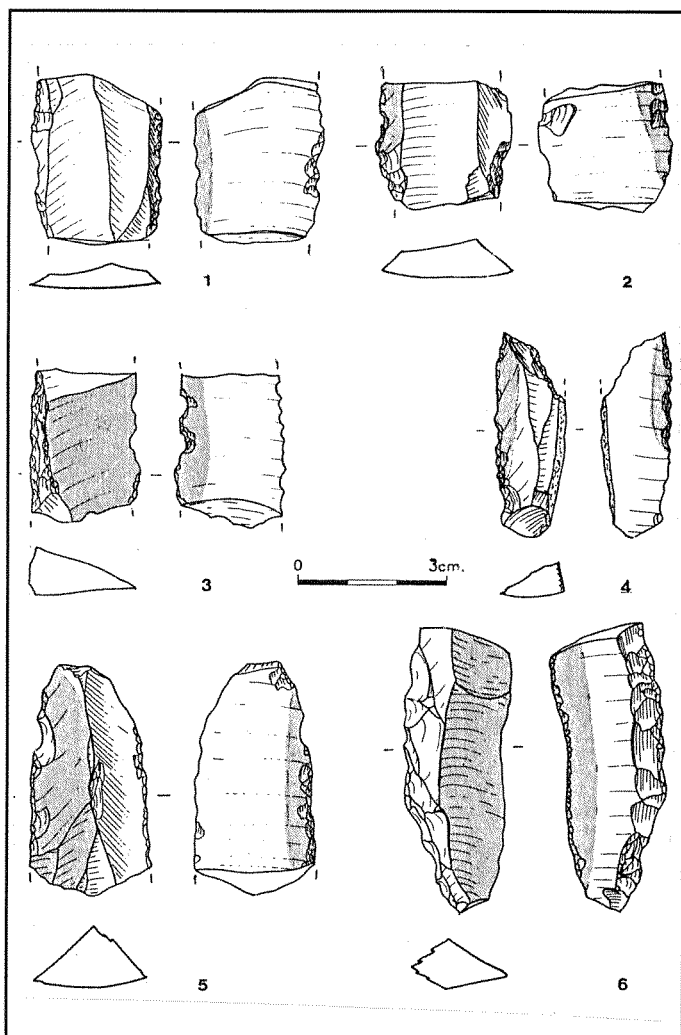


Fig. 5. 'Ain Darat. Sickles blades.

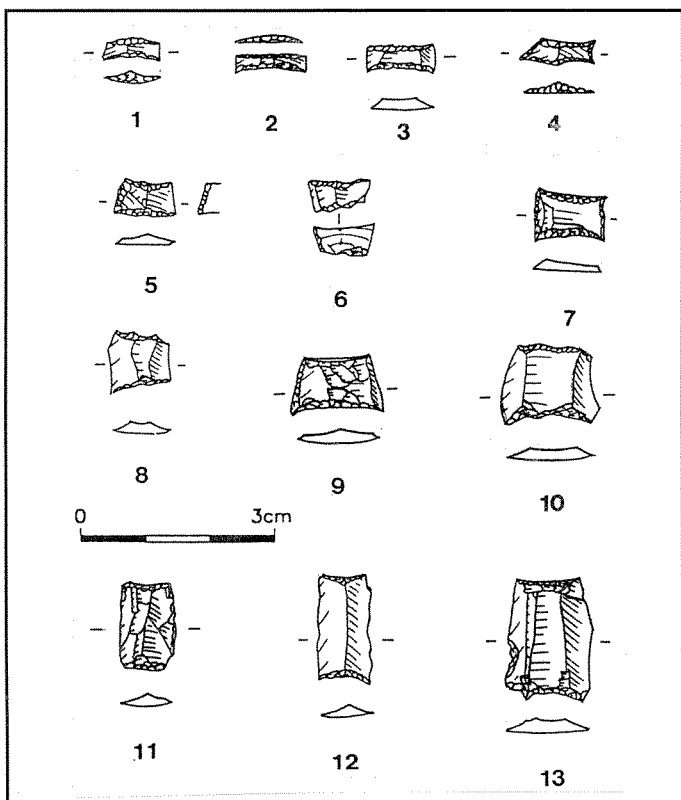


Fig. 6. 'Ain Darat. Hagdud truncations.



# Workshops on PPN Chipped Lithic Industries

Next General Gathering: Rome, 1998

Stefan Karol Kozłowski, Instytut Archaeologii, Uniwersytet Warszawski, ul. Zwirki i Wigury 97/99,  
PL- 02-089 Warszawa, tel. 0048 22 236229, fax 0048 22 231162, tel. res. 0048 2 6255389

Hans Georg Gebel, Freie Universität Berlin, Seminar für Vorderasiatische Altertumskunde, Bitterstr. 8-12,  
D-14195 Berlin, tel. 0049 30 838-6747, fax 0049 30 8314252, tel./fax res. 0049 30 795 99 37

## Contributions to Neolithic Chipped Stone Industries of the Fertile Crescent II (Warsaw Proceedings)

8. Juni 1995

Dear

this is a gentle reminder on the

deadline of 31st of July, 1995

for your contribution(s) to the second volume of Neolithic Chipped Stone Industries of the Fertile Crescent, the Warsaw proceedings. In the closing session of the meeting, this deadline already had been announced.

If you had been unable to attend the Warsaw meeting, we kindly invite you to send us a contribution, too. In case you will be unable to meet the above deadline, please, contact us (Stefan K. Kozłowski) for a special agreement on a "personal" deadline.

Please, mail your contribution to Stefan K. Kozłowski (above Warsaw address), and do not hesitate to approach us for any questions you might have.

Cordially yours,

A handwritten signature in dark ink, appearing to read 'Stefan Kozłowski', with a stylized flourish at the end.

PS. Please, find the regulations for contributions to the proceedings on the reverse.



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## The Green List of Cooperation

Among PPN Flint Specialists and  
Colleagues Related to this Field of Research (by 25/5/95)

Name	Institution	Address	Country/ City	Tel.	Fax / e.mail
Frédéric Abbès	Institut de Préhistoire Orientale	Jalès	F- 07460 Berrias	0033 75 39 31 61	0033 75 39 37 96
Gerd Albrecht	Institut für Urgeschichte	Schloß	D- 72072 Tübingen		
Patricia Anderson home	Institut de Préhistoire Orientale	Jalès	F- 07460 Berrias	0033 75 39 31 61	0033 75 39 37 96 0033 75 37 24 29
Nikolai Bader	Institut Archeologii RAN	ul. Dm. Ulianov 19	Russia- Moscow 117 039		
Douglas Baird	University of Liverpool, School of Archaeology, Classics and Oriental Studies (SACOS)	14, Abercromby Sq., POB 147	GB- Liverpool L69 3BX	051-7942467	051-7942442
Nur Balkan-Atli	Istanbul Universitesi, Edebiyat Fakültesi, Prehistorya Anabilim Dalı		TR- 34459 Istanbul	0090 212 5194592	0090 212 5194592 e.mail: prehist.@itu.edu.tr
Ofer Bar- Yosef	Harvard University, Dept. of Anthropology, Peabody Museum	11 Divinity Ave.	USA- Cambridge MA 02138	001 617 495 2252/ 1279	001 617 496-8041 e.mail: OBARYOS@HUSC. HARVARD.EDU
Roman Beck		6452 Salizar Court	USA- San Diego, CA 92111		
Manuela Beile home	Institut für Ur- und Fühgeschichte	Marstallhof 4	D- 69117 Heidelberg	0049 6221 542552 0049 6221 411721	0049 6221 542526
Anna Belfer- Cohen	Institute of Archaeology, Hebrew University	Mt. Scopus	Israel- Jerusalem 91905	00972 2 882413	00972 2 825548 e.mail: BELFER@HUM. HUJI.AC.IL
Alison Betts	School of Archaeology, Classics and Ancient History (A14), University of Sydney	New South Wales	Australia 2006	0061 2 692 2759/ 692 2090	0061 2 692 4889 e.mail: ALISON.BETTS@ ANTIQUITY.SU.EDU.AU
Linda and Bob Braidwood home	Oriental Institute	1155 East 58th St. 0454 E- Joon	USA- Chicago Ill. 60637 USA- La Porte, IN 46350		
Brian Byrd	c/o Brian F. Mooney Associates	9903-B Businesspark Ave.	USA- San Diego, CA 92131-1120	001 619 578-8964	001 619 578-0573
Isabella Caneva home	Universita di Roma "La Sapienza", Dipartimento di Scienze Storiche, Archeologiche e Antropologiche, Sezione di Paleontologia	Via Palestro, 63 Via E. Pasquali, 38	I- 00185 Roma I- 00161 Roma	0039 6 4454603 0039 6 906721	0039 6 9005849 attention: A.M. Palmieri
Marie-Claire et Jacques Cauvin	Institute de Préhistoire Orientale	Jalès	F- 07460 Berrias	0033 75 39 31 61	0033 75 39 37 96
James Conolly	Institute of Archaeology	31-34 Gordon Square	GB- London WC1H 0PY	0171-387- 7050x3038	e.mail: J.Conolly@ucl.ac.uk
Lorraine Copeland	Chateau de Marouatte	Grand Brassac	F-24350 Tocan St. Apre	0033 53 034 279 or 53 045 157	0033 53 074 717
Eric Coquegniot	Maison de l'Orient	7, rue Raulin	F- 69007 Lyon	0033 78 72 02 53 p. 355	0033 78 58 12 57
Geneviève Dollfus home	Paléorient	Boite postale 5005 1, rue Dorian	F- 75005 Paris F- 75012 Paris	0033 1 44 27 38 90 0033 1 43 42 49 86	0033 1 43 42 22 64
Michael Forstadt home	Dept. of Anthropology, Arizona State University	POB 15409	USA- AZ 85287 USA- San Diego, CA 92175		
Yosef Garfinkel home	Institute of Archaeology, Hebrew University	Mt. Scopus	Israel- Jerusalem 91095	00972 2 882412 00972 2 854591	
Andrew Garrard	Institute of Archaeology, Univ. College London	31-34 Gordon Sq.	GB- London WC1H 0PY	0044 71 3877050	0044 71 3872572
Hans Georg Gebel home	Free University of Berlin, Seminar für Vorderasiatische Altertumskunde	Bitterstr. 8-12 Altmarkstr. 26	D- 14195 Berlin D-12169 Berlin	0049 30 838 6747 0049 30 795 9937	0049 30 831 4252 e.mail: please, contact HGG 0049 30 795 99 37
Avi Gopher home	Institute of Archaeology, Tel Aviv University	Ramat Aviv 69978, POB 39040	Israel- Tel Aviv	00972 3 6409427 / 6407607 00972 8 340630	00972 3 6407237
Ivan Gatsov	Institute of Archaeology, Bulgarian Academy of Sciences	ul. Suborna 2	Bulgaria- Sofia	003592 705896	
Nigel Goring- Morris	Institute of Archaeology, Hebrew University	Mt. Scopus	Israel- Jerusalem 91905	00972 2 882424	00972 2 825548 e.mail: GORING@HUM. HUJI.AC.IL
Elisabeth Hildebrand	Dept. of Anthropology, Washington University	Campus Box 1114, One Brookings Drive	USA- St. Louis, MO 63130	001 314 454-9618	e.mail: eahildeb@artsci. wustl.edu
Frank Hole	Dept. of Anthropology, Yale University	POB 8277	USA- New Haven, CT 06520-8277	001 203 432-3688	001 203 432-3669 e.mail: FRHOLE@
Marie-Louise Inizan	CNRS, ERA 28	1 rue Aristide Briand	F- 92195 Meudon	0033 1 45 07 50 50	0033 1 45 07 54 48
Zeidan Kafafi	Institute of Archaeology and Anthropology, Yarmouk University		Jordan- Irbid	00962 2 276277	00962 2 274725
Michał Kobusiewicz	Archeologii Wiethopolski	ul. Zierzyńiecko 20 Zwycisha 21 m.96	PL- 60-814 Poznan PL- 61-649 Poznan		

Galina Korobkova	Institute of the History of Material Culture of Russia, Academy of Sciences	Dvortzovaja Nab. 18	Russia- 191186 St.-Petersburg	007 812 3118265 / 3121484	007 812 3116271
Janusz K. Kozlowski	home	ul. Golgbia 11	PL- 31-007 Krakow	0048 12 221033 /279	0048 12 226306
Stefan Karol Kozlowski	Instytut Archeologii, Uniwersytet Warszawski	al. J. slowackiego 15a m.6	PL- 31-158 Krakow		
home		ul. Zwirki i Wigury 97/99	PL- 02-089 Warszawa	0048 22 236229	0048 22 -23 11 62
Ian Kuijt	Harvard University, Dept. of Anthropology, Peabody Museum	11, Divinity Avenue	USA- Cambridge, Mass. 02138	001 617 495-5703	001 617 496-8041
Monique Lechevallier	CNRS, ERA 28	1 rue Aristide Briand	F- 92195 Meudon	0033 1 45 07 50 50	0033 1 45 07 54 48
	or Paléorient	BP5005	F- 75005 Paris	0033 1 44273890	
	or UPR 316 C.N.R.S., Musée Guimet	6, place d'Iena	F- 75116 Paris		
Christina Lemorini	Museo delle Origini, Dipartimeto 40	P. le Aldo Moro 5	I- 00185 Roma	0039 6 4991 3924	0039 6 4991 3654
Carole McCartney	Dept. of Archaeology University of Edinburgh	19, George Square	GB- Edinburgh EH8 9JZ		
home	Lap Field Station		CY- Lemba Village, Pathos District	06 250 935	
Vadim M. Masson	Institute of the History of Material Culture of Russia, Academy of Sciences	Dvortzovaja Nab. 18	Russia- 191186 St.-Petersburg	007 812 3121484 / 3115092 / 314068	007 812 3116271
Ryszard Mazurowski	Instytut Archeologii, Uniwersytet Warszawski	ul. Zwirki i Wigury 97/99	PL- 02-089 Warszawa	0048 22 -23 62 29	0048 22 -23 11 62
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Andrew Moore	Yale University Graduate School	POB 1504A, Yale Station	USA- New Haven, CT 06520		
Peder Mortensen	Forhistorisk Museum	Moesgard	DK- 8270 Højbjerg	0045 86- 272433	0045 86- 272378
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Mujahed Muheisen	Institute of Archaeology and Anthropology, Yarmouk University		Jordan- Irbid	00962 2 276277	00962 2 274725
Bernd Müller-Neuhof	Free University of Berlin, Seminar für Vorderasiatische Altertumskunde	Bitterstr. 8-12	D- 14195 Berlin	0049 30 838 2600	0049 30 831 4252
home		Goßlerstr. 17	D- 12161 Berlin	0049 30 8516259	
Dani Nadel	"M. Stekelis- Museum of Prehistory or Zinman Institute of Archaeology, University of Haifa	124, Hatishbi St.	Israel- Haifa 34455	00972 4 85833	00972 4 552714
			Israel- Haifa*		00972 4 240128
Yoshihiro Nishiaki	Dept. of Archaeology, Tokai University	Kitakaname 1117, Hiratsuka, Kanagawa	Japan- 259-12	0081 463 58 1211 x3107	0081 463 58 9542 e.mail: NISHIAKI@KEYAKI.CC.U-TOKAI.AC.JP
Hans J. Nissen	Free University of Berlin, Seminar für Vorderasiatische Altertumskunde	Bitterstr. 8-12	D- 14195 Berlin	0049 30 838 5033	0049 30 831 4252
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home				0090 212 5176903	
Deborah Olszewski		2107 W. Broadway Rd. 143	USA- Mesa, AZ 85202	001 602 6559364	e.mail: DEBORAH@IMAPT.ASU.EDU
Leslie Quintero	Dept. of Anthropology, University of California		USA- Riverside, CA 92521-0418	001 909 6841449	001 909 7875409 e.mail: QUINTERO@UCRAC1.UCR.EDU
Charlott Hoffman Pedersen	Carsten-Niebuhr- Institute, University of Copenhagen	Njalsgade 80	DK- 2300 Copenhagen-S	0045 35328908	0045 35328926
home		Carl-Johansgade 15	DK-2100 Copenhagen-O		
Gary O. Rollefson	'Ain Ghazal Research Institute	Pragelatostr. 20	D- 64372 Ober-Ramstadt	0049 6154 53642	0049 6154 53642
Michael Rosenberg	University Parallel Program, University of Delaware	333 Shipley St.	USA- Wilmington, DE 19801	001 302 571-5395	001 302 5772548 e.mail: MICHAELR@STRAUSS.UDEL.EDN
Romuald Schild	IAIE PAN	al.Solidarnosci 106	PL- 00-140 Warszawa	202881	
Klaus Schmidt	Institut für Ur- und Frühgeschichte, Universität Heidelberg	Marstallhof 4	D- 69117 Heidelberg	0049 6221 542552	0049 6221 542526
home				0049 6221 163498	
Alan Simmons	Dept. of Anthropology, University of Nevada- Las Vegas	4505 Maryland Parkway, POB 455012	USA - Las Vegas, NV	001 702 8953354	e.mail: SIMMONSA@PIONEER.NEVADA.EDU
Karol Szymczak	Institute of Archaeology, Warsaw University	Zwirki-i-Wigury 97/99	PL- 02-089 Warszawa	236229	231162
Wolfgang Taute	Institut für Ur- und Frühgeschichte	Weyerthal 125	D- 50923 Köln		
Francois Valla	Laboratoire d'Ethnologie Préhistorique	44, rue de l'Aminol-Mouchez	F- 75014 Paris	45 80 01 76	45 89 41 54
Phil Wilke	Dept. of Anthropology, University of California - Riverside		USA- Riverside, CA 92521- 0418	001 909 787-7317 / -3117	001 909 7875409 e.mail: WILCKE@UCRAC1.UCR.EDU
Shoh Yamada	Dept. of Anthropology, Harvard University	11 Divinity Ave.	USA- Cambrdige, MA 02138	001 617 4951279	e.mail: SYAMADA@HUSC.HARVARD.EDU
Daniela Zampetti	Università di Roma "La Sapienza", Dipartimento di Scienze Storiche, Archeologiche e Antropologiche, Sezione di Paleontologia	Via Palestro, 63	I- 00185 Roma	0039 6 4454603	