CHIPPED STONE INDUSTRY FROM TELL EL-FARKHA (EASTERN DELTA, EGYPT) 1988-1989: fresh evidence from a pre, proto and early dynastic site.

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It is increasingly complained that not enough care has generally been paid do lithic technology and assemblages from Bronze Age Near and Middle East sites, or, following a terminology more suitable to socio-cultural developments of the area, from protourban, urban and protostate phases. Indeed we can assert that only very particular chipped stone assemblages have been adequately studied. This is true of specialized technocomplexes used in semiprecious stone manufacture (BULGARELLI 1974, 1978; BULGARELLI, TOSI 1977; JARRIGE, TOSI 1981; KHAN 1979; PIPERNO 1976; SALVATORI 1978; SALVATORI, VIDALE 1982; TOSI, PIPERNO 1973). In fact a very limited range of flint tools, highly standardized but spatially diversified, has often been generated in specialized craft activities (BULGARELLI 1979). Nevertheless other classes of lithic implements surely present in protourban layers have been usually overlooked and never submitted to quantitative and morphometric analyses (HOLMES 1989; ROSEN 1983, 1988, 1989). Egyptology has not escaped from the widespread lack of interest in protodynastic and dynastic lithic technocomplexes (ROSEN 1983), except for some particular classes of implements such as bifacial or ripple knives, crescent shaped scrapers possibly used in alabaster vases manufacture, and flint arrowheads (CANEVA 1970; CLARK, PHILLIPS, STALEY 1974; HESTER, HEIZER 1981; HARTENBERG, SCHMIDT 1969).

A further problem is posed by the publication of old excavations characterized by a very low or non-existent stratigraphic control. This is the case at Maadi whose lithic materials have been typologically well published, but are useless due to the unreliability of collection methods. As a consequence the editors were constrained to selectively publish those materials without any quantitative and statistical assessment on morphometric data (RIZKANA, SEEHER 1985; 1988).

On the other hand we think that even flint blades and bladelets, which are ubiquitous and relatively numerous in protourban and urban archaeological layers, deserve some systematic attention. In fact this kind of lithic implement production could offer some insight into the reconstruction of the overall picture of urban societies, as Rosen has recently emphasized (1988, 1989). Nevertheless the support this class of material can contribute in dealing with exchange and cultural contact problems (ROSEN 1988) must not be underestimated. It is in order to provide fresh data to scholars who are working in the egyptian-sinaitic-palestinian belt (BEIT-ARIEH 1984; BEN-TOR 1982, 1986; BRANDL 1989; KROEPER 1984, 1989; OREN 1989; SCHULMAN 1989; WILDUNG 1989) that we have decided to give an account of the lithic (flint) items collected during the first two seasons of excavation carried on at the East Nile Delta site of Tell el-Farkha. Tell el-Farkha[1] is actually one of the few deltaic sites with predynastic deposits under investigation. Other two sites (van den BRINK 1986, 1988a, 1988b, 1989) with similar predynastic levels have been tested further east, along the so-called Horus route, by a Dutch team led by E.C.M. van den Brink.[2] A third one, Tell Fara'in-Buto, in the north central Delta, is under excavation by a German mission (von der WAY 1987, 1988, 1989). The Farkha sequence, besides having at least two predynastic levels or, better, sub-levels sharing materials quite different from coeval nilotic horizons, revealed a good series of protodynastic and Early Dynastic levels. The site seems to have been abandoned during the IIIrd or IVth dynasty as were a good number of settlements in the area surveyed by the CSR-Ligabue team (CHLODNICKI, FATTOVICH, SALVATORI n.d.). Furthermore, still lacking absolute chronological determinations, we have to point out that the most recent predynastic layer is separated from the oldest protodynastic one by a well defined physical marker, i.e. an aeolic bed. This marker is sure evidence of a chronological gap between the two cultural phases at Farkha (Ibid.). A similar gap is proved by an aeolic sand deposit separating pre- from protodynastic levels at Tell el-Iswid (van den BRINK 1988a). No physical discon-

tinuity element has been recognized between protodynastic and Old Kingdom layers at Farkha and even pottery evidence shows a very low rate of change during this long period of time. Though the problem is out of the scope of the present paper, the fresh data coming from the proper deltaic region will force a rethinking of the overall course of the egyptian state formation process (cfr. EINWANGER 1987; HASSAN 1988; WILDUNG 1989; SCHULMAN 1989; CHLDNICKI, FATTOVICH, SALVATORI 1991).

The lithic industry

A preliminary analysis of Farkha lithic assemblage, though limited (91 instruments of which only 31 were complete: Tab. 1) leads to some interesting conclusions. Flint seems to be the only kind of stone used to produce chipped instruments. The most popular is a blond flint followed by beige, brown, gray

TABLE 1

Cores		1	1.10%
Flakes		1	1.10%
Circular scrapers		1	1.10%
Side scrapers on blade		2	2.20%
End scrapers		4	4.40%
Simple bi-truncated blades		27	29.66%
Backed bi-truncated blades		16	17.60%
Simple blades		7	7.70%
Simple backed blades		3	3.29%
Sickles			
-on bi-truncated blades		10	10.98%
-on backed bi-truncated blades		15	16.47%
-on simple retouched blades		2	2.20%
Others		2	2.20%
	Tot.	91	100.00%

TABLE 2

TYPE	H.	h.	W.	TH.	SECT.	GLOSS	BAKED	A	B	C	D
EARLY DYNASTIC											
Bladette	3,15		1,05	0,40	TRA	X	X	X	X		
Bladette	3,90		1,30	0,20	TRA		X	X1			
Bladette	4,50		1,40	0,30	TRA	X	X	X	microburin technique		
Bladette	4,90		1,20	0,29	TRA	X	X	X	X		
Bladette	5,00		1,20	0,25	TR			X	X		
Blade	5,20		1,20	0,30	TRA			X			X
Blade	5,40		1,60	0,30	TRA			X		X	X
Blade	5,55		1,35	0,40	TRA	X	X	X			
Blade	5,65		1,60	0,40	TRA		X	X			
Blade	5,90		1,40	0,20	TR			X			X
Blade	6,10		1,10	0,30	TR			X	X		
		2,10	1,50	0,30	TRA	X			X		
		2,15	1,15	0,40	TRA	X		?		X	
		2,30	1,10	0,20	TRA		X	X			
		2,50	0,95	0,30	TRA		X			notched	
		2,50	1,10	0,40	TR	X		X			
		2,70	0,90	0,20	TRA	X		?	X		
		2,90	1,40	0,20	TR			X			X
		3,20	1,20	0,20	TRA	X		?	X		
		3,20	1,20	0,30	TRA	X	X	X			
		3,40	1,50	0,30	TRA			X	X		
		3,40	1,40	0,55	TR			X			X
		3,40	1,40	0,45	TR	X			X		
		3,50	0,80	0,30	TR			X			X
		3,80	1,15	0,20	TRA			?			X
		3,80	1,60	0,45	TRA						X
		3,80	1,20	0,35	TR						X
		4,00	1,10	0,30	TRA	X	X				
		4,10	1,30	0,30	TRA			X		X	
		5,50	1,80	0,50	TR				X		
		6,00	1,30	0,35	TR			X1			X

TABLE 2

TYPE	H.	h.	W.	TH.	SECT.	GLOSS	BAKED	A	B	C	D
PROTODYNASTIC											
Microblade	2,40		1,30	0,20	TRA	X		X		X	
Microblade	2,40		1,10	0,30	TRA	X	X	X			
Bladelette	3,30		1,20	0,30	TRA	X	X	X			
Bladelette	3,50		1,50	0,25	TRA			X	X		
Bladelette	3,50		0,90	0,15	TRA			X			X
Bladelette	3,60		1,10	0,20	TRA	X	X	X	X		
Bladelette	3,70		1,10	0,20	TR	X		X		X	
Bladelette	3,70		1,20	0,25	TR	X		X			X
Bladelette	3,70		1,00	0,30	TR	X	X	X		X	
Bladelette	3,80		1,30	0,25	TRA			X			X
Bladelette	4,40		1,40	0,50	TRA		X				
Bladelette	4,65		1,20	0,30	TRA		X	X			
Bladelette	4,80		1,40	0,25	TR		X	X	X		
Blade	5,02		1,25	0,35	TRA	X		X	X		
Blade	5,90		1,40	0,50	TRA	X	X	X			
Blade	6,10		1,70	0,50	TRA						X
Blade	6,70		1,90	0,30	TRA				end scraper		
		1,50	1,35	0,30	TRA			X			X
		1,51	0,95	0,20	TRA			X	X		
		1,80	1,10	0,30	TR	X	X	X?	pointed end		
		1,90	1,40	0,30	TRA		X	X			
		2,25	1,10	0,30	TRA		X	X			
		2,30	1,70	0,60	TR			?	X		
		2,50	1,30	0,20	TRA		X	X			
		2,70	1,00	0,30	TRA						X
		2,90	1,20	0,20	TRA			X			
		2,90	1,20	0,30	TR		X	X		X	
		2,90	1,40	0,45	TR	X	X	X		X	
		3,15	1,10	0,35	TR		X	?			
		3,40	1,20	0,20	TR				X		
		3,55	1,05	0,35	TRA	X		X		X	
		3,60	1,50	0,30	TRA	X		X	X		
		3,60	1,20	0,40	TR				X	end scraper	
		3,60	1,25	0,35	TR			X			X
		3,70	1,10	0,40	TRA		X	X			
		3,70	1,90	0,50	TRA					X	
		3,80	1,30	0,40	TR			X			X
		3,90	1,00	0,20	TRA			X	X		
		3,90	1,50	0,30	TRA						
		3,90	1,15	0,35	TR		X	X			
		4,10	1,10	0,30	TR			X	X	notched	
		4,10	1,25	0,50	TR	X	X	X	X		
		4,30	1,15	0,35	TR			X		X	
		4,40	1,40	0,20	TRA		X	twisted pointed		end scraper	
		4,70	1,20	0,40	TR			X			X
		5,05	1,20	0,40	TRA		X	X			
		5,30	1,32	0,55	TR		X	X			
PREDYNASTIC											
Blade	5,30		1,50	0,50	TR	X	X	X		X	
Blade	9,60		1,80	0,40	TRA			X1		X	
		2,10	1,90	0,30	TR		X	?			
		2,50	1,15	0,35	TRA			X			X
Flake		3,30	3,00	0,30			X		X		
		3,50	1,60	0,20	TRA		X	X1			
		3,80	1,30	0,40	TRA		X			end scraper	

A = bitruncated B = simple retouch C = denticulated D = no retouched

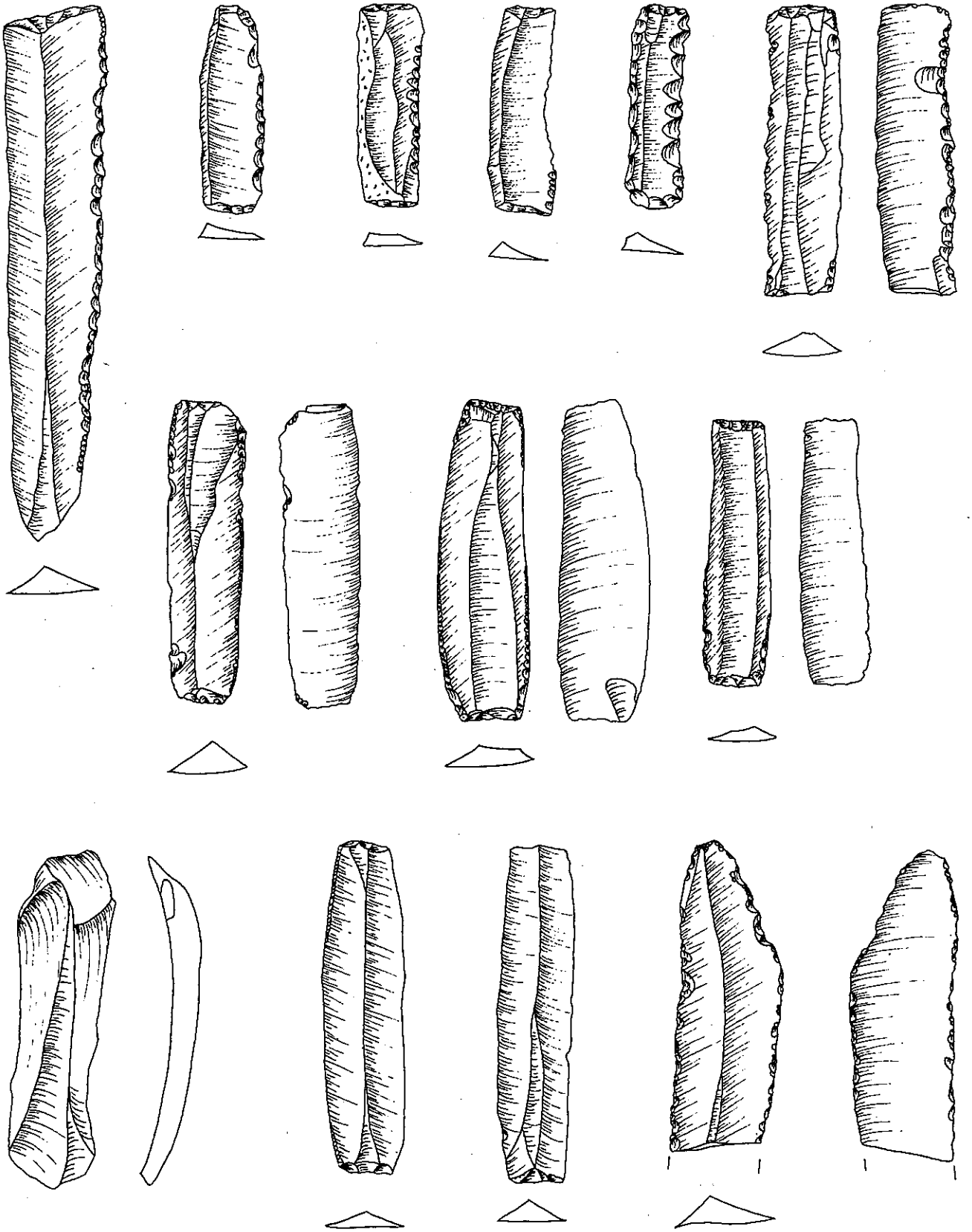

Fig. 1. - Flint bladelets from Tell el Farkha (1: Late Predynastic; 6,9,13: Protodynastic; 2-5, 7-8, 10: Early Dynastic; 11: Old Kingdom). Scale 1:1.

and black varieties. Reddish flint is represented by only one item.

It is mainly a blade industry, instruments on flake being rare. Typological and morphometric variability are very low along the entire stratigraphic sequence, pointing to a standardized blade technology (Tab. 2).

Blades and bladelets[3] of varying width, with normal (rarely oblique or transverse) bitruncation, with simple or deep continuous, alterning or alternate side retouch, sometimes without retouch, are recorded from predynastic to Old Kingdom layers (Fig. 1). Nevertheless predynastic bitruncated blades, backed or simply retouched, are wider than later ones (Fig. 2).

Among bitruncated blades only those showing a side gloss have been considered as sickle segments (Fig. 3:1-8).

We have to point out the progressive decrease of backed blades from predynastic to Old Kingdom, but these figures have to be taken with caution due to the very limited size of the predynastic sample. No appreciable difference can be noticed in percentage recurrence of sickle backed blades through the entire sequence (Fig. 4).

The highly homogeneous percentage values of truncated (bitruncated) blades points to a standardization of blade production. Though the above mentioned class shows the same decreasing trend as regards the backed blades, the percentage ratio of sickle blades segments is constant (Fig. 5).

As already underlined, the Tell el-Farkha flint assemblage shows a restricted implements variety. From protodynastic levels, besides the above mentioned blades, we have two bitruncated microblades, three end-scrapers on blade (Fig. 3:9-14); an ogival blade and a notched one (Fig. 6:1-2); a pointed instrument on a thick blade modified through a deep direct and inverse retouch on the left edge and a simple inverse one along the right edge, and a reshaping flake possibly used as a side scraper (Fig. 6:3-4).

Predynastic layers produced an end scraper on microblade (Fig. 6:5), a circular scraper on flake with deep retouch (Fig. 6:6) resembling a similar scraper from Gerzean levels at Memamieh (HOLMES 1989, Fig. 4.4:d), and a side scraper on blade with deep

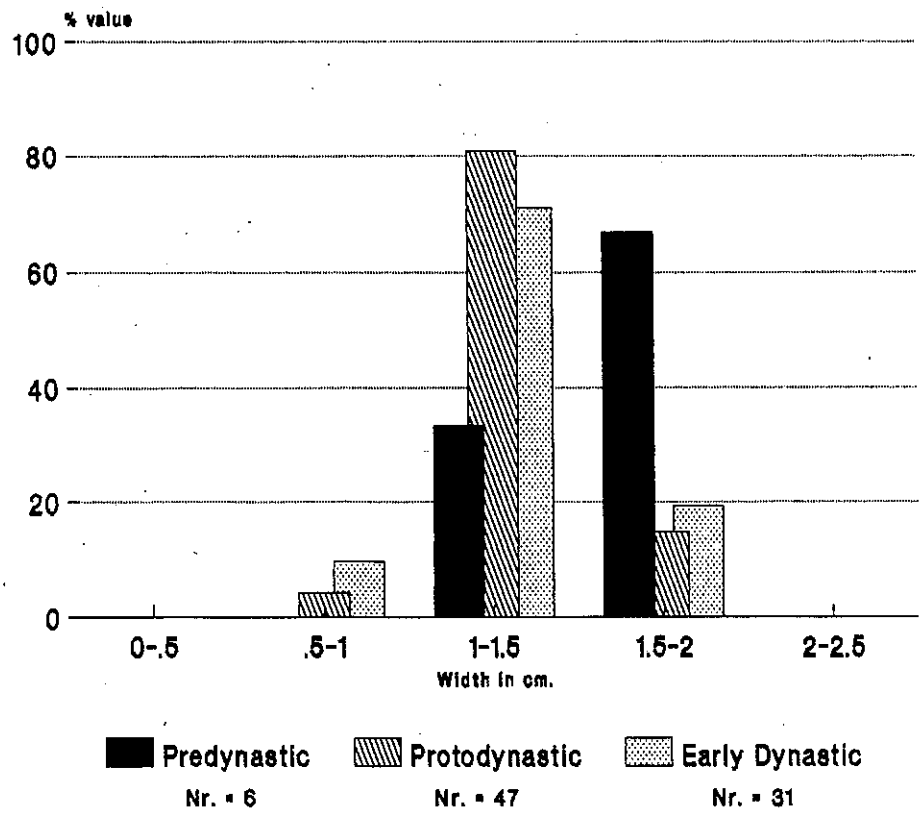

Fig. 2. - Blade width frequency.

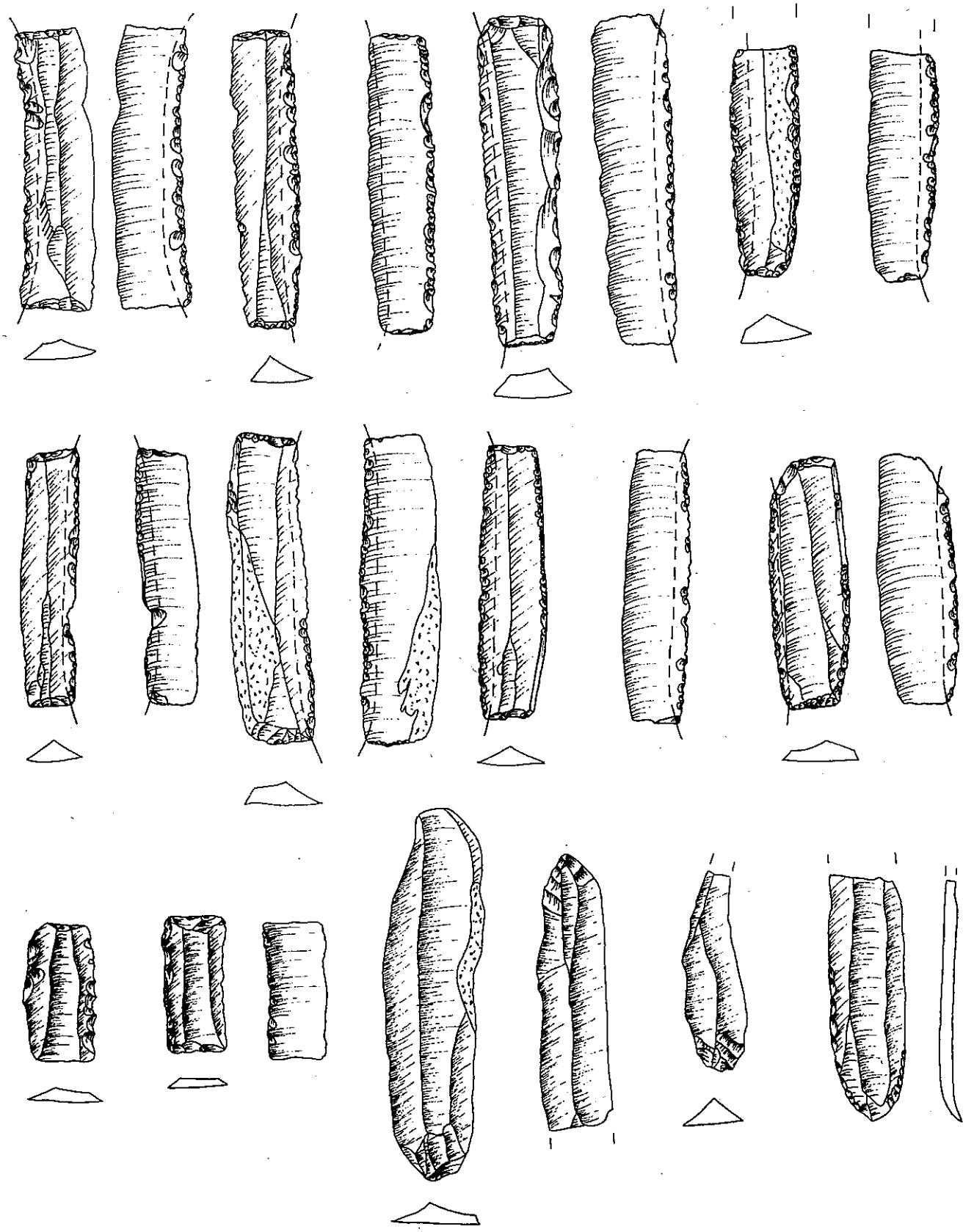

Fig. 3. - Flint sickle segments (1-8), microblades (9-10) and end scrapers on blade (11-14); (1-5,10: Protodynastic; 7,9,11-14: Early Dynastic; 6,8: Old Kingdom). Scale 1:1.

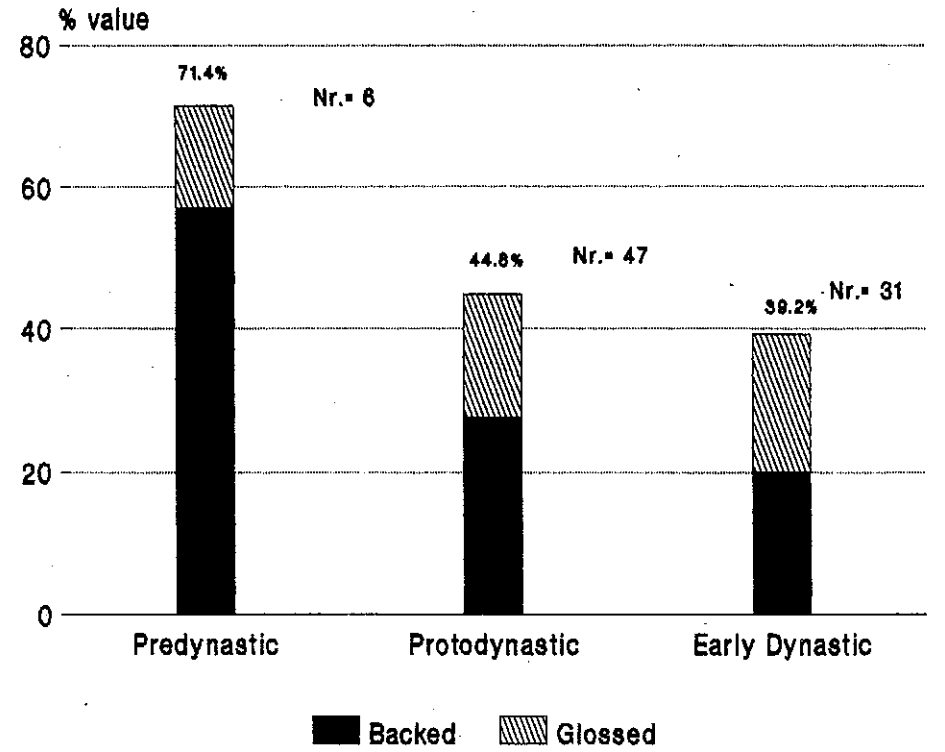

Fig. 4. - Backed and glossed blades frequency.

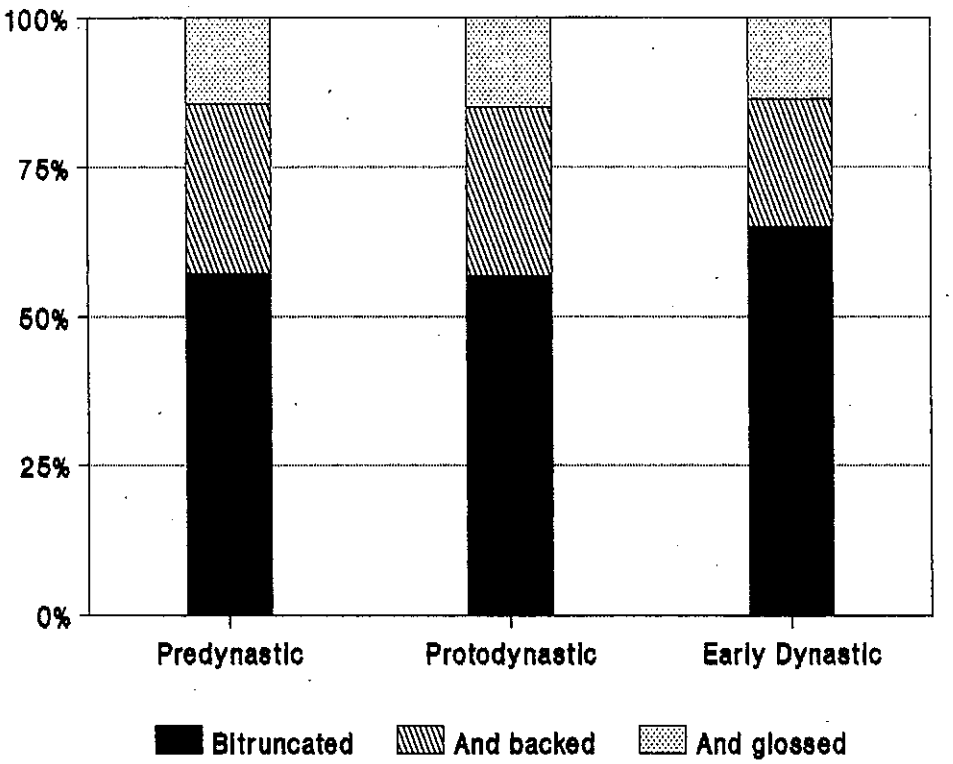

Fig. 5. - Bitruncated, backed and glossed blades frequency.

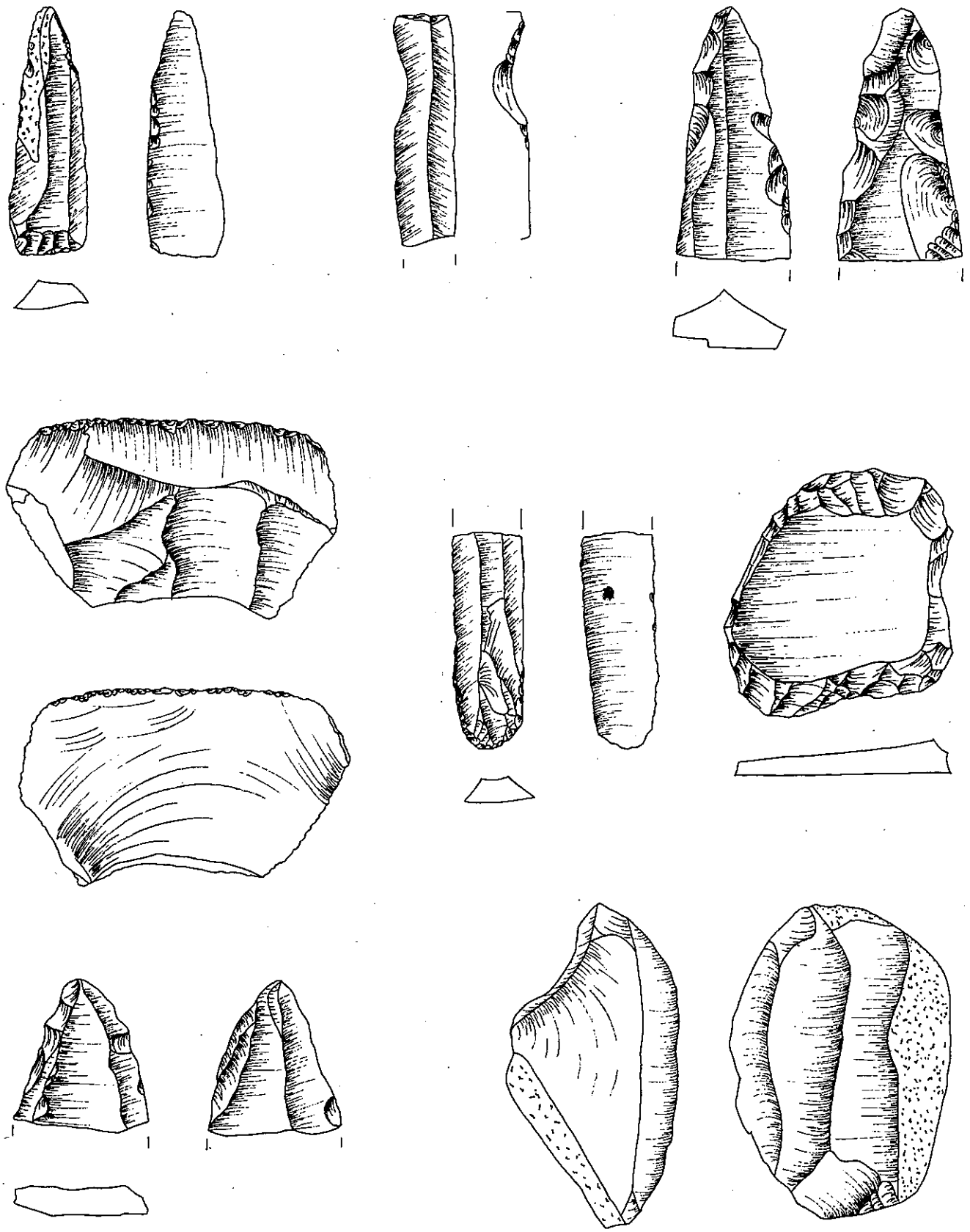

Fig. 6. - Flint implements (5-6: Predynastic; 1-4,7-8: Protodynastic). Scale 1:1.

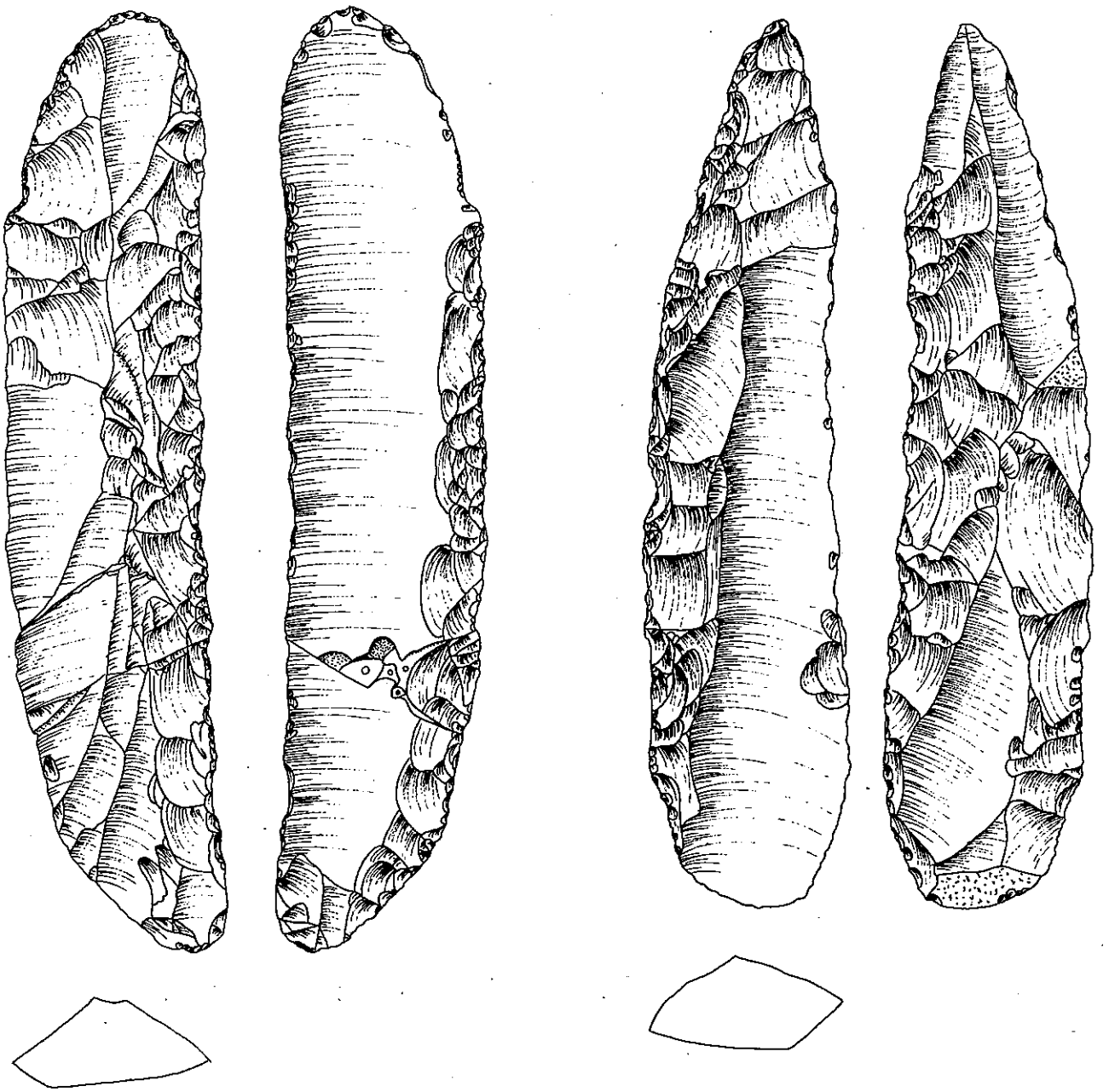

Fig. 7. - Large blades from a predynastic pit. Scale 1:1.

direct retouch on the left edge (Fig. 6:7).

Two large blades which come from the oldest predynastic level recognized at the site deserve a special mention. This level is furthermore characterized by the presence of a distinctive incised pottery (CHLODNICKI, FATTOVICH, SALVATORI n.d.).

One of the two large blades (Fig. 7:1) is from a gray flint with direct medium relatively flat and edge invasive distal retouch; inverse normal-scalar proximal and median retouch on the left side. Section is triangular and the left edge shows clear use shattering.

The second large blade (Fig. 7:2) is from a blond flint with a dorsal direct central expansive and edge invasive retouch on the left side; distal inverse scalar *couvrante* and proximal and median scalar invasive on the right edge. The section is rhomboidal and even this item shows use shattering along the left edge.

We have no exact parallels for this kind of side

scraper on large blades even though some resemblance can be traced back to specimens from Maadi (RIZKANA, SEEHER 1988, Tavv. 27-29), though this is of little chronological significance.

It seems too early to enter the field of technical devices about chipping techniques at the site: only one double platform core (Fig. 6:8) of brown flint and very few cortex removing flakes have been recovered so far.

Bitruncated blades such as those from Tell el-Farkha are known from several Upper and Lower Egypt sites dating from predynastic times to Old Kingdom (ROSEN 1988) even if not always from well defined contexts. Similar items come from Badarian levels in the area between the modern village of Etmanieh and Naga Wissa (HOLMES 1989, pp. 148-153, fig. 5.16), from Gerzean levels at Hemamieh (HOLMES 1989, pp. 72-74, fig. 4.8) and from Maadi (RIZKANA & SEEHER 1988, tav. 74, 2 and 7). The stratigraphycally recorded collections from Buto's layers 3rd to 5th (Naqada III to Early Dynastic period) (K. SCHMIDT in von der WAY 1989:300-307) and from the contemporary Tell el-Iswid Strata VII-X (K. SCHMIDT in van den BINK 1989:82-94) are by far the best published assemblages we can refer to, but for the lack of morphometric data.

We should even point out the close relationship between our protodynastic/Old Kingdom blade assemblage and the canaanean EB I chipped stone industry (ROSEN 1988, 1989), the latter context having provided large amounts of pottery of clear egyptian affiliation and/or origin (BRANDL 1989). The same kind of sickle blade segments have been recognized at Tel Erani (ROSEN 1988), En Besor (GOPHNA 1980: fig. 5; YEIVIN 1976: fig. 1), Gaza H (ROSHWALB 1981 quoted in ROSEN 1988), at several northern Sinai sites (OREN 1973:203), where they are clearly associated with canaanean sikle blades (ROSEN 1983) which are mainly bitruncated, but without edge retouch, i.e. shaft reversible, and wider.

Of particular interest is that the egyptian element at Erani constitutes 15-20% of the entire chipped stone assemblage at the site, strongly suggesting the presence of an egyptian community in some way integrated with the autochthonous population (ROSEN 1988; for a different point of view cfr. AMIRAN 1974:11). On the other side there is no evidence of canaanean blades (ROSEN 1983) at Tell el-Farkha, as well as at Buto and Tell el-Iswid, though they are present at Maadi (RIZKANA, SEEHER 1988: Pl. 75-76).

In general terms, we can notice that though on the base of blade width morphometric variability there is a well defined distinction between our sample and the proper canaanean blade assemblages (ROSEN 1983: fig. 6; 1989: fig. 3), a good overlapping can be recognized between our predynastic group (Fig. 2) and the blade industry from En Shaddud EB I levels (ROSEN 1989: fig. 3). Blade industry from Shaddud not only represents one of the most ancient palestinian EB I assemblage, but clearly differs from later EB I blade assemblages as regards morphometric values (width), which are generally lower (*Ibidem*).

At the present state of field work only further excavations and the chronological determination of Tell el-Farkha predynastic levels will firmly establish the correlative reliability of those data and sikle blades production differential trend both in Egypt and Palestine.

[1] The Centro Studi e Ricerche Ligabue - Venice archaeological mission to the Eastern Nile Delta started its activities in 1987 with a systematic regional survey over a quadrant of 432 sq.are km in the Daqahliya and Sharqiya provinces east of Bahr Muweis/El-Sufiya channel (31° 50' / 31° 00' North Latitude and 31° 30' / 31° 50' East Longitude) between the Mendesian and the Thanitic old Nile branches (CHLODNICKI, FATTOVICH, SALVATORI n.d.). In 1988 and 1989 test excavation trenches carried out at the site of Tell el-Farkha revealed a settlement sequence ranging from predynastic time to Old Kingdom. The anthropic deposit, over 6 m thick, was laying on a sandy pleistocene formation (gezira or turtle backs) (BUTZER 1976) and was actually characterized by three small mounds covering a surface of 400x111 m.

[2] van den BRINK has surveyed a quadrant just to the east of the Italian concession and reaching the area of Minshat abu Omar where a German archaeological expedition has systematically unearthed a large pre-protodynastic graveyard (KROEPER 1984, 1989; KRZYZANIAK 1989; WILDUNG 1989).

[3] Terminology and indexes basically follow LAPLACE 1968.

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