The Ahmarian in the Context of the Earlier Upper Palaeolithic in the Near East

Chapter · January 2018

DOI: 10.1007/978-981-10-6826-3_7

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The Ahmarian in the Context of the Earlier Upper Palaeolithic in the Near East

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Nigel Goring-Morris and Anna Belfer-Cohen

Abstract

There is a general consensus that the Ahmarian techno-complex represents an endemic Upper Palaeolithic entity that emerged in south-western Asia. Its entrenchment in the region is apparent over a long chronological span and a wide geographic range, as is most especially apparent in the Levant. Notwithstanding diachronic and synchronic variability, its basic parameters have been widely recognized since it was first defined over 30 years ago. The Ahmarian characterization is based on certain intrinsic features as well as on the absence of hallmarks of other Upper Palaeolithic entities identified in the region.

Keywords

Levant • IUP • Ahmarian • Techno-typological variability • Early Upper Palaeolithic

7.1 Introduction

According to data from current research it is quite obvious that the Ahmarian complex as accepted today displays a wide range of diachronic and synchronic techno-typological characteristics. Sufficient information has accrued to attempt to define the Ahmarian from an evolutionary perspective, i.e., how it differs from the preceding Initial Upper Palaeolithic (IUP) entities, as well as from the subsequent industries, whether acknowledged as belonging to the Upper Palaeolithic, or heralding the following Epipalaeolithic period. The resulting picture will enable more precise assignment of the Ahmarian techno-complex within the larger framework of developments during the Upper Palaeolithic period in the Levant.

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7.2 The Chronological Framework

Based on recent radiometric date-sets from Mediterranean zone sites it appears that the Mousterian/Upper Palaeolithic interface dates either to 49/48-47/46k calBP according to ^{14}C dating of charcoal samples from Kebara cave (Rebollo et al. 2011), or to 43/42 k calBP based on ^{14}C dates on mollusks obtained from Ksar Akil rockshelter (Douka et al. 2013, 2015); or >43.9 k calBP, also on mollusks from the same site (Bosch et al. 2015a, b). The dates of the IUP at Üçağızlı cave, Turkey, cluster between 45-40 k calBP, though it is uncertain whether the base of the sequence there corresponds with the beginning of the IUP (Kuhn et al. 2009) (Figs. 7.1 and 7.2). The marginal zone site of Boker Tachtit that yielded the first industry defined as IUP (Marks and Ferring 1988) is currently being re-investigated, the principle focus being a dating program that is likely to elucidate matters further (O. Barzilai pers. comm.). In this context, the recent dating of a modern human cranium from Manot cave raises the possibility of an even earlier date for the Middle Palaeolithic/Upper Palaeolithic (MP/UP) transition (Hershkovitz et al. 2015). Nevertheless it seems to us that the dates from Kebara are currently more apposite for dating the MP/UP transition in the Levant.

Y. Nishiaki, T. Akazawa (eds.), *The Middle and Upper Paleolithic Archeology of the Levant and Beyond*, Replacement of Neanderthals by Modern Humans Series, https://doi.org/10.1007/978-981-10-6826-3_7

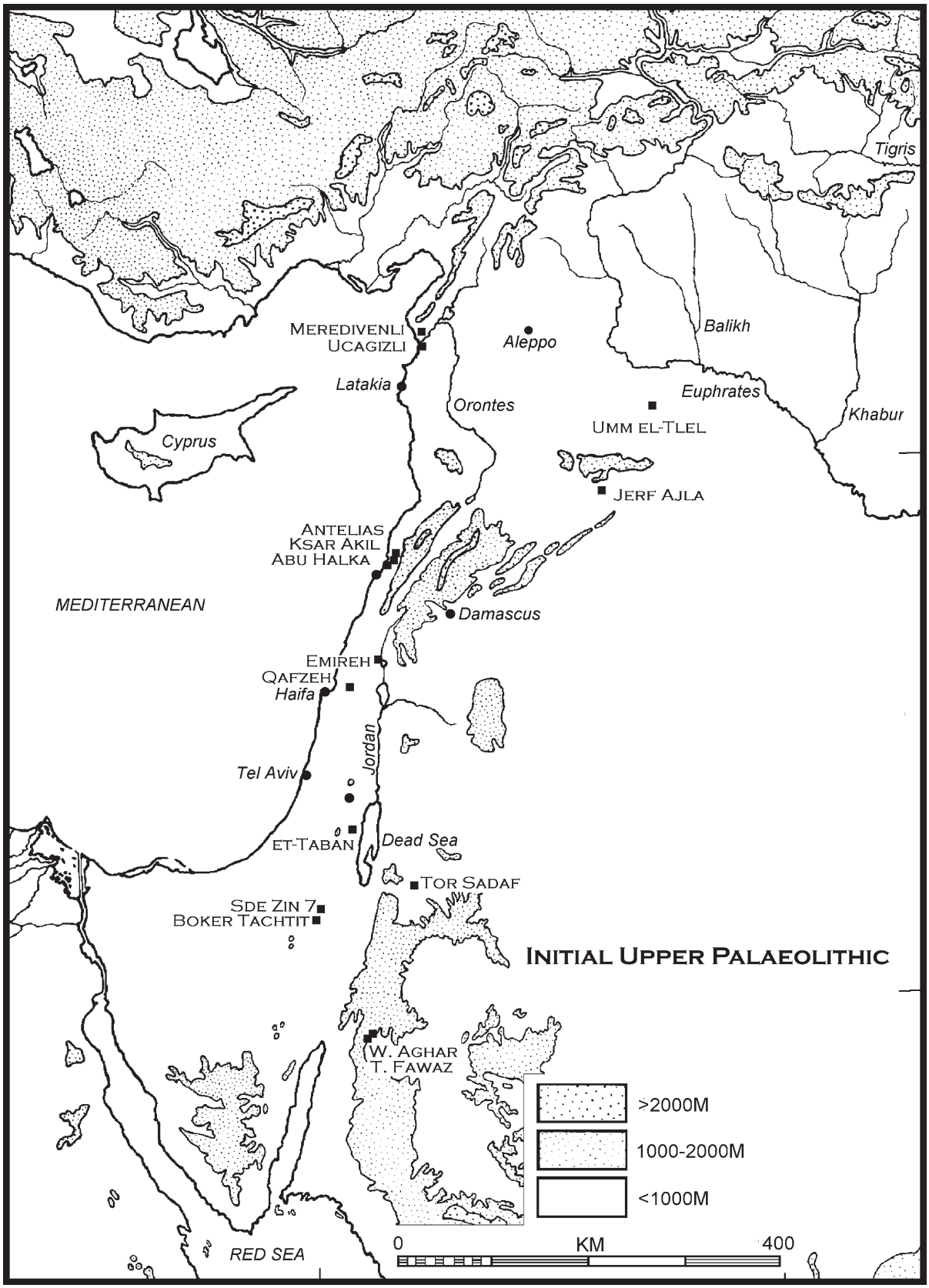

Fig. 7.1 Distribution of Initial Upper Palaeolithic sites in the Levant

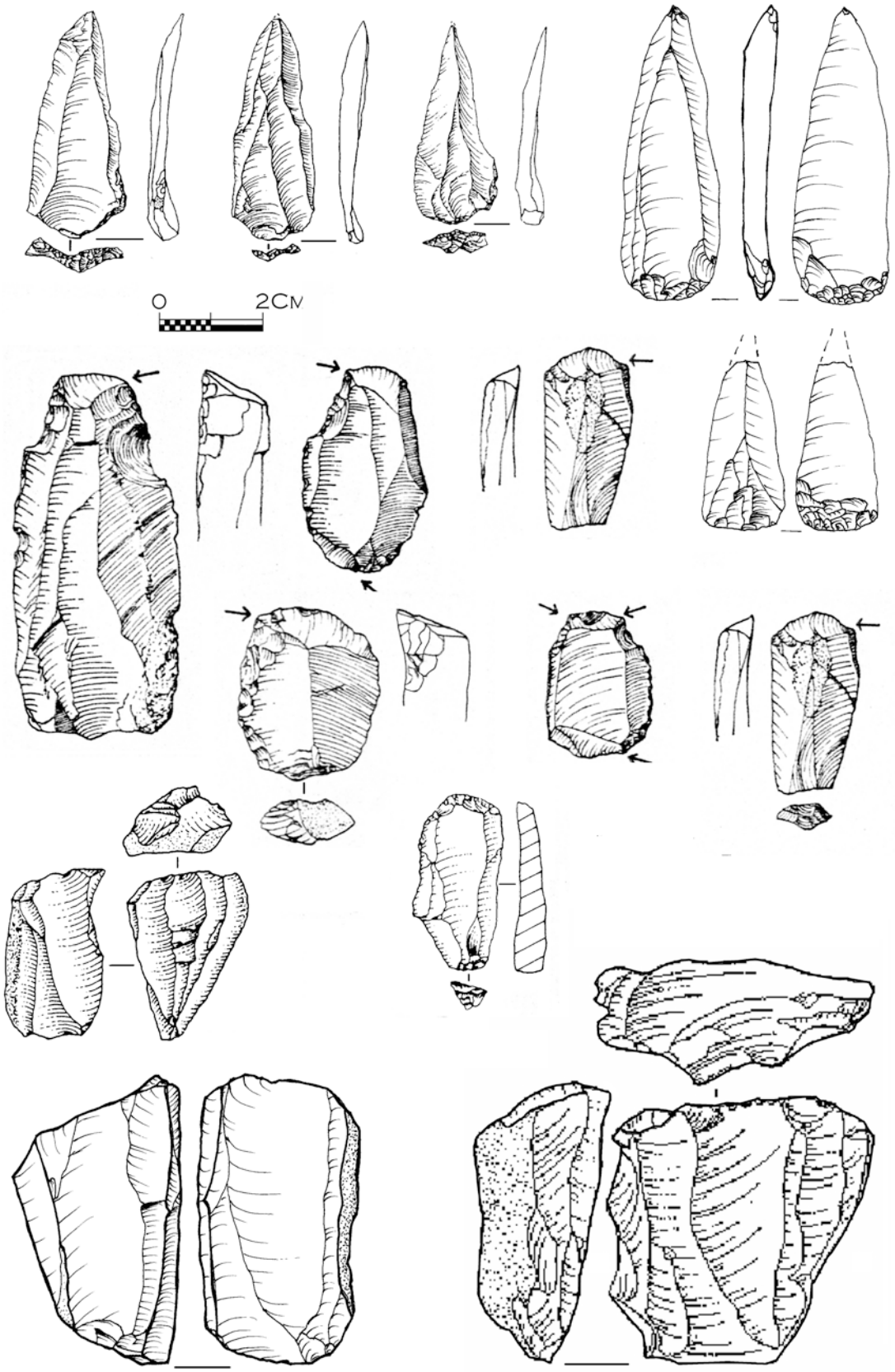

Fig. 7.2 Typical IUP chipped stone artefacts: unretouched (Levallois) points, Emireh points, chamfered pieces, endscraper and cores. Note faceting on many items (After Fox 2003, Marks and Kaufman 1983, Newcomer 1968–1969)

Indeed, the age of the Levantine IUP industries that overlie the Mousterian layers, i.e. the 'Emiran' and 'Ksar Akil Phase 1' (to mention but some of those currently recognized), is presently a principle bone of contention (e.g. Kadowaki 2017; Marks 1983; Williams and Bergman 2010). One should bear in mind that in current research it is considered as a given that such industries represent groups of modern humans coming out-of-Africa on their way to world expansion. Their route of dispersal and their first appearance in Eurasia are focal issues of on-going archaeological and paleoanthropological studies, with significant repercussions as regards the interactions of these groups with indigenous populations (Neanderthals and others), processes of assimilation and/or annihilation, and whether these were short or long term processes (Arensburg and Belfer-Cohen 1998; Callaway 2014; Pennisi 2013; Reich et al. 2010; Teyssandier 2008; Teyssandier et al. 2010; Zilhão 2013, 2014; and references therein).

Notwithstanding these problematics, the first Early Upper Palaeolithic (EUP) techno-complex in the Levant is the Ahmarian. Beginning ca. 40/41 k calBP it is present in both the Mediterranean zone, i.e. in Kebara, Manot and Üçağızlı caves and at Ksar Akil rockshelter, as well as in the more arid margins, i.e. the open-air sites of Abu Noshra, Boqer and Wadi Hasa (Barzilai et al. 2014; Coinman 2000; Douka et al. 2013; Kuhn et al. 2009; Marks 1983; Phillips 1994; Rebollo et al. 2011).

7.2.1 The Ahmarian Techno-complex (Figs. 7.3, 7.4, 7.5 and 7.6)

The Ahmarian tradition, as originally defined, independently, by both Marks (1981) and Gilead (1981), represented blade/bladelet industries that lasted through to, and include the Late Glacial Maximum (LGM). It was then divided into an early phase, the Early Ahmarian and a later phase, the Late Ahmarian continuing unto the early Epipalaeolithic – up to ca. 23/2-20 k calBP (Belfer-Cohen and Goring-Morris 2003). Indeed, one can observe technological continuity from the Ahmarian to the early Epipalaeolithic industries (Ferring 1988; Gilead 1991; Marks 2003). This is reflected in the shared leptolithic character and the use of 'narrow-fronted' (NF) core reduction sequences.

Yet, a distinctive shift towards microlithisation, with an emphasis on elongated finely retouched/backed bladelets is observed already before ca. 30 k calBP at Boqer BE in the central Negev, as well as in northern Sinai (Bar-Yosef and Belfer 1977; Jones et al. 1983). Indeed it is interesting to note that in the Lagaman variant of the north Sinai Ahmarian a bimodal distribution of microlithic bladelet blanks and macrolithic blades is already apparent, e.g. at Lagama V-VII (Bar-Yosef and Belfer 1977, Fig. 16) as also at Boqer A (Monigal 2003, p. 126). Similar processes can also be recognized in the Mediterranean zone at Ksar Akil post-level X (Bergman 1987; Williams and Bergman 2010).

Back in the 1980s, when the Ahmarian was first recognized and defined, it was assumed that this techno-complex existed in parallel with the Levantine Aurignacian throughout the UP sequence in both the Mediterranean and marginal zones (Gilead 1981; Marks 1981). New data and reinterpretation of old evidence has revealed that this is not the case.

Originally, the term 'Aurignacian' designated in Europe the earliest Upper Palaeolithic industries, following the Middle Palaeolithic Mousterian. Without going into a detailed discussion of how this approach impacted prehistoric research in Eurasia at large (and see Belfer-Cohen and Goring-Morris 2014a, b), it is quite clear that the oldest industries attributed to this taxon, namely 'Proto-Aurignacian' and 'Aurignacian 0' closely resemble the Levantine Ahmarian (Teyssandier et al. 2010; and see Zilhão 2014 and references therein). By contrast, the later 'Aurignacian I' represents a quite different phenomenon, with distinct techno-typological, geographic and chronological characteristics, different from the 'Proto-Aurignacian' (and see Conard and Bolus 2006; Teyssandier 2008).

The relatively few Levantine assemblages that still retain the appellation 'Aurignacian' – portraying characteristics of the European classic Aurignacian, or 'Aurignacian I' – postdate their European counterparts, dating (when dates are available) to ca. 37.5 k calBP (Barzilai et al. 2014; Belfer-Cohen and Goring-Morris 2014b; Goring-Morris and Belfer-Cohen 2006; Goring-Morris et al. 2009; Lengyel et al. 2006; Otte et al. 2012). These assemblages, termed the 'Levantine Aurignacian' are always found, when in stratigraphic context, above the Ahmarian, for example in the sites of Kebara, Ksar Akil, Manot and Yabroud (Bar-Yosef et al. 1996; Barzilai et al. 2014; Douka et al. 2013; Marder et al. 2013; Mellars 2006; Rust 1950; Williams and Bergman 2010). Their geographic spread is restricted, being confined to the Mediterranean (mostly coastal) zone (Fig. 7.7); they appear to be coeval with quite a number of later 'Early' Ahmarian sites in the more arid zones (Bar-Yosef and Belfer 1977; Coinman 2003; Marks 1983).

It is early days to evaluate whether there was any direct connection between the 'Ahmarians' and the 'Aurignacians'. Still, it is of interest to note that the local Aurignacian assemblages do include considerable numbers of el-Wad points, the *fossile directeur* of the Ahmarian, while their morphological equivalent in Europe, assigned to the 'classic' Aurignacian, the Font-Yves point, occurs in lesser frequencies. Indeed, D. Garrod wrote in Garrod 1953 "...the small, sharp Font-Yves point, which is the special feature of Upper Palaeolithic III [i.e., the Levantine Aurignacian of today], is hardly known in the West" (Garrod 1953, p. 25). Here, it is perhaps relevant to note that the el-Wad point as, indeed, the Font-Yves point, represents a general and quite simple typo-

Fig. 7.3 Upper, Erq el-Ahmar rockshelter; lower, the site of Boker (arrow, centre right of photo) in Nahal Zin

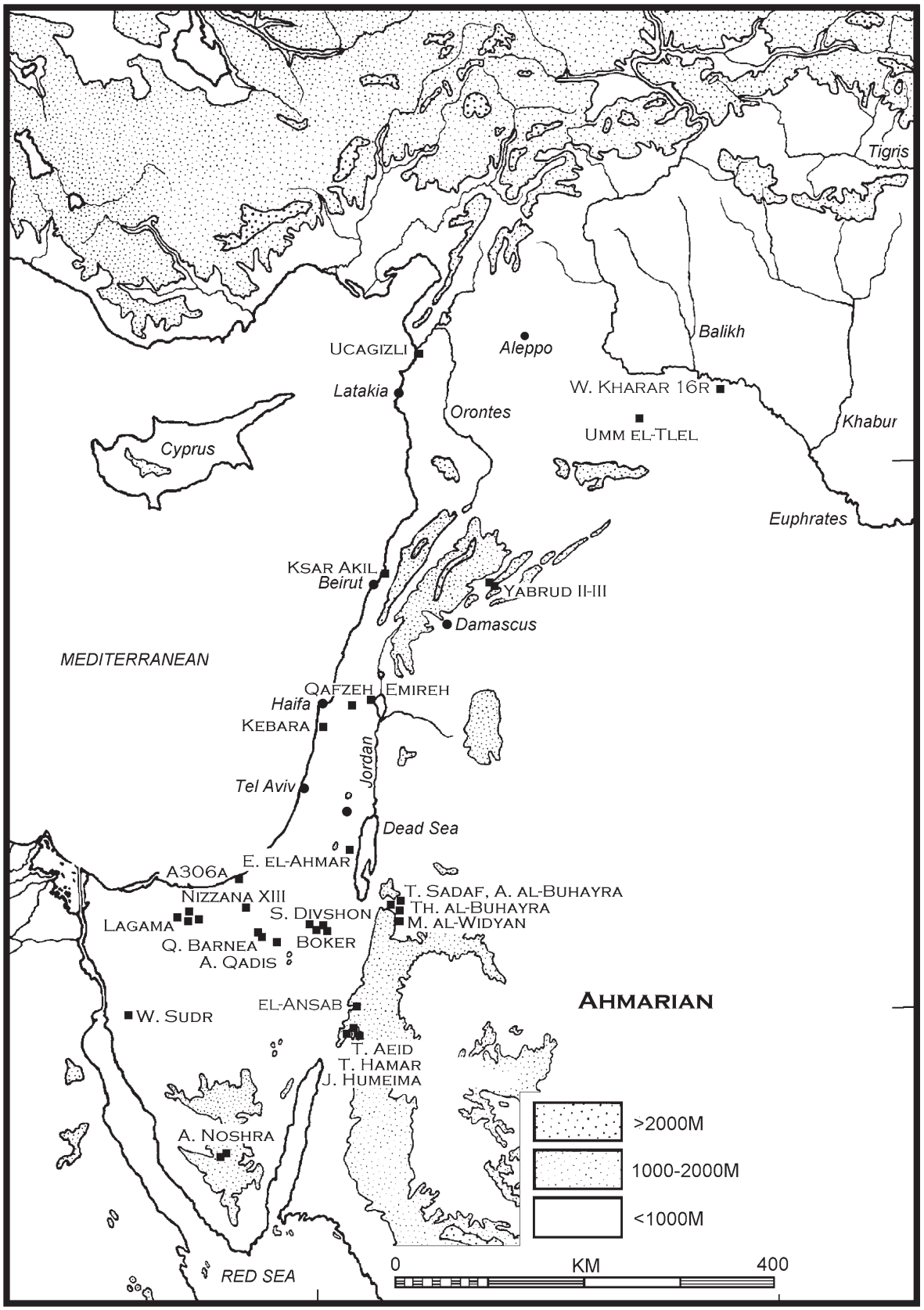

Fig. 7.4 Distribution of Ahmarian sites in the Levant

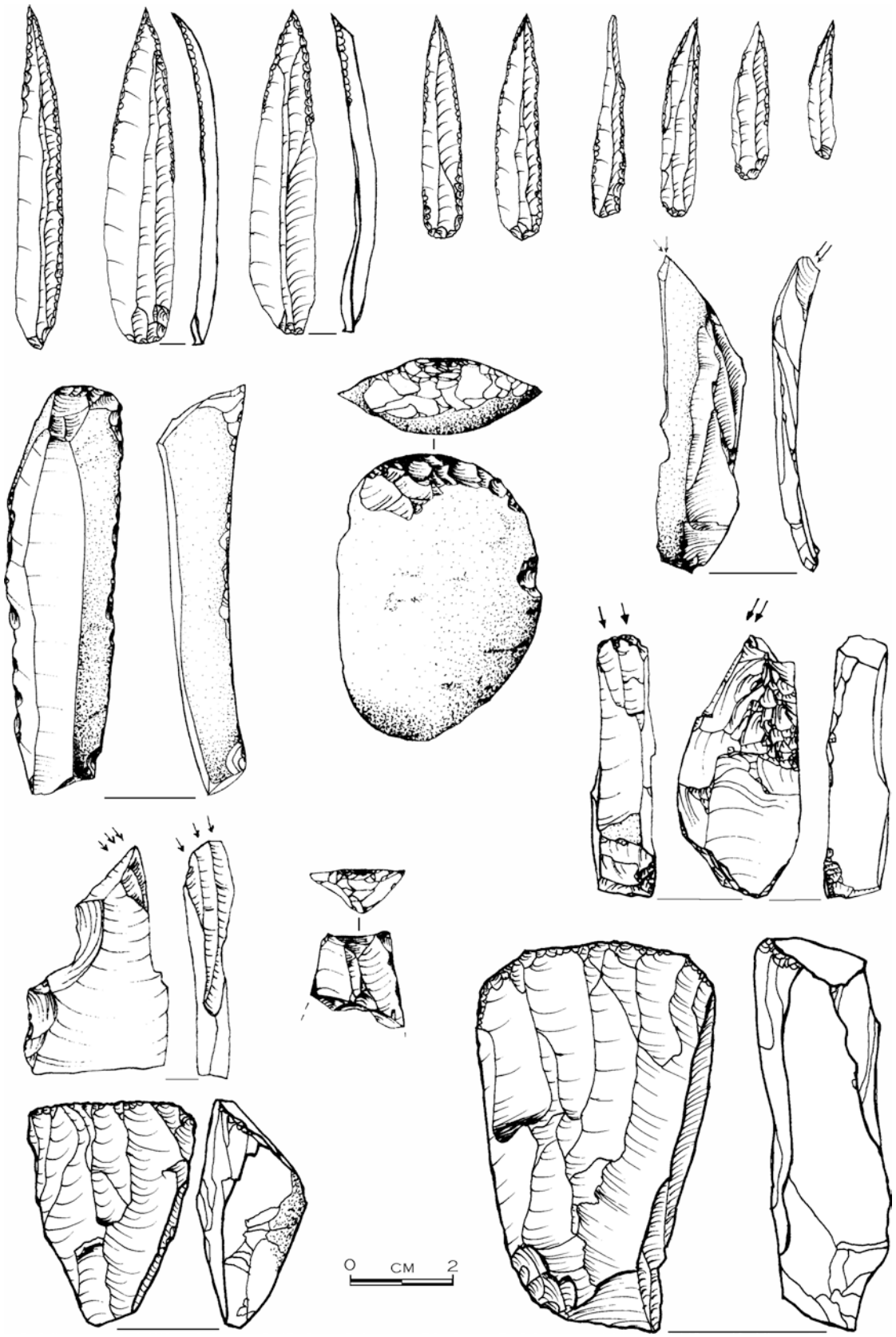

Fig. 7.5 Typical earlier Ahmarian chipped stone artefacts: el Wad points, endscrapers, burins, truncation, and narrow-fronted cores

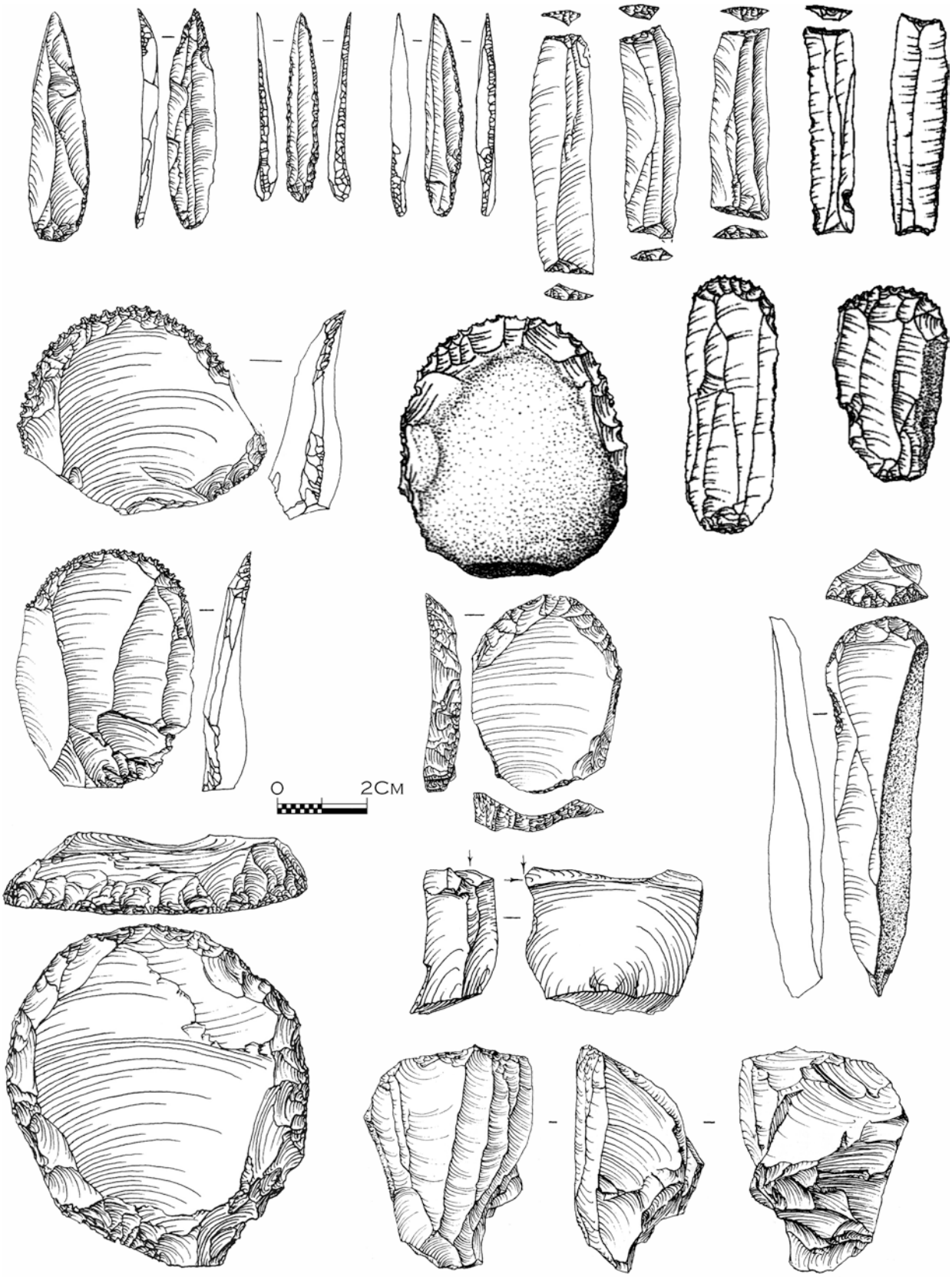

Fig. 7.6 Typical later Ahmarian chipped stone artefacts: el Wad points, bitrucated blades, Ksar Akil scrapers, endscrapers, burin, narrow-fronted core (After Coinman 2003, Jones et al. 1983)

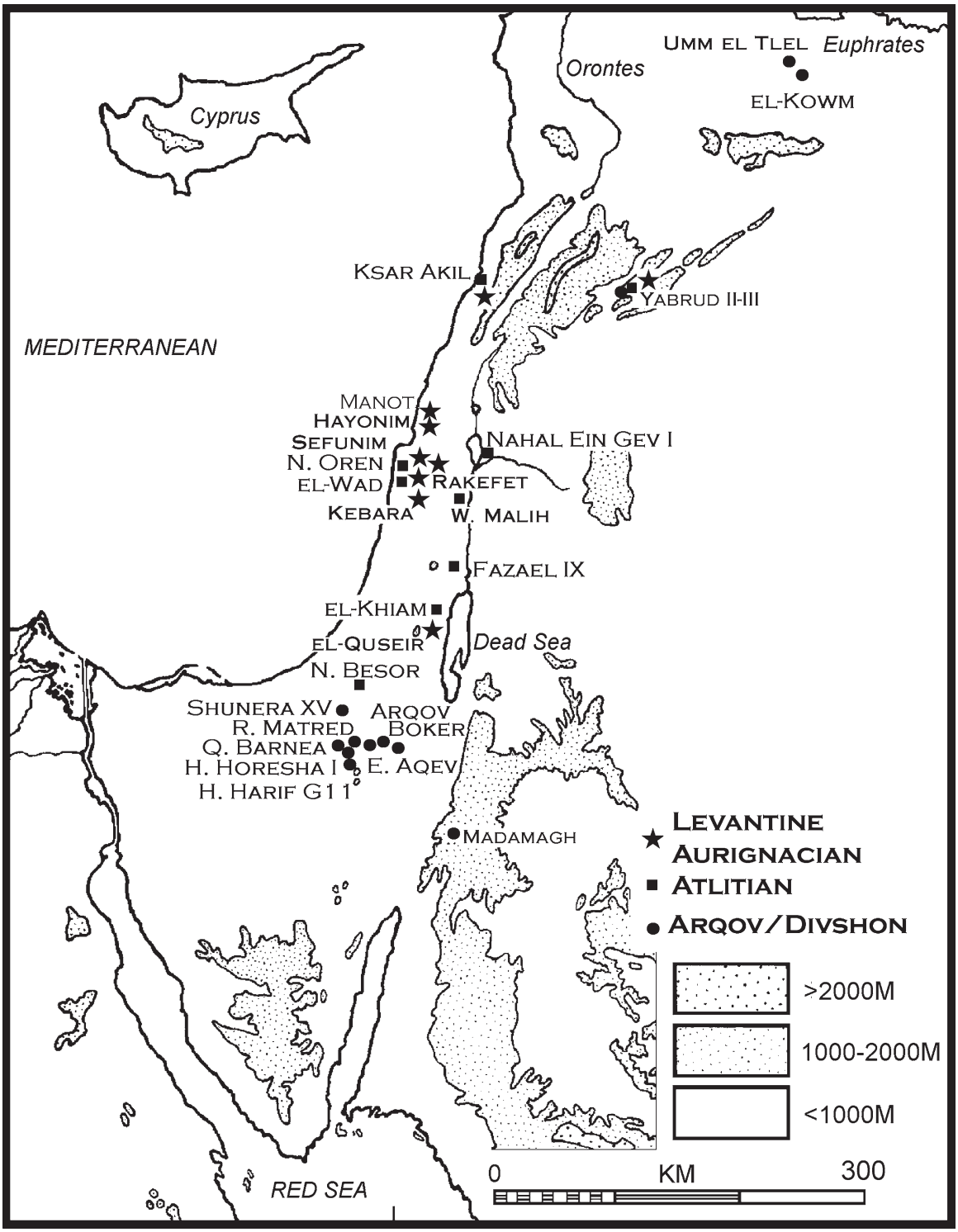

Fig. 7.7 Distribution of Levantine Aurignacian, Arqov/Divshon and Atlitian sites in the Levant

logical concept, being a plain narrow, convergent pointed blade/let partially or completely retouched on one or both lateral edges (and see Copeland 2003; Hours 1974).

The techno-typological characteristics of the Ahmarian vary both chronologically and regionally. The 'radical' shift from MP to UP technological approaches concerning knapping and tool production occurred during the course of the IUP, reflecting a general shift from a Middle Palaeolithic 'surficial' exploitation (with faceting) for the production of blanks, to a typically Upper Palaeolithic 'volumetric'

approach, with the systematic production of sequences of blade/let blanks (Inizan et al. 1992). Actually, such re-orientation of preparation surfaces was less revolutionary than is sometimes portrayed. This is reflected by the continued occurrence of 'Nubian' (MP) bidirectional convergent point cores in the IUP Emiran at Boqer Tachtit (Marks and Kaufman 1983, figs. 5-3:c-f [level 1], 5-11:d [level 2]). Many of the Emireh and 'Levallois' points there appear to derive from such opposed platform cores (Marks and Kaufman 1983, Figs. 5-6 and 5-7). But, in addition, at Boqer Tachtit this is accompanied already by cresting, a hallmark of future UP technologies. One can also observe in the IUP industries (the 'Emiran' and 'Ksar Akil Phase 1' and others) a continuous shift from platform faceting to abrasion of the removal surface prior to the serial removal of blades, the beginnings of which can be traced already, for example, in the Late Mousterian open-air sites of MNO (Sharon and Oron 2014) and Umm el-Tlel (Bourguignon 1996, 1998).

Indeed, in terms of most tool classes the shift from MP to UP had already occurred in the Emiran at Boqer Tachtit, where sidescrapers are initially rare and disappear completely during the sequence, being replaced by endscrapers and burins, which become a major component of future UP tool assemblages (Marks and Kaufman 1983). It is only the 'Levallois' and basally thinned Emireh points that still portray MP characteristics.

7.2.2 The Ahmarian Reduction Sequence

In line with the changes that had occurred during the MP/UP transition, Ahmarian knapping concepts were already fully UP in terms of the reduction sequences. All-in-all the Ahmarian is dominated by 'narrow-fronted' core preforms (Fig. 7.5). There is a common assumption concerning a corresponding shift from the use of direct, hard hammer percussion during the MP to the use of soft, organic percussors for the UP industries, This explicates the different appearance of the blade/let blanks platforms (and see above), though there is actually little obvious evidence for such a shift. It seems quite likely that lighter hammers of softer stones could as easily account for the observed distinction.

Still, while the Ahmarian is characterized by a standardized approach to serial blade/bladelet blank production, local variations can be detected, likely reflecting adaptations to the nature and shape of available raw materials, amongst others. It is of interest to note that blade/let production in the marginal areas was notably more gracile than in Ahmarian assemblages in the Mediterranean zone. Another general observation concerns the use of bidirectional platforms, which are clearly more common in Ahmarian assemblages in the north, e.g. Kebara, Qafzeh, Manot, Ksar Akil (Bar-Yosef and Belfer-Cohen 2004, in prep.; Barzilai et al. 2014; Kadowaki et al. 2015; Williams and Bergman 2010), while in the south they rarely exceed 15% (Bar-Yosef and Belfer 1977; Coinman 2003; Ferring 1980, 1988; Gilead 1981; Goring-Morris 1995a, b; Jones et al. 1983; Marks and Ferring 1988).

The nodules in the southern sites were often split into two in order to initiate the reduction sequence (Davidzon and Goring-Morris 2003; Jones et al. 1983; Monigal 2003). Decortication was sometimes accomplished during preliminary core preparation, e.g. Ein Qadis IV and Nahal Nizzana XIII, where raw material in the form of wadi cobbles and nodules was used so that the resulting large cortical flakes could be fashioned into macro tools, e.g. endscrapers (Goring-Morris 1995a; Goring-Morris and Davidzon 2006). By contrast, at other sites, e.g. Boker A, discoidal nodules from readily available outcrops were exploited and a large portion of the decortication was accomplished later, during the removal of targeted blade/lets (Monigal 2003).

Retention of the obtuse striking platform angle in relation to the removal surface was maintained by the removal of classic core tablets, thus enabling the serial removals of numerous incurvate, convergent blade/let blanks. These display signs of abrasion of the removal surface and small or punctiform striking platforms, sometimes lipped. Other larger blanks for the macro tool component, e.g. burins, frequently derive from such core rejuvenation, i.e. the actual core-tablets (e.g. Davidzon and Goring-Morris 2003; Monigal 2003). Inasmuch as cresting occurs, it was usually to ensure the somewhat incurvate profile of the blade/let blanks; bifacial or unifacial retouch being applied to thin the keel of the core, resulting in most ridge blades displaying dorsal bifacial/unifacial removals towards the distal tip.

There is a general diachronic decline in the size of blanks and points during the course of the 'Ahmarian' *sensu lato*, e.g. in the sequences observed in Ksar Akil and Boker (Jones et al. 1983; Kadowaki 2013; Williams and Bergman 2010). However, it is also important to note that a bimodal distribution of retouched blade/let sizes was already apparent in the Lagaman sites and at Boker BE (Bar-Yosef and Belfer 1977; Jones et al. 1983; Monigal 2003).

In terms of typological characteristics a contrast between the Mediterranean zone and the arid margins is observed in the more 'balanced' composition of Ahmarian assemblages in the former with a greater abundance of scrapers and burin classes relative to the points and retouched blade/lets. In the arid margins the toolkit composition is more variable, with differentiation between more ephemeral hunting camps, e.g. the Lagaman sites, where there is an emphasis on points and retouched blade/lets at the expense of scrapers and burins; and larger, home bases such as Sde Divshon (D27b) where, in addition to the points and retouched blade/lets, there are also higher frequencies of scrapers, burins and notches.

There are also distinctive tool types, such as the finely denticulated Ksar Akil scrapers (Fig. 7.6). They appear sporadically

in certain later Ahmarian assemblages in both the northern and southern Levant, e.g. Ksar Akil Levels V and IV, Antelias and el Wad (Copeland 1982; Williams and Bergman 2010), as well as Boker BE levels III-VI in the Negev and Thalab al-Buhayra and Ayn al-Buhayra in Transjordan (Coinman 2002; Jones et al. 1983). Never common, they are totally absent at other sites, e.g. Kebara, Qafzeh, the Lagaman, etc. An unusual co-association of Ksar Akil scrapers and bitruncated blades at Boker BE level V and Thalab al-Buhayra is notable (Fig. 7.6). In these assemblages the el Wad points display a pattern of diminution and they date late within the Ahmarian, ca. 31-29 k calBP.

The changes through time during the course of the so-called 'Early' Ahmarian, currently lasting more than 10,000 years., justify subdividing it into two phases, "early" and "late", though each phase is shorter than what was assigned previously under the same taxon, i.e. "Early" and "Late" Ahmarian (Belfer-Cohen and Goring-Morris 2003).

While the 'Early' Ahmarian assemblages are well defined both techno-typologically and chronologically, this is not the case with the so-called 'Late' Ahmarian, thus the assignment of assemblages to this taxon is problematic. There are few occupations, if any, which can be considered as directly continuing from the 'Early' Ahmarian, and their dating is problematic. For example, in Ksar Akil, one of the very few Levantine sites where there is a long Palaeolithic sequence comprising Middle, Upper and Epipalaeolithic industries, the Ahmarian sequence is interrupted by the Levantine Aurignacian levels and the assemblage from the layer overlying it, Layer VI (whether we consider the material excavated in 1937–1938, Phase 6, or that excavated in 1947–1948, Phase 7), differs greatly from the Early Ahmarian of the preceding levels (Bergman 1987; Williams and Bergman 2010, p. 140). In the site of Boker BE, also with an impressive UP sequence (Jones et al. 1983; Marks 1983), levels VII-III, which can be considered as late in the 'Early' Ahmarian, are followed by levels I-II comprising (small) lithic assemblages that entirely lack the el-Wad component, the hallmark of the Ahmarian. It is accepted that these lithic assemblages represent entities that are not Ahmarian, which rather should be assigned to the 'Arqov/Divshon' entity (Fig. 7.8; and see below).

Indeed, the next solid prehistoric entity (in the sense of number of assemblages, their techno-typological characteristics, geographic spread and dating) is the 'Masraqan', originally termed the 'Late Ahmarian' by Gilead (1981) and Marks (1981), dating to the LGM, ca. 25-22 k calBP (Fig. 7.9; Goring-Morris 1995b and references therein). Apparently this entity, though clearly of a leptolithic nature, has 'lost' the most prominent trademark of the Ahmarian, namely the el Wad points. Instead, Masraqan assemblages are dominated by finely retouched (Ouchtata) bladelets (similar to straight or slightly incurvate Dufour bladelets, i.e. they are non-twisted), which outnumber, by far, the blade tools (Fig. 7.10). The majority of these Ouchtata bladelets are not pointed. It seems that, while representing the culmination of a trend observed during the course of the 'Early' Ahmarian, this industry also portrays the beginning of a different typo-technological development that eventually becomes apparent in the microlithic entities of the Early and Middle Epipalaeolithic, when microlith morphologies are fashioned by retouch and backing, i.e. the Nebekian, Kebaran, Geometric Kebaran, Mushabian, etc. (Belfer-Cohen and Goring-Morris 2002).

It appears that the 'Early' Ahmarian is followed by a variety of industries, the common denominator of which is the disappearance of the pointed blades. Among those, which are earlier in time, differing from the Ahmarian both technologically and typologically, one can mention the northern 'Atlitian' defined by Garrod (Garrod and Bate 1937) based on her excavations at el-Wad; this was the name given also to other assemblages, e.g. Level VI in Ksar Akil and Nahal Ein Gev I (Belfer-Cohen et al. 2004; Copeland 1975 and see above). Another such entity, encountered in the marginal zones is represented by the Arqov/Divshon flake-based industry (Belfer-Cohen and Goring-Morris 2014a; Goring-Morris 1980).

In light of the above, we believe that the term 'Ahmarian' should be retained only for those assemblages previously grouped together under the taxon 'Early' Ahmarian.

7.3 Discussion

It seems that with the current level of knowledge as regards the Upper Palaeolithic record in the Levant, the picture differs quite significantly from that observed in the early 1980s. Indeed, evidence has accrued to indicate that there were multiple trajectories of change in the Levant beginning in the latest phases of the MP through the IUP. The latest phase of the Levantine Mousterian, ca. 75–50 k years (=MIS 3–4), displays considerable geographic and techno-typological variability (Hovers and Belfer-Cohen 2013). A clear example is the case of the Mousterian sequence at Kebara cave, where the assemblage of Unit V differs significantly from the preceding Mousterian assemblages of Units VII-VI (Bar-Yosef and Meignen pers. comms.; Belfer-Cohen pers. obs.). It is of interest to note that the IUP industries replacing the Mousterian complex comprise several geographic and techno-typological variants, e.g. the IUP of Ksar Akil, Üçağızlı, Umm el-Tlel, Boqer Tachtit, Tor Sadaf, Wadi Aghar, Tor Fawaz, etc. (Bourguignon 1998; Fox and Coinman 2004; Kadowaki 2017; Kerry and Henry 2003; Kuhn et al. 2009; Marks and Kaufman 1983; Monigal 2002; Ohnuma and Bergman 1990). It is these industries that display a continuation of certain Mousterian characteristics such as prepared platform faceting – a Levallois concept – for blank production (e.g., the 'Emiran'

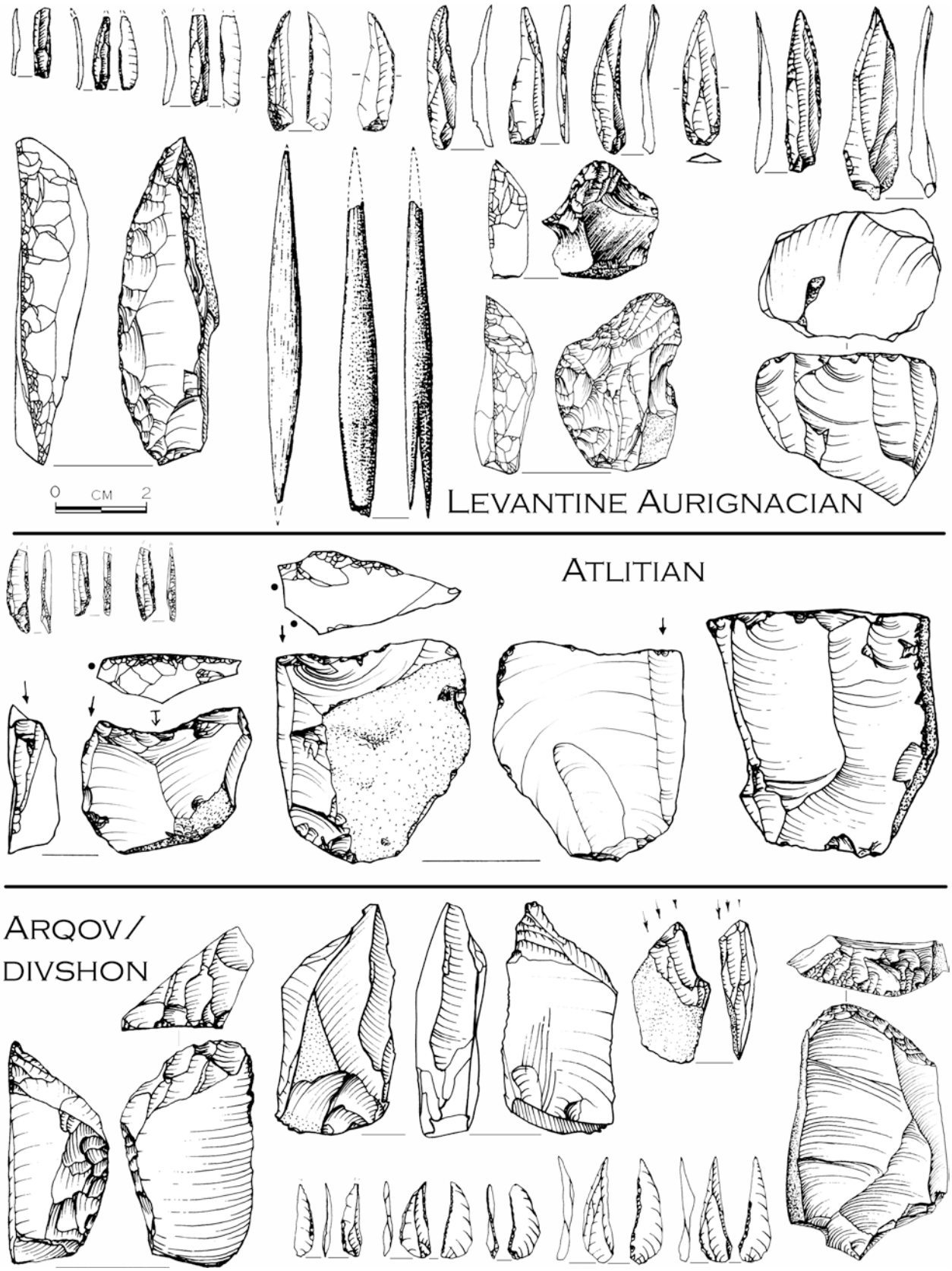

Fig. 7.8 Typical Levantine Aurignacian (Dufour bladelets, el Wad points, Aurignacian blade, split-base antler point, broad carinated scrapers, core), Atlitian (microliths, burins on Clactonian notches, core), and Arqov/Divshon (lateral carinated scrapers and burin, twisted Dufour bladelets, end scraper) chipped stone artefacts

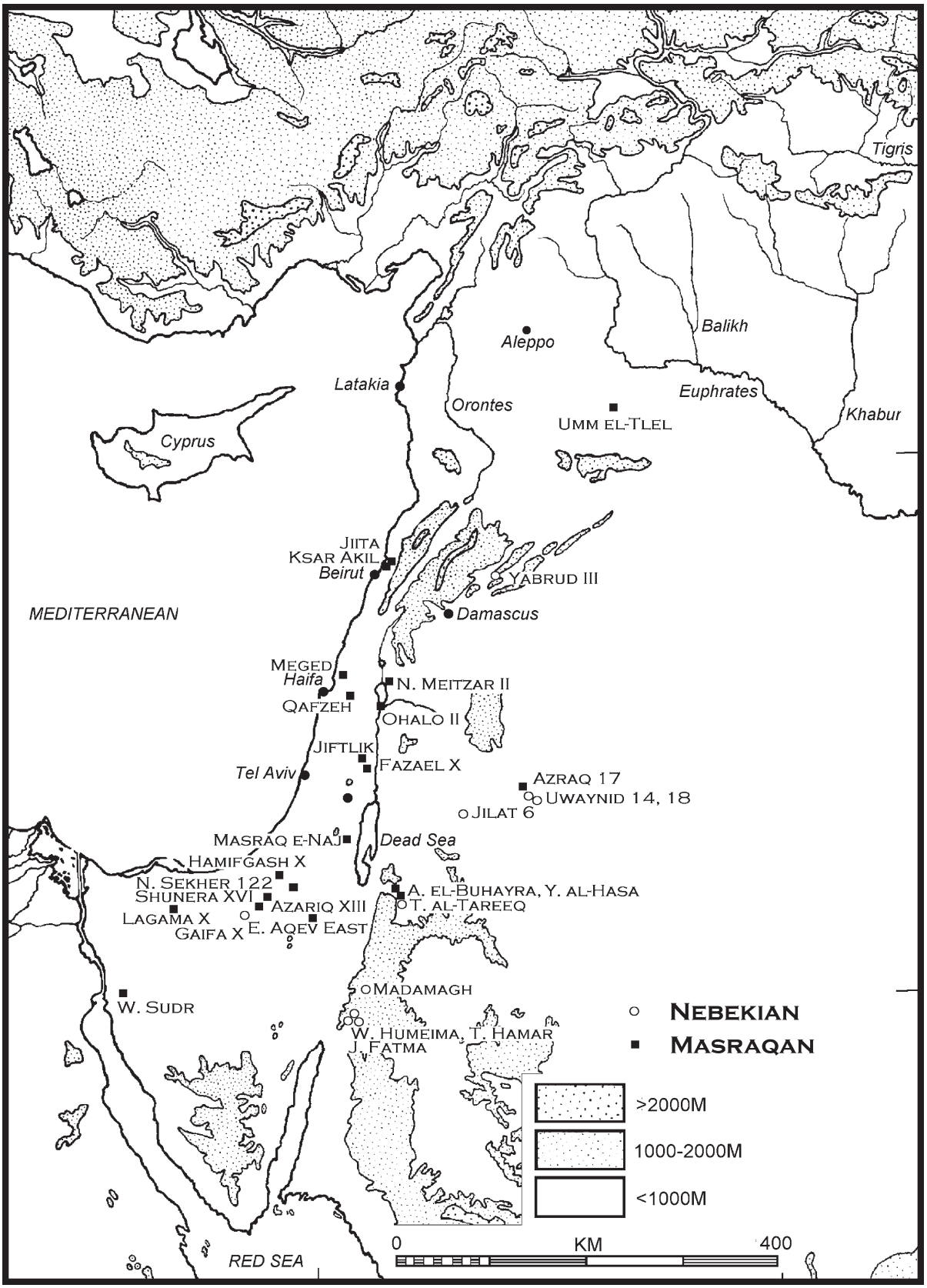

Fig. 7.9 Distribution of Masraqan and Nebekian sites in the Levant

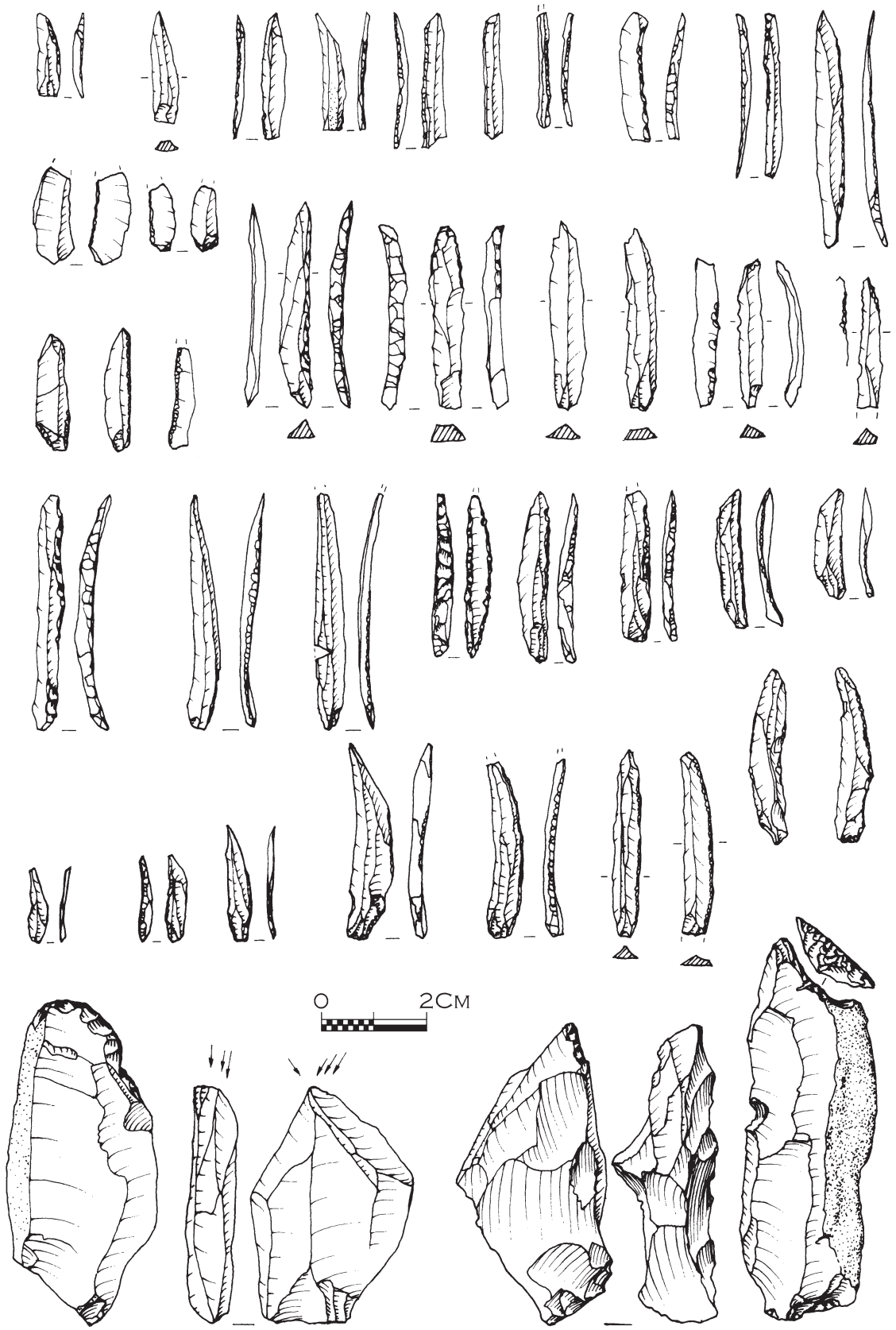

Fig. 7.10 Typical Masraqan chipped stone artefacts: finely retouched Ouchtata bladelets bladelets, Dufour bladelets, endscraper, burin, narrow-fronted core

of Boker Tachtit), which is replaced through time by the typical UP abrasion of the removal surface. Besides distinctive, though 'short-lived' tool forms such as the Emireh points or the chamfered pieces, the IUP industries comprised, in growing numbers, tool forms that were to become hallmarks of the UP entities, such as endscrapers and burins, and to a lesser degree, blade tools.

Accordingly, the Ahmarian, the first Early Upper Palaeolithic entity, has nothing to do with the MP/UP transition, contra previous assumptions, differing in this from the preceding IUP industries, being removed from the Mousterian by 5–10 k years.

At present, it is difficult to pinpoint which of the IUP variants was the most plausible antecedent for the Ahmarian. Regrettably, the earliest Ahmarian occurrences that have provided a series of dates, those in Kebara Cave, unconformably overlie Mousterian deposits with no IUP occupations present (Rebollo et al. 2011 and references therein; Bar-Yosef and Belfer-Cohen in prep.). The uppermost level at Boker Tachtit (Level 4) is represented by mostly, unidirectional cores for robust blade blanks and a variety of points. Though Marks and Kaufman (1983) refer to them as 'non-Levallois', morphologically these points do not differ from unidirectional Levallois points reported from Levantine MP assemblages elsewhere. It is of interest to note that there is a difference between robust points, which usually have faceted striking platforms, and more gracile variants without faceting. The percentage of the *fossile directeur*, the Emireh point in Boqer Tachtit drops from 3% (Level 1), 8% (Level 2), and one out of 25 tools (Level 3), to none in Level 4. Also the frequency of bidirectional Levallois points drops from 40% in Level 1, to 19% in Level 2, to 10 points out of 25 in Level 3, to none in Level 4 (Marks and Kaufman 1983). Without going into specifics, though in a recent paper (Williams and Bergman 2010) the assemblages of Levels XXV–XXI at Ksar Akil are treated on the whole as the IUP (formerly "KA Phase A"), it is stated that while Levels XXV–XXIV include opposed platform cores with parallel sides, Levels XXIII–XXI feature single platform blade cores with converging sides and faceted platforms to produce elongated points that morphologically resemble 'Levallois' types. While Azoury (1986) classified the points and cores as 'Levallois', Ohnuma (1988; Ohnuma and Bergman 1990) described them as 'prismatic' or 'pyramidal' cores to produce 'non-Levallois' blades. The tool assemblages from Levels XXIV-XXI are almost entirely composed of UP types, including chamfered pieces. So, too, at Üçağızlı, Layers F through I are considered as IUP (Kuhn et al. 2009). Though items that correspond to a strict definition of Levallois products are quite rare, with but a few exceptions at the base of the sequence, attributes reminiscent of Levallois technology are quite common among both unretouched items and tools. Indeed, the dominant mode of blade production bears many features of Levallois technology, including the use of hard hammer percussion and platform faceting. Levallois blade and elongated point blanks are most common in Layers I and H, and then decline in abundance, essentially disappearing above layer F. Evidence for preparation of striking platforms by grinding or abrasion is essentially absent in the IUP layers. The authors state that "... Plain blades predominate among both retouched tools and larger unretouched artifacts in all of the layers except I [the lowermost IUP level], although they do become slightly more common with time" (Kuhn et al. 2009, p. 96). Elsewhere they state that "... In layers I, H1-H3, H and G more than 35% of larger flakes and blades possess broad, faceted striking platforms. Plain, unfaceted platforms, the most common type, also tend to be large. Above layer F there are few faceted platforms". The chanfrein occurs in small numbers in the earliest IUP layer, I. Most IUP cores at Üçağızlı have relatively flat removal surfaces and preserve remnants of a single, faceted striking platform.

7.4 Summary

It appears that currently it is impossible to tie in the origins of the Ahmarian directly with any of the known IUP variants in the Near East. It is of interest to note the observation made by Kuhn et al. (2009, p. 97) concerning the sequence at Üçağızlı: "... The boundary between layers E [i.e. "IUP"] and F [i.e. "Ahmarian"] seems to represent a saltational technological shift (Kuhn et al., Fig. 13). In this respect, changes in core technology contrast strongly with the continuity in tool and blank forms". It should be noted that the so far earliest dated Ahmarian assemblages, i.e., Units III-IV in Kebara, are dominated by blade tools, similar to those observed in most of the IUP variants, but the technology indeed differs as there are no bidirectional or unidirectional 'Levallois' points, and there are but very rare occurrences of butt faceting (Bar-Yosef and Belfer-Cohen in prep.; AB-C pers. obs.). The same can be said about other Ahmarian assemblages in the Levant.

Thus the Ahmarian evidently stands out at its first appearances from the local, preceding IUP industries, the differences clearly observed in the technological aspects rather than in the typology. Apparently, we can now quite confidently also separate between the Ahmarian *sensu stricto* in its final stages and the subsequent industries. It appears that here the difference reflects exactly an opposite trend. While there was a continuity of the same basic leptolithic technology, the products were of different morphotypes, as observed in Masraqan and Nebekian assemblages, the earliest entities in the following Epipalaeolithic sequence. It is interesting to consider which came first and which followed. The main apparent change between the final Mousterian assemblages and those of the IUP was a typological one, with the notable increase in the dominance of blade tools, endscrapers and burins (as well as

the appearance of specific, relatively short-lived tool forms, i.e. the chanfrein and the Emireh point). The apparent change between the IUP and that of the Ahmarian was a technological one (and see above). The next prominent change was once again typological, as observed between the Ahmarian and the following early Epipalaeolithic entities. This said, the picture was more complex than that, as one should remember the rather episodic incursion of the Aurignacian into the coastal/Mediterranean Levant, disrupting the endemic Ahmarian sequence there. Moreover, there were other occurrences, the lack of dating for which complicates their placement within the local prehistoric sequence, beyond occasional stratigraphic correlations. At least some were synchronous with and later than the Ahmarian, differing both technologically and typologically, e.g. the Atlitian in the Mediterranean zone and the Arqov-Divshon entity in the more arid margins.

To conclude, it is interesting to note that, after a long period of *stasis* in Levantine UP studies during much of the twentieth century, an impressive body of research has accumulated in recent decades, revolutionizing our knowledge concerning the shift from the MP to the UP and the UP sequence in the Levant. Still, numerous questions remain open to debate. This is of particular significance not only for the local prehistoric record but also globally, due to the location of the Levant along the most likely route of dispersal for modern humans from Africa to Eurasia. For sure there will be new genetic, chronological and archaeological data forthcoming in future years, and thus one has to treat the picture depicted here as reflecting the 'here and now'.

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