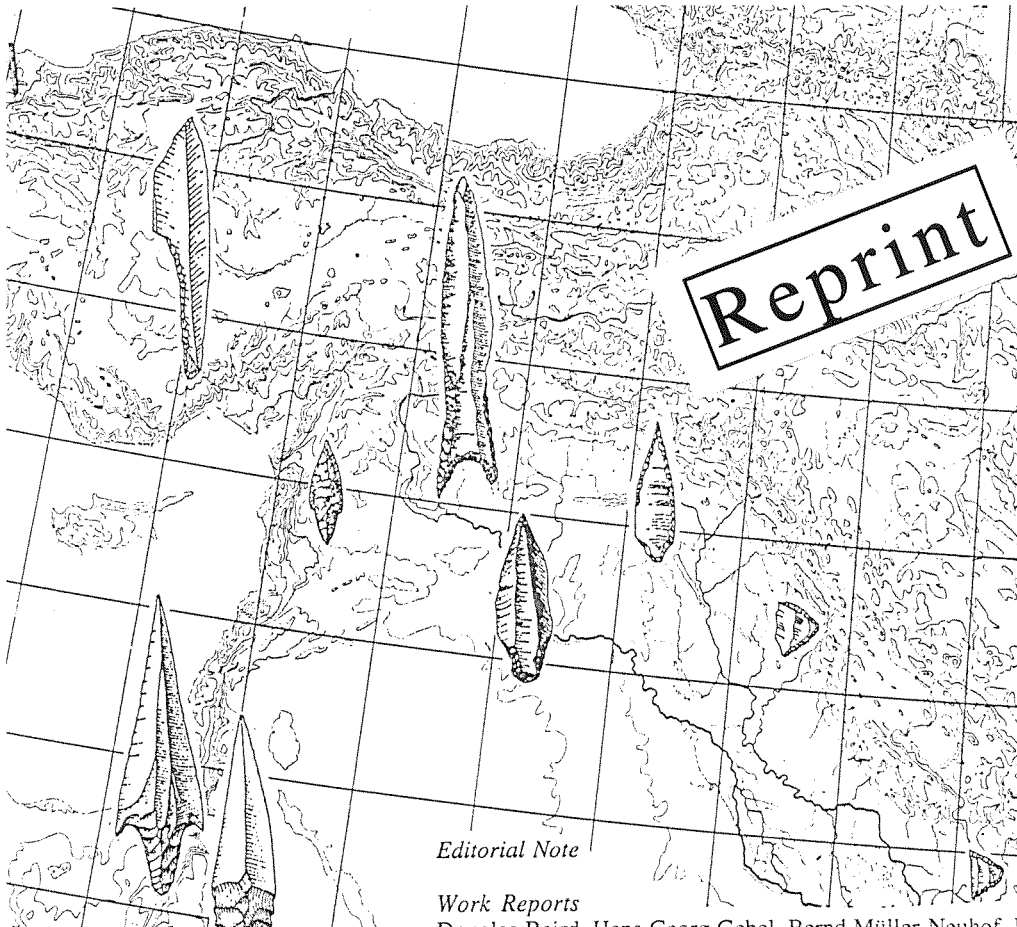

Reprint

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NEO-LITHICS 2/95

A Newsletter of Southwest Asian Lithics Research

map by the *Tübingen Atlas of the Near East*

In Memoriam

Prof. Dr.

WOLFGANG TAUTE

18 May 1934 - 29 November 1995

Editorial Notes

This became a thick newsletter; many thanks to all the authors. This time we have included information on research from outside the Fertile Crescent. As stated in Warsaw, we feel that we must begin to look at Neolithic interaction on the fringes of our geograhic focus in order to appreciate better results of research in the Fertile Crescent. As it should be the aim of future issues of NEO-LITHICS, too, we included notes on current non-lithic Neolithic research.

NEO-LITHICS is -as the subtitle states- principly a newsletter about Southwest Asian chipped lithics research. The spelling of the main title, however, suggests something more. Lithics are understood as a basic source for new approaches and insights into the dynamic social and economic developments of the early Holocene periods, and we hope in time to receive contributions that deal with these general Neolithic issues seen from the lithics perspective.

As editors of NEO-LITHICS we are somewhat puzzled that one of the main elements of the *raison d'être* of the newsletter is lacking: the publication of reports from the working groups who should be discussing analytical approaches to the specific themes under their charge. Indeed, there is little information about the work of the working groups at all, what the dates and agendas of the next meetings are, or the very future existence of some of the working groups. In the spirit of international cooperation promoted in Berlin, the editors call on the working group coordinators to persevere in their efforts to stimulate continued progress. The goal of jointly developing a *Dictionary of Neolithic Chipped Stones of the Fertile Crescent* is alive and well. If the working group approach towards this goal proves fruitless, a new concept have to be developed.

Among the new concepts is the idea of making NEO-LITHICS a forum on the Internet. The newsletter could be published online, too, along with services such as a general bibliography, the Green List, etc. In addition to a general section for exchange on the Near East Neolithic, another would be dedicated to information on chipped lithics. Organized in the form of a dictionary, information here should be pooled, discussed, and developed into a publishable hard copy format. We strongly encourage our colleagues to develop access to the Internet so that the NEO-LITHICS Internet address facilitates cooperation.

With cordial and warm season's greetings,
peace with all of you!

H. G. Gebel St. K. Kozłowski G. Rollefson

Work Reports

The Wembach Module for Non-Formal-Tools Analysis. Non-Formal Tool Working (NFT) Group Report # 2

Douglas Baird (University of Liverpool)
Hans Georg Gebel (Free University of Berlin)
Bernd Müller-Neuhof (Free University of Berlin)
Klaus Schmidt (University of Heidelberg)
Gary Rollefson (AGRI - Wembach)
Manuela Beile-Bohn (University of Heidelberg)

The Non-Formal Tools (NFT) Working Group met at the 'Ain Ghazal Research Institute in Wembach in June 1995 and again in December to discuss ways of facilitating and standardizing research methods and the exchange of results. The result of the meeting was the development of a database coding system that is available to the community of lithics analysts. Our first working group report -to which we here refer- has been published earlier in NEO-LITHICS 2/94. Colleagues are kindly invited for their comments and suggestions, which we highly would appreciate.

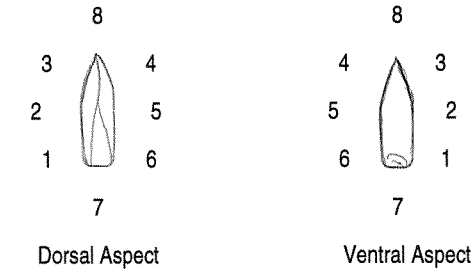
We began the process by examining Inizan, Roche, and Tixier (1992) and have used their work as the basis of the following module. On the other hand, we found that some modifications were necessary to make the analysis of stone tools practical, since their attributes did not always directly apply to NFTs.

It is to be expected that a sizable proportion of NFTs will have several different kinds of retouch on the same piece. In such cases they can be described in the same way as „simple" NFTs according to the system described below. Formal tools (points, borers, etc.) may also have more than one kind of retouch type, including those commonly found on NFTs. It is not yet clear if the other Working Groups dealing with formal tools will find the Wembach Module appropriate for their purposes, and we must wait for their comments.

Sequences of retouch areas occur among NFTs, but there is no necessity to single them out for special analytical treatment. Sequential tools among formal tools must be considered by the respective working groups.

Tool Orientation

In the description of NFTs, the tools should be oriented with the proximal (platform area) zone at the bottom (toward the observer), with the dorsal surface facing upwards. Left and right are always defined from this perspective. The areas on the various edges are numbered as shown in the accompanying diagram.



Basic Analytical Approach to NFTs

We use the following terms with the meaning:
a) Retouch areas: each area of distinctive retouch on a tool.
b) Attribute: feature of each retouch area or piece e.g. retouch angle, delineation etc. (see fields in coding sheet below).
c) Attribute state: features of each attribute e.g., for position - dorsal, ventral, bifacial, and burin (see Field 11 below).

We feel we can characterize assemblages in terms of frequencies of
1) single attribute states of single retouch areas,
2) two attribute states of single retouch areas,
3) combinations of attribute states for single attributes utilizing all retouch areas on each tool,
4) combinations of attribute states for multiple attributes utilizing all retouch areas on each tool.
This is described below.

1) The frequency of the following attribute states of single retouch areas are essential in order to determine the most elemental character of assemblages and facilitate their comparisons. The attributes recommended for use are blank (Field 3), retouch angle, type and position (Fields 9-11), burin orientation (Field 13), retouch delineation (Field 14), and retouch extent and morphology (Fields 17-18). Thus assemblages could be characterized by percentages of shouldered retouch (Field 14) and bifacial retouch (Field 11). The frequencies and percentages of the states of these attributes should be considered to be the minimal standard for publication of non-formal tools. An example of the macro (*.prg) for the dBase analysis in 1) above is provided below, and similarly simple macros can be written for other

database programs. A summary of these attribute states is presented in Table 1.

Wembach-Module:
Analysis Program Level 1.

*1. Counting of code entries from database WEM.dbf:
*1.1. All pieces to be saved in file WEMRE.dbf, the structure has to be created before.

```
select 1
use c:wem
select 2
use c:wemre

select 1
count to SS

store 0 to Z
do while Z<11
count to A for field3=Z
count to B for field9=Z
count to C for field10 =Z
count to D for field11=Z
count to E for field14=Z
count to F for field15=Z
count to G for field17=Z
count to H for field18=Z
count to I for field19=Z

select 2
replace field3 with A
replace field9 with B
replace field10 with C
replace field11 with D
replace field14 with E
replace field15 with F
replace field17 with G
replace field18 with H
replace field19 with I
skip
select 1
Z=Z+1
enddo
```

*2.1. Percentage of each code-number according to total of pieces.

```
select 2
go 1
do while .not. EOF()
replace field3per with field3*100/SS
replace field9per with field9*100/SS
replace field10per with field10*100/SS
replace field11per with field11*100/SS
replace field14per with field14*100/SS
replace field15per with field15*100/SS
replace field17per with field17*100/SS
replace field18per with field18*100/SS
replace field19per with field19*100/SS
skip
enddo
clear all
```

2) It is then recommended that the frequency of combinations of states of two attributes for each single retouch area is examined. The 10 combinations recommended are retouch a) angle and type, b) position and location, c) delineation and morphology, d) angle and edge profile modification, e) location and type, f) position and type, g) angle and delineation, h) delineation and type, i) extent and morphology, and j) plan and delineation.
3) Tools will then be analysed in terms of the frequencies of particular combinations of states of single attributes using all retouch areas on each piece. This analysis will generate counts of combinations of states of a) retouch angle; b) retouch type; c) burin type; d) retouch position; e) retouch location; f) retouch delineation; g) retouch morphology, producing counts of pieces combining notched and denticulate areas, truncation and burin areas etc., *ad nauseam.*
4) Tools will then be analysed in terms of the frequencies of particular combinations of states of two attributes using all retouch areas on each piece. Thus analysis will generate counts of combinations of states of retouch a) angle and type, b) position and location, c) delineation and morphology, d) angle and edge profile modification, e) location and type, f) position and type, g) angle and delineation, h) delineation and type, i) extent and morphology, j) plan and delineation, which will give numbers of pieces combining AAR-notched and SAR-denticulate areas, AAR-truncation and burin areas etc., *ad nauseam.*

The next meeting of the Non-Formal Tool working group will take place at Chateau Marouatte (near Perigeux) from 17-19 May 1996, hosted by Lorraine Copeland. The meeting will focus on the discussion of advanced database analysis of NFTs as well as the technological aspects of NFT manufacture and use.

Wembach Module:
Database Coding Sheet

Field 1. **Site/Assemblage Code**

Field 2. **Artifact ID**

Field 3. **Blank**

0. Core	4. Crested blade	8. Older artifact
1. Flake	5. Other CTE	9. Debris
2. Blade	6. Burin spall	10. Indeterminate
3. Indet blade	7. Overshot	

Field 4. **Cortex**

0. None	2. > 50%
1. < 50%	3. 100%

Field 5. **Raw Material**

1. Flint/Chert	4. Basalt	7. Other/indet
2. Quartzite	5. Obsidian	
3. Limestone	6. Rock crystal	

Field 6. **Blank completeness**

0. Uncertain	1. Complete	2. Broken

Field 7. **Heat treatment**

0. No	1. Yes

Field 8. **Platform type**

0. Missing	4. Faceted	7. Spur
1. Cortical	5. Chapeau de gendarme	8. Linear
2. Flat		9. Punctiform
3. Dihedral	6. Winged	

Field 9. **Retouch angle**

1. SAR	2. AAR	3. Backing

Field 10. **Retouch type**

1.Regular	5.Notch
2. Burin	6. Transverse parallel
3.Truncation	7. Ésquillée
4. Denticulate	8. Irregular retouched area

Field 11. **Retouch position**

0. Dorsal	2. Bifacial
1. Ventral	3. Burin edge

Field 12. **Retouch location**

0. Indeterminate	3. Left distal	6. Right distal	9. Left, total
1. Left basal	4. Right basal	7. Basal	10. Right, total
2. Left medial	5. Right medial	8. Distal	

Field 13. **Burin orientation**

0. Not applicable	4. Dihedral, axis
1. Angle, left	6. Dihed, canted right
2. Angle, right	5. Dihedral, canted left
3. Transverse	

Field 14. **Retouch delineation**

1. Rectilinear	4. Shouldered	7. Nosed
2. Convex	5. Sinusoidal	0. Indeterminate
3. Concave	6. Irregular	

Field 15. **Edge plan modification**

0. No	1. Yes

Field 16. **Edge profile modification**
0. No 1. Yes

Field 17. **Retouch extent**
1. Short 3. Invasive
2. Long 4. Covering

Field 18. **Retouch morphology**
0. Indeterminate
1. Normal 3. Parallel 5. Couze
2. Stepped/scaled 4. Subparallel 6. Irregular

Field 19. **Tool completeness**
0. Indeterminate 1. Complete 2. Broken

Field 20. **Tool length**

Field 21. **Tool width**

Field 22. **Tool thickness**

Field 23. **Comments**

Explanatory Comments

Field 1. Site/Assemblage code: A unique numeric or alpha-numeric set of digits is assigned to each assemblage or subassemblage.

Field 2. ID Number: The identification number for each artifact consists of an integer (1-n) plus a two-decimal number for each retouch area, as in the following examples:

ID No.	
224.10	In the first example, tool # 224 has only one retouch area (the first number after the decimal); there is no adjacent retouched area (the 0 as the second number after the decimal).
225.12 225.20 225.30	For tool # 225, there are three retouched areas on the tool (represented by the numbers 1-3 just after the decimal). The first retouch area (e.g. a denticulation) is adjacent to the second (e.g. Steep Angle Retouch = SAR), indicated by the ".12". The ".20" decimal indicates that the third retouch area is not adjacent to the second. The ".30" decimal indicates that the third retouch area is isolated from the other two.
226.10 226.23 226.34 226.40 226.50	In the third example, tool # 226 has five retouched areas: areas 2, 3, and 4 are adjacent to each other, but areas 1 and 5 are isolated retouch areas.

Each retouch area is treated as a single record in the database; i. e., each retouch area is described as a single row for Fields 8-19.
Field 3. Blank. The type of blank is recorded only once for each artifact.
Field 4. Cortex. The amount of cortex is recorded once for each artifact and relates to the amount left after retouch .
Field 5. Raw material. Raw material is recorded once for each artifact.
Field 6. Blank completeness. This attribute is recorded once for each artifact.
Field 7. Heat treatment. This attribute is recorded once for each artifact.
Field 8. Platform type. This attribute is recorded once for each artifact.
Field 9. Retouch angle. This attribute is recorded for each retouched area (e.g., for 226.10, 226.23, 226.34, etc.).
Field 10. Retouch type. Recorded for each retouched area according to the definitions published in NEO-LITHICS 2/94 (Rollefson 1994: 5). Note that an "endscraper" would be coded as a truncation in this field.
Field 11. Retouch position. The location of retouch should be described for each retouched area.
Field 12. Retouch location. Each retouched area must be described according to its location on the tool according to the fixed orientation described above. For burins, this attribute records the location of the burin platform.
Field 13. Burin orientation. Recorded only for burin edges, otherwise the field remains blank.
Field 14. Retouch delineation. The retouch delineation follows Inizan, Roche and Tixier (1992: 68 and Fig. 35). It should be noted that in the Wembach Module, we have changed the term "straight" (Rollefson 1994: 5) to "rectilinear" to conform to the Inizan *et al.* terms; similarly, "shouldered" refers to "*cran*".
Field 15. Edge plan modification. This is essentially a question if the retouched area changed the shape/planform of an edge or if the retouch was light enough to have left the shape essentially unaltered.
Field 16. Edge angle modification. See Field 14.
Field 17. Retouch extent. The varying degrees of the attribute states for each retouched area follows Inizan *et al.* (1992: 68 and Fig. 37). "Covering" retouch is not expected on NFTs.
Field 18. Retouch morphology. Attribute states are based loosely on Inizan *et al.* (1992: 68 and Fig. 41), although we have combined the "stepped" and "scaled" attribute states. In addition, we have added Couze retouch , "irregular", and indeterminate categories. We also added the "normal" attribute state, which reflects non-stepped/scaled and non-parallel/subparallel retouch scars for both long and invasive retouch.
Field 19. Tool completeness. The attribute states are self-explanatory.
Fields 20-22: Tool measurements. We recommend that the measurements of NFTs follow the system described in Inizan *et al.* (1992: 34 and Fig. 4).
Field 23. Comments. Textual remarks for each retouch area if appropriate (e.g., "possible hafting retouch", "stain present on retouched area", etc.).

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1992 *Technology of Knapped Stone*. Meudon, CREP.
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1994 Non-Formal Tool (NFT) Working Group Report. *Neo-Lithics* 2/94: 5-6.

Table 1. Example: attribute summaries for samples of non-formal tools from MPPNB (MB) and PPNC/Yarmoukian (C/Y) layers at 'Ain Ghazal. *<Note: totals for all but the blank attribute refer to retouch areas, not tools.>*

	MB		C/Y	
Blank	**n**	**%**	**n**	**%**
Flake	31	67.4	38	76.0
Blade	9	19.6	8	16.0
Crested blade	3	6.5	1	2.0
Other CTE	2	4.3	0	0.0
Older Artifact	0	0.0	2	4.0
Other	1	2.2	0	0.0
Indeterminate	0	0.0	1	2.0
Totals	46	100.0	50	100.0

Retouch Angle	**n**	**%**	**n**	**%**
SAR	106	69.3	117	66.1
AAR	46	30.1	55	31.1
Backing	1	0.7	5	2.8
Totals	153	100.0	177	100.0

Retouch type	**n**	**%**	**n**	**%**
Regular	99	64.7	108	61.0
Burin	3	2.0	3	1.7
Truncation	7	4.6	16	9.0
Denticulate	10	6.5	9	5.1
Notch	13	8.5	11	6.2
Trans parallel	0	0.0	1	0.6
Esquilée	1	0.7	6	3.4
Irregular	20	13.1	23	13.0
Totals	153	100.0	177	100.0

Retouch Postition	n	%	n	%
Dorsal	99	64.7	113	63.8
Ventral	24	15.7	31	17.5
Bifacial	30	19.6	33	18.6
Totals	153	100.0	177	100.0

Retouch Delineation	n	%	n	%
Rectilinear	21	13.7	12	6.8
Convex	60	39.2	82	46.3
Concave	30	19.6	31	17.5
Shouldered	0	0.0	0	0.0
Sinusoidal	7	4.6	10	5.6
Irregular	35	22.9	41	23.2
Nosed	0	0.0	1	0.6
Totals	153	100.0	177	100.0

Retouch Extent	n	%	n	%
Short	70	45.8	85	48.0
Long	49	32.0	49	27.7
Invasive	34	22.2	43	24.3
Totals	153	100.0	177	100.0

Retouch Morphology	n	%	n	%
Normal	111	72.5	109	61.6
Stepped/Scaled	38	24.8	52	29.4
Preallel	0	0.0	0	0.0
Subparallel	3	2.0	6	3.4
Couze	1	0.7	0	0.0
Irregular	0	0.0	10	5.6
Totals	153	100.0	177	100.0

Japanese Research on the Near Eastern Neolithic, 1995

Yoshihiro Nishiaki (Tokai University)

Since their first excavation at the Proto-Hassuna site of Telul eth-Thalathat II in Iraq in 1956, Japanese prehistorians have expanded their excavations to nearly 20 Neolithic sites, and recently this number has been increasing rapidly. While a comprehensive survey is beyond the scope of this short communication, a brief report on on-going field and publication projects will facilitate access to current Japanese research.

In the summer of 1995 excavations of Neolithic levels at two sites was undertaken in Syria. Tell Kosak Shamali, a small mound of ca. 70 x 80 x 10 m, is situated about 40 km south of the Turkish/ Syrian border and will be flooded by the Tishreen Dam on the Upper Euphrates River. Excavation was initiated here under the direction of Toshio Matsutani (Tokyo University) in 1994, and two seasons of field work have revealed that this small settlement was densely occupied from the 5th to the 4th millennium BC, but it was also inhabited, albeit sparsely, in the 6th millennium. The earliest artifact assemblages are similar to others of the North Syrian Pre-Halafian. The ceramics are typologically homogeneous, characterized by burnishing, straw temper and comb impression as the dominant form of decoration. The lithics industry, which includes several Byblos points on blades, is basically flake-oriented and is dominated by flake tools. A preliminary account on the 1994 season has been published in Matsutani and Nishiaki (1995).

The second excavation in 1995 was at Tell Mastuma about 5 km southwest of Idlib in western Syria. The Ancient Orient Museum (Tokyo) has undertaken extensive excavations there since 1980. The 1995 season included a deep sounding on the southern slope, which revealed Neolithic levels below thick Bronze and Iron Age architectural remains (Tsuneki, pers. comm.). The 4.5 x 4.5 m sounding yielded ceramic materials dating to the late Amuq B; lithic artifacts included flint sickle elements typical of this period. More information may be obtained from the director, Shigeo Wakita, Ancient Orient Museum.

In Turkey a series of major archaeological campaigns have been in progress at Kaman Kale Höyük, south of Ankara, under the auspices of the Middle Eastern Culture Center, Japan. While excavating this large Iron Age mound the mission has also conducted surveys since 1986 in a large area of several provinces including Kirşehir, Yozgat, Nevşehir and Niğde in central Anatolia. Ankara province was investigated in 1995. The survey has so far recorded over 400 archaeological sites, including some from the Neolithic. Hacibeyli Höyük (Yeşilhisar), a circular mound of 200 m diameter and 10 m height, is located 70 km southeast of Kayseri and about 100 km east of the well-known PPN site of Aşıklı; it will particularly interest lithics specialists because of its PPN chipped stone (Fujii, in press). A surface collection included opposed platform cores and numerous endscrapers on blades, reminiscent of the Aşıklı material. Trace element analysis of the obsidian, the dominant raw material, was recently initiated by the project. Preliminary reports have been published in Turkish by S. Omura (1994; cf. its bibliography).

New field work was begun in Jordan in 1995. A team directed by S. Fujii (Kanazawa University) carried out a preliminary survey to choose an area suitable for future intensive research. One of the areas they investigated was the arid al-Jafr basin some 50 km east of Ma'an. Among the few prehistoric open-air sites they found in the basin was a late Neolithic camp indicated by a stone structure and flint scatters (Fujii, pers. comm.). The mission intends to continue the survey for several more years.

Among publication projects, the final report on soundings and surveys in the el-Rouji basin, near Idlib, Syria, is under preparation by T. Iwasaki (Kasei-Gakuin University). The 1990-1992 investigations were designed to reconstruct the demographic and occupational history of this narrow basin (40 x 10 km) enclosed by steep mountains (Iwasaki et al. in press). Fourteen of the 40 sites found during the survey yielded Neolithic material. Soundings at Tell el-Kerq and Tell Aray 1 and 2; stratigraphic correlations have illustrated a development of human occupation spanning the late PPN to the final Pottery Neolithic at these mounds.

A number of reasons have prevented field work for almost a decade in Iraq and Iran. Artifact collections from these countries are currently being readied for publication by the Institute for Cultural Studies of Ancient Iraq (Kokushikan University) and the University Museum (University of Tokyo). The former has recently published a report on the Samarran mound of Tell Sangor A in the Hamrin region, excavated as a rescue operation in 1987 (Kamada and Ohtsu 1995). The report includes drawings and photos of ceramics, but unfortunately not of lithics are illustrated. The site of Der Hall, a small mound (20 x 30 x 3.5 m) situated in the flood zone of another dam near Eski Mosul, was excavated by the Institute in 1983 and 1984 (Ohnuma and Matsumoto 1988). Epipaleolithic and PPN levels were found at its base. Radiometric dates on animal bone from those levels are presently under measurement [the previous date of 7400 ± 200 BP (Gak-13934) was obviously unacceptable] which should provide a date for the microlithic assemblages of lunates and microburins. Unpublished material (and some that need reexamination) from excavations in the 1950s through the 1970s are stored at the University of Tokyo; the preliminary result of the reexamination of the lithics from Tell eth-Thalathat II is in Nishiaki (in press).

The above-mentioned projects are published or are to be published in European languages only; obviously there are many more articles and reports in Japanese. A comprehensive list of Japanese publications is under compilation by K. Matsumoto and his collaborators at Kokushikan University, which should make them more accessible to western communities of Near Eastern archaeologists.

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Current British Research on the Neolithic of the Near East

Andrew Garrard (Institute of Archaeology, London)

All of the current British field projects with a strong Neolithic focus are being conducted in Turkey. They include:

Çatal Höyük: Ian Hodder (Cambridge), Director; Roger Matthews (Ankara), Field Director. Begun in 1993, work has concentrated on preparing a detailed topographic and geophysical map, a comprehensive surface collection, sampling Mellaart's sections for micromorphology analysis, conducting a geomorphological survey of the surrounding area and beginning excavations on the northern part of the mound.

Konya Plain Survey: Douglas Baird (Liverpool), Director. An all-period survey that began in 1993, it will place Çatal Höyük in its broader regional context in the southern Konya Plain.

Pınarbaşı: Trevor Watkins (Edinburgh), Director. Since1994 work has focused on the excavation of a rock shelter and open site on the margins of the Konya Basin 30 km southeast of Çatal Höyük. Late 8th and early 6th millennium levels have been sampled, and the earlier includes a microlithic industry.

Sakçagözü Survey: Andrew Garrard (London), Director. A new project initiated in 1995, the research is a survey of Paleolithic and Neolithic settlement in the Sakçagözü district at the northern end of the Levantine Rift Valley.

Earlier Projects Being Readied for Publication:
Can Hasan III (7-6th mill., Turkey), David French (Hertfordshire); Qermez Dere (9th mill., Iraq), Trevor Watkins (Edinburgh); Umm Dabaghiyah (6th mill., Iraq), Stuart Campbell (Manchester) is assisting Diana Kirkbride; Ginnig (7-6th mill., Iraq), Stuart Campbell; Azraq Basin (8-6th mill. Jordan), Andrew Garrard (London); Beidha (7th mill., Jordan), Brian Byrd (San Diego) has pre-pared Vol. 2 in association with Diana Kirkbride; Dhuweila (7-6th mill., Jordan), Alison Betts (Sydney); Wadi Fidan (7-6th mill.), Jordan), Russell Adams (Sheffield-pg); Kissonerga-Mylouthkia (5-4th mill., Cyprus), Edgar Peltenburg (Edinburgh); Jeitun (6th mill., Turkmenistan), David Harris (London).

Specialist Research: (pg = postgraduate student)
Lithics:
- James Conolly (London-pg), Çatal Höyük, Sakçagözü.
- D. Baird (Liverpool), Konya Plain, Azraq Basin, W. Fidan.
- Carole McCartney (Edinburgh-pg), Northeast Jordan, Cyprus.
- Liz Callander (Liverpool-pg), Pınarbaşı
- Diane Holmes (London), Egypt

Ceramics:
- Jonathan Last (Cambridge), Çatal Höyük
- Joanne Clark (Edinburgh-pg), Cyprus
- Müge Şevketoğlu (Edinburgh-pg), Cyprus

Figurines:
- Naomi Hamilton (Edinburgh-pg), Çatal Höyük, Cyprus
- Katherine Wright (London), Azraq Basin
- Katherine Tubb (London), 'Ain Ghazal

Groundstone and their residues:
- Katherine Wright (London), southern Levant

Fauna:
- L. Martin (London), Azraq Basin, Iraq ed-Dubb, Çatal Höyük
- Tony Legge (London), Tell Abu Hureyra
- Peter Rowley-Conwy (Durham), Tell Abu Hureyra
- Keith Dobney (York), Qermez Dere
- Alex Wasse (London-pg), 'Ain Ghazal
- Denise Carruthers (Edinburgh-pg), Pınarbaşı

Flora:
- Gordon Hillman (London), Tell Abu Hureyra
- Susan Colledge (Cambridge), Azraq Basin, Beidha, Iraq ed-Dubb, Dhuweila, Wadi Fidan, Cyprus
- Dominique de Moulins (London), Tell Abu Hureyra, el Kowm II, Cafer Höyük
- Mark Nesbitt (London-pg), Qermez Dere, Mlefaat, Hallan Çemi, Pınarbaşı
- Ann Butler (London), Çatal Höyük
- Mike Charles (Sheffield), Jeitun

Human remains:
- Theya Molleson (London), Tell Abu Hureyra, Çatal Höyük

Sedimentology, geomorphology:
- Wendy Matthews (Cambridge), Çatal Höyük
- Neil Roberts (Loughborough), Konya Plain
- Susan Limbrey (Birmingham), Jeitun
- Fekri Hassan (London), Farafra, Dakhla, Sinai

Settlement patterns, architecture:
- Stephen Holmes (Edinburgh-pg), Konya Plain
- Demetra Papaconstantinou (Edinburgh-pg), Near East

Contribution

The Phantom Obsidian Traders of the Jazirah

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I am sure that colleagues interested in the obsidian phenomena will have been inspired by the ongoing work of M.-C. Cauvin and her team in eastern Anatolia. It has thrown much light on the provenance of obsidian around the Bingöl region and has provided data, using new techniques, on an older question: how can the chemical composition of an obsidian artifact identify the original findspot of the raw material? This question is related to the fact, conceded by all, that obsidian is an imported raw material (see below). Impressive also has been the replicative and other research of Calley, of Nishiaki and others on the techniques of debitage, and often typologies, peculiar to the reduction of obsidian cores. Yet, while working on the flint and obsidian assemblages of Jazirah tell sites (Sabi Abyad I and II, in the Balikh Valley) I find that, since the emphasis of research has been, and continues to be, on provenance, many other important aspects of the presence of obsidian remain mysterious.

When found as artifacts at prehistoric sites, obsidian is often mentioned as a proof of contact between communities in the context of trade/barter/ exchange, but there is little supporting evidence of this. With the exceptions of G.A. Wright, of S.E. Warren and M.-C. Cauvin, authors have paid little attention to the socio-economic factors integral to the movement of the material. How did the obsidian arrive at the sites? Are we certain that it was imported? Who, exactly, collected the material? Were they the same people as those who brought it to the Jazirah settlements? In what form did they transport it: natural lumps, debited cores, finished artifacts? Was it brought directly to each user/destination or to an intermediate spot, perhaps where middlemen or finishers took over? If so, why did they engage in the activity; i.e., what recompensed them? Why have we no sign (except the presence of obsidian at all the Jazirah sites) of their existence? Where are the habitation sites, camps adjacent to the sources, or villages in the vicinity, given that the collectors must have lived somewhere and subsisted on the available economic resources? Are sites present but unrecognized? Could these phantom traders be the villagers themselves, who mounted expeditions to fetch the material?

As for the artifacts, other questions can be posed. Given that the bulk of obsidian artifacts excavated at settlements are narrow, largely straight blade forms with minute butts, which are highly standardized as to sizes, why are most of them broken - apparently deliberately - into two or three sections? What was the function of the peculiar tools (see below) present? Why are

there so few 'normal' artifact types in Jazirah tells, such as end-scrapers, arrowheads, etc. in the obsidian component, and why are there so few cores, debitage by-products, or pieces showing cortex? Why is there such variability in the quantity of material from tell to tell and intra-level at each one?

Some of the questions are unanswerable today, but some aspects can be discussed. My focus will be on the obsidian found in Neolithic-Chalcolithic tells south of the Taurus, situated on the rain-fed alluvium deposited by the Euphrates and its affluents. I am omitting reference to the Levant, central Anatolia, the Taurus PPNB sites and the Iraqi regions east of the Sinjar where, in each case, somewhat different sets of factors exist. The time frame will be from the first appearance of artifacts - itself a debatable matter - but here taken to be (in the absence of Epipaleolithic and PPNA sites except in the extreme western Jezirah: Homr, Mureybit I-III, etc.) at the start of the PPNB. The latter farmers (at least those of the Balikh Valley) appear to have entered a virgin land unpopulated since the Middle Paleolithic. Obsidian occurs at their tell sites throughout the Neolithic and painted pottery phases and beyond.

Much has been written on the subject since Renfrew et al. (1966, *PPS* 32) proposed to 'source' the Levant obsidian finds by analysing their chemistry. From the recent research mentioned above (M.-C. Cauvin *et al.*, 1986; 1991, *Paléorient*; Gratuse *et al.* 1993, *Archaeometry* 35; M.-C. Cauvin 1991, *Cahiers de l'Euphrate* 5-6 and 1994, *BSPF* 91/2, and references therein) we learn, among other findings, that the raw material can occur in the form of *bombes* (lumps) ejected from volcanoes (and found, cooled, some distance away as boulders that rolled into various stream valleys), and also as outflows over extruded tuff or lava; that both forms, having emanated from successive eruptions *from the same source* can have different mineral compositions; that colour is not a reliable discriminant; and that obsidian from Bingöl (and some other) sources supplied all the tells studied by them (see map in Cauvin *et al.*, 1991, *Paléorient* 17/2:7).

The obsidian was clearly imported because the nearest volcanic region where it was produced (Bingöl, ca. 150 km NW of Lake Van) is roughly 400 km from the Balikh settlements (ca. 500 km from Bouqras and El Kowm); there is no obsidian in their own environments. Tending to confirm its foreign origin is its morphology, mentioned above: no matter what facies of flint assemblage with which it is found at tell sites (PPNB blade-oriented, 'banal' Halafian, flake-oriented pottery Neolithic, etc.) the obsidian component, as excavated, is always extraordinarily similar and could be interchanged (with rare tool type exceptions) with an obsidian assemblage from another site. The techniques of debitage are, in fact, often very different from those employed by flint knappers. Moreover, the tool types, which include enigmatic and bizarre forms such as side-blow-blade-flakes (SBBF), corner-tinned blades (CTB), bullet cores, 'Çayönü tools', etc., are virtually unknown in the flint component.

The above features suggest that the obsidian was brought from its natural findspots to the alluvium by unknown persons. In the case of Çafer Höyük and related Taurus PPNB sites (relatively near Bingöl, with direct access up the Murat Valley), where ca. 90% of the lithics are of obsidian, it has been suggested that the inhabitants fetched the raw material, partly debited, and that the rest of the reduction process took place on the site (Calley, 1985, *Cahiers de l'Euphrate* 4). This scenario does not seem probable for the more distant Jazirah tells, where obsidian cores and debitage are virtually nonexistent. (Incidentally, quantitative artifact counts can be misleading: one fractured blade is usually counted as three artifacts).

Thus it is proposed here that the obsidian arrived in the Balikh Valley in the form of already-made blanks (caches of such forms have been excavated). Such an inference tends to be supported by another find discovered by Cauvin *et al.*: a factory site beside one Bingöl findspot, where quantities of worked material of a superior quality obsidian was present. The debitage consisted of Levallois-like flake cores made by percussive techniques as well as flakes and blades, suggesting that knappers were working on the spot. On the other hand, unless the cores represent the first stage of a particular reduction process (to reduce the blocks to sizes or weights manageable by human porters?), this site may refer to the Middle Paleolithic (cf. Armenian obsidian industries).

It is reported that the source regions are uninhabitable in winter, being above the snow line, and we can assume that the work took place seasonally. Is this the reason for the absence of settlements? If so, we can return to the idea of villager expeditions. But this would not explain the marked standardisation shown by the artifacts, which suggests that they were made by one set of traditions, perhaps passed through successive generations of artisans (secret knowledge of the fracturing properties of obsidian?), rather than by the diverse flint knapper traditions at the tells. The idea of middle men, markets or emporia (known to exist in late prehistory) brings up the question of what products were exchanged: cereals, wool, salt, exotic decorative items (e.g., seashells), bitumen? The last was, as we already know, transported to the Balikh Valley for adhesive purposes (cf. sickle elements), forming another 'proof' of contacts. Should we envisage a network of trade routes and commercial systems operating in the Jazirah through the centuries, allowing and other obsidians to reach as far as the Syrian desert and the Levant? Could further research into utilisation traces clarify some aspects? Presently the subject of function remains controversial: are SBBFs tools or by-products (Hole 1994, *SENEPSE* 1)? and are CTBs sickle elements (Nishiaki 1990, *BASOR* 280)?

In overview, we seem to be plagued by contradictory indications, and further research will be difficult due to physical constraints: the remoteness of the source areas and the current political unrest there. Nevertheless, we should surely address some of the problems discussed, if only to expel the phantoms and replace them with real people! Dear colleagues, I am not a socio-economist, and if I have misinterpreted or overlooked important factors, I would like to hear from you! (London fax: +44-171-328-55688; France fax: +33-53-54-55-31).

Current Field Research

La terrasse d'Hayonim au Natoufien: un etat de la recherche

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Les travaux de terrain sur la terrasse d'Hayonim ont été interrompus en 1989. Depuis, l'étude des données de la fouille s'est poursuivie et on espère soumettre très prochainement un premier volume à la publication. Le matériel étant assez varié ; les études

Fig. 8. Terrace d'Hayonim (Natoufien): homme et chiens

se sont orientées dans des directions diverses, avec des résultats plus ou moins encourageants. Les datations 14C, par exemple, s'étaient sur 10 millénaires! De même la détermination des restes de poisson pose à Jean Desse des problèmes très difficiles. Il nous paraît souhaitable de faire ètat de ces obstacles. La recherche fait des Paris. Elle bute sur des limites qu'on ne peut espérer dépasser qu'après les avoir clairement indentifiées. On voudrai ici rendre très sommairement (et très partiellement) compte de l'etat des travaux dans trois domaines: l'industrie du silex, l'organisation du 'village", et les sepultures.

L'industrie du silex. En matière de lithique l'étude des méthodes du débitage ne conduit pas à des résultats vraiment convaincants, faute de remontages. La triple difficulté qui résulte de l'abondance des fragments inutilisables, des dimensions très réduites d'une part considérable des produits et de la rareté des ensembles cohérents isolés explique cette situation dont on veut criore qu'elle n'est pourtant pas désespérée. En revanche, il est possible de mettre en évidence quelques unes au moins des intentions des tailleurs qui ont produit surtout des éclats et des lamelles. Les rares lames apparaissent semble-t-il à la limite de l'une ou l'autre de ces séries.

Les Natoufiens de la terrasse ont été sensible à la robustesse des objets débité (mesurée par leur épaisseur), à leurs dimensions (ils ont choisi des produits plutôt grands au détriment des plus petits), et à leur allongement (ils ont préféré les produits élancés). A partir de ces options qui, en quelque sorte "corrigent" les caractères d'une production petite et trapue, s'organisent des tris plus spécifiques associés aux qualités attendues des produits finis: burins, grattoirs, microlithes, etc. Dans certains cas, en particulier pour les microlithes, on est tenté d'établir une sorte de portrait du prototype mental qui présidait au façonnage des outils individuels. Il nous reste cependant à discuter ces hypothèses à l'aide des résultats complets des analyses tracéologiques (H. Plisson, P. Anderson) qui permettront de faire un pas supplémentaire dans la compréhension des rapports entretenus par les visées du débitages, le choix des supports et les tâches auxquelles étaient destinées les outils.

L'organisation du "village". En reprenant les fouilles de la terrasse on s'était fixé pour objectif d'éturier l'organisation d'une "maison" et de ses alentours où semblaient réunis au moins une petite fosse (pour le stockage?) et deux sépultures. L'élargissement de la fouille a fait apparaître une seconde "maison", d'autres structures (mortiers, depotoirs) et de nouvelles sépultures, le tout sur une surface d'une quarantaine de mètres carrés. Au terme de l'étude détaillée de la stratigraphie on est amené à revoir les hypothèses de départ. Il s'avère en effet impossible d'établir la contemporanéité absolue de deux structures, même proches, avec la précision que requiert l'analyse ethnographique. Au contraire, dans les cas où des relations stratigraphiques peuve être définies on constate des rapports de succession. De multiples questions sont posées qu'on ne sait pas résoudre à ce stade, tell la durée de vie des habitations. Il semble qu'on se trouve en face d'un "village" organisé de façon assez lâche. Les structures secondaires paraissent avoir été dispersées entre les "maisons" dans l'espace commun. On détecte un relatif souci d'éviter les superpositions qui n'empêchait pas de juxtaposer des structures de même fonction (mortier et "*stone-pipe*") au même endroit à des périodes séparées par plusieurs dizaines de centimètres d'accumulation. A certain égards, l'organisation du "village" n'est pas sans rapeller celle de Mallaha au Natoufien récent.

Les sépultures. Alors que D. Henry n'avait recontré aucune sépulture au centre de la terrasse nous avons trouvé les restes de 7 tombes à l'extrémité ouest. Il se pourrait donc que les sépultures n'aient pas été dispersées au hasard dans le village mais plutôt situées à la périphérie. Les tombes sont d'ordinaire individuelles. Une seule contenait les restes de plusieurs sujets. Trois individus y étaient accompagnés de deux chiens, de deux carapaces de tortue, de cornes de gazelle et de pierres, le tout dans une disposition qui ne laisse aucun doute sur l'organisation volontaire de la tombe. Ce document est l'occasion de poser la question de la reconnaissance des rites en Préhistoire (par la répétition, ou par la complexité?). Au-delà des problèmes posés par la domestication du chien (qui pourrait être en rapport avec des phénomènes de commensalisme accompagnant la première sèdentarisation (E. Tchernov), il démontre clairement la place de cet animal dans les pratiques culturelles des Natoufiens.

Ces notes destinées à prèsenter l'état actuel d'une partie des travaux en cours sur le Natoufien de la terrasse d'Hayonim n'appellent, bien sûr, pas de conclusion, sinon pour remercier les responsables de "Neo-Lithics" qui ont bien voulu les demander!

Remnant Neolithic/Epipaleolithic Sites in the Khabur Basin

Frank Hole (Yale University)

Few Neolithic sites have been discovered in the Khabur drainage, perhaps because they have been buried (as with Feyda), covered by later occupation (as with Fekhariyeh), or lie on deflated surfaces that have been spared totally destructive erosion (as with sites reported previously) (Hole, in press). This picture was augmented last summer with the discovery of an additional site (see report by Kouchoukos and Hildebrand) that has "Nemrik-style" points, as well as by sites that have Epipaleolithic to early Neolithic lithics. This report briefly describes the nature of these latter occurrences.

The region of the Yale Khabur Basin survey is the semi-arid steppe, the zone where rainfed agriculture is problematic and until recently was grazed rather than farmed. We have found many large and small third and first millennium sites here, on many of which there are flint blades made in the typical Canaanean style, but there are also many that fall into the Neolithic range. The latter are identified and distinguished from the third millennium lithics by their size and morphology as well as (frequently) by the degree of patination. The common occurrence of these blades suggests that natural hills on the steppe were utilized during the Neolithic, although the lack of ceramics, artifacts, or apparent depth of deposit, implies that sites were visited only transiently. It is probable that some residential sites lie buried beneath alluvium.

It is noteworthy, however that few sites predating the third millennium are visible at the surface, except for rare occurrences of lithics dating to Epipaleolithic and Neolithic. Although some of these scatters, such as K261 are large and cover many hectares, most are collections that can be held in one hand. In short, the evidence that we have collected over several seasons of survey, suggests sparse occupation of the Khabur during the Neolithic. However, there is a strong likelihood that this picture is incorrect because of erosion. Nevertheless, we still must consider the role of climate in establishing suitable conditions for occupation during the various periods (Hole, in press).

Several sites pertinent into the Neolithic were discovered in 1995. One cluster, south of the Jebel Abd al-Aziz, on an eroded spur of gypsum bedrock included the sites K261, 262 and 264. This gypsum outcrop delimits the zone of cultivated land to the north from the barren eroded gypsum to the south. The sites are all on this eroded gypsum surface.

K264: Located on a surface of about 200x300m, the site is on the bank of a wadi that is incised into the gypsum bedrock. There is a sparse scatter of lithics which include several distinctive elements. Most noteworthy are the pieces of obsidian, including small blade segments, and some possible tang fragments. These and the small blade core fragments most closely resemble artifacts from the site of Feyda (Hole, 1994).

K262: An oval mound (probably a natural gypsum outcrop) about 0.8 h in area, covered by remnants of gypsum house foundation and graves. The site lies between two wadis, just above their confluence. Site K261 is on the opposite bank of eastern wadi. The sparse collection of lithics included a possible tang fragment, a glossed blade segment, and a few other patinated blade fragments. Some typical third millennium Canaanean blade segments also ocurred on the surface. The early material most closely ressembles Feyda, although this designation cannot be conclusive because of the size of the collection.

K261: Across the wadi from K262, this is the largest, densest accumulation of lithic material in the vicinity. Collections were

made in three separate areas of the surface scatter as well as in the wadi, but there is consistency in these finds that allows us to describe the material collectively. The site is severely deflated, but the material has probably not moved far from its initial place of deposition. The material from this site is probably older than from K262 and K264, possibly Epipaleolithic or early Pre-Pottery Neolithic. The site entirely lacks obsidian, and there are no tanged elements. Additionally, nearly all the lithics are well patinated, and the few blades lack a central ridge and have a distinct twist. This is consistent with the bladelet cores which are single platform and worked on only part of the circumference of the blank. Several well-made burins, all either dihedral or polyhedric, are consistent with an Epipaleolithic attribution. We did not recover any backed bladelets, types that are numerous at K1, Ain Mrer. A number of heavy flake edge and end scrapers complete the worked tool inventory of this site. Several thick flakes with bipolar flaking on opposite faces further distinguish this site from others that we discovered. I tentatively assign this site to an intermediate position between the Epipaleolithic of Ain Mrer and the Khazné Caves sites, and the Nemrik point site, K172 and the still later PPNB of Feyda. The time intervals among these sites may not be great and some of the apparent differences may result from the small sample sizes; nevertheless, there are distinct typological differences that confirm the sequence.

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Neolithic Site Found in Jebel 'Abd al- 'Aziz, NE Syria

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Members of the Yale Khabur Basin project documented an extensive Neolithic surface scatter during a survey of the Jebel 'Abd al-'Aziz in July 1995. The site is on the north side of the jebel near the village of Gharrah, approximately 40 km west of Hassakah in the western Khabur basin. The scatter covers a gently sloping area roughly 75 x 200 m on the south side of a low ridge. At the base of the site, fresh water runs in a small wadi fed by nearby perennial springs. In the hills to the south and east of the site, extensive faulting has exposed beds of chert-bearing Cretaceous marls.

The surface of the site is severely eroded and consists largely of angular cobbles and gravel interspersed with desert shrubs; careful inspection of the entire area indicates little probability that intact archaeological deposits remain at the site. Forty 1x1 m units of intensive collection were spaced regularly across the site. General collections were also made. Hassunan pottery, stone bowl fragments, shaped basalt, chipped flint and obsidian, beads, and shell fragments were recovered from the surface and indicate later PPN/PN occupation of the area. Remains from later periods consist exclusively of Roman/Byzantine pottery and glass associated with traces of stone building foundations in two limited areas.

Concentration of chipped stone varies across the site but in some areas reaches densities of 123 pieces per m^2 . Preliminary examination of the Gharrah assemblage suggests that tool production strategies were compartmentalized according to raw material type. Several different raw materials are recognized: obsidian, chert from local limestone outcrops, chert provisionally attributed to riverine pebble sources, a smooth gray chert similar to that found at El Kowm and Euphrates sites, and other varieties. The obsidian assemblage includes percussion and pressure blades, flakes, other chipping debris, and one bullet core fragment. Finished tools comprise the bulk of the smooth gray chert assemblage, although a few flakes and cortical pieces were recovered. Chert from local sources is much more prevalent at the site than the other varieties; the local assemblage contains retouched flakes, cortical flakes, cores, debitage, and a few blades. Material from riverine or unknown sources consists mainly of flakes and small chipping debris. Further analysis will document the relationships between raw material and lithic form in greater detail.

Strict in situ documentation of local raw material sources was one of the aims of the 1995 project. Survey of the faulted zones around Gharrah revealed localized veins within thick marl beds a few km east of the site. The veins are about 15 cm thick. Preliminary stages of reduction are evident at nearby debitage scatters. Various-sized, unworked chunks of this same material have been widely distributed by wadi systems descending from the piedmont to the plains north of the jebel. The existence of other source veins and chipping sites in the jebel area is highly likely. Future seasons of survey will focus on their discovery and documentation.

The 1995 season of the Yale Khabur Basin project was directed by Frank Hole and Nicholas Kouchoukos. It was funded by NSF Dissertation Improvement Grant SBR-9510543 and conducted with the permission and co-operation of the Syrian General Directorate of Antiquities and the Department of Antiquities in Hassakah.

'Ain Ghazal Excavations 1995

Gary O. Rollefson (AGRI, Wembach)

Yarmouk University's six-week excavation concentrated on two principal goals: 1)continued exposure of PPNC and LPPNB deposits in the North Field (ca. 175 m^2) and 2) to open a broad area for the first time in the East Field (ca. 200 m^2) across the Zarqa River from the main settlement. The first aim intended to increase the faunal sample from the late 7th millennium, as well as to complete the clearance of a large LPPNB building only partially excavated in 1994. The East Field excavations were essentially exploratory: although two small test pits in 1984 demonstrated the presence of multi-phase MPPNB architecture, it was still unclear when the occupation began and ended in this area and how the cultural deposits compared to the main site materials.

Although partially destroyed by bulldozers, the large LPPNB building in the North Field (razed by fire at 8,000 BP, uncal.) proved to be a complex structure. Four small (each < $4m^2$, numbered 1-4 east to west) were aligned E-W along the southern wall, all with doorways opening to the north. On the western wall a small room (Room 5) evidently was part of the E-W axis of symmetry, with doorways leading south into Room 4, east into a larger central room (Room 6) and north into badly damaged Room 8. By folding over the preserved floor plan along the E-W axis, the reconstructed house would have had 10 or more rooms extending over more than 60 m^2. The fill inside Rooms 3, 4, 5 and 6 included much burned clay with beam impressions and enormous quantities of thick, burnished red floor plaster that could only have come from an upper story; it is not clear if the upper floor covered the entire house.

Just 4 m south of the circular LPPNB cult building or shrine excavated in 1993 we exposed the NW edge of another apse-shaped room of a building that remains ca. 90% unexcavated. The floor, with two phases of almost pure lime plaster, is curious in that it has no foundation layer of plaster mixed with gravel. The consequent fragility indicates the floor could not have withstood normal domestic traffic, so it is possible that this is another shrine, contemporaneous with Phase 2 of the cult building to the north (Rollefson and Kafafi 1995).

The PPNC layers in the North Field produced a few house and courtyard walls. Two outdoor areas had large (ca. 1.5 m diam.), shallow huwwar basins that appear to have served as hearths, although normal stone-lined firepits were also common. It appears that part of the North Field was used in some industrial manner, although to what end remains unknown.

In the East Field we exposed a chronological sequence of massive terrace walls, all evidently PPNB, on the steep (35%) slope. The earliest occupation is probably later MPPNB, although there is also a considerable depth, probably, of LPPNB and perhaps even some PPNC cultural material. In addition to badly eroded red plaster floors, courtyard deposits included numerous chipping floors with high densities of naviform cores and debitage. A "trash burial" reflects the first incidence of violent death at 'Ain Ghazal: a thin flint blade, snapped off at both ends, had penetrated the left side of the skull with enough force to drive a 3 cm diam. piece of the cranium into the brain.

Perhaps the most impressive discovery was a temple or sanctuary, of which only about half could be excavated this season. The floor of the structure was clay, not lime plaster, and in the center was a low plaster circle (ca. 45 cm diam.) surrounded by limestone slabs; this feature, burned on the plaster surface, was situated about 50 cm west of three "standing stones" erected on basal clay. Symmetry was evident in this building, since a blocked doorway in the southern wall formed an axis with the plaster feature and a small cubicle constructed on the northern wall; a more recent doorway in the western wall also formed an axis with the plaster feature and the central member of the three standing stones. Using these axes, the reconstructed building would have measured ca. 6 N-S x 5 m E-W.

Investigations in the Upper Mesopotamian Early Neolithic: Göbekli Tepe and Gürcütepe

Klaus Schmidt (University of Heidelberg)

Research on the Near Eastern Early Neolithic has reached the point where not only questions of daily life, technologies, and subsistence changes can be discussed, but also those of spiritual life. The excavations at Nevalı Çori between 1983-91 (by the Institut für Ur- und Frühgeschichte of Heidelberg University) encountered numerous previously unknown kinds of Neolithic sculptures (Hauptmann 1991-92, 1993, in press), comparable in importance to Upper Paleolithic cave art. This year, we started excavations at two other Early Neolithic sites in the Urfa region in SE Turkey that enrich the spectrum of sculpture known from Nevalı Çori. Furthermore, these new investigations underlined the fact of existing large-dimensions cultic structures in prominent landscape settings.

Göbekli Tepe has been known since 1963 (Hours et al. 1994: 144, "Göbekli Ziyareti (Tepe)"; it is situated some 15km NE of Şanlıurfa. However, its importance as an Early Neolithic cultic site was not recognized until 1994. Large, regularly shaped stone plates, strange stone-rings of dimensions barely moveable by men, and large-scale structures cut into bedrock did not suggest an Early Neolithic origin. In addition, the site setting did not seem to have benefited from favorable water or agricultural land conditions. The existence of lion- and dragon-like animals with open mouths and fearful teeth and a ithyphallic man suggest that we are not dealing with an ordinary settlement with some cultic buildings, but instead a primary religious site on a mountain.

The excavations at the margins of the tell revealed at least 5 building levels with stone walls, orthostats, and the remains of four superimposed terrazo floors. No reconstruction of the ground plan is possible now, since they are too large to be recognizable in the areas so far opened. The large stone rings are based on certain observations and are preliminary interpreted as the bases of pillars. The relative chronological dating could be more precise after this campaign: it is a typical Early-Middle PPNB flint typology, without clear Late PPNB elements (Cauvin M.C. 1994). Bidirectional and tabular cores dominate the primary production. But the characteristic *fossile directeur* of the Taurus foreland PPNB, such as the Byblos and Nevalı Çori Points, do not seem to be well attested (Schmidt 1994). Many forms clearly indicate the existence of a major Pre- or (more likely) Proto- PPNB horizon, which in the future possibly can be named „Nevalıçorian" (cf. Schmidt, in press). Especially rich are the various implements made of basalt and limestone. The source of raw material for the basalt certainly must have been the neighboring basalt mantle upon the limestone ridge to the W. A further chronological indicator are stone vessel fragments with incised decoration, which can be compared with those of Hallan Çemi (Rosenberg 1993, 4 fig. upper left, 1-3). This site is radiocarbon dated to the second half of the 11th millennium bp. At the moment we expect a date for Göbekli Tepe between 10,500 and 8600 bp. The earliest occupation at Göbekli Tepe is not certain, but it is clear that it ends before the Pottery Neolithic.

Early Neolithic structures were cut in the bedrock near the Göbekli Tepe. The dimensions and layouts repeat the stelae building of Nevalı Çori and certainly were of the same function. On the floor two bases with holes for pillars could be traced in addition to a very shallow bench running along the sides. The neatly worked bedrock may represent a sort of „pre-terrazzo" floor. To the NW two oval rooms were cut in the bedrock to depths of c. 2 m; they most likely were connected with the pillar structure. One of these oval rooms shows a 5-stepped staircase and a cone-shaped, altar-like feature of some 80 cm, worked out from the bedrock. The dimensions of the mountain sanctuary of Göbekli Tepe suggest a spiritual center within a larger religious network.

The second site, Gürcütepe in the Harran Plain some 4 km SE of Şanlıurfa, reveals an interesting contrast to Göbekli Tepe. In fact, Gürcütepe consist of E-W row of four Aceramic Neolithic tepes (Gürcütepe I-IV), of which Gürcütepe II has a diameter of 200m and is 8 m high above the present plain. Until recent times these tepes were grouped along a small stream coming from the karst spring of Urfa. Only on Gürcütepe I was Neolithic pottery found in such quantities to expect in situ PN layers. Two excavated areas at the N fringe of the top of Tepe II revealed in the uppermost layer two large rectangular structures with stone foundations, of which one had pisé walls. The other structure had a wall thickness of up to 1.4 m and stone slabs probably used as orthostats; most likely it had a special function and was not a habitation structure. This layer must be equated with the Large-Room-Phase of upper Cayönü, based on the lithic industry found (Caneva 1994; Özdoğan A. 1995). Below this upper layer of Tepe II an extensive layer with burnt remains was found, covering another building layer with walls made of pisé technique. In addition to a rich flint and obsidian industry, high quality ground stone artifacts were found, including stone vessels. At least 4 m of Neolithic stratigraphy was found, and we expect all of the layers above the plain to be of cultural origin. Gürcütepe most likely represents one of the Early Neolithic settlement types already known from the area, with private houses and isolated public buildings in the vicinity of water and arable land.

The question whether both sites flourished in the same period cannot be answered with certainty. The Large-Room-Phase at Çayönü is of the Late PPNB, a phase not yet encountered at Göbekli Tepe. The thickness of layers at Gürcütepe, however, lead us to expect earlier layers which might reach the sequence represented by Göbekli Tepe. Many of the basalt artifacts of the Gürcütepe might come from the Göbekli Tepe, too. The question arose whether the end of the Göbekli Tepe religious center in the Middle PPNB, in a time when the valley habitation sites still were flourishing, reflects a major change during the PPNB, of which the complete disappearance of this culture around 8000 bp was the consequence. Both sites, despite a different setting and a distance of 10 km, can be seen from each other.

The investigations at Göbekli Tepe and Gürcütepe are carried out by the Deutsches Archäologisches Institut, Abt. Istanbul, in collaboration with the Archaeological Museum Şanlıurfa and the Institut für Ur- und Frühgeschichte, Universität Heidelberg, and are directed by Prof. H. Hauptmann in collaboration with A. Misir. The field investigations were carried out, apart from the author of this report, by: M. Beile-Bohn, S. Ceylan, C. Gerber,

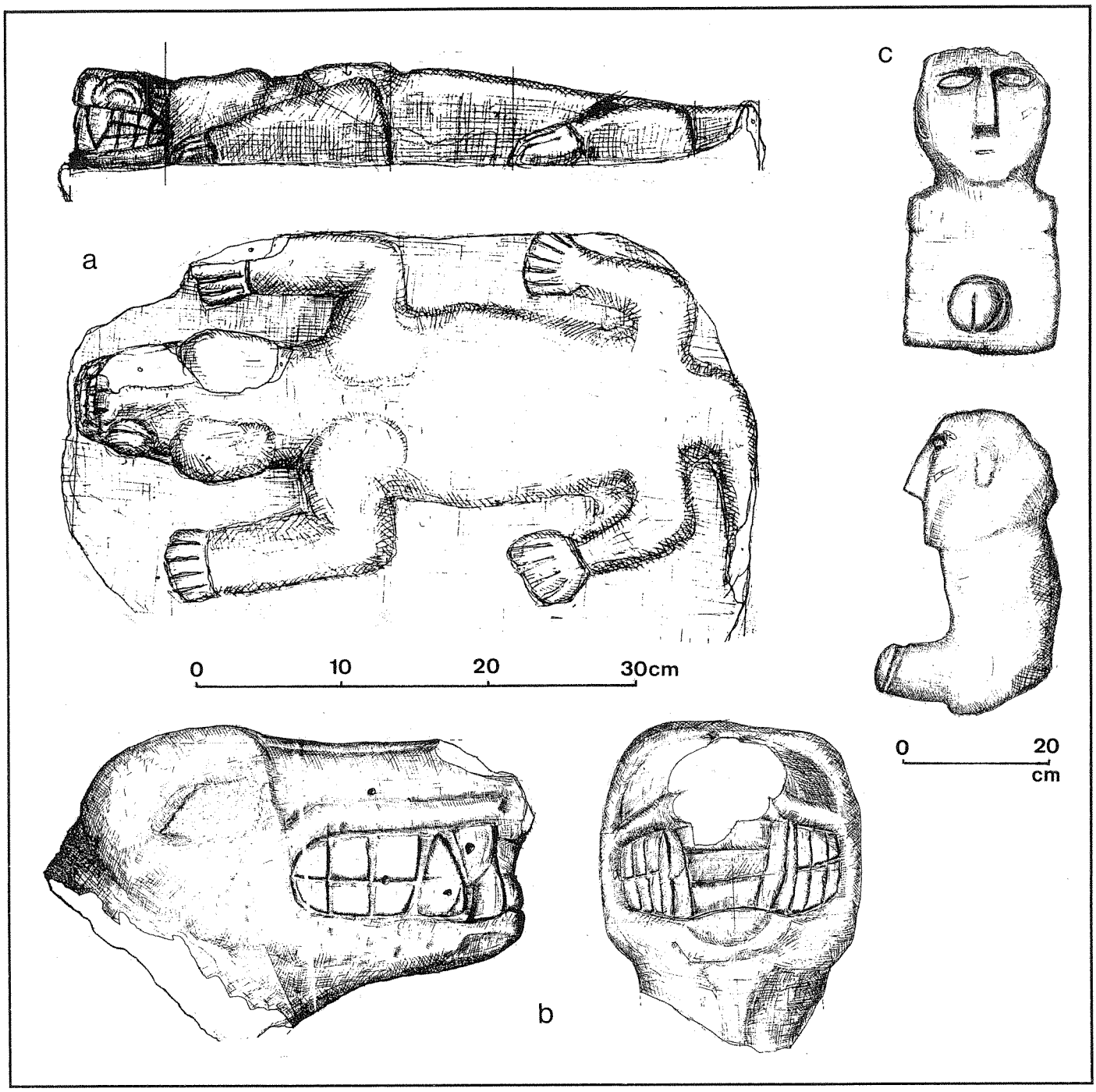

Fig. 1a-c. Sculptures from Early Neolithic Göbeklitepe: a "crocodile" (limestone; scale 1:4), b undet. beast of prey (limestone; scale 1:4), c ithyphallic man (limestone; scale 1:8) <drawings by Klaus Schmidt>.

M. Morsch; the geodetic work was done by M. Geiß, and S. Obermeier, TU Karlsruhe.

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Ayakagytma, a new Early Neolithic (Kelteminarian) in site SE Kyzyl Kum Desert

Karol Szymczak (Institute of Archaeology, Warsaw University)

Tatiana Grechkina (Institute of Archaeology, Uzbek Academy of Sciences)

Our Polish-Uzbek Archaeological Expedition just ended its first season of field investigation, which aims were to explore the stratigraphy of the Middle Paleolithic site of Kuturbulak and a survey for the late Pleistocene/ Early Holocene sites in the SE Kyzyl-Kum Desert of Uzbekistan.

Earlier, the Kyzyl-Kum Desert was surveyed in the late sixties/ early seventies by Vinogradov and his team. By then hundreds of Mesolithic/ Neolithic (mainly Kelteminarian) sites were encountered. Some of them were excavated, among which is Uchashchi. The preservation of most of these was affected by eolian impact. This is the reason why we have almost no information -despite quite numerous collections- on the economy of the Kelteminarian or a detailed chronology. Thus, our project decided to return to this problem of the Early Neolithic in the Kyzyl-Kum, hoping to find some better preserved sites.

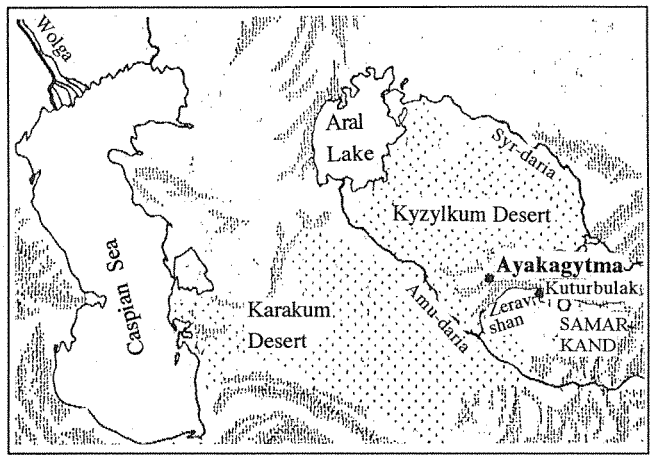

Fig. 1. Location of Ayakagytma.

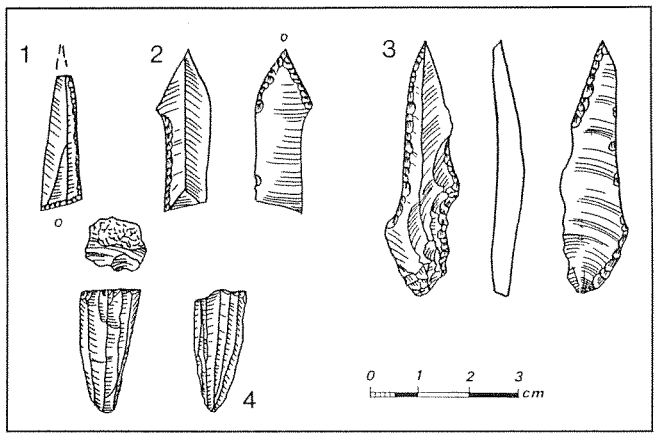

Fig. 2. Ayakagytma: 1 triangle, 2 Kelteminarian point, 3 borer, 4 bullet-shaped core (drawings by M. Rozycka)

The survey area in SE- Kyzyl-Kum covered a now inactive delta of the Zeravshan River. About a dozen stone age sites, mainly Mesolithic/ Early Neolithic, were located along the shallow valleys of Echkiliksai and Dzilduvan and in the Ayakagytma depression. One of them, a Kelteminarian site named Ayakagytma by us, has splendid prospects for future research. It is extremely rich in finds, and, although partly eroded by eolian influence, still has a 35-40 cm preserved lower stratigraphy. In this bed of sand, cemented by salt and gypsum precipitation, flint artifacts appear together with traces of a hearth. The Kelteminarian industry is characterized by very regular conical cores of the bullet-shape type, a dominance of mostly intentionally broken blades, small and regular endscrapers, finely retouched blades, little truncations, inserts, triangles, and the Kelteminarian point. These were found together with some other stone implements including a completely polished hammer. The site was chosen for regular excavations next year.

The geological and geomorphological setting of the sites was investigated by Prof. Teresa Madeyska from the Institute of Geology at the Polish Academy of Sciences. The other members of the Polish-Uzbek Archaeological Expedition were: Dr. Karol Szymczak and his students Dobieslawa Baginska, Michal Lewandowski, Grzegorz Kalwak, Marek Milewski, and -as consultant- Prof. Waldemar Chmielewski, all from the Institute of Archaeology of Warsaw University (Polish team); Drs. Tatiana Grechkina and Muhedin Khudzenazarov, Rustam Khudayberdiev, and Ravshan Khamidov as the driver (Uzbek team). The expedition was sponsered by the Fundacja Na Rzecz Nauki Polskiej (The Foundation on Behalf of Polish Science), the Institute of Archaeology of Warsaw University, the Institute of Geology of the Polish Academy of Sciences, and the Institute of Archaeology of the Uzbek Academy of Sciences. Wait for more news from Central Asia next year!

Symposium Notes

Umwelt, Siedlung und Wirtschaft mesolithischer bis frühmetallzeitlicher Bevölkerungsgruppen im nördlichen Schwarzmeergebiet (Environment, Settlement, and Economy of Mesolithic to Early Metal Age Peoples in the Northern Black Sea Region). Berlin, 12th-14th of Oct, 1995

Klaus-Peter Wechler (Institut für Ur- und Frühgeschichte, Freie Universität Berlin)

This international symposium was jointly organized by the Seminar für Ur- und Frühgeschichte of Free University of Berlin (Klaus Peter Wechler) and the Deutsches Archäologisches Institut (Norbert Benecke); it was held at the Free University of Berlin from 12-14 October, 1995. Invited participants were prehistorians, archaeozoologists, palaeoethnobotanists, and geographers from the Ukraine, Russia, Moldavia, and Germany. The major focus of the gathering was the settlement history during the Upper Pleistocene/ Early Holocene on the Crimea Peninsula and its archaeozoological evidence. In addition to a discussion of the chronology (Fig. 1), recent work concerning the presumed autochthonous pig domestication on the peninsula was discussed (N. Benecke); it is now clear that the remains from caves and shelters excavated in mountainous Crimea in the 1930s (D.A. Krajnov 1957, A.D. Stoljar 1959) represent seasonally (spring) hunted wild boar. Only in the Neolithic do domesticated animals occur in limited numbers in the Crimea, most likely introduced to the area. This result calls for checking all the other areas that have been claimed to demonstrate early autochthonous domestication, including Soroki, Bug-Dnestr, Kamen-naja and Mogila-Azov.

Below are the contributions presented (in Russian, English and German) at the symposium; their publication is planned to be a volume in the new journal of the Eurasian Section of the Deutsches Archäologisches Institut, *Eurasia Antiqua.*

P.J. Ergenzinger (Berlin): The Geographical divisions of the southern Ukraine, with particular reference to the Crimean peninsula.

C.V. Kremenetski (Moscow): The paleogeographic development of the northern Black Sea area from the Mesolithic to Bronze Age Periods.

N. Benecke (Berlin): Faunal remains from archaeological excavations and their interpretation for the climate and environment of the northern Black Sea area in the early and middle Holocene.

L.G. Bezus'ko (Kiev): Archaeobotanical investigations of stone age sites of the Crimea.

A.A. Janevi , L.L. Zaliznjak (Kiev): The Swiderian of the Crimea.

A.A. Janevi (Kiev), N. Benecke (Berlin): The rockshelter of Span-Koba - an early Holocene sequence in the central mountain range of Crimea. Results of archaeological and zoological investigations.

L.L. Zaliznjak (Kiev): Overview of the Upper Paleolithic and Mesolithic of the Ukraine.

D.Ja. Telegin (Kiev): Mesolithic and Neolithic settlements from Igren'. Results of new investigations.

D.Ju. Nu'nyj (Kiev): The weapons of Mesolithic hunters of the Crimea.

V.N. Stanko (Odessa): The economy of Mesolithic populations of the steppes of the northern Black Sea area.
K.-P. Wechler (Berlin): Technological-typological investigations of the flint inventories of the Crimea (Mesolithic-Eneolithic) and their interpretation for the question of continuity.
D.Ja. Telegin (Kiev): On the chronology and culture history of the Neolithic and Eneolithic in the northern Black Sea area.
N.S. Kotova (Kiev): Investigations of the multiphase Neolithic/Eneolithic settlement of Semenovka b. Melitopol, the Ukraine.
N.T. Tovkajlo (Perejaslav-Chmel'nickij): Chronology and periodization of the Bug-Dnestr Culture.
H.-P. Uerpmann (Tübingen): Aspects of the Neolithization of the areas south of the Black Sea.
N. Benecke (Berlin): On the neolithization of the southern Ukraine based on archaeozoological investigations.
N.N. Skakun (St. Petersburg): Traceological investigations of early cereal farming in the northern Black Sea area.
O.W. Larina (Kisinev): Agriculture during the Neolithic in Moldavia.
J. Görsdorf (Berlin): Catalog of 14C dates with archaeological interpretations for the southwestern part of Europe - Status of project research and results.
A. Häusler (Halle): Catalog of 14C dates with archaeological interpretations for the southwestern part of eastern Europe - Bronze Age cultures of the Ukraine in the light of 14C dating.
K. Rassmann (Frankfurt/Main): The status of the chronological and cultural distributions of the Crimea from the Eneolithic to the early Bronze Age.
L.L. Zalizniak (Kiev): The late Mesolithic and Neolithic as the foundations of the Indo-Europeans.

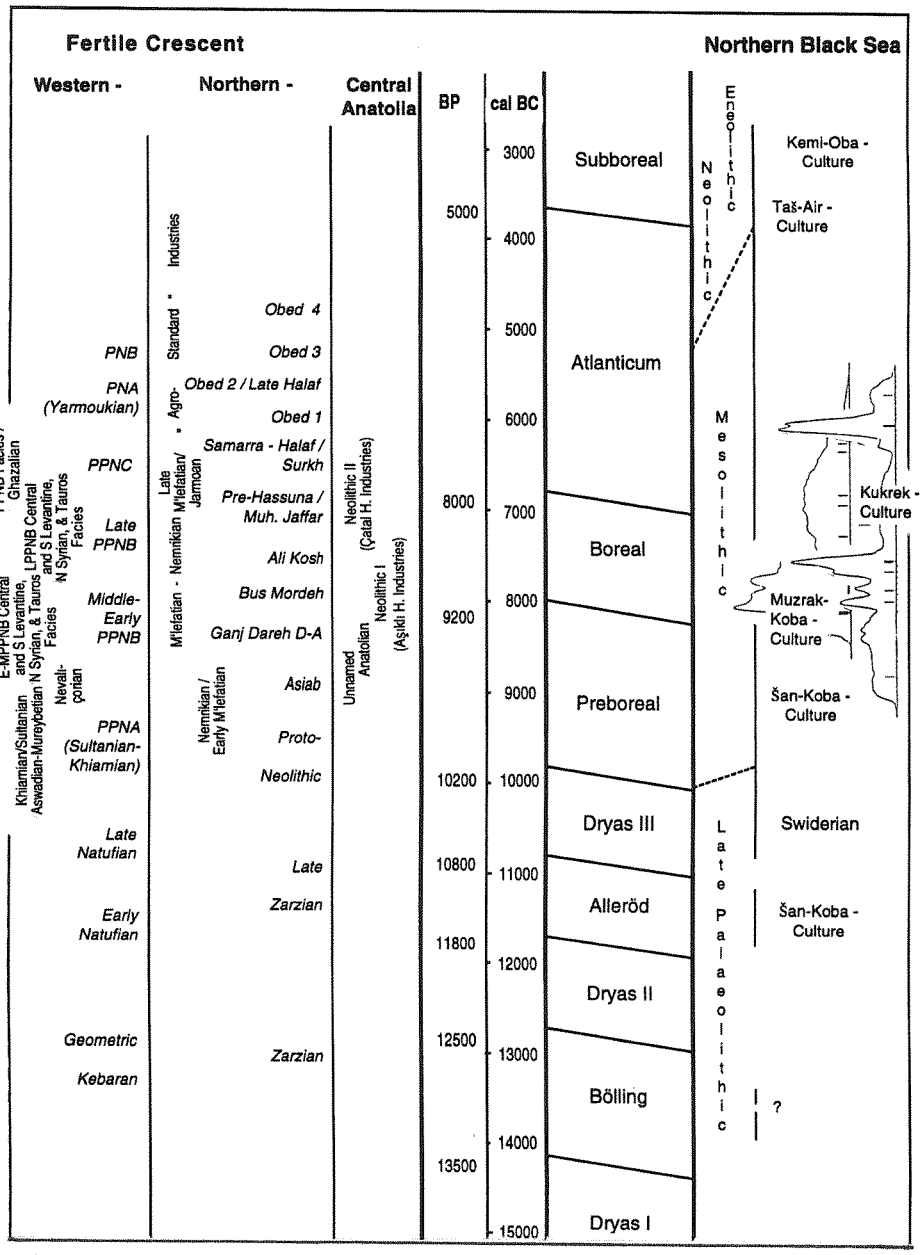

Fig. 1. Late Pleistocene/ Early-Mid Holocene cultural chronology of the Northern Black Sea Region (K.-P. Wechler), and the contemporary Near Eastern Neolithic cultural <*in italics*> and industries' <*vertical lines*> sequence (H.G. Gebel)

Note on the BANEA Conference (with EANEA Meeting), December 1995

Hans Dieter Bienert
(future address: German Protestant Institute, Amman)

From 8th -9th of December, 1995 the British Association for Near Eastern Archaeology (BANEA) hold its meeting at the Dept. of Archaeology, Edinburgh University (organized by Trevor Watkins and Eddie Peltenburg). In addition to a workshop dealing also with Neolithic faunal remains, the following contributions concerned the Neolithic:

Andrew Garrard: Prehistory and palaeoenvironments in the north Levantine Rift Valley.
Stuart Campell: Internationalism in prehistoric south-east Anatolia. Excavations at Domuztepe
Roger Matthews: Çatal Höyük 1993-95

The next conference of the British Association for Near Eastern Archaeology (BANEA) will take place in December 1996. One day of this conference will be dedicated to the meeting of the European Association for Near Eastern Archaeology (EANEA). The steering comitee of EANEA would like to use this occasion for pursuing discussions on the objectives and the formation of the European Association. Everybody interested in the formation of a European network of archaeologists who work in the Near East should try to join the Qxford gathering in 1996. Further details will be provided by the organizing commitee of the next BANEA Conference (Dr. P.R.S. Moorey, Keeper of the Dept. of Antiquities, Near Eastern Archaeology, Ashmolean Museum, Beaumont Street, GB- Oxford OX1 2PH).

Recent Doctoral Dissertations

Bienert, Hans-Dieter (1995): *Kult und Religion in prä-historischer Zeit: Eine Studie anhand von Fundmaterial epipaläolitischer und frühneolitischer Gesellschaften/Kulturen Südwestasiens (12.-6. Jt. v.u.Z.).* University of Tübingen (three volumes).

Kuijt, Ian (1995): *New Perspectives on Old Territories: Ritual Practices and the Emergence of Social Complexity in the Levantine Neolithic.* Harvard University.

McCartney, Carole J. (1995): *The Analysis of Variability in "Simple Core Technologies": Interpreting Chipped Stone Technology in Post-PPN Assemblages in the Levant.* University of Edinburgh.

New Books

Special Publication No. 3 from *Lithic Technology*: Church, Tim (1995), *Lithic Resource Studies: A Sourcebook for Archaeologists.* A bibliography of over 1000 annotated references indexed according to subjects in the relevant fields of geology, physics, chemistry, archaeology and ethnography. Other chapters include nomenclature, sampling, etc. Cost: $20 (plus $5 handling for orders outside the U.S.). Order from: Lithic Technology, Dr. George Odell, Department of Anthropology, University of Tulsa, Tulsa, OK 74104-3189, USA.

Prehistoric Cultural Ecology and Evolution: Insights from Southern Jordan, edited by Don Henry (1995), has just appeared from Plenum Press (New York and London). Over 464 pages and 21 chapters, 10 contributors discuss a wide variety of topics covering the Lower Paleolithic to Chalcolithic periods, including geomorphology and geology, lithics, use-wear studies, pollen analysis, shells, faunal studies, tooth cementum increment analysis, phytolith analysis, adaptive behaviors and ethnicity.

The Harra and the Hamad: Excavations and Surveys in Eastern Jordan 1, by A. Betts, S. Colledge, L. Martin, C. McCartney, K. Wright and V. Yagodin (in press). Sheffield, J.R. Collins. The book contains material on the Epipaleolithic, including some detailed studies on the Natufian; the final report on the Dhuweila excavations; "kite" systems in the harra; and a translated summary of Yagodin's work on "arrow-shaped" kite enclosures in Central Asia.

Neolithic Chipped Stone Industries of the Fertile Crescent, edited by Hans Georg Gebel and Stefan K. Kozłowski appeared last summer as the first volume of the *Studies in Early Near Eastern Production, Subsistence, and Environment.* Orders to: ex oriente, Bitterstr. 8-12, D- 14195 Berlin (Fax 0049 30 8314252 [IV+601 pages, 280 figures and photos + 89 tables, paperback; price incl. surface postage: 90 DM; members of ex oriente: -25%; contributors price incl. surface postage: 71.50 DM].

Die Keramik von Abu Thawwab, Jordanian (including English summary), by Daifallah Obeidat appeared last summer as the second volume of the *Studies in Early Near Eastern Production, Subsistence, and Environment.* Orders to: ex oriente, Bitterstr. 8-12, D- 14195 Berlin (Fax 0049 30 8314252) [XIII+187 pages, 62 figures + 9 tables, paperback; price incl. surface postage: 56 DM; members of ex oriente: -25%].

Notes and News

The Warsaw proceedings are being published as: Stefan K. Kozłowski and H.G. Gebel (eds.), *Neolithic Chipped Stone Industries of the Fertile Crescent, and their Contemporaries in Adjacent Regions.* Studies in Early Near Eastern Production, Subsistence, and Environment 3 (1996). Berlin, ex oriente.

Very urgent: There are still some contributions that have not been received. If yours is one of them, please *immediately* reach an agreement with the editors (contact: Stefan K. Kozłowski, Institute of Archaeology, ul. Zwirki i-Wigury 97/99, PL- 02-089 Warszawa, Fax 0048 22 -23 11 62).

The chronological scope of the forthcoming volume entitled *The Prehistory of Jordan II: Perspectives from 1996*, edited by H.G. Gebel, Z. Kafafi, and G. Rollefson, has been expanded to include contributions from the Chalcolithic period. Contribution deadline is 31st March 1996. Please, contact H.G. Gebel, Seminar für Vorderasiatische Altertumskunde, Bitterstr. 8-12, D-14195 Berlin (Fax 0049 30 8314252) for any inquiries and further information.

Deadline for the coming issue of NEO-LITHICS 1/96 is **May 15th, 1996.**

Address Changes and Additions to the *Green List of Cooperation, Workshops on PPN Chipped Lithic Industries*

Any further additions / corrections should be reported to ex oriente, Sem. für Vorderasiat. Altertumskunde, Bitterstr. 8-12, D- 1000 Berlin 33 (Fax 0049 30 8314252).

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