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Prehistoric archaeology. The site of Gombore I

Comments and conclusions on the lithic assemblage

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To conclude, some technological and indeed functional aspects of the lithic industry of Gombore IB will be addressed. In addition, we cannot be insensitive to statistical variations even when artefact numbers or the quality of the characteristics are limited. This analysis shows the uncertainty of some conclusions but emphasises others and highlights several important aspects that were formerly unclear.

Reflections on statistics

Statistical analysis is necessary. A typological count has been used in preference to a count of the actual number of artefacts, but without ignoring the latter. In the technological table, a double tool appears once, but the craftsman has manufactured two tools, so it appears a second time in the functional table. This is because the two tools can be very different. So, a core that becomes a chopper or a polyhedron, or even a tool with two rabots on intersecting planes, is counted only once, but the manufacturing techniques as well as the functions are two-fold. The percussion material does in fact lend itself to this ambiguity. Three increasingly limited statistical patterns remain to be considered and ought to be thought over.

Lithic industry	**N**	**%**
Percussion material	6082	58.42
Tools on pebble	1979	19.01
Cores, flakes and tools on flake	2350	22.57
Total	**10411**	

Tab. A. Gombore I B. Typological and functional counts.

Lithic industry	**N**	**%**
Hammerstones	532	11.95
Tools on pebble	1979	40.71
Cores, flakes and tools on flake	2350	48.34
Total	**4861**	

Tab. B. Gombore I B. Actual tool numbers, excluding broken and battered pebbles but including true and unambiguous hammerstones.

1. Archaeological Mission Melka Kunture.

Lithic industry	N	%
Tools on pebble	1909	59.40
Cores	250	7.78
Utilized and retouched flakes	700	21.78
Tools on flake	355	11.04
Total	**3214**	

Tab. C. Gombore I B. Flaked and utilized objects, excluding debris, raw flakes, percussion material, and hammerstones which were used but were not subject to modification. As a result of these exclusions, the numbers in this third table are much more limited.

Let us now consider the major typological or technological categories and the conclusions that can be drawn by comparing the three tables.

Percussion material

When considering only the typological count (Tab. A), percussion material represents 58.4% of the total lithic assemblage. However, if only the actual count is considered, there are 1033 broken and battered pebbles (battered pebbles and hammerstones). This group of one thousand objects is studied twice so in effect the actual count of the percussion material represents no more than 53.8% of the lithic total.

The difference, although noticeable, hardly modifies the general impression that more than half of the lithic material used by the toolmakers was for the purpose of crushing or flaking stone. Even if some fractures or impact marks could be due to natural action, this human activity is clearly dominant and significant.

Strictly speaking, one should not take broken pebbles into account and only true or temporary hammerstones (battered pebbles) should be accepted. In this count, the percussion material would still represent 35.5%.

Finally, to be even more exact (Tab. B), if only true hammerstones are retained (active hammerstones, passive hammerstones, pitted hammerstones), the percentage of these 532 objects, would be no more than 12%. This is even more accurate and confirms the importance of the use of hammerstones not only to flake choppers, polyhedrons and cores, but also to crush and grind bones and plant material. This is no longer a technological but a domestic activity.

Tools on pebble

In the typological count in the inventory, 1979 tools on pebble represent 19% of the total (Tab. A). Assuming that only modified objects and used pieces should be considered (Tab. C), even without the "debris" category (70 objects) this group accounts for nearly 60% against 11% for tools on flake. The pebble material therefore dominates and is evidence for human activity at Gombore I.

Among the different categories of tools on pebble, choppers constitute the most important class with 44%. Polyhedrons, end-scrapers and other pebble tool classes each represent about 18%. Only archaic handaxes have a very low incidence at 0.7% which is quite characteristic of Oldowan sites, despite their particular importance on the technological and typological level.

Débitage, flaking products and tools on flake

Cores are well represented with 250 pieces. However, in comparison with the 2100 flakes, the number is low. Some flakes come from cores (intentional preparation and flake removals), but others are only waste from trimming choppers, polyhedrons and end-scrapers. This emerges from studying the flakes, but also from examining the figures. The cores are often rough and could only yield a few flakes, sometimes only one or two. The use of flaking to shape pebbles with preparation flakes in order to obtain a particular tool is indisputable.

Of the total flakes, trimmed pieces on flake (side-scrapers, end-scrapers, notches, etc.) represent 17%. Finally, a third of the flakes were used or casually retouched. Half of the flakes are therefore raw flakes without retouch or utilization marks, and do not seem to have been used. However, we must consider that temporary utilization by a skilful user can leave no trace. Flakes in the other half of the class could have been intentionally modified for a particular activity (awl, end-scraper, etc.) or used as they were as knives or side-scrapers.

Conclusions

From these statistical reflections on the total lithic assemblage of broken pebbles, tools on pebble, cores and flakes, only pieces that would have had a fairly precise function in the mind of the manufacturer or user could be retained, such as lateral choppers, spherical polyhedrons, rabots, notched pebbles, awls on flakes, or end-scrapers on flakes. From this perspective, no more than 1909 pebble and 355 tools on flake would be kept, or 2264 objects (21.7% of the total lithic material) that were made more or less on purpose. Of course, in addition to this small group, there are some pieces worth considering because they are useful and necessary (hammerstones, cores) as well various pieces that could have been used as blanks (broken pebbles, flakes).

Reflections on technique, morphology and function

The three principal classes will be examined in succession.

Percussion material

Exceptional sites such as Olduvai and Gombore I are useful in providing a great deal of evidence, even though for the latter human occupation was probably brief and suddenly interrupted by flooding of the Awash. The alluvium that covers Level B bears witness to this.

Early Stone Age sites do not always have such an abundance of information. There is a tendency to minimise the Oldowan technologically, but it is a period in which tools for crushing are particularly abundant. Flaking operations were performed, but probably in addition to crushing. As previously mentioned, if true hammerstones are really convincing tools, others can be doubted. Even if all stones with fractures that have blunted ridges are disregarded, and even if only those with impact marks that seem “fresh”, and seem to have been used at the time the site was occupied, are kept, the risk of including objects marked and broken by natural phenomena such as fluviatile or thermo-weathering, is inevitable but genuinely limited. It could change some numbers but the proportions remain valid and the numerical importance of the tool classes linked to percussion remains undeniable. The percussion material is divided into two main typological categories: hammerstones and broken pebbles.

Hammerstones

Battered pebbles can be considered as temporary hammerstones because they are lightly marked with impact traces. They occur abundantly and are four to five time more common than true hammerstones.

We note that among the battered pebbles selected, the dimensions, weight, and shape vary widely. On the other hand, others such as the active or manual hammerstone, show greater homogeneity of these attributes. The dimensions of active hammerstones are often under 100 mm and the average weight fluctuates between 300 and 400 g. Crush marks or scalings are visible in several zones. The attributes of passive and pitted hammerstones (due to repetitive utilization on the same point) are homogeneous but their dimensions and weight are often greater (weight over 1000 g). All have marks characteristic of their function. They are types of anvil that were usually placed on the ground and the objects to be hammered were placed on them.

Broken pebbles

Fractures are generally the result of direct impact. The point of impact can sometimes be found. The pebbles broke in two, three or more fragments. The more fractures the pebble has, the fewer percussion traces are found. Most broken pebbles have no impact marks (72%). The broken pebble can be a hammerstone fragment but fractures can also be due to a poor quality rock or even to natural cracks in a stone, which made it easier to split.

Ridges caused by fractures are sharp and could have been used even without retouch of the half-natural working edge. A broken pebble therefore can become a casually trimmed chopper. At Gombore I, this transition from a raw and badly flaked tool to a retouched tool, is often seen.

Tools on pebble

Some observations need to be repeated: choppers are abundant, there is a marked presence of polyhedrons and heavy end-scrapers, and there is also a well established occurrence of tool types usually made on flakes but found here on pebbles. These are notches, large denticulates, beaks, rare burins, as well as a very small number of handaxes with archaic characteristics.

There are 44 pieces characterised by abrupt fractures, as well as several discarded objects named debris or waste with multiple and disorganised fractures, that can be included in this class.

Choppers

Eleven categories of chopper have been recognised. Lateral and distal choppers are the most frequent with 57% of the total. Hard rocks dominate but obsidian is present with 7%, mainly among small pieces.

Maximum lengths are very variable, but 60% of choppers in all typological categories are between 70 and 110 mm long. Choppers can be either long or short; but they are mainly thick. Weight is noticeably heterogeneous although there is a slight concentration between 400 and 600 g.

The shaping reveals a simple and well-controlled technique. Bifacial choppers dominate with an average of 73%, varying according to typological category. Bifacial choppers (chopping-tools) are therefore very common among choppers with a peripheral working edge (97%) and also among lateral-distal-choppers and chisel choppers. Conversely, other chopper categories have a high proportion of unifacial choppers, as is the case for distal (39%), double (37.5%) and even truncated choppers with 32%.

In 54% of choppers the angle of the working edge is over 80°. On the other hand, in 17% this angle is under 70°, particularly among truncated choppers. Seen in profile, the working edge is very often sinuous, as is the case in 86% of lateral choppers.

Choppers have numerous impact marks on the working edge. However, the utilization of these objects might differ according to the location of the working edge. Probable cutting or scraping actions would be in accordance with the function of the typological category and dimensions of the piece. A heavy chopper with a lateral working edge was not used like a small chisel chopper. Despite its various shapes, whether unifacial or bifacial, the chopper remains the type of tool which is characteristic and representative of Oldowan assemblages.

Polyhedrons

Polyhedrons are relatively abundant. The 345 pieces are divided into six typological categories. The prismatic polyhedron category, the only important one, is followed by that of polyhedrons with a preferred working edge and that of spherical polyhedrons.

With basalt being the rock most commonly used, it is surprising to find a reasonable proportion of obsidian, especially in the prismatic polyhedron category (22%). The image of the polyhedron as a "throwing stone" should thus be replaced by that of the polyhedron as a supplier of flakes, i.e. a "core-polyhedron". Their dimensions are often over 100 mm, prismatic polyhedrons being among the smallest. Polyhedrons are short, very thick, heavy pieces that weigh more than 600 g.

Shaping is achieved by detaching several flakes in all directions (from 7 to 12 on average, but sometimes more). Angles between facets are high. Impact marks can be seen on the ridges of a possible working edge, but also at extremities where facets meet.

Many polyhedrons were initially cores, but those that we have found have undergone further shaping. They are no longer really cores.

The most interesting categories are, firstly, those which show a preferred working edge or even several working edges. These heavy edges are reminiscent of some choppers. Secondly, there are the categories of prismatic or spherical polyhedrons that are forerunners of the facetted balls and bolas of the Acheulian. These tools could be stones prepared for throwing a long distance, or fitted with a handle to be used as a club for crushing.

Heavy end-scrapers

This category is numerically just as important as that of polyhedrons. It is represented by two types of tool, the thick or heavy end-scraper and the rabot. Rabots are in the majority with 72%. Thick end-scrapers, sometimes of obsidian, are short or rather long, thick or flat and rather heavy. The basalt rabots are short, heavy, and 81% are very thick. The shaping of these two tool types is very similar: from a platform that is either natural (cortical) or obtained by truncation before flaking, the craftsman detached several flakes or small blades (from 2 to 20), more or less regular and adjacent. These removals form a steep edge and a low front for end-scrapers or an abrupt or vertical edge with a high front for rabots. The angle of the working edge is very representative of this category: for 81% of the thick end-scrapers the angle ranges from 50 to 80°, while it is between 80 and 100° for 94% of the rabots.

Utilization marks or scalings affect the working edge, seen either from the platform or the retouched side. Thus, the front or retouched edge of the end-scraper always has utilization marks, but this same working edge seen from the platform side might have no traces of utilization or be very slightly marked. This is the case in 18% of thick end-scrapers and 33% of rabots. The working edge of some rabots is polished (19% of the cases), which could indicate an activity linked to barking or scraping of vegetable fibres.

These two tool types are found in the same activity areas and their concentration does not seem to be a matter of chance. Thick end-scrapers and rabots are in fact also characteristic of the Oldowan, just like choppers, but they are technologically more advanced.

Various tools on pebble

This class brings together various interesting tool categories that generally occur in low numbers. They are often the typological equivalents of tools on flake. They can also be characterised as "truncated pebbles". Finally, more than half the class are called "casually trimmed pebbles", equivalent to "casually retouched flakes".

- *Beaks*: The preferred rock remains basalt, but obsidian is well represented. These tools have a base or platform which is usually flat, cortical or trimmed with a rather pointed beak at one end. These beaks are not awls but some are like nosed-scrapers. The beak was made with two notches, by a fracture or even by small abrupt removals. There is a kind of polish on 10% of the beaks. These deliberate tools would certainly have been used more to scrape than to pierce.
- *Burins*: Are basalt tools that are quite elongated and thick, with a bevel from a narrow platform obtained by one or two removals of "burin blow" type. Burins on pebble are rare but have been reported from Bed I at Olduvai Gorge (Leakey 1971).
- *Notches*: These few pieces (27) are flaked on soft rocks. They are clactonian notches, created from a flat cortical face. The notch shows a rather marked concavity and it measures from 8 to 50 mm with a depth of less than 10 mm. These notches are rarely retouched but all have numerous utilization marks (scaling, crushing) that only involve the notch.
- *Denticulates*: Most of these tools have from 2 to 3 adjacent notches, but they can have up to 5. The notches are quite small and are deeper than those on denticulated flakes. Crush marks are common.
- *Side-scrapers*: Are very rare and are technologically close to Acheulian side-scrapers but with dimensions close to those of Middle Stone Age side-scrapers. The few retouch flakes are mostly unifacial, designed to scrape rather than to cut.
- *Truncated pebbles*: These are very thick pieces with a truncation in the form of a transverse fracture trimmed by 2 to 7 removals. The truncation has traces of hammering so the tool could be a linear hammerstone prepared for that purpose.
- *Unifacially trimmed pieces*: Half are made on welded ignimbrite. The trimming only occurs on one face that has been made flat or slightly convex by the removal of 5 to 12 flakes. Utilization traces are rare. These objects are reminiscent of the preparation on Acheulian cores or handaxes.
- *Trihedral pieces*: They are large, long and made of obsidian (5). They have elaborate trimming (6 to 14 removals). The section is trihedral and 3 have a more or less pointed end that, although fragile, has been used.
- *Casually trimmed pebbles*: This is a heterogeneous group that fits no typological category. They cannot be ignored, for they represent nearly 60% of diverse tools on pebble. Moreover, the frequent and adjacent "retouches" are without doubt intentional. They are perhaps pieces that were abandoned in the process of shaping, failed tools or the clumsy implements of a beginner. In fact, they are similar to known tools such as choppers and rabots but without their decisive characteristics.

Comments

If one excludes the unclassifiable pieces and those that are broken, such as casually trimmed pebbles, what remains? It is the beaks, notches and denticulates, although the latter are in fact only made by a series of notches. So, we have types of end-scrapers, beaks and notches, all tools intended to scrape or bark, and each class of about thirty pieces represents a total of 4.65% of all tools on pebble. Burins, unifacial and truncated pebbles, on the other hand, remain rare.

Handaxes

Archaic handaxes are rare (0.66% of tools on pebble), and are often made on obsidian. They all have more or less clear axial symmetry and are "thick bifaces" according to Bordes. The distal extremity is ogival or pointed. The thick proximal extremity is angular or rectilinear. The simple and centripetal trimming is made with a hard hammerstone. There are up to 8 primary and secondary negative removals per face, rarely more and often less. Working edges are sinuous and the angle of these edges is closer to that of choppers (80-90°) than to Acheulian handaxes. Some are very marked by utilization, others have no trace. The same applies to the extremities.

Whatever could be the function of these tools: picks, knives or something else? In the first place, as in Bed I at Olduvai, the Oldowan is not lacking in this type of tool. In the second place, if handaxes show some similarities with well-known Acheulian pieces, the shaping technique and probably their utilization remain, at this site, very close to those of choppers.

Débitage

It is difficult to distinguish a core from a trimmed pebble, a chopper, a polyhedron or a rabot. The polyhedron in particular is an ambiguous piece. However, if a proportion of these tools on pebble have provided usable flakes, they are nevertheless indisputably tools. The flaking of choppers or polyhedrons also meant the production of many flakes, of which some have been used as they were, or retouched into side-scrapers, knives or end-scrapers. However, some objects were never anything but cores. Flaking techniques are sometimes surprisingly advanced but they also confirm the intentional preparation of blocks as cores for the removal of flakes of more or less deliberately selected shape and dimensions.

Cores

Although there is a reasonable number of 250 specimens, these artefacts are proportionately less common than tools on pebble (11.2%). However, unlike flaked pebbles, half are on an obsidian blank. Most have a maximum length of between 40 and 80 mm. Whatever the material, a quarter of the cores retain at least one area of cortex.

- *Unipolar cores* are the most numerous (43%) but also the simplest. Six were also tools: chopper, end-scraper, rabot, beak, etc. The half of them retains some cortex, often on the ventral face, and nearly a third have two or more removals. Of the unipolar cores, 40% have yielded only a single flake struck from a cortical area or preparation facet. It is often the main removal. However, a quarter of unipolar cores have traces of 2 and sometimes 3 removals (5%). They are adjacent and usually parallel. Striking platforms are generally flat, but many remain cortical.
- *Bipolar cores* are three times less common than the above, and 62% are of obsidian. The ventral surface is often shaped by several facets. These cores are characterised by the removal of a minimum of two opposing flakes (60%), but there can be three, four or more.
- *Centripetal cores*: the preparation of these is more elaborate. Several facets (54%) shape the ventral face and areas of cortex become rarer. The striking platforms are flat and dihedral.
- *Polyhedral cores*, representing a fifth of the cores, often become rabots when reused as tools on pebble. Basalt and obsidian are the most sought after rocks. Most are large or rather large cores measuring from 80 to 160 mm (60%). The number of flakes detached from these polyhedral cores is variable. They can have up to 22 negative scars intersecting each other at random.

- *Prismatic cores* are less numerous. The flaking is done from the ventral face, detaching from 4 to 6 flakes and giving a shape that often simulates a rabot.
- *Pyramidal cores* are rare. Technologically rather similar to the above, they are distinguished from them because the convergent removals form a point.

Débitage products

This is an important class of 2100 flakes, including tools on flake. Nearly half are of obsidian. The same ambiguity between actual cores and cores that became tools applies to the situation with flakes. The problem is to know whether particular flakes are detached from a core or if they are the result of the preparation of tools on pebble. In the case of blades and regular flakes, their origin can be guessed fairly accurately; but 34% of flakes are wider than they are long and they do not necessarily originate from classical cores. Finally, one flake out of three is broken.

Among other general characteristics, 62% of the flakes have a flat platform (one facet) and only 8% have a dihedral platform (two facets). Nearly a third of the flakes have a more or less cortical upper face. On 13.5% this face is completely cortical, but this does not prevent a great majority (81%) from having an upper face with several old negative flake scars. This study of the upper face confirms that obsidian was brought onto the site in pre-shaped blocks, while other volcanic materials, the beach pebbles, were shaped on the spot.

- *Utilized flakes* (413) have attributes similar to those in the total flake category and from this fact we can surmise that the tool-makers were not particular when selecting flakes at their disposal.
- *Retouched flakes* are less frequent, accounting for only 6%. They are pieces that cannot be classified typologically. Obsidian is well represented. While large flakes seem to have been clearly preferred, the extent of cortex on the upper face does not seem to have been of interest.
- *Broken flakes* have the same attributes as whole flakes with the difference that the proportion of obsidian is higher, which probably derives from the fragility of the rock.

Tools on flake

It is immediately noticeable that 56% of these tools are notches, denticulated pieces and end-scrapers, while burins and beaks are among the most rare. Out of 355 tools on flake, nearly half are on an obsidian blank.

- *Side-scrapers* are quite numerous and are made on flakes of average dimensions (40 to 110 mm), long or lamellar. The platform is flat, except for two pieces where it is facetted. Simple side-scrapers are in the majority and the working edge is mostly convex. Double side-scrapers, convergent or *déjetés* scrapers are very rare.
- *End-scrapers*. There are 62 and they are distributed between typical end-scrapers (39%) and atypical end-scrapers. They can be on cortical flakes as well as on flakes prepared by several facets. Retouch is mainly normal (coming from the ventral face of the flake and cutting into the upper face). The front of the scraper can be convex; and it is sometimes highly elevated. End-scrapers on the tip of a flake dominate with 71%, but the presence of lateral end-scrapers (16%) is one of the typological characteristics of Gombore I.
- Among the less common pieces, there are *burins* (4, of which 3 are atypical), and also *awls*. These eight awls, of which six are of obsidian, have been made with one or two notches or sometimes by simple retouch.

- *Beaks* are either large thick awls or burin-like beaks. Obsidian dominates clearly. *Naturally backed knives*, whether the back is cortical, on a fracture or on a reworked facet (knives with prepared back) are quite well represented. They are small flakes with a flat platform. The working edge has traces of utilization including scaling, chipping and even small notches.
- *Notched flakes* are the most common class with 20%. Notches themselves are either clactonian or regularly retouched (74%) and are equally distributed on the right or left edges or the distal extremity. One notched pebble in eight has two notches and two tools even have three notches each. On the whole, notches give the impression of having been flaked a bit haphazardly on the edges of the flakes.
- *Denticulated tools* are equally abundant. The notches (denticles) can be normal (75%), inverse (on the ventral face of the flake) or alternate. They are grouped as often on one edge as on the other.
- *Various pieces* are flakes with retouch on the ventral face, or flakes with alternate retouch and more rarely, flakes with bifacial retouch.

Just as tools on pebble were focused on crushing and scraping activities, tools on flake with numerous end-scrapers and notches confirm this latter activity on skin, wood and bone.

Gombore I B and the Oldowan

Without searching for arguments beyond typology and artefact analysis, what can be said about the cultural relationships of Gombore I Level B?

As in every lithic assemblage, there are two or three categories:

A - a large category of archaic pieces including hammerstones, broken pebbles and raw flakes.

B - an important category of tools on pebble with very numerous choppers but also polyhedrons, thick end-scrapers, simple cores and cortical flakes.

C - a category of rare advanced, “modern” pieces including archaic handaxes, small side-scrapers, flakes with the upper face trimmed by several facets, and blades.

Every paleolithic industry (Chavaillon *et al.* 1978, 1979) reveals itself through change. The changes are not sudden, but evolve in fits and starts in each category: percussion, tools on pebble, flaking, tools on flake, etc. These changes are not synchronous. It is a mosaic-like evolution.

From this total assemblage, the most characteristic category is that of the tools on pebble and the presence of tools on flake specialised for scraping. Thus category B is perfectly coherent and is reminiscent of the Oldowan levels of Olduvai Gorge (Leakey 1971, 1975, 1976).

The category of archaic pieces is of course always more or less present in any industry. It is only significant if it is abundant. This is the case here but, because it has very often been neglected except by M. D. Leakey, it cannot label Gombore IB as archaic Oldowan, unlike the sites in the Omo Valley (Chavaillon 1970, 1976; Merrick and Merrick 1976), Hadar (Roche and Tiercelin 1980), Koobi Fora (Harris and Isaac 1976; Leakey and Leakey 1978; Toth 1982; Feibel *et al.* 1991; Isaac 1997; Braun and Harris 2003), Nyabusosi (Texier 1995) and Lokalalei (Roche *et al.* 1999). However, category C with its often rare advanced tools, its sometimes lamellar flaking and its few handaxes, could encourage one to give it a progressive label, that of a Lower Acheulian site, as is done at Konso in Ethiopia or Kokiselei 5 in West Turkana (Kenya). This can be justified for these sites. In fact some authors, like M.D. Leakey or J.D. Clark (Clark and Kurashina 1976), have followed a methodology which consists of a mathematical choice between Oldowan and Acheulian according to the percentage of handaxes among the large pebble artefacts, at 30% for some or 40% for others (Kleindienst 1961, 1962). This rate is much too high. It is true that a minimum percentage of tools characteristic of the Acheulian (handaxes, cleavers) seems necessary to refer an assemblage to this Stone Age tradition. However, as far as Melka Kunture is concerned we must remain cautious despite a similarity in the dates. In fact, there were more archaic handaxes in Bed I at Olduvai than at Gombore I. Furthermore, there was a blade broken into three pieces (two joined) and bladelets at Omo 123 (Chavaillon 1976), in the Omo Valley in Ethiopia (age 2 Ma). Handaxes are not specifically Acheulian nor are blades or bladelet flaking specific to the Upper Paleolithic or the Epipaleolithic. We must have proof of flaking techniques that were perfectly controlled by hominids as well as a sufficiently large assemblage of tools for these characteristics to be significant. The exception can be found as often in older assemblages as in more advanced ones.

We therefore retain the label formerly given to Level B of Gombore I, that is to say it is an Oldowan site. We could even be more specific and say that Gombore I would not be an advanced Oldowan site (Developed Oldowan A), nor an archaic Oldowan site (Omo Valley, Koobi Fora), but could be a classic Oldowan site that is approaching the advanced Oldowan.

Organisation of the Oldowan level

Excavations at Gombore I as far back as 1969 revealed a curious small trench at the base of the Oldowan level (Chavaillon and Chavaillon 1969). However, in 1970 and 1971 the extension of the excavation to the east and south allowed some evidence for organisation linked to human occupation of the site to be located (Chavaillon and Chavaillon 1971). The situation was as follows:

In the eastern sector of the excavation (the zone named D), a completely empty roughly oval space of about ten square metres was found bounded by fairly dense accumulations of flaked objects and pebbles from the Awash that may or may not have been brought there by Oldowan hominids. This platform rises above the Oldowan level to a height of 30 to 40 cm and is particularly clear on the southern and western sides. On the other hand, to the north there is a small trench that could have been dug by people or, more probably, it was a small gully they could have modified (Figs. 9, 53, 54).

To the south and to the west, below a small cliff, a gently sloping glacis transported some stones and lower down joined up with the level covered with bones, flaked tools and river pebbles. This densely covered zone stopped suddenly.

The platform is composed of the same sediment as the base of the site, that is to say rather clayey consolidated yellow sand. During the excavation, we removed grey clays of the same mineralogical composition as those covering the Oldowan level. They were stuck along the length of the wall, clearing a nearly vertical surface. Therefore the platform, the trench, the small cliff and the glacis existed long before they were covered by the muddy waters of the Awash. Eastwards, the platform continues without significant relief. However, it was in this sector that some small stone circles were found. There are four (Fig. 9), a fifth being partly destroyed. All are roughly aligned from north to south. Then the 1 to 1.5 m wide sterile zone resumes; thereafter the soil is again covered with objects (flaked pebbles and bones), even though with a lower density than to the west. No difference in height separates the sterile zone from the soil rich in tools, pebbles and bones.

In fact, the denuded platform occupies a wide oval of which the long axis measures 6 m and is directed westward, and the short axis measures 3 to 3.5 m. The northern side is also marked by a micro-cliff, that of the small trench dug or not into the heavily consolidated sands. At the bottom of this small channel were several objects and bones.

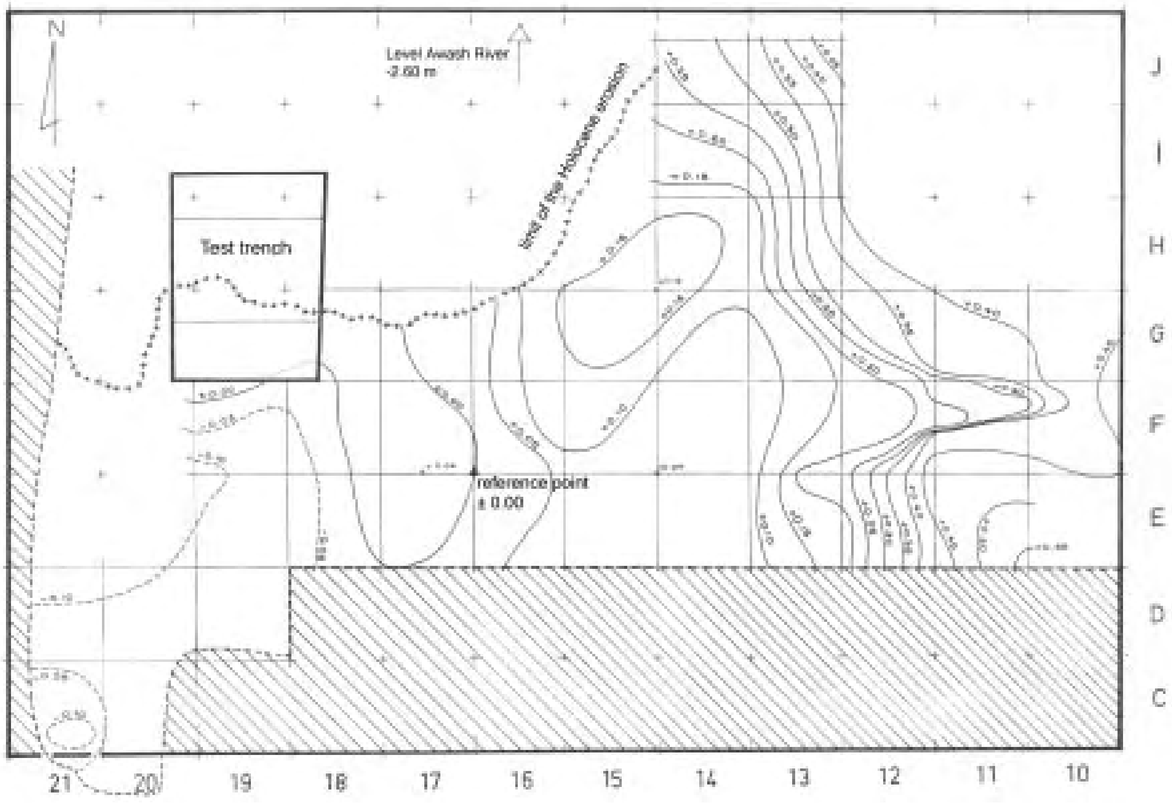

Fig. 53. Gombore I. Contour lines and plan of the excavation showing, to the right, the platform (below) and the small channel. *Plan by J. Gire*

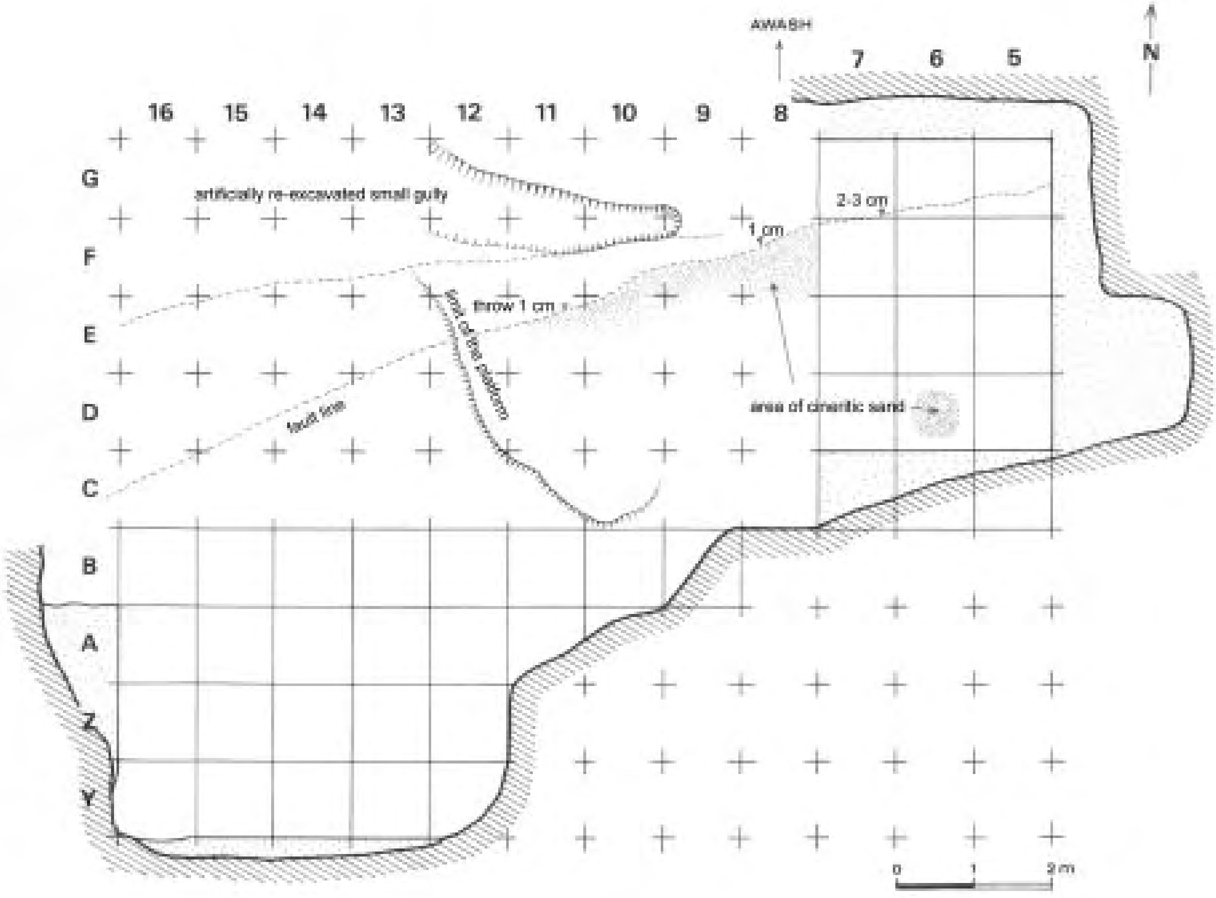

Fig. 54. Gombore I. Plan of the 1970 excavation showing the position of the platform and of the micro-faults. *Plan by J. Gire*

From this description, some remarks and hypotheses can be made:

- The sterile area is surrounded on three sides by a high concentration of objects and pebbles and on the fourth is bordered by a small trench with some objects. The platform is also slightly raised and it consists in a natural surface.
- The clear absence of objects along a curved line delimiting the platform leads one to assume that an obstacle separated the sterile zone from the concentration of bones and stones; the fourth side, exposed to the north, is bordered by a small trench. The obstacle could, for example, have been boughs or thorny branches.
- The sandy base of the platform is clearly hardened; it is a natural fact. On the other hand, the fact that this surface was denuded of objects could lead one to assume a possible human intervention.
- The small stone circles aligned north-south in the eastern sector of the occupation level are rather surprising. The external diameter of these circles varies from 20 to 40 cm. We can hypothesise that they are wedging stones for pegs set in rather hard soil. An identical situation was observed during the excavation of the Garba XII Acheulian site in 1978. In this site, dated to about 1.0 Ma, the presence of a bare surface can be attributed without difficulty to a hut floor with peg holes and wedging stones. At Gombore there is no proof of such peg holes. However, if we admit that they are wedging stones, the problem is to know if they were inside the shelter (the interior surface would not be more than 10 square metres), or more or less inside thus making the surface of this zone a large oval of about 15 square metres.

During the excavation in 1971 a doubt arose. Could the top of the platform and the material found in the east constitute an upper level separated from the main Level B2 by 30 or 40 cm of clayey sediments? The idea of a test excavation that would destroy part of the platform was abandoned for various reasons. In 1972, this area was completely covered by debris and very recent alluvium (the site is still liable to flooding) and it has remained so. Only thirty years later, in 2000, during the mission led by M. Piperno, J. Chavaillon ascertained whether or not the Oldowan Level B2 continued under the platform, and whether there are one or two archaeological levels *in situ*. A trench was cut through the older deposits. The platform was partially uncovered and a test through the compacted yellow sands gave proof that the sandy sediments of the structure and those of the soil below are exactly the same. The Level B2 marries in a sense the disturbed surface to the substratum of compacted sand.