Issues in the Epipaleolithic: The Madamaghan, Nebekian, and Qalkhan (Levant Epipaleolithic)

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ISSUES IN THE LEVANTINE EPIPALEOLITHIC : THE MADAMAGHAN, NEBEKIAN AND QALKHAN (LEVANT EPIPALEOLITHIC)

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Abstract : *No two archaeological assemblages are ever identical. Archaeologists are thus continually faced with the problem of recognizing groups of assemblages that are more or less similar. Once grouped, these become named industries, traditions, techno-complexes, and so forth. Such entities are then contrasted with other groupings that contain different characteristics. One of the main problems, of course, is to know how different an assemblage must be from another assemblage in order to warrant the creation of a new grouping. While the splitter-lumper pendulum is always moving, it appears that for the Levantine Epipaleolithic, distinctions between groupings are currently being over-emphasized, because within this quite small geographical area during a relatively brief period of about 12 000 years, a minimum of 18 lithic industries has been identified.*
This paper discusses three of these Epipaleolithic lithic industries, the Madamaghan, the Qalkhan, and the Nebekian. It is argued that these are not, in fact, distinct entities. A less than careful consideration of the microlith types and the inaccurate assignment of the site of Wadi Madamagh as a type assemblage for the Madamaghan have created undue confusion. Many sites currently assigned to these three lithic industries should actually be considered as belonging to the Nebekian.

Résumé : *Deux ensembles archéologiques n'étant jamais identiques, les archéologues sont sans cesse confrontés au problème de la définition de groupes plus ou moins semblables qu'ils nomment « industries », « traditions » ou encore « techno-complexes ». Ces entités sont alors confrontées à des assemblages présentant d'autres caractéristiques. Un des problèmes majeurs reste de décider quand un ensemble se différencie assez d'un autre pour justifier la création d'un nouveau terme. Alors que parmi les archéologues travaillant sur l'Épipaléolithique levantin le balancier entre «séparateurs » et « regroupeurs» est toujours en mouvement, il nous est apparu que le nombre d'ensembles aujourd'hui reconnus est fort exagéré comme en attestent les 18 industries lithiques définies pour une zone somme toute petite et pour une période assez courte (environ 12 000 ans).*
Cet article porte sur trois de ces industries : le Madamaghien, le Qalkhien et le Nébekien. Á notre sens, celles-ci ne représentent pas des entités distinctes. Le manque de soin apporté à l'identification de types de microlithes et l'attribution fausse au Wadi Madamagh d'un « ensemble type » désigné comme Madamaghien ont entraîné une confusion. De nombreux sites définis aujourd'hui comme Madamaghien, Qalkien ou Nébekien devraient à notre avis être considérés comme Nébekien.

Key-Words : *Epipaleolithic, Madamaghan, Qalkhan, Nebekian, Lithic typology, Microliths.*
Mots Clefs : *Épipaléolithique, Madamaghien, Qalkhien, Nébekien, Typologie lithique, Microlithes.*

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Providing specific names for lithic industries is a long cherished tradition in much of Old World archaeology. There is a trend for fewer named industries in the more remote periods of prehistory[1], and an increasingly numerous set of named industries in later periods of prehistory[2]. For many periods of prehistory, however, the number of recognized industry names within smaller geographical areas is usually relatively limited[3]. Of course, what these named industries may or may not "mean" has been open to considerable debate throughout the course of archaeological research. And this debate itself is rooted at least in part in how the distinctions between lithic industries are defined, how they are recognized by various researchers[4], and how they are applied to particular assemblages. In many cases, it is not clear if the distinctions between assemblages are indeed greater than their overlapping characteristics.

To complicate matters further, the pattern of a handful of industry names for a particular geographic region and time period begins to change appreciably when one encounters the relatively short chronological period[5] variously identified as the Epipaleolithic or Mesolithic. In the Levant, which is a very small geographical area, the sheer scale of named Epipaleolithic industries and their often overlapping characteristics can be quite daunting to sort through, even at times to specialists in the field. There are, in fact, some nine or more named Epipaleolithic industries in the eastern Levant (east of the Rift Valley), with an additional nine Epipaleolithic industries in the western Levant[6]. For the most part, this plethora has been generated over time by individual scholars rather than by consensus among researchers working in the region.

THEORETICAL ISSUES

Several perspectives regarding how lithic industries should be interpreted are present in Levantine Epipaleolithic research and these have influenced the creation of named industries. Three broad divisions include ethnic group interpretations, technological interpretations, and chronological interpretations, although these can overlap to some degree depending on the individual scholar. In some cases, arguments have also been made for spatial or environmental distinctions, for example, the differences between Kebaran Complex industries west (little to no microburin technique) and east (microburin technique present) of the Jordan Rift Valley[7].

Ethnic group interpretations permeate the discourse of numerous Levantine researchers, and as Pirie[8] points out, are entrenched in the manner in which the typologies are often developed, as well as subsequently used. In these formulations, distinctions between named lithic industries are the basis for identifying prehistoric groups of people, whose lithic signatures are identified as shared cultural traditions. Thus, for example, Henry[9] used small differences in average widths of microlith forms to identify three Mushabian groups across the southern Levant – Sinai Mushabian, Negev Mushabian, and Madamaghan. While researchers who use the ethnic group paradigm are meticulous in investigating the many factors that influence lithic assemblages, *e.g.*, raw material availability, stages of reduction, etc., they approach interpretation from the standpoint that lithic differences ultimately equate to cultural choices made (either consciously or subconsciously).

As a reaction to the ethnic group interpretation, a technologically based perspective, along with raw material, reduction stage, and maintenance of microliths, was advocated by Neeley and Barton[10]. In their view, the morphological differences in microlith typology are the result of access to raw material and maintenance of microliths as these were used and reused. In this sense, it might be considered a partial *chaîne opératoire* approach. Their views created a cascade of responses that rightly pointed out several flaws in their presentation[11]. For example, Neeley and Barton imply that indi-

1. BORDES, 1973 : 32-120 ; COPELAND, 1988 : 68-72.

2. *E.g.*, ALLSWORTH-JONES, 1986 ; BORDES, 1973 : 147-197 ; BRADLEY *et al*., 1995 ; COINMAN, 1998 ; GILEAD, 1981 ; GIOIA, 1988 ; GRIGOR'EV, 1993 ; HARROLD, 2000 ; KOZLOWSKI, 1979 ; MARKS, 1981 ; MONTET-WHITE, 1994.

3. *E.g.*, in southwestern Europe, the Upper Paleolithic includes, among others, the Aurignacian, Chatelperronian, Gravettian, Solutrean, and Magdalenian. In the Upper Paleolithic of the Levant, only two named industries are widely accepted, the Ahmarian and the Levantine Aurignacian, although one could argue that the Levantine list could be expanded slightly by an additional two or three industries.

4. *E.g.*, see PIRIE, 2004.

5. Temporally short, that is, compared to the length of the Upper Paleolithic, the length of the Middle Paleolithic, and the length of the Lower Paleolithic.

6. OLSZEWSKI, 2000 : 48.

7. OLSZEWSKI, 2003 : 239-240.

8. PIRIE, 2004.

9. HENRY, 1989 : 125-149.

10. NEELEY and BARTON, 1994.

11. FELLNER, 1995 ; GORING-MORRIS, 1996 ; HENRY, 1996 ; KAUFMAN, 1995 ; PHILLIPS, 1996.

vidual geometric microliths are transformed from one form to another through a process of reduction, thus, for example, over time a triangle can become a trapeze, or a lunate become a triangle[12]. In fact, Epipaleolithic microlith assemblages for different time periods are overwhelmingly dominated by only one or two forms. There is no indication that geometric microliths were reused in terms of transformations from one shape to another, rather production was focused almost exclusively on making triangles, or making trapezes, or making lunates.

On the other hand, all Levantine researchers recognize and use the chronological attributes of various microlith types. A chronological paradigm can be framed quite broadly, for example, the use of groupings such as "non-Natufian Microlithic (20 000-? BP)" and "non-Microlithic (*ca* 14 000-13 000 BP)" for the eastern Levant[13], or even the use of the Kebaran, Geometric Kebaran, Mushabian, and Natufian complexes as broad-stroke chronological markers[14]. Narrower chronological implications can be found in attempts to use small changes in microlith typology as evidence for change through time within a named industry (see Discussion below). Many Levantine researchers, of course, couple the chronological specificity of some microlith types with the ethnic group paradigm.

The approach taken in this paper is that named industries – and certain specific microlith types within them – are considered markers for chronological, and more rarely, geographical, groupings within the Levant. The assignment of a "name" to a lithic industry or complex need not carry with it the implication of an ethnic grouping[15], but rather can be seen as an heuristic device that allows researchers a level of descriptive comparability across time and space. Even if a named entity is created by a researcher who has an ethnic group paradigm, this does not impede the use of such a named entity by other researchers operating within different analytical frameworks. In any case, reducing the ever-proliferating quantity of named Epipaleolithic industries, which have resulted from a variety of factors, will serve to clarify rather than further obfuscate the Levantine Epipaleolithic.

In this paper, I examine one set of the eastern Levantine Epipaleolithic industry names and suggest how the plethora of named industries can be reduced by discussing a resolution for three of these industries. Among the several Epipaleolithic lithic industries from Jordan identified in recent years is the Madamaghan[16]. Use of this designation, however, is not without difficulties[17] and has implications for two other industry names for the eastern Levantine Epipaleolithic. The site of Wadi Madamagh in the Petra region of Jordan and its Epipaleolithic industry were used to name the Madamaghan industry, and thus essentially became the type assemblage[18], although the lithic assemblage described was recognized first at Tor Hamar in the Ras en-Naqb area of southern Jordan[19]. The Tor Hamar lithic assemblage, however, differs considerably from that of the Wadi Madamagh type assemblage, despite claims to the contrary[20]. The Wadi Madamagh assemblage is, in fact, much more similar to Early Epipaleolithic assemblages described by Henry as Qalkhan[21]. Finally, Byrd[22] has suggested that the Nebekian from Jabrud[23] in Syria should be the preferred industry name for the eastern Levantine Early Epipaleolithic because of its historical precedence (fig. 1).

THE WADI MADAMAGH ASSEMBLAGE

The rockshelter of Wadi Madamagh was first excavated by Kirkbride[24]. In her description of the lithic assemblage, Kirkbride noted that it bore a resemblance to the Nebekian industry from Jabrud in Syria, as well as to that from Kebara in Israel, which has since been designated the Kebaran industry[25]. Kirkbride suggested that the Wadi Madamagh assemblage be called "Micro-Kebaran". She sorted and studied the microlithic component, but did not have time to sort or study all of the larger material.

The microliths in the Wadi Madamagh assemblage are described as quite narrow in width, a feature now known to be characteristic of the Early Epipaleolithic, particularly assemblages dating prior to about 14 500 BP[26]. The most common microlithic type at Wadi Madamagh is an abruptly backed, double obliquely pointed bladelet. Illustrated examples in Kirkbride range from attenuated trapeze-like to attenuated

12. *E.g.*, especially fig. 8 in NEELEY and BARTON, 1994 : 285.
13. BYRD, 1994 : 210-212.
14. *Ibid.* : 208-210.
15. *Contra* PIRIE, 2004.
16. HENRY and GARRARD, 1988 : 1.
17. BYRD, 1988 : 263 ; OLSZEWSKI, 1997 : 179, 2000 : 48 ; OLSZEWSKI *et al.*, 1994 : 138-139.
18. HENRY, 1986 : 18.
19. HENRY and GARRARD, 1988 : 1.
20. *Ibid.* : 17-18.
21. HENRY, 1995 : 38.
22. BYRD, 1988 : 263.
23. RUST, 1950 : 107-111.
24. KIRKBRIDE, 1958.
25. BAR-YOSEF, 1970.
26. BYRD, 1988 : 263.

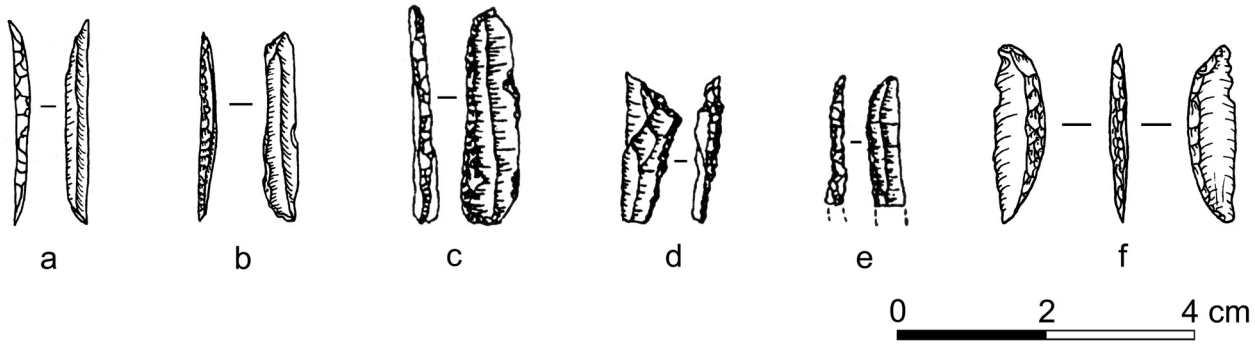

Fig. 1 : *Examples of microliths from the Early Epipaleolithic :* ***a*** *: arched backed and pointed bladelet ("attenuated lunate") from Tor Sageer ;* ***b*** *: La Mouillah point from Yutil al-Hasa Area E ;* ***c*** *: straight backed bladelet ;* ***d*** *: scalene bladelet ;* ***e*** *: arched backed bladelet (c-e : cf. HENRY, 1995 : 302) ;* ***f*** *: Helwan lunate from Natufian at Yutil al-Hasa Area D.*

lunate-like morphologies[27]. The lunate-like form is now typed variously as an arched backed, or arched backed and pointed, or arched backed, curved pointed bladelet[28], while the trapeze-like form is typed as a trapeze or microburin trapeze[29]. Of particular interest is the presence of the microburin technique at Wadi Madamagh, which was used to shape the nongeometric microliths[30].

Kirkbride's assemblage was later re-examined and briefly mentioned in Byrd[31]. He noted that the lowest levels at the site contained Dufour bladelets. Within Epipaleolithic assemblages, Dufour bladelets are characteristic of the earliest portion of the Early Epipaleolithic, *ca* 20 000 BP and older[32]. A small sounding at Wadi Madamagh was later made by Schyle and Uerpmann[33]. They concluded that the portion of the deposits that they sampled were most likely Late Upper Paleolithic, based on the presence of Dufour bladelets[34], and noted that Kirkbride's excavations likely sampled deposits with more representation from the Epipaleolithic layers. Schyle and Uerpmann obtained radiocarbon dates of 14 300 ± 650 uncal BP (KN-3 593) and 15 300 ± 600 uncal. BP (KN-3 594) on bone from their excavations, and they suggested that these dates are too recent[35].

THE TOR HAMAR ASSEMBLAGE

Henry and Garrard note in their report of the Tor Hamar excavations that the lithic assemblage from this rockshelter site should be grouped with that of Wadi Madamagh, but that these assemblages should not follow Kirkbride's suggestion that linked Wadi Madamagh to Kebara because the southern Jordanian lithics are distinct from those of the Kebaran industry[36]. They suggest, rather, that Tor Hamar and Wadi Madamagh are a variant of the Mushabian Complex, and as such, be designated as a new industry, the Madamaghan. A radiocarbon date of 12 683 ± 323 uncal. BP (SMU-1 399) from Tor Hamar is used to support its attribution to the Mushabian Complex, as well as the presence of the microburin technique[37].

The Tor Hamar tool assemblage is dominated by nongeometric microliths. These are mainly straight backed bladelets and arched backed bladelets. They are described as relatively narrow, although illustrations provided in Henry and Garrard[38] only roughly approximate the microliths from Wadi Madamagh. Somewhat better illustrations are available in Henry[39]. It should be noted, however, that Henry modified his

27. KIRKBRIDE, 1958 : 56.
28. BYRD, 1988 : 260 ; HENRY, 1995 : 40 ; HENRY and GARRARD, 1988 : 8.
29. OLSZEWSKI, 2003 : 236.
30. KIRKBRIDE, 1958 : 57.
31. BYRD, 1994 : 210.
32. OLSZEWSKI, 2003 : 234-236.
33. SCHYLE and UERPMANN, 1988 : 47-52.
34. The presence of Dufour bladelets in an assemblage no longer can be considered a characteristic unique to the Late Upper Paleolithic. In some respects, it would seem to be the large quantity of Dufour bladelets combined with the absence of microburin technique and backed bladelets that now distinguishes a Late Upper Paleolithic assemblage from the succeeding Early Epipaleolithic (OLSZEWSKI, 2003).
35. SCHYLE and UERPMANN, 1988 : 52.
36. HENRY and GARRARD, 1988 : 1.
37. *Ibid.* : 5.
38. *Ibid.* : 7.
39. HENRY, 1995 : 301-303.

description of the Madamaghan microliths so that they are now considered wider compared to Early Epipaleolithic industries such as the Qalkhan[40]. In fact, no narrow arched backed and pointed bladelets (Henry's Type 50) are present in the Tor Hamar assemblage[41]. Additionally, the nongeometric microliths include not only wider straight backed and arched backed types, but also scalene bladelets, which Henry notes are analogous to the Ramon point, a Late Epipaleolithic tool type[42].

Among the similarities between the Tor Hamar and Wadi Madamagh lithics that Henry and Garrard mention are the several morphologies of the backed bladelets (straight, curved, truncated), the presence of a small handful of lunates and triangles, and microburins[43]. Henry and Garrard suggest that the pieces called anti-microburins by Kirkbride, are in fact La Mouillah points, based on Kirkbride's description of blades snapped to produce an acute point. Examination of her illustrations of "anti-microburins," however, does not support this interpretation. It is the orientation of the microburin scar that is important in identifying La Mouillah points. These are characterized by a microburin scar that is oriented obliquely to the backed edge. The microburin scars on the illustrated pieces from Wadi Madamagh run in the opposite direction, that is, the scar forms an acute angle with the backed edge. It is also worth noting, as Henry and Garrard do, that all but one of the lunates recovered from Tor Hamar are Helwan lunates (a chronologically late type within the Epipaleolithic), while Wadi Madamagh does not have Helwan retouch[44].

Aside from possible shared microlithic types between Tor Hamar/Wadi Madamagh and the Mushabian Complex, Henry and Garrard focus on the high incidence of microburin technique in all these assemblages[45]. As they observe, the presence of this technique clearly distinguishes these lithic assemblages from the Kebaran, and as such, these assemblages should not be attributed to the Kebaran industry. There is good reason, however, to question the use of microburin technique as an important link to the Mushabian Complex.

At the time that Henry and Garrard analyzed and published the Tor Hamar assemblage, it was commonly believed that microburin technique appeared relatively late in the Levantine Epipaleolithic sequence, perhaps being derived from microburin technique in Egypt[46]. Since then, however, several Jordanian sites have produced evidence of microburin technique well in advance of the latter part of the Epipaleolithic sequence. These include Wadi Uwaynid 18 and Wadi Uwaynid 14 in the Azraq region of Jordan, with radiocarbon dates between 19 800 and 18 400 uncal. BP[47], Tor at-Tareeq in the Wadi al-Hasa area of Jordan, with radiocarbon dates between 16 900 and 15 580 uncal. BP[48], and Tor Sageer, also in the Wadi al-Hasa area, with radiocarbon dates between 22 590 and 20 330 BP[49]. This new evidence clearly documents the use of the microburin technique in the inland Levant during the earliest phases of the Epipaleolithic. Thus, its presence at sites such as Wadi Madamagh and Tor Hamar cannot necessarily be used to link these sites to the Mushabian Complex, a fact also noted by Byrd[50].

THE NEBEKIAN FROM JABRUD

At Rockshelter 3 at Jabrud, Rust classified the lithic assemblages from two layers (Layers 7 and 6) as the Nebekian[51]. Among the tools recovered, microliths were the most frequent, and he describes two groups of nongeometric microliths as the most common. These are narrow backed bladelets, and are characterized either by an oblique end or by a pointed end. The oblique ended microliths would be called backed and truncated bladelets by archaeologists today, while the pointed microliths are the type currently referred to as arched backed, or arched backed and pointed bladelets. Illustrations in Plates 101 and 102[52] show extremely narrow microliths that are highly comparable to those from Wadi Madamagh, sites in the Azraq (*e.g.*, Uwaynid 14 and Uwaynid 18), and sites in the Wadi Hasa (Tor Sageer and Yutil al-Hasa Area C, in particular). Microburins were also recovered in small numbers from the Nebekian layers, and as Byrd points out, would

40. HENRY, 1995 : 314.
41. *Ibid.* : 315. Neither is Type 50 present at Jebel Fatma, the other "Madamaghan" site in the Ras en-Naqb area.
42. *Ibid.* : 301-302.
43. HENRY and GARRARD, 1988 : 17-18.
44. *Ibid.* : 18.
45. *Ibid.* : 19-20.
46. BAR-YOSEF, 1981 : 398 ; HENRY, 1983 : 149-150 ; PHILLIPS and MINTZ, 1977 : 183.
47. BYRD, 1994 : 219-220.
48. CLARK *et al*., 1988 : 265 ; NEELEY *et al*., 1998 : 303.
49. OLSZEWSKI 2003 : 232.
50. BYRD, 1988 : 263.
51. RUST, 1950 : 107-111. Rust also identified a Late Nebekian phase (Layer 4). The illustrated nongeometric microliths from this layer are considerably wider than those from Layers 6 and 7, and are likely temporally much later in the Levantine Epipaleolithic sequence. *Ibid.* : 114-116 and Plate 104.
52. *Ibid.*

likely be more abundant had Rust screened the sediments as he excavated[53]. In the absence of radiocarbon dates, Rust attributed the Nebekian to the Middle Mesolithic (Epipaleolithic), recognizing this industry as containing assemblages that were no longer Upper Paleolithic in typology[54].

DISCUSSION

It is possible that the assemblages from the southern Jordanian sites of Tor Hamar and Jebel Fatma can be attributed to the Mushabian Complex[55], as suggested by Henry[56]. A radiocarbon date from Tor Hamar places this assemblage late in the Epipaleolithic sequence, *ca* 12 700 uncal. BP. These assemblages are characterized by *relatively wide* nongeometric microliths (arched backed bladelets, straight backed bladelets, and scalene bladelets), less common lunates, including examples of Helwan lunates, and extensive use of the microburin technique. These characteristics, however, are not shared by the assemblage from Wadi Madamagh, the site used by Henry to name the Mushabian Complex assemblages from southern Jordan. The Wadi Madamagh assemblage has *very narrow* forms of nongeometric microliths (arched backed and pointed bladelets and backed and truncated bladelets), a few examples of lunates (none are Helwan), and use of the microburin technique. Particularly noteworthy in the Wadi Madamagh assemblage are the double pointed, arched backed bladelets that resemble extremely attenuated lunates, and one might argue that the examples of "normal" lunates from Wadi Madamagh are stochastic results of making double pointed, arched backed bladelets. This narrow double pointed, arched backed microlith is not found in the Tor Hamar and Jebel Fatma assemblages.

Moreover, the assemblage from Wadi Madamagh is closely analogous to assemblages from sites in the Wadi al-Hasa, in the Azraq region, and from Jabrud. All contain very narrow nongeometric microliths, which tend to be either backed and truncated, or arched backed and pointed bladelets. Occasional trapezes (including those which have unretouched microburin scars at both the distal and proximal ends) and rare lunates also occur. Radiocarbon dates from some of these sites clearly demonstrate that this industry originates in the early part of the Early Epipaleolithic. In fact, this industry may represent the earliest manifestation of the Epipaleolithic in the eastern Levant, dating in some cases to more than 20 000 uncal. BP, and, importantly, it contains evidence for use of the microburin technique at this early date.

Continued use of the term "Madamaghan" as an industry name is thus confusing because it uses one site (Wadi Madamagh) as the derivation for the term, but the assemblage from this site does not fit the criteria established for this industry from the sites of Tor Hamar and Jebel Fatma. The "Madamaghan" is thus not an appropriate name and should be henceforth abandoned. If an industry name is necessary to categorize the assemblages from Tor Hamar and Jebel Fatma, perhaps a name linked to one of these southern Jordanian sites might be more useful.

This leaves the question of a term to be used for the Early Epipaleolithic assemblages from the Wadi al-Hasa (Tor Sageer, Yutil al-Hasa Area C, and Tor at-Tareeq), the Azraq (Uwaynid 14, Uwaynid 18, Jilat 6), and Jabrud Rockshelter 3. There are two existing industry names that might be applicable. One of these is the Qalkhan, which Henry uses to describe sites in the Ras en-Naqb area of southern Jordan, the Azraq sites, and Layers 7 to 4 at Jabrud, as well as some sites in the el-Kowm Basin of Syria[57]. Certainly, the Qalkhan industry is characterized by microburin technique and very narrow forms of backed bladelets, including the types described at these sites, as well as at Wadi Madamagh.

The second industry name is the one supported by Byrd and originated by Rust, the Nebekian. The microlithic types and microburin technique of the Nebekian are essentially identical to those of the Qalkhan. Especially intriguing in the Layers 7 to 4 sequence at Jabrud are the presence of Qalkhan points in Layer 5[58]. If one examines this sequence closely, it suggests that there are temporal nuances within this industry. Layers 7 and 6 have the very narrow backed and truncated, and arched backed and pointed bladelets, Layer 5 also has these types, with the addition of the Qalkhan points, and Layer 4, which Rust called the Late Nebekian, continues to have backed and truncated, and arched backed bladelets, but now with much wider microliths, while Qalkhan points are absent. An analogous temporal sequence appears in the Wadi al-Hasa Early Epipaleolithic, where Qalkhan points seem to

53. BYRD, 1988 : 263.
54. RUST, 1950 : 109.
55. Although see BYRD, 1994 : 214, who suggests that the Mushabian should be considered a phenomenon confined to the Negev and Sinai.
56. HENRY, 1995 : 40.
57. *Ibid.* : 38.
58. Rust called the Layer 5 assemblage the "Late Capsian". RUST, 1950 : Plate 100.

postdate the earliest manifestation of the Early Epipaleolithic. The upper deposits, for example, at Tor Sageer (which postdate 20 000 uncal. BP), at Yutil al-Hasa Area C, and at Tor at-Tareeq (which dates between 16 900 and 15 500 uncal. BP) are where the majority of the Qalkhan points are found. Early Epipaleolithic deposits below these layers at these sites (that is, layers dating to 20 000 uncal. BP or earlier) have yielded only a couple of Qalkhan points, but do include examples of Dufour bladelets.

The most parsimonious solution, as well as the most correct in terms of nomenclature procedures, is to adopt Byrd's suggestion that the Nebekian be used as the industry name for eastern Levantine Early Epipaleolithic assemblages characterized by very narrow backed and truncated, and arched backed and pointed bladelets, as well as microburin technique[59]. Nebekian would thus replace the term "Qalkhan"[60]. Qalkhan points as a type, however, can be retained, and may prove useful in delineating temporal trends within the Nebekian industry. It is suggested here that Nebekian also be used for the Wadi Madamagh assemblage, because this assemblage is closely aligned with Early Epipaleolithic assemblages rather than the Late Epipaleolithic with which it has been previously grouped. A new industry name to replace "Madamaghan" for the assemblages from Tor Hamar and Jebel Fatma could be generated if deemed necessary, or more simply, they just could be called Mushabian.

The preceding discussion has presented much of the minutia necessarily associated with deciphering the articulation of just three of the eastern Levantine Epipaleolithic lithic industries. That this level of jargon is required for an expert researcher (with condolences to those less familiar with this geographical area and time period) to wade through only three of the 18 or so Levantine Epipaleolithic entities is surely a clarion call for revisiting these numerous named industries, for sorting out those industries which are not entitled to "separate" names, and for better integration of existing data when a researcher has an urge to name a new lithic industry. To this end, I have endeavored in this paper to provide one such solution as an example of how this process might be accomplished.

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59. BYRD, 1988 : 263.

60. Use of the Nebekian in this manner is seen, *e.g.*, in GORING-MORRIS and BELFER-COHEN, 1998 : 75-76.

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