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An Offprint of
SHELL ENERGY
Mollusc Shells as Coastal Resources

edited by
Geoffrey N. Bailey, Karen Hardy and Abdoulaye Camara

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CONTENTS

<i>Contributors</i>	v
<i>Preface and Acknowledgements</i>	ix
Introduction	
1. Shell energy: an introduction <i>Geoffrey N. Bailey, Karen Hardy, Abdoulaye Camara</i>	1
North America	
2. Beyond subsistence: the social and symbolic meanings of shellfish in Northwest Coast societies <i>Madonna L. Moss</i>	7
3. Revealing the hidden dimensions of Pacific Northwest Coast shell middens <i>Aubrey Cannon</i>	21
4. Freshwater shell mounds of the Ohio River Valley, USA <i>Cheryl Claassen</i>	35
5. Prehistoric shell landscapes of the Ten Thousand Islands, Florida <i>Margo Schwadron</i>	43
6. Invertebrates on San Salvador Island, Bahamas: the use of shellfish as bait <i>Cheryl Claassen</i>	59
7. Prehistoric shell middens on the Caribbean Coast of Nicaragua: food production, structures and site formation <i>Ignacio Clemente-Conte, Ermengol Gassiot Ballbè, Virginia García-Díaz</i>	69
South America	
8. Ceramic sambaquis from the south coast of Brazil <i>Pedro Ignacio Schmitz</i>	83
9. Coast and hinterland: territory and resource management of the Selknam of Tierra del Fuego, Argentina <i>Estela Mansur, Raquel Piqué</i>	95
10. Methodological reflections on shell midden archaeology: issues from Tierra del Fuego ethnoarchaeology <i>Jordi Estévez, Assumpció Vila, Raquel Piqué</i>	107

Europe

11. The shell middens of Scotland's Inner Hebrides 123
Karen Hardy
12. Homes without Houses? Some comments on an Ertebølle enigma 137
Peter Rowley-Conny
13. Late Glacial and Postglacial use of marine resources in the Bay of Biscay, North Spain 155
Miguel A. Fano, F. Igor Gutiérrez-Zugasti, Esteban Álvarez-Fernández, Raquel Fernández-García
14. Upper Pleistocene - Early Holocene transition at La Garma A Cave (Omoño, Cantabria, Spain): preliminary report on the marine molluscs 167
Esteban Álvarez-Fernández

Africa

15. Ethnoarchaeology of Senegambian shell middens 183
Moustapha Sall
16. Senegambian shell middens and burials – a heritage in danger 191
Mandiomé Thiam
17. Ceramic decorations from the Songon Kassemblé shell midden, Côte d'Ivoire: a contribution to the understanding of decorative symbols in Africa 199
Siméon Kouakou Kouassi
18. Mega Shell Middens and Hunter-gatherer Resource Intensification along the West Coast of South Africa 207
Antonietta Jerardino
19. Mid-Holocene shell middens in Eritrea 229
Daniella E. Bar-Yosef-Mayer, Amanuel Beyin

Asia and Australia

20. Shell mounds of the Farasan Islands, Saudi Arabia 241
Geoffrey N. Bailey, Matthew G. Meredith Williams, Abdullab M. Alsbarekb
21. Subsistence patterns of the hunter-gatherers of the Andaman and Nicobar Islands: a case study in South Andaman 255
Asok Datta, Manomay Ghosh
22. The Higashimyo site of Saga City, Japan: waterlogged shell middens of the Initial Jomon period 263
Akira Matsui
23. Prehistoric utilization of shells in the Lenggong Valley, Perak, Malaysia 271
Mokhtar Saidin
24. Identifying worked shell: a consideration of methodological issues with particular reference to Pleistocene contexts 277
Katherine Szabó
25. 'Dead Men and Dreamings': some reflections on An-barra archaeology, Australia 287
Sally Brockwell

Conclusion

26. Shell energy: an overview 299
Peter Woodman
- French and Spanish Abstracts 309
Index 322

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PREFACE AND ACKNOWLEDGEMENTS

This volume originated in a chance meeting between the three of us at the XV World Congress of the International Union for Prehistoric and Protohistoric Sciences (UISPP) in Lisbon in September 2006, during which Karen Hardy proposed the idea of holding an international workshop in Senegal. The aim of the conference would be to bring to the attention of a wider international audience the impressive but little known shell mounds of the tropical coastlines and estuaries of West Africa, and to place them into a comparative context with discussions of similar sites in other regions of the world. The resulting workshop took place over four days in April 2008 in the Musée Théodore Monod d'Art Africain, Dakar. Some 50 participants took part and 28 papers were presented, bringing together researchers from across the world, including those working in some of the classic areas of Europe, Japan, North and South America and Australia, and others who reported on less well known material and sites in the middle latitudes of the world, ranging from Central America through West and East Africa to the Arabian Peninsula and southern Asia.

Undoubtedly one of the highlights of this meeting was the field excursion to the Saloum Delta, a complex of mangrove-lined estuaries and shorelines about 100 km to the south of Dakar. Here we not only visited some of the region's impressive archaeological mounds, but experienced a vigorous modern culture in which the local Sereer-Niominka population make use of molluscs as food, and the shells of the molluscs as building materials, funerary

items, ornaments, and tourist gifts, and have also begun to create heritage trails to introduce visitors to the significance of the archaeological sites. We also visited seasonal camps accessible only by boat deep in the mangrove swamps, where we witnessed the large-scale collection and drying of molluscs and the accumulation of substantial shell mounds literally growing before our eyes, which are indistinguishable from those that are several thousand years old. The privilege and value of having the opportunity to observe people at work in their own homes is inestimable and is perhaps best reflected in the many references made to this visit by contributors to this volume.

This volume contains a selection of papers presented at the workshop, substantially rewritten and edited for publication. Many of the chapters were written in the authors' original language of French or Spanish, and we have taken editorial responsibility for the English translations, and for the re-drawing of some maps and figures, so as to ensure, as far as we can, mutual intelligibility and a uniform standard of presentation. For the French and Spanish translations of the abstracts, we thank, respectively, Stéphanie Duboscq and Raquel Piqué.

We are indebted to all the organisations and institutions which sponsored the workshop and the subsequent publication: in Dakar, Institut Fondamental d'Afrique Noire and Université Cheikh Anta Diop (IFAN Ch.A. Diop), Dakar, for hosting the meeting; the Wenner-Gren Foundation for funding the organization of the workshop and the costs of a number

Workshop participants at the Saloum Delta. Front row (kneeling from left to right): Geoff Bailey, Abdoulaye Camara, Karen Hardy, Mathieu Guèye, Naoto Tomioka. Standing (from left to right): Ignacio Clemente, Asok Datta, Moustapha Sall, Miguel Fano, Margo Schwadron, Satoshi Hatakeyama, Annalisa Christie, Amy Collé Seck, Esteban Alvarez, Oumar Kamara, Demba Kébé, Akira Matsui, Cheryl Claassen, Pierluigi Rosina, Peter Woodman, José Gomes, Kat Szabó, Madonna Moss, Mokhtar Saidin, Djideré Balbé, Marisa Coutinho Afonso, Paul Msemwa, Daniella Bar-Yosef, Luis Oosterbeek, Peter Rowley-Conny, Matt Williams, Raquel Piqué, Rossano Lopes Bastos.

Photo taken by Babacar Faye, 10 April 2008.



of participants; the organizing committee of the UISPP, who provided funding for one of their regional meetings to coincide with the Dakar workshop; the Department of Archaeology, University of York, which contributed funding and administrative support; and the European Research Council

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*Geoff Bailey, Karen Hardy
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Ceramic Decorations from the Songon Kassemblé Shell Midden, Côte d'Ivoire: A Contribution to the Understanding of Decorative Symbols in Africa

Siméon Kouakou Kouassi

This paper focuses on the ceramic remains from the shell midden of Songon Kassemblé and attempts to identify the meanings of the decorations on the ceramics. Identification of meanings behind ceramic decoration is becoming increasingly problematic as they cease to be a part of general knowledge amongst living people. Even among some of the current pottery makers of the region, the meaning of some of these decorative motifs has become unclear. We agree with Leroi Gourhan (1965) that everything in art has a meaning and we believe there is an urgent need to document and analyse these motifs from the broad perspective of African symbolism. This study attempts to identify the religious beliefs practised at the shell midden of Songon Kassemblé between 1500 BC and AD 1500, by analysing the ceramics excavated in the East Zone, which is the best preserved area of the site. The repertoire of ceramic decorations, the identification of the religious symbols, and their similarity with known black African graphic symbols suggests that it is possible to identify the meanings of motifs found repeatedly on archaeological pottery fragments from this shell midden.

Introduction

The aim of this chapter is to examine the meanings of the decorative motifs found on the pottery recovered from shell mounds on the Côte d'Ivoire, with particular reference to recent excavations at the Songon Kassemblé midden, and to link these to an underlying syntax of signs and belief systems. The word 'sign' is defined here as a 'generic term which describes the gamut of geometric abstract

figures, whether they are elementary, painted and/or engraved, which are frequent, even diagnostic in all prehistoric art' (Vialou, 2004, 1236–8). The role of the symbol, particularly among the early populations of the African continent, is based on philosophical thought and spirituality; and as such '...is neither the result of a specific set of behaviours nor an isolated example within the history of humanity. Humans have always sought

out or constructed means whereby they can represent and visualise their thoughts' (Faik-Nzui, 1992, 7). For much of the prehistoric past, representations of abstract thoughts and beliefs have led to the deification of blocks of stone. This use of natural elements creates a link to higher protective creative forces (Charpentier, 2005, 9). Thus, as Perrois (1997) claims, a work of art is not an isolated or single entity, and must therefore be part of a series which contains a shared lexicon and a syntax of forms.

As traditional pottery manufacture is increasingly being abandoned in Côte d'Ivoire, identifying and understanding the meaning of known decorative patterns poses problems both for current potters and for archaeologists. In order to approach the problem, we will question what the motifs found at Songon Kassemblé represent and what they mean. What information do they contain about the thought processes and religious aspects of the societies that made them? We need to identify characteristic elements of these motifs, notably their design, their meaning and the way the motifs may be connected to religious beliefs or cults. We will link our analysis to the wider use of symbolism in Africa; this perspective should enable us to investigate and explore the origins of these symbols.

In order to place the Songon Kassemblé material in a wider context, the chapter will begin with a brief summary of what is known about the shell mounds of Côte d'Ivoire, and then proceed to the analysis of ceramic decorations and the methods used to interpret them.

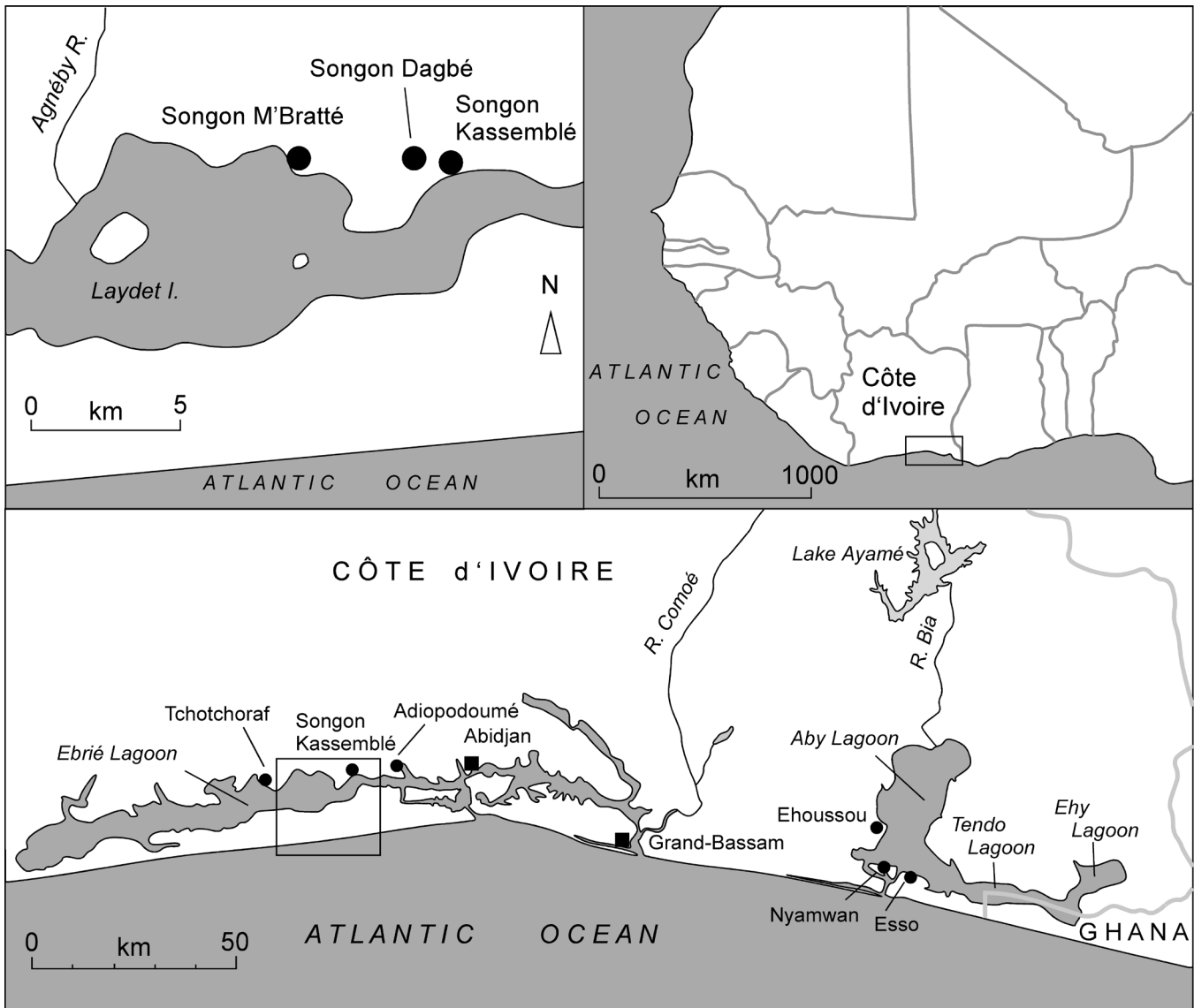
Shell mounds of Côte d'Ivoire

The shell mounds of Côte d'Ivoire are middens created by human shellgathering and other activities and are concentrated around the extensive lagoons that have formed along the Atlantic Coastline, notably the Ebrié lagoon west of Abidjan, and the Aby, Tendo and Ehy lagoons in the south east of the country (Figure 17.1). Earlier reports refer to more than 100 shell mounds, with a total mass variously estimated at 500,000 tonnes (Mauny, 1972), or 1,147,000 tonnes (Pomel, 1979, cited in Chenorkian, 1983). As in other parts of West Africa (see Sall, chapter 15; Thiam, chapter 16), the shell has been

quarried for raw materials to consolidate roads and for other industrial purposes, so that the reported number and volume of shell mounds is probably only a fraction of what once existed. More recent studies have identified 48 sites in the Ebrié lagoon with a total volume of 472,550 cubic metres, 11 sites in the Aby-Tendo lagoon area with a total volume of 702,250 cubic metres, and 3 sites in the Ehy lagoon, totalling 6750 cubic metres (Kouassi, 2007). The size of individual middens ranges from small mounds of about 300 cubic metres, to massive mounds 200,000 cubic metres or more. Some of the largest individual mounds are in the Aby lagoon – Ehoussou, with a total volume of 270,000 cubic metres (Kouassi, 2007), and Nyamwan with an estimated tonnage of 240,000 tonnes (Polet, 1995), probably representing a similar volume to Ehoussou, assuming that 1 cubic metre of shell-midden deposits is approximately equivalent to 1 tonne weight. The tallest reported mound is the site of Esso, in the Aby Lagoon, with a thickness of 7.8 m, although most are much lower, rarely >1 m in thickness (Kouassi, 2007). Some shell mounds contain human burials, and Polet (1995) describes the massive Nyamwan mound located on the island of the same name in the Aby Lagoon as a 'cemetery' (Figure 17.1).

The shell mounds are broadly assigned to the 'Neolithic' of the region, characterised by a microlithic quartz industry, flaked and polished axes of greenstone, and abundant ceramics, with dates ranging from about 3500 BP to AD 1500 (Table 17.1), and including remains of iron working in the uppermost levels of some sites.

The following mollusc species are present in the shell middens: *Corbula trigona*, a small lagoon bivalve, *Pachymelania byronensis* (brackish water lagoon gastropod), *Cyrenoida rhodopyga* (brackish water lagoon bivalve), *Egeria paradoxa* (fresh water bivalve), and *Cardium ringens* and *Donax rugosus*, both salt water bivalves. In the Songon Dagbé and Songon Kassemblé middens, *C. trigona* is the dominant species, accounting for 99 per cent of the mollusc shells. In the mounds of the Aby-Tendo-Ehy lagoons, a similar range of species is present, together with *Arca senilis* (a mangrove bivalve), but *Corbula* and *Pachymelania* are less common than in the Ebrié sites, and the differences in species composition between different mounds and different regions presumably reflect differences in the local



environment. Other remains represented are fish bones, particularly of catfish, *Chrysichthys sp.*, small mammals (monkey and rodent), birds, tortoise, crocodile and monitor lizard.

Songon Kassemblé

This site is in the Ebrié lagoon, which is 100 km long, lies parallel to the Atlantic Ocean and is separated for most of its length from this by a narrow coastal strip. Several towns, including the capital, Abidjan, lie on the lagoon. The lagoon averages 4 km wide and 5 m deep. Numerous shell middens are found in this coastal strip; these include the sites of Songon Kassemblé, Songon Dagbé, Songon M'Bratté, Adiopodoumé, N'Gaty and Dabou-

Tchotchoraf (Figure 17.1). The shells and fish that are found in the middens all come from the lagoon rather than the sea.

We opened a test pit in the East Zone of the Songon Kassemblé shell midden, which is the best-preserved area of the site. There are three stratigraphic levels: a superficial level (Level 0), with shells dominated by *C. trigona*; Level 1, with *C. trigona* shells; and Level 2, with shells of *C. trigona* and *P. byronensis*. These have yielded a total of 391 ceramic fragments.

Dating samples collected in 1971 by R. Mauny are given in Table 17.1. Additional dates have been reported more recently at Songon Kassemblé for Levels 1, 2, 3 and 4 (1 being stratigraphically the lowest) with

Figure 17.1. Map of the region, showing sites and other places mentioned in the text. Re-drawn by Geoff Bailey from information supplied by the author.

Site Name	Lab No	Material	Level	Radiocarbon Age BP
Adiopodoume	U-264	Shell	-	970±110
Adiopodoume	U-265	Shell	-	990± 70
Adiopodoume	U-266	Shell	-	950± 70
Songon Kassemblé	U-2186	Shell	-1m	1130+410/-390
Songon Kassemblé	U-2185	Shell	-1m	1430±130
Songon Kassemblé	U-2184	Shell	-1m	1200±90
Songon Dagbé	U-2188	Shell	-1m	2640±130
Songon Dagbé	U-2187	Shell	-1m	2630±120
Songon Dagbé	U-2191	Shell	-1m	2460±200
Songon Dagbé	U-2190	Shell	-1m	2730±100
Songon Dagbé	U-2189	Shell	-1m	2840±150
Dabou-Tchotchoraf	U-2192	Shell	-2m	2920±100
Dabou-Tchotchoraf	U-2193	Shell	-2m	2920±140
Dabou-Tchotchoraf	U-2194	Shell	-1.1m	2920±80
Dabou-Tchotchoraf	U-2195	Shell	-1.1m	3010±140
Ehoussou	U-2199	Shell	-1.7m	2680±140
Ehoussou	U-2198	Shell	-1.7m	3010±100
Ehoussou	U-2201	Shell	-1.0m	3210±150
Ehoussou	U-2200	Shell	-1.0m	3310±80
Ehoussou	U-2202	Shell	-0.3m	3340±100
Ehoussou	U-2203	Shell	-0.3m	3120±140

Table 17.1. Radiocarbon dates from shell mounds in Côte d'Ivoire.

radiocarbon ages of 6190±150 to 2790±90, 2400±90, 2080±60 BP, and 490±80 BP, respectively (Vialou, 2004, 1250). The exact relationships between these dated samples and the archaeological material recovered from the recent excavation are uncertain, but, at any rate, they are consistent with a maximum date range spanning 1500 BC to AD 1500

Comparable data have been recovered from Songon Dagbé which is less than 2 km away (Mauny, 1972, 21–22). Songon Dagbé was test pitted by R. Mauny then excavated by R. Chenorkian between 1979 and 1985. Levels 1–3 at Songon Dagbé are broadly Neolithic in type, and contain abundant lithic artefacts and two types of pottery (ovoid and carinated) with a rich and varied decoration. The excavators identified a connection with the Kintampo culture from Ghana. The fourth level contains traces of iron slag (Vialou, 2004). The dates from Songon Kassemblé overlap with those from Songon Dagbé, and the general similarities between the sites in

terms of artefacts and shell assemblages (both dominated by *Corbula trigona*), suggest that they are likely to be linked. The ceramics display a variety of decoration.

Method

Not all designs have symbolic meanings. Designs, in particular those on ceramic pieces, can be purely decorative. Faik-Nzuji (1992, 65) recognised this and lists three types of decoration:

- Of no significance.
- Part of a known repertoire of graphic signs whose meanings have been largely lost.
- Part of a known repertoire of graphic signs whose meanings are known but which are used outside this meaning, for a purely decorative purpose.

The approach, borrowed from the 'iconological' anthropology of art (Perrois, 1997), comprises:

- Classification of 'series' or abstract styles with specific meanings and systematic regularity of forms and sizes of objects.
- Contribution of written documents and oral surveys to validate and record the styles that have been identified.

We need to focus on the complexity of each symbol in order to reconstruct its meaning both at the site of Songon Kassemblé and elsewhere.

Following surveys of the Dogon in Mali, Griaule argued in 1946 that 'these people have a metaphysical cosmology and a religion which is more complex than those of ancient people and as rich as that of Hésiode' (Tamari, 2001, 93), and he proposes that their theology should be studied. Our study of the graphic motifs found at Songon Kassemblé is based on a literature review of the broad repertoire of religious graphic symbols of black Africa (Figure 17.2) in order to understand the context of the motifs we find at Songon Kassemblé, and on a description and analysis of the motifs themselves.

Decorations and religious cults at Songon Kassemblé

The universality of the signs and their wide spatial and temporal typological variability

require an objective classification, based on aspects such as the nature of their construction and the primary graphic symbols (Vialou, 2004, 1236–8). We were able to identify various decorations and symbols, which we classified; we interpreted these as linked to the identification of religions or cults present at Songon Kassemblé.

The decorations identified at Songon Kassemblé consist of incisions and impressions (Figure 17.3). The incisions, which were formed by notching the clay probably using a punch or a blunt tool (Balfet et al., 1983, 91), have produced a range of decorative forms including:

- Oblique lines
- Convex and concave lines
- Convex oblique lines
- Concave lines
- Chevrons of different types
- Geometric forms (rhomboids, triangles and squares)

The impressions resulting from perpendicular or oblique pressure on fresh clay, either from stamping, rolling or rocking movements, were classified according to the systems of Balfet et al. (1983) and Livingstone Smith (2007). The forms identified at Songon Kassemblé include points, grooves and spirals.

Identification of these motifs consolidates the idea that all art represents what people see, know, think, imagine and believe. It reflects, in this sense, the interior image and suggests that art is a representation of criteria unique to each society (Perrois 1997, 107). One can therefore make a strong correlation between the various artistic designs and the worlds of symbols and religion.

The analysis which follows is an attempt to link the decorative aspects to the functions of the objects. We make observations on the rites and the ritual practices which appear to be connected to the decorations. This analysis is based on the location of the finds and the activities known to be practised on the site.

Religions and cults at Songon Kassemblé as identified from the symbols

The fragments of pottery are linked to the burials. The most abundant types of decoration found here in the shell middens (Figure 17.3)

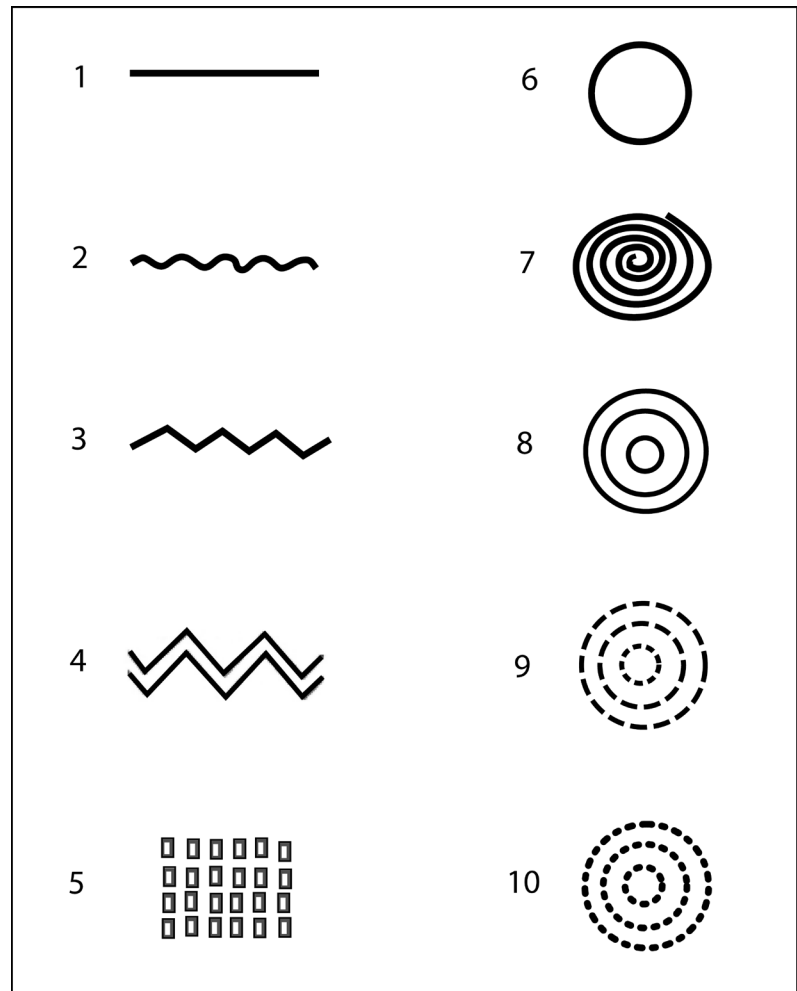


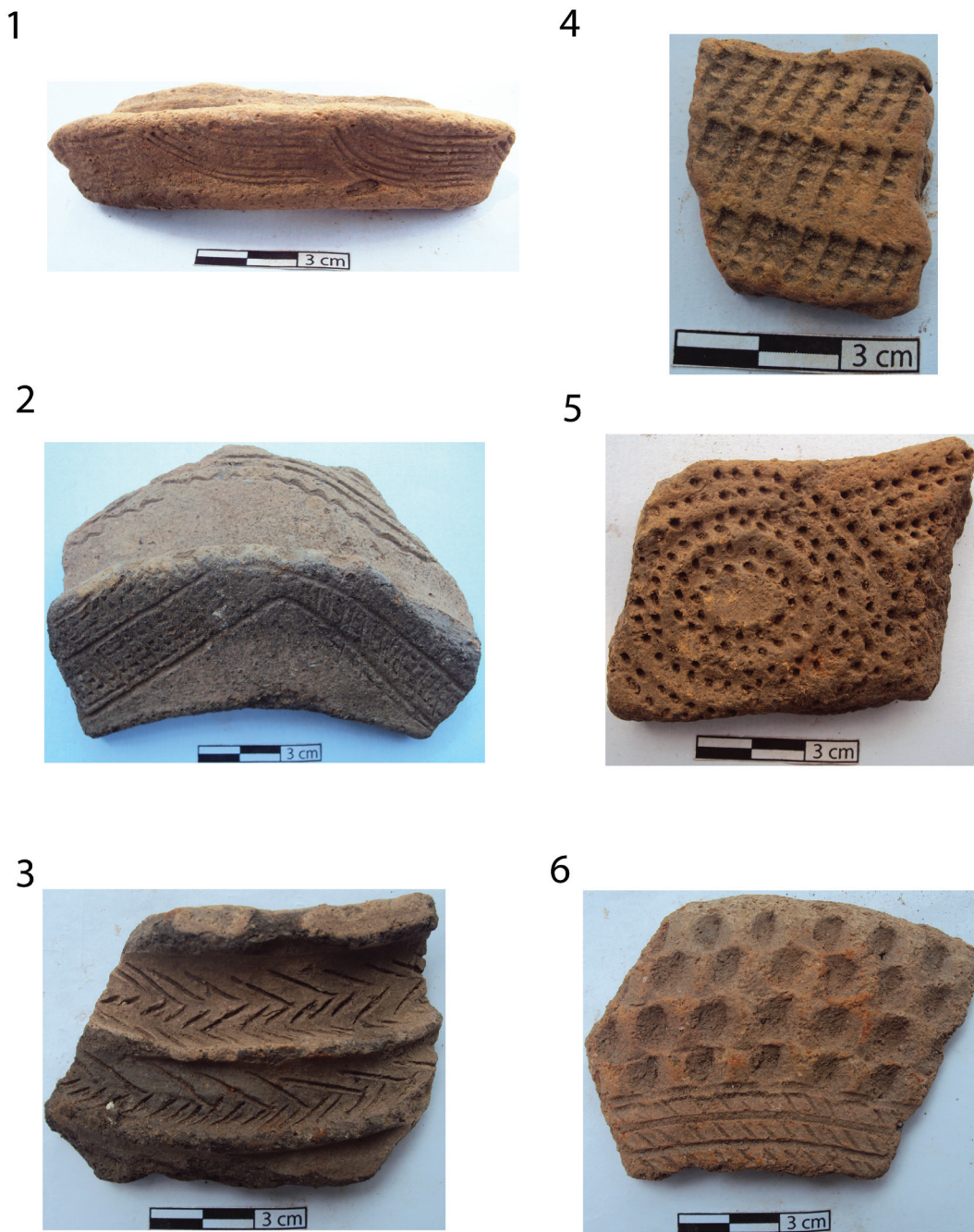
Figure 17.2. Symbolic designs from Africa. 1: The serpent, the master of the law, in a state of repose; 2: The flow of life, femininity, water, and the serpent, the master of law, in movement; 3: Lightning, and the harmful effect of the sun's rays; 4: Power and greatness; 5: Abundance; 6: Circle of beginning, symbol of life, which brings perfection to all those who conform to the law; 7: The exercise of the law, and of movement; 8, 9, 10: Canonical form with a point at the centre, symbol of the Supreme Being, of the origin, multiplication, abundance, growth and harmony of living beings.

correlate well with known African symbols. These include:

- Points: these signify abundance and refer to a supreme being
- Chevrons: abstract representation of fish scales
- Zigzags: abstract representation of waves or water, habitat of marine species, largely fish, but also shells and crabs

These three major symbols constitute 80 per cent of the identified signs. We have been able to compare these to known, previously identified symbols. We have identified ancient

Figure 17.3. Examples of ceramics from Songon Kassemble, showing different types of signs used as decorative motifs. 1: Lines; 2 and 3: Chevrons; 4: Cord-marked impressions; 5 and 6: Patterns made of point impressions.



religious beliefs linked to the symbol of the Supreme Being, origins, order, law and abundance, employed to ensure success in fishing (Figure 17.4). They appear to represent animistic religious beliefs through time and space which focus on the abstract wellbeing of the people. The use of symbols links people to divine beings.

The results of this analysis correspond with previous similar work undertaken in Africa

(Binet, 1993). The Dogon are well known due to the work undertaken by the Griaule-Dieterlen school, who reconstructed their traditional belief system. Complex and realistic signs developed out of the Akan symbolic system and were used on scales to weigh gold and also on textile designs from Ghana and Côte d'Ivoire. Sword blades were symbolized by triangles on boubou pockets on the chest; these were perceived as a protection against

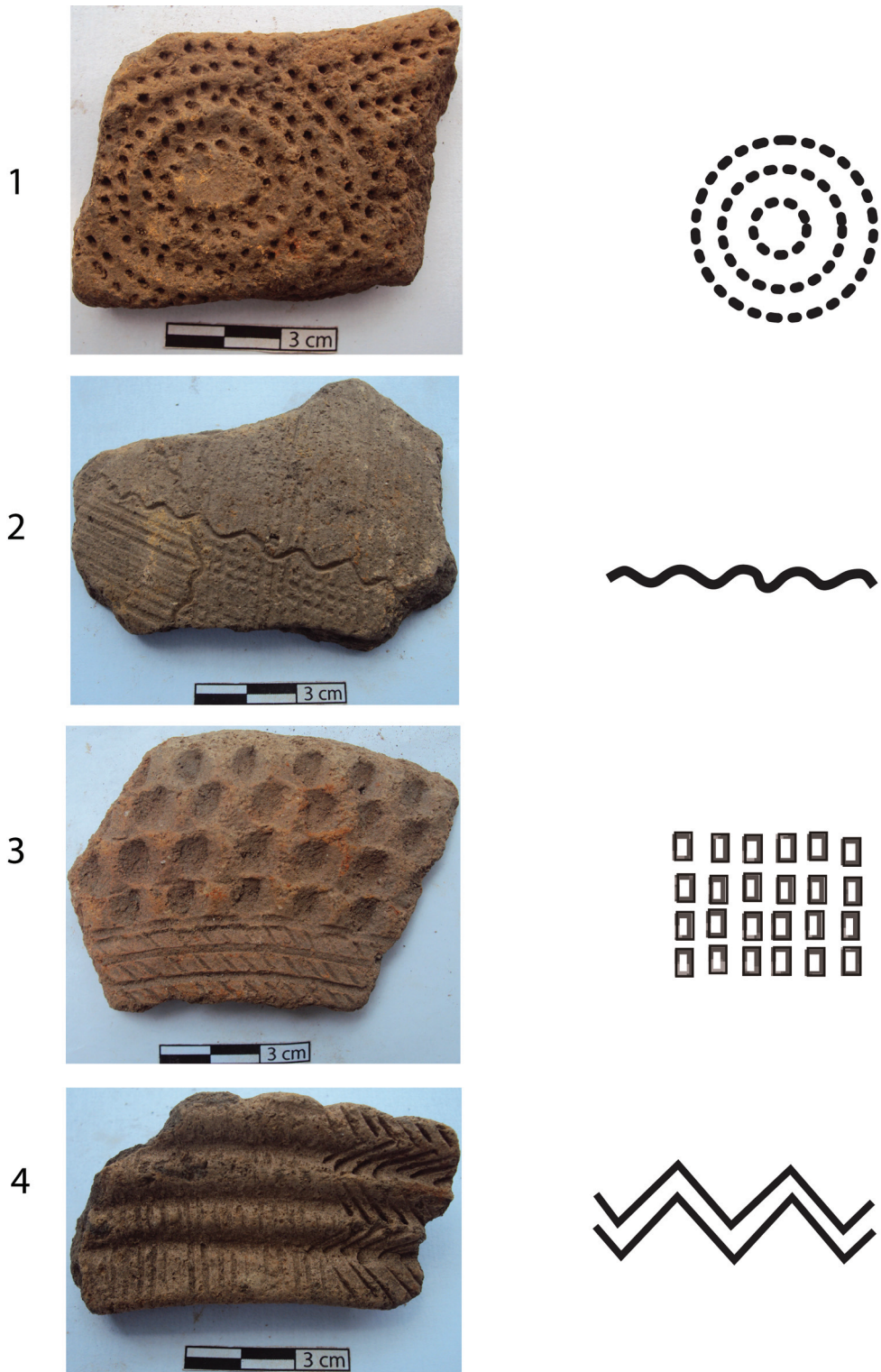


Figure 17.4. African symbols identified on the ceramics of Songon Kassemblé. 1: Point impressions corresponding to the symbol of the Supreme Being; 2: Curvilinear decoration corresponding to the Serpent of the law in action, and also symbolising the flow of life, femininity and water; 3: Alignment of points corresponding to the symbol of abundance; 4: Parallel zig-zag lines corresponding to the symbol of lightning and the harmful effect of the sun's rays, and also symbolising power and greatness.

supernatural powers for the person who wore the clothing. Binet (1993) did not believe this, but underlines the always persistent presence and value of magic in ancient culture.

Conclusion

We agree with Faik-Nzuji (1992, 121), who claims that the symbols are cultural creations that acquire meaning through rites and worship,

as representations of powerful events which contribute to the rhythm of the users' lives. These celebrations, in which each member participates, are organized according to the concerns of the social group. Bodies are marked and objects such as the ceramic fragments used as a basis for this study are carved, modelled or engraved.

These are the results of our preliminary study; we intend to develop this further with more detailed analysis of relevant materials. We believe that with perseverance, through detailed analysis of the symbolism found on ceramic and iron slag fragments, we will be able to develop a better understanding of the meanings of these, and this will permit us in turn to learn more about the ancient civilizations based around the shell middens of the coast and forest of Côte d'Ivoire and their material items. We hope further analyses might be conducted in the future and we have offered a preliminary analysis that may encourage further research.

Acknowledgements

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