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**Preliminary report on the site of Song Gentong
Kabupaten Tulungagung, East Java (Indonesia).**

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Abstract.

Within the framework of a general research project concerning human settlements patterns in Eastern Indonesia during the Holocene, first evaluation of a cave site tested in East-Java. The material culture excavated (sherds, bone tools, flaked and polished lithic objects) together with big quantities of mollusc and bones pieces and splints burned or not, suggests a preneolithic-neolithic settlement. A first dating would confirm this attribution awaiting new ones and further excavations.

Résumé.

Première évaluation d'un site en grotte fouillé à Java-Est dans le cadre d'une étude générale sur les peuplements en Indonésie Orientale à l'Holocène. Le matériel exhumé (tessons, outils sur os, outils lithiques débités ou polis) associé à une grande quantité de débris de mollusques et ossements, brûlés ou non, suggère une occupation préneolithique-néolithique. Un premier datage le confirmerait en l'attente de nouveaux et de fouilles complémentaires.

Ringkasan

Evaluasi awal terhadap penemuan baru di gua Song Genteng Jawa Timur dalam rangka penelitian tentang sejarah hunian di Indonesia Timur pada kala Holosen. Temuan ekskavasi berupa kereweng, alat-alat tulang dan industri litik bersama-sama dengan sisa moluska dan fauna lainnya, terbakar atau tidak, dan kubur, mengisyaratkan adanya hunian preneolitik hingga neolitik. Dugaan ini sesuai dengan hasil pertanggalan pertama dan sambil menunggu hasil pertanggalan berikutnya dan ekskavasi lanjut.

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Problematics

Among the problems of Indonesian prehistory, the nature, beginnings and the spread of the neolithic (or the neolithics !) being it autochthonous or imported or a merging of the two, are prominent. In effect beyond its interest in itself (evolution of pre-neolithic cultures to full neolithic ones in island South-East Asia), neolithic is linked with the problem of the settlements of eastern Indonesia and further, of Melanesia and Western Pacific, that is with the austronesian and non-austronesian settlements dynamics.

The austronesian expansion is usually viewed as linear from its geographic origins (Taiwan) towards Melanesia. It can be supposed more diffused over so many millenia. Thus, routes across Borneo, Sulawesi, Mollucas can be imagined followed with a spread in the main islands of Jawa, Bali and Nusa Tenggara Timur (and even Sumatra through Malaysia and Riau archipelago) (fig.1). This may have occurred also while other groups of austronesians were moving eastwards through Melanesia. Surveys aimed at the discovery of "austronesian-linked" sites can as well be made in parts of Indonesia. That is why a survey was launched in East Java since 1993 and followed by a test pit (Jatmiko et al, 1995:4) on one of the promising sites surveyed, the first results of which are presented here at a certain level of generality. Moreover, the final results to be obtained later will be of interest for comparison with those obtained recently on the neighbouring Gunung Sewu area (Simanjuntak 1996) and with the overall picture of Javan Holocene sites (Allen 1991).

Although East Java has been surveyed since before World War II, the Tulungagung region (fig.2) - albeit the region of Wajak man discovery (1889)² was nearly unknown till our first survey in 1993 (Jatmiko et al, 1994)³

Song Gentong Caves

The sites are located around 30 km south of Tulungagung, not far from Campurdarat, in the village of Besole. It consists of two rockshelters in a small gullied valley of about two hundred meters width and irregularly cut through a calcareous marble formation still mined to-day for its quality. They are both 120 m above sea level and nearly 30 km from the Indian Ocean southward (Popoh village). The first one, Song Gentong I, lower toward the bed of to-day empty river has revealed mainly a sedimentary accumulation of local alluvial deposits (gravels) mingled with stones fallen from the roof and faunal debris. It will just be mentioned here, as poorly associated with anthropic informations except for the upper thin and disturbed level. The second one, Song Gentong II, 70 m eastwards and a little higher, appears as a cave blackish-brownish earthen accumulation, with some stones, many debris, faunal remains and some artefacts, mainly pottery.

Artificial strata of 10 cm each were excavated within 2 m squares named: K I, K II, K III and K IV. All the sediments excavated have been sifted which allowed us to collect many tiny objects. All the charcoals have been collected in order to date the site. Apart from K I, the digging went down to 180-200 cm under local Zero point. It has been

² The location of which, near Campurdarat, being lost today.

³ An associated geomorphologic study was planned in 1997 upon the Brantas upstream valley.

resumed in April this year. The stratigraphy of Song Gentong II up to the end of its excavation shows 3 layers as follows (from top to bottom):

- Layer 1, a disturbed layer which is a mixture of humus, crushed marble, and charred material. Its thickness varies and can reach 50 cm. This layer contains potsherds, stone flakes, and faunal remains.
- Layer 2, which is a layer of loose brown clay with a thickness of 10--20 cm. It contains quite dense finds that consist of lithic artifacts, faunal remains (including mollusc shells), and potsherds.
- Layer 3, which is a layer of rather damp blackish-brown loose clay. We have not been able to determine its thickness because the excavation has not been completed yet and will be continued in future time. Archaeological finds, which consist of lithic artefacts and faunal remains, were decreasing. The potsherds having disappeared, it is assumed that this layer is preneolithic. At the bottom of this layer we found a flexed human burial, and there was a 20 cm thick lense of yellow solid clay with holes that could not be explained yet. This lense did not contain any archaeological find.

The stratigraphy of Song Gentong I is relatively simple compared to the one of Song Gentong II. Layers 1 and 2 could be neolithic layers with potsherds as its lead (guide) fossil, while layers 3 and 4 could be pre-neolithic layers. Layer 4 in particular was formed by river sediment that consists of gravel and sand. The finds in this lowest layer are sparse and only a small number of tiny fragments of faunal remains.

No pedological study has yet been run on the sediments which has been submitted to ORSTOM Palynological Laboratory of Nouméa (New Caledonia) for examination and, if possible, pollens identification. It appears most probably as a disturbed anthropogenic settlement sedimentation covered lastly by stone debris and rocks. It may have been disturbed often and even lately. One may rely on the zone under 60 cm as out of reach of modern disturbances. This does not mean they have not suffered ancient disturbances.

Fauna and flore

Mollusca (and sometimes fish) remains largely exceed other faunal vestiges and the total of the two is far above the number of artefacts. The following identifications up to the family-genus level, can be given with a first presence-absence evaluation:

Marine fauna:

Mollusca, Pelecypods: *mytilidae* dominate often accompanied with *veneridae*;

Gastropods: vary a lot more between *chitonidae*, *muricidae*, *cypracidae*, *patelidae*,
trochidae, *neritidae*.

Arthropods: exclusively *balanidae*;

Vertebrates, Fish: ?

Fresh water and land fauna:

Mollusca, gastropods : exclusively *cyclophoridae*;

Arthropods : ?

Vertebrates, Amphibians and Birds are rare;

Reptiles : *ophidae*, *testudinidae*;

Mammals: *muridae*, *suidae*, *bovidae* dominate among *chiropteridae*, *viveridae*, *hystricidae*, *cervidae*, *cercopithecidae* (macaca), *hominidae* (*Homo sapiens*).

The faunal analysis waits for more precise ecological inferences so as to know the nature and range of exploited milieux around the site and to allow insights into the socio and techno-economic organization attained by Song Gentong men.

The flora remains limited to "kemiri" (*Aleurites Sp*) and another species belong to *Euphorbiaceae*. There is also *Rutaceae* (*Murraya Sp*) or "kenari" in layer 1 and 2.

Anthropic finds

The anthropic finds could be classified into:

- artefacts are pottery sherds, some bone tools, ornament polished or pierced shells, some lithic waste and possibly retouched small flakes, a discoidal nucleus and bigger stone grinders/pounders.
- the part of soil spotted (structure 1) with bowl-shaped holes is more difficult to comprehend and its linking with the burial may be hazardous.

The burial (structure 2) consists of a body, head lying on left side, pointing northwards, buried with very little apparatus except a big round stone of 23 cm in the surroundings. It was lying in a contracted or flexed position, the knees towards the trunk, the hands under the chin. Before any careful analysis we can just say it is an adult.

A spatial overview would underline the difference in objects density and in nature and distribution of "levels" in so far they are well defined. The occupation proper must have been restricted to K II, III and IV and further inwards. At K I, where a huge rock occupies most of the digging, objects concentrate between 30 and 90 cm which is much higher than in other spits: the soil thickness diminishes abruptly from K II southwards. Another reason can have played : K I is outside the cave and may have concentrate different objects.

In the K III spit much less mollusca and bone objects: respectively 421 and 327 which would point at a different occupations of different places of the site: the "butchery-feeding" behaviours were on the edge of the cave, the living areas being much inside the shelter as is K III.

The artefactual remains being rather scanty for the moment, inferences will be of a very general kind. Artefacts in general, appear lower than 60 cm and nearly disappear lower than 110-120 cm.

Pottery

The sherds appear from the top disturbed level down to the second layer at 70 cm depth from the surface. A first general overview shows no different occupations of the same culture rotating in time within the same limited place (not considering later disturbances). The pottery is rather thick and heavy, sometimes covered with calcareous crust. Broken sherds show layered components most often red as the surface and containing sand as dégraissant. No slip added apparently but the pots have been rubbed. Pots wear everted or strongly everted lips and the decoration consists mots of the time in

lines drawn under the lips and parallel to it, out or in the pot. There exists also flat ordinary lips on supposedly straight-sided pots.

For the moment we will restrain ourselves to the examination of K II and K IV sherds only, as most of them were in the lower level and may be more securely indicative. A quick look, linking thickness, shape, decoration, localisation of *décors* shows some groupings (Fig. 3):

- everted pots of presumably middle size (around 1 cm thick), bearing one or two parallel grooves, on the inner upper part of the belly;
- more everted thicker (1,2 cm) pots of middle size characterized by the association of an applique limited by a groove, both inside the lip;
- everted thicker pots (1,2 cm) exhibiting a S shape;
- very small thin straight pots rims (0,5 cm) apparently parts of hollow or flattened bottom bowls.

A chemical component analysis will be made on the pottery as a whole.

Lithic remains

All six excavated squares show 67 lithic artefacts which were 18 artefacts from Song Gentong I and the rest from Song Gentong II (table). They were mostly flakes with no retouches, some of which have scars due to utilization. We also found several types of scrapers and some rare/unique types of other tools (fig. 4). The prominent characteristics of these flake-blade tools are among others: irregular shapes, as well as many unrecognizable striking platforms and bulbs of percussions. The fact that there are only limited types of tools can be resulted from minimum secondary retouches. It seems that primary scraper flakings were more popular.

NO	TYPES	KI/SGI	KII/SGI	KI/SGII	KII/SGII	KIII/SGII	KIV/SGII	TOTAL
1.	Flake	9	6	3	9	1	17	45
2.	Percutor	2			1			3
3.	Blade	1						1
4.	Core Tool			1				1
5.	Multi-faceted scraper			1				1
6.	High-backed scraper			1			1	2
7.	Concave scraper				1	1		2
8.	Point				1		2	3
9.	Borer						1	1
10.	Disk					1		1
11.	Core tool						1	1
12.	Chopping tool						1	1
13.	Mortar			2			1	3
14.	Pestle					2		2
Total		12	6	8	12	5	24	67

The above condition may be influenced by the following factors:

- limited lithic resources, which resulted in the utilization of various materials (jasper, chert, chaille, andesitic stone, etc) with flakes of various shapes and sizes. Those primary flake products were used with or without secondary flakings.
- certain types of stones, such as andesitic and chaille, are difficult to be flaked into tools with regular shapes and sizes.
- simple technological ability prevented the production of unique tools.

An interesting thing is the existence of mortars and pestles that reminds us of similar finds from other caves in East Java, especially with red splotches on some mortars which indicates their use as grinders of colouring substances like haematites.

Bone and shell industry

Bone implements found at this site are quite varied. Aside from spatulas and point tools, there are also a kind of knife, tool with bifacial cutting edge, needle with no eye, and tool with monofacial cutting edge. The most interesting find is a double point with fine, smooth surface which reminds us of *muduk* points from Australia and discovered in some caves in South Sulawesi, Bali and even in Sodong cave (East Java) (Soejono 1984:141-151).

Most bone implements were made of one longitudinally broken long bone, one part of which was further finished by smoothing traces of flaking with burnishing process. Sharpening were made by bilateral or monolateral flakings (especially for point tools) or by bifacial and monofacial flakings (for spatulas). In many cases, distal parts were finely polished and some show traces of wearing out due to utilization. There were also signs of burning technique to harden the bones. These bone implements were distributed from layer 3 to layer 1.

Mollusc' shells which were made into tools were mostly of Veneridae, that is from their long, curving outer parts. Flaking technique enabled the maker obtain pieces which were more parallel to the edge of the shells. Those pieces were then retouched along the outer edge and in many cases from the inside to the outside parts as well. This technique created a type of scraper with simultaneously retouched sides/edge. We found 10 shell implements from Song Gentong excavation: 6 from Song Gentong I and 4 from Song Gentong II.

Shells ornaments have various shapes, such as round and flat, rectangular, heart-shaped, triangular, or natural (top section of shell). They were made with flaking suitable shells, followed by polishing to smoothen the edges. Afterwards, holes were made by employing various techniques. Boring technique left striation marks around the hole which increasingly become smaller towards the inside part. Boring was usually made from the inside to the outside parts of the shells. On the other hand, gouging technique resulted in irregular hole with scars around it. Each ornament usually has one hole, except for some finds from KI/S61, which have 3 heart-shaped holes on each of them. Those three holes have an impression of human face.

Dating.

A first dating could be made upon 33 g. of charcoal (giving 2,5/3 g of available material for Laboratory analysis), recovered at - 60-70 cm (40-50 cm from the surface) in KI: OBDY 1754 : 7090 +/- 70 BP. This figure giving roughly a 5000 BC date falls well in accordance with our estimations.

Song Gentong in Regional Preneolithic Context

From a general point of view, the whole of the site is to be considered as anthropogenic from the top level down to level N° 3. Animals were brought there for food, dismembered, cut and cooked in the cave. Their remains, like shells were used as ornaments in themselves or after polishing or piercing; bone flakes were transformed into tools after possible fire-hardening and polishing wood, fruits, and herbs were surely brought for shelter, hearths, cooking, medicine and for many other reasons. The overwhelming number of food debris would define the site as a simple consumption camp. It could have been also a permanent settlement for a very small group as can be inferred from the burial underneath.

One can hypothesize two occupations at Song Gentong II, may be deeply disturbed by fallings from the roof (the rock in K I.) and mingled in other circumstances with later re-occupations (including modern ones perhaps). Large parts of the occupation that can be inferred from the upper parts of the digging, may be missing: the gravel and chunks top level provided us only with: oval roughly polished grinders, part of a flaked axe-adze, some grooved sherds. This would be the last seizable occupation, named Neolithic.

What remains deeper consists of food refuse and debris mingled logically with rests of hearths (ashes, charcoals and burned-charred bones) with some sherds, possible rare lithic *débitage* waste and some big stone tools such as grinding stones. This second one would be composed of more dense and less disturbed clayed earth, showing two structurations: a lightly convex surface hollowed with bowl shaped holes overlaying a human inhumation. These two sub-levels would represent an older occupation named Preneolithic, provided that nothing new will emerge from the following diggings.

It is conspicuous that the inhabitants of Song Gentong II-Preneolithic earned a big part of their living from the sea within local trade networks or by themselves. The faunal remains implies the shores as food sources rather than the sea itself. Human occupations hypothesized here, may not be exclusive of others analyzed for instance from other points of view such as seasonality, gender, groups size, etc.

Song Gentong caves at the slope of limestone hills in Tulung Agung region present cultural remains dated back to 7.000 BP. Using a classic terminology, its cultural elements show mesolithic (higher stage of hunting and gathering: Soejono, 1984) or preneolithic characteristics in lower layer and neolithic in upper layer. The lower part as the most interesting one could be older than the date now available as the excavation of this layer is not yet finished. There is a possibility that this culture have been developed much earlier,

probably even as early as the Pleistocene period. Further researches are hoped to reveal the complete cultural chronology of these caves.

The dominant character of this culture is exploitation of natural resources, such as caves or rockshelters as habitation, industrial, and burial sites; different kind of rocks for tools, fauna and flore for subsistences. Lithic industry, as one of the main activities, produced flake-blade tools, a culture which has been developed since the upper palaeolithic level. In Indonesia and Southeast Asia, this type of culture has usually existed since the Upper Pleistocene period. Evidences of industrial activities were found at several sites, for instance Niah Cave in Sarawak, Malaysia around 40.000-30.000 BP, Tabon Cave in the Philippines around 31.000-23.000 BP, Long Rongrien Rockshelter in Thailand around 38.000-7.000 BP, Leang Burung on South Sulawesi around 31.000-23.000 BP, and Golo cave in Gebe island, Molluccas around 31.000- 3.500 BP (Anderson, 1990; Glover, 1981; Bellwood, 1995).

The similar industry flourished throughout Indonesia, notably since Holocene. It was found in the cave sites of Kerinci, Jambi (Bronson and Teguh Asmar, 1975:132), Bandung Highland (undated) with obsidian flakes, the cave sites in East Java, South Sulawesi (Soejono, 1984), Flores (Verhoeven, 1968), Timor (Glover, 1973:60), Moluccas (Bellwood, 1995), and Irian Jaya (Heekeren, 1972:133). Some sites have specific cultural element such as blade with handle (Timor), serrated arrow heads (Sulawesi), microlith (Jambi, Bandung Highland, and South Sulawesi), and concave-based arrow heads (East Java).

Regarding the cultural elements found, Song Gentong caves present the cultural affinities with the other caves in East Java. Comparable sites were discovered in some regions, like in Ponorogo, Bojonegoro, Tuban, Situbondo, and Jember region. The other new sites are in Gunung Sewu regions where at least 50 caves discovered by the National Research Centre of Archaeology. Some of the caves like Song Keplek and Song Terus cave still investigated. Compare to those caves, the lithic and bone tools of Song Gentong are lower in quantity and quality (Simanjuntak et al, 1994). It may depend on the natural resources which are less available in Song Gentong. Flexed burials were found at several cave sites such as Lawa Cave (Sampung), Prajekan cave (Situbondo), Sodong and Marjan caves in Jember (Heekeren, 1972:94-105), and very recently at Song Keplek (Punung). Outside Indonesia, flexed burials were found at Cha Cave (Malaysia) from around 10,000-1,000 BC and Niah Cave (Serawak) around 7020 +/- 135 BP (Bellwood 1985:179). As was the case with the above finds, the burial of Song Gentong was found in association with haematite.

Research at Song Gentong will be continued in the future to make clearer identification about the habitation of Song Gentong either culturally, chronologically, and contextually.

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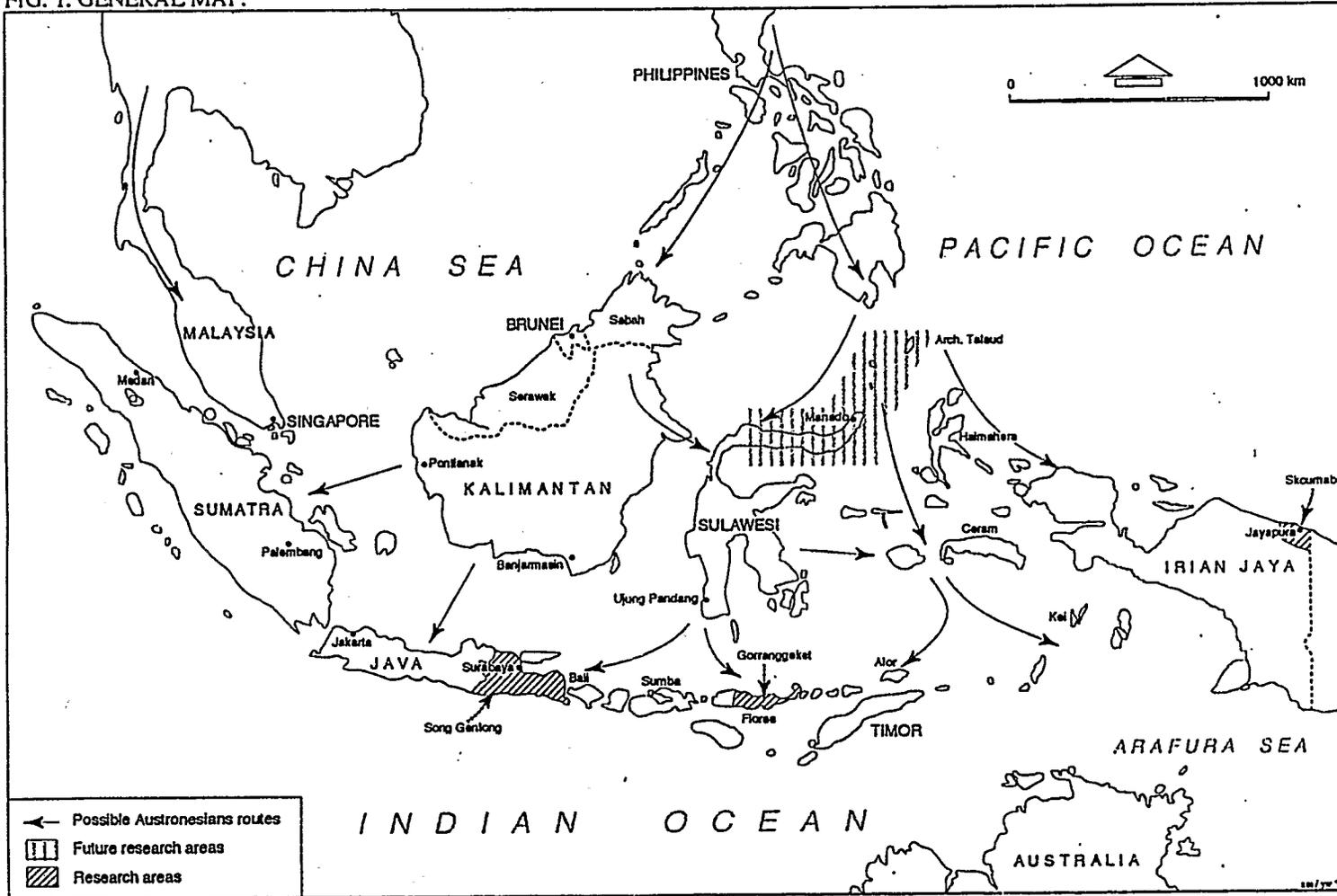
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FIG. 1. GENERAL MAP.



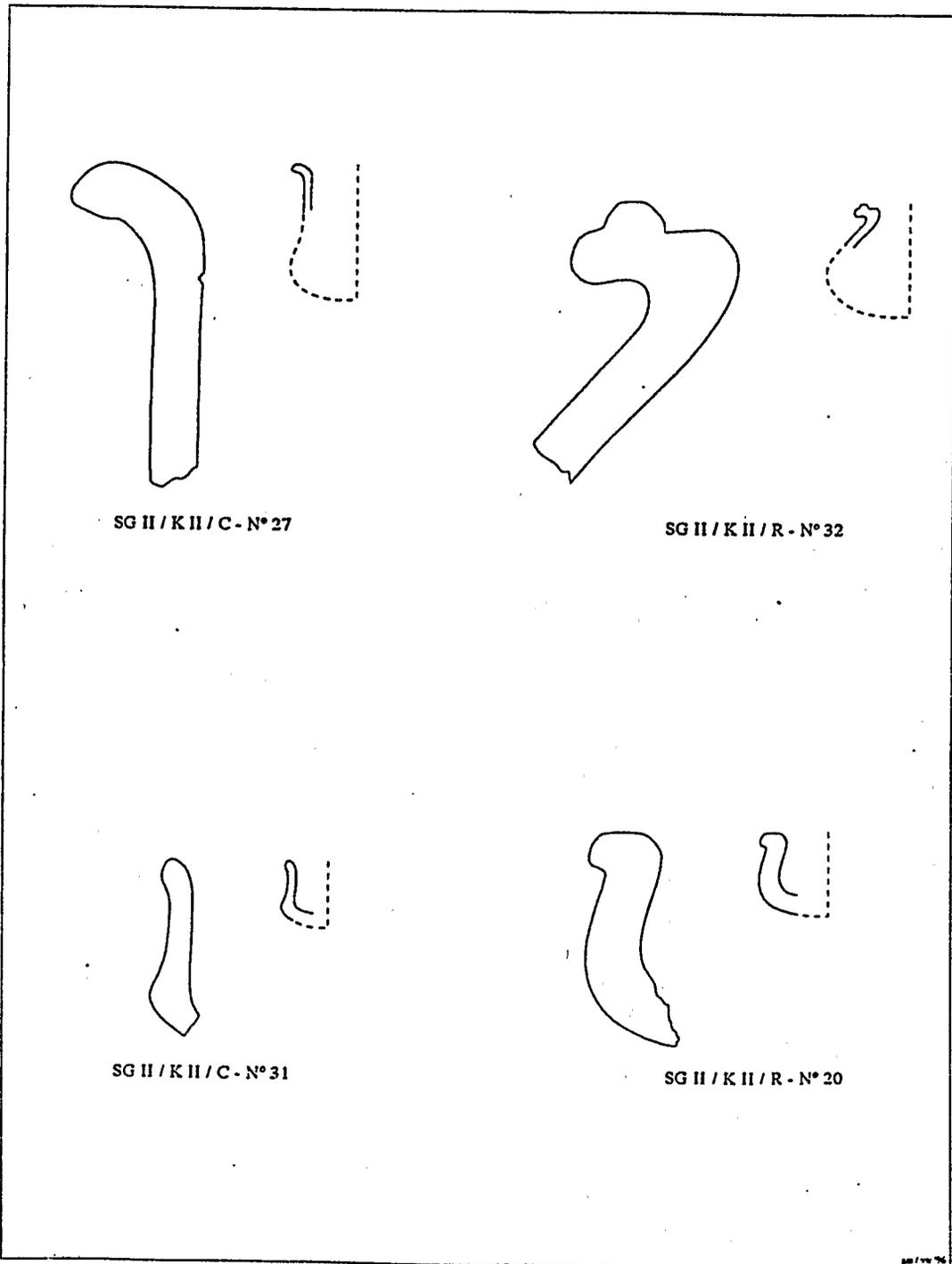


FIG. 3 POTTERY.

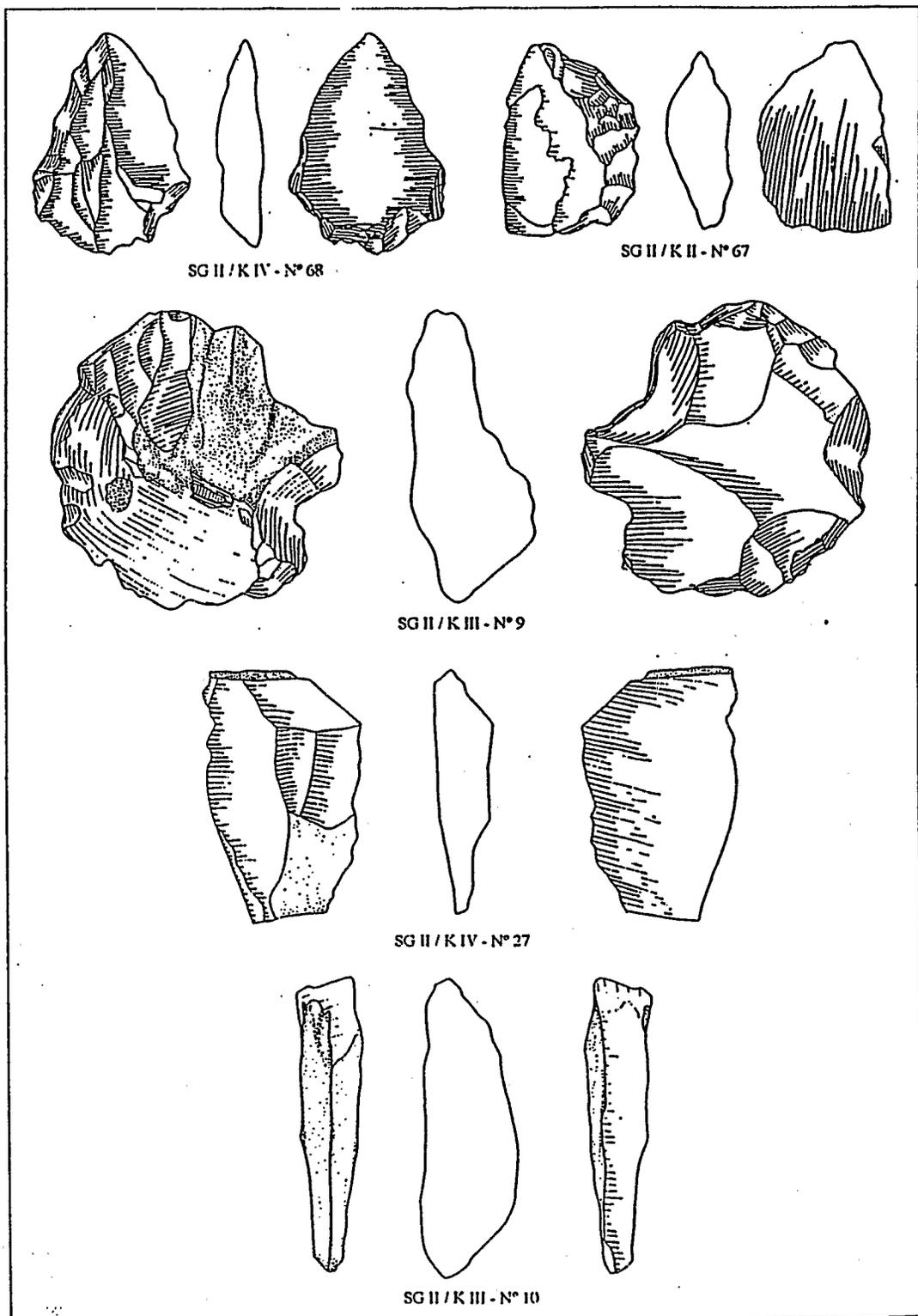


FIG. 4 LITHIC OBJECTS.