Aspects of African Archaeology

The rock art of Gabon: techniques, themes and estimation of its age by cultural association

RICHARD OSLISLY

The rock art of Gabon in the geographical context of west central Africa

In contrast to the extensive rock art of southern Africa and of the Sahara, engravings on rocks are rare in west central Africa, being confined to the edges of the Congo Basin, particularly in the zone of contact between forest and savanna.

In terms of on-going research, open-air rock art sites in Gabon hold an important place in the region because of the large number of known petroglyphs, of which 1200 have been recorded in an area of about 200 sq. km, and because new prospecting is underway as part of the ECOFAC project. The rock art sites are situated in the valley of the Ogooué River, particularly in its central reaches, in a landscape of forest-savanna mosaic. During migratory movements of Bantu peoples who arrived from Cameroon, this area was a “staging post” on an obligatory route limited to the west by the Atlantic Ocean and to the east by the evergreen forests of the Congo Basin (Oslisly 1993 a, 1995).

The map of west central African rock art sites (Fig. 1) shows the widely dispersed nature of the sites. This makes inter-site comparisons difficult but, a fortiori, similarities suggest common themes and shared techniques. For example, many analogies exist between the sites in the Ogooué valley and the Bidzar site 1000 km distant in North Cameroon (Marliac 1981) and also with sites at Calola, Capelo and Bambala over 1500 km away in the Upper Zambezi (Ervedosa 1980) in Angola.

In addition, research on rock art in the region has been done in a discontinuous manner, with intensive effort interspersed with long sterile years, and efforts continue to be sporadic. At present only two areas, the Central African Republic and the Ogooué valley in Gabon, have been studied in depth.

This brief summary of the state of rock art research in the region underlines the special position of the Ogooué valley in Gabon where this research has been almost continuous since the first discovery of rock art in 1987 (Oslisly 1987, 1988, 1992, 1993b; Oslisly and Peyrot 1993) and is ongoing as part of the ECOFAC project.

This paper has two objectives:

• to present, within its geographical context, a form of rock art that is little known in scientific circles, by analysing in greater detail the engraving techniques used and the themes that emerge from the corpus of petroglyphs,
Figure 1: Map of Rock Art sites on the edges of Congo basin in West Central Africa.

• to demonstrate, through new data on cultural chronology, the association of the engraved forms with the Early and Middle Iron Ages.

**Rock art in its geographical context within Gabon**

Gabon straddles the equator with a third of its area in the northern hemisphere and two thirds in the southern hemisphere. Eighty five percent of Gabon is covered with evergreen rainforest (Fig. 2) and only 15% is savanna.

The Ogooué river crosses the country in an arched semi-circle from its source in the south east to flow into the Atlantic through an extensive delta.

The two areas from which rock art is currently known are both situated in the valley of the Ogooué river. The most important is in the middle reaches of the valley with two zones of rock art separated by about 40 km, while the other area, located 300 km upstream in the upper valley of the river, contains a single site (Osliisly 1993a).

*The Middle Ogooué Valley*

The vegetation is dominated by a mosaic of forest and savanna, forming an open and hospitable landscape. The zone extends north to the equator and south to the forested foothills of the Monts du Chaillu.

The geology and geomorphology is very specific with north-south rock formations dissected by the Ogooué river where rapids and calm stretches alternate. The underlying geological structure includes two main geotectonic entities, a tongue of Archean bedrock wedged between two lower Proterozoic formations. The cristalophylian series of the Ogooué covers the western part of the middle river valley and subdivides into three sections: it is on the O2 section (Fig. 2) that the two zones of rock art are found. This geological entity, made up of grey-blue micaschists and narrow bands of sandstone quartzite, appears in the Kongo Boumba zone on a south-north axis, and from longitude 0°10'N it curves towards the south-west at an angle of 70°.

A knowledge of the spatial development of this geological formation was essential to develop research because the engravers appear to have selected this type of rock.

The engravings are grouped in two zones that mirror perfectly the line of the paragneiss rock formation:

• in the western zone, the Elarmekeora and Epona sites have almost 670 engraved forms.

• in the eastern zone in the Lopé Faunal Reserve, the Kongo Boumba area, Lindili, Doda and Ibambi sites are, to date, known to have more than 520 rock engravings. It is in this zone, the accessible area of which covers about 150 sq. km, that on-going research with the ECOFAC project is concentrated.

*The Upper Ogooué Valley*

Only one small rock art site is known in this area, that of Kaya Kaya, located on a sandstone quartzite formation 15 km downstream of the town of Franceville. About 30 engraved forms have been found on oblong blocks in the bed of a small stream under the canopy of the gallery forest. This area of savanna vegetation with gallery forests has rich archaeological potential that merits a future research project to investigate the numerous rock outcrops.
Figure 2  Iron Age and Rock Art Sites in the Middle Ogooe valley.
The engraving techniques

Having shown that the nature of the rocks on which petroglyphs occur indicates a deliberate geological choice by the engravers who selected a single type of rock, quartzite sandstone, careful examination of the engraved forms leads to an understanding and definition of two types of engraving technique, each unique to one of the two regions of rock art.

Engraving techniques of the Middle Ogooué valley

The first stage in producing the engravings consisted of making a rough outline of fine straight lines but these can be difficult to reconstruct as alterations were often made. Only afterwards was the interior of the form pecked with hundreds of small shallow (2-6 mm on average) depressions with V-shaped cross-sections (Fig.3) The pecking is generally uniform but certain figures have depressions where either the left or right side of the V is elongated. This is noteworthy as it seems that such an effect could only have resulted from the use of two instruments: an engraving tool hit from a particular angle against the rock substrate.

The majority of the engravings seem to have been executed by pecking with a finely pointed chisel of iron which was hit by another instrument (Oslisly 1993b). Such a technique would lead to the observed uniformity and homogeneity of the final engravings. Engravings made with an iron chisel, hit by a second tool, will be uniform as the point of the chisel will change only a little, whereas a stone chisel would be altered during the work and would not produce uniform pecking.

An experiment was conducted to verify the above supposition and we found that the points of quartz chisels changed with each blow as flakes detached, whereas the points of metal chisels remained unaltered. In addition, no stone tools have been found close to rock art sites.

Close study of the engraved figures revealed two styles of execution:

Style A. The figures were made by pecking and then the depressions were linked by shallower grooves, i.e. the engraver produced a sketch by pecking and then engraved a U-shaped groove, linking neighbouring depressions. This technique of “Linked punctuation” is common in the circular figures especially in the Kongo Boumba area.

Style B. The engravings were made with uniform pecking and the totality of the grouped depressions gives the figure its shape (Fig. 3). This style of pecking is seen particularly in animal figures and is well represented at the Elarmekora rock art site.

Engraving techniques of the Upper Ogooué valley

A single technique was used at the only site, Kaya Kaya, known from this area. The engravings were made by producing a trench in the rock by repeated tapping in both directions to result in keel-shaped grooves that vary both in depth and width.

Were these made with iron, or stone tools? It is difficult to decide one way or the other but fine grooves where tools were sharpened, are present on one of the rocks suggesting iron chisels were used. Iron Age cultures date from 2300 BP in this region.

Motifs of the engravings

Engraving techniques appear to be regionally specific and a similar pattern emerges from the classification of the kinds of motifs found.
The motifs of the majority of the engravings in the corpus of rock art from the Middle Ogooué valley can be identified. Overall, four types of motifs emerge: geometric figures, animal figures, representations of weapons or tools, and unidentifiable forms (Oslisly and Peyrot 1993).

The geometric class of motifs is the most common category, representing overall 75.3% of the figures. These can be classed into three sub-categories: circular motifs (66.4%), triangular motifs (7.6%) and rectangular motifs (1.3%). Animal motifs make up 8.1% of the engraved figures. Motifs of weapons and tools represent 6.4% of the total and are often found in close association with animal figures. Unidentifiable motifs (10.2%) are figures that are difficult to interpret, often because they appear not to have been completed or because alterations were made.

Each of these four classes of motifs include several types of figures and three major themes emerge from the rock engravings: the first theme relates to abstract art and is dominated by geometric figures; The two other themes, that of weapons and tools and that of the animal world, relate to narrative and figurative styles the interpretation of which are more straightforward. These two themes are often associated suggesting symbolic representation of hunting scenes.

The realm of symbols

This is dominated by geometric figures which are the most numerous and also the most varied of the engraved figures. Circular forms make up 66.4% of the total and include simple circles, chains of simple circles, concentric circles and occasionally chains of concentric circles. Meandering, wiggling, lines found at the Kongo Boumba site are frequently included in major compositions. Rectangular shapes are rare but are always included in a harmonious manner. When grouped, unu-
suual reticulated patterns are formed. Triangular figures (7.6%) are more common, particularly at the Elarmekora site. The simple triangular figure was used by the engravers as the starting point for other designs.

The realm of animals
Zoomorphic figures (8.1%) are always engraved flattened and being realistic, are easier to interpret (Fig. 4). Many of the animal figures show small quadrupeds but none have yet been discovered of present-day large mammals such as elephant, buffalo or antelope.

Typically animal figures are represented as hides with the body at the centre, four lateral limbs and a dorsal appendage forming the tail. A small number of fish-like and insect-like figures break the monotony.

The realm of weapons and tools
Recent research undertaken as part of the ECOFAC project has led to the discovery of many engraved representations of weapons. This category of engraving (6.4%) includes points of spears or lances, a few shields and above all, throwing knives. Engraved throwing knives usually have large, drop- or oval-shaped, blades and a handle with a spur (Fig. 5) and are the best represented weapon in Central African rock art.

In addition, mention should be made of engravings of common or garden objects such as hoes and axes and a superb hunting net engraved in close association with an animal figure. Such association between zoomorphic figures and weapons are relatively common: they may simply show a hunting scene, or may have a more complex, symbolic, meaning.

The typology of the rock art of the upper Ogooué Valley
The Kaya Kaya site differs from the Middle Ogooué sites not only in the engraving technique used but also in the themes of the figures. Under the canopy of a gallery forest, the Kaya Kaya site consists of vulva-like motifs engraved on large phallus-like blocks of rock. This association and the hidden nature of the site could link these engravings to fertility rituals. It is interesting to note that women of some ethnic groups in this area have vulva-like shapes tattooed on their shoulders which, according to them, were made in order that they bear many children.

It would appear that the Kaya Kaya engravers belonged to a different cultural group from the engravers of the Middle Ogooué valley.

Chronology and cultural contexts of the rock art
It is impossible to date open air sites of rock art by direct means but a number of factors allow their age to be estimated and their cultural context identified.

The examination of engraving techniques shows that the petroglyphs were made with metal tools and this means that they date to the Iron Age.

Given that three Iron Age periods (Early, Middle and Late) are known in the region and particularly in the Middle Ogooué valley (Oslisly 1995), it should be possible to determine the antiquity of the engravings with precision.

My reasoning rests on four major points, presented below in descending chronological order:
Figure 4. - Remarkable collection of engravings of flattened animal forms at Doda site.

Figure 5. - A case of superimposition at the Doda site: a pecked axe overlays an engraved throwing knife.
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1. The Late Iron Age period which started 700 BP, introduced the Lopé tradition of pottery decoration, produced by roulettes of plant fibre. This design technique persisted until the beginning of the 20th century and indicates that the present population of the region are direct descendants of those who arrived in the 14th century but they have no direct knowledge of the rock art, nor does any reference to it occur in their oral history.

2. It is striking that none of the 45 radiocarbon dates from human habitation sites in the Middle Ogooué region have been from the period between 1400 and 700 BP (Oslisly 1993a, 1995). This long hiatus when humans were absent from the area leads us to believe that the rock art dates from the Iron Age cultures prior to 1400 BP.

3. The analysis of engraving techniques allowed the definition of two styles: Style A with linked-punctuation pecking and Style B with uniform pecking. In several cases, superimposed engravings (Fig. 5) have been found and each time Style B overlays Style A. Analysis of styles of pottery decorations and radiocarbon dates have shown that two distinct Iron Age cultures occupied the savanna landscape of the Middle Ogooué valley: the Okanda metallurgists (2300-1850 BP) represent the Early Iron Age and the Otoumbi iron workers (1900-1400 BP) the Middle Iron Age. The cases of superimposed figures are very informative as they suggest two distinct periods of engravings and lead to the suggestion, bearing in mind the circumstantial nature of the evidence, that these correspond to the two cultural groups, with Style A being that of the Okanda group and Style B that of the Otoumbi group.

4. The last line of evidence is the link between the motif of concentric circles that dominate the engravings at Konga Boumba and the circular designs frequently found on the base of handles of pottery jugs made by the Okanda cultural group (Oslisly and Peyrot 1992). Indeed, it is these distinct circular designs that characterise pottery of the Okanda cultural tradition. The analogy of these decorative motifs in the Konga Boumba area lend support to the conclusion that the rock engravings of Style A were produced by this cultural group.

Conclusions

Rock art is intimately linked to the geological environment as engravings were made only on quartzite sandstone.

The predominance of symbolic and abstract motifs in Gabonese rock art leads to the belief that they were related to expression of magical or mystical preoccupations, although for a minority of the figures, the more prosaic interpretation is that they were solely figurative or narrative art related to weapons and hunting.

The engraved art represents a vast outdoor museum and an exceptional legacy that provides insights into the myths, beliefs and preoccupations of the inhabitants of the Ogooué valley. This rich cultural heritage seems to have been left by the iron-working populations which originated with the migrations of Bantu peoples about 2000 years ago.

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