Part I

Archaeology as Anthropology[2]

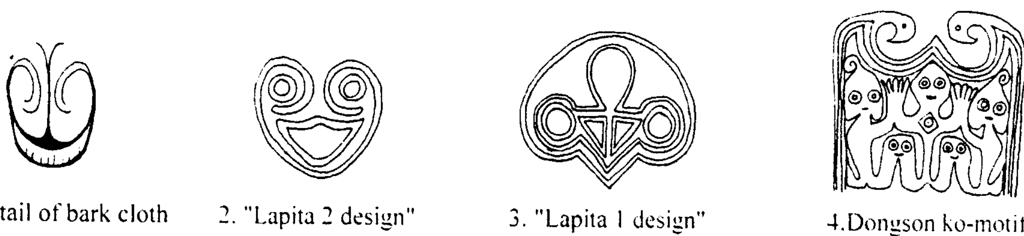
[2] See also Binford's famous article 'Archaeology as anthropology' in: *American Antiquity* 28: 217-225, 1962.

1
Methodology

1.1 Introduction

In this thesis the studies of D.Newton and B.Craig will serve as a starting point for the analysis and comparison of Lake Sentani, Dongson, and Lapita design systems and their structural principles.[3] Newton (1988) has suggested that a continuity between prehistoric Lapita decorations and historical and present Melanesian material can be discerned. According to his analysis Lapita designs figure prominently in the two-dimensional art of Lake Sentani (Newton 1988: 16). Especially the abstract reverse spirals in a zoned arrangement (Figure 1.1) are in accordance with Newton's Lapita '2' design (Figure 1.2). Newton (1988: 16) interprets this specific Sentani motif "[..] as a face, with the oval extended into a dentate mouth-like form, and the lateral scrolls as eyes". This description clearly favours the linkage with the Lapita '2' design since this motif is a summary version of design '1', a schematic version of Lapita-designs in which a human face is depicted (Figure 1.3).

However, present inhabitants (and people originating) from Lake Sentani consider this motif to be a fish. Augus Ongge [4], for example, described the motif as an extinct lake-fish. Gershon Kaigere [5] interprets the motif as a tadpole. This latter view supports Bleckman's (1973) thesis who argued for the dispersal of a Dongson amphibian myth and motif that left its traces in, amongst others, New Guinea. Seen in this light, the Sentani motif could be a local variation and adaptation to the tadpoles depicted on the Dongson ko (a type of dagger axe, figure 1.4). Thus, despite their geographical correspondence, the continuity between Lapita and New Guinean designs is far from proven.



1. Detail of bark cloth 2. "Lapita 2 design" 3. "Lapita 1 design" 4.Dongson ko-motif

Figure I.1.1 Lake Sentani motif (1), Lapita types of design (2,3) (Newton 1988: 14) and Dongson ko-motif (4).

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[3] Contrary to Lake Sentani: Dongson and Lapita are archaeological cultures and therefore defined by their material remains only (see further: Part II, section 7).

[4] Augus Ongge (1954 Asei) is an inhabitant of the little island Asei in Lake Sentani. He is considered a specialist in barkcloth painting by his fellow villagers. When I asked about meanings of motifs, people referred to him. During my fieldtrip in the summer of 1996 I confronted him with, amongst others, the 'eyes' motif which he also depicted on barkcloth. He described it as a fish that used to live in the Lake but was no longer present. He probably acquired the motif from photographs of ancient barkcloths in books, which are available to him in copies.

[5] Gershon Kaigere was born in the village Asei, Lake Sentani in 1935. In 1962 he left Irian Jaya and went to the Netherlands where he stayed ever since. Currently he is working as a guard at the National Museum of Ethnology in Leiden.

Following Newton's assumption Craig (1995) has conducted a study of Lapita-, and northern and central New Guinea designs. His position is that the geographical and historical expansion of Austronesian cultural traits can be explained by mechanisms of trade, gift-giving and warfare (Craig 1995: 240). Since arrows are supposed to be frequently exchanged, cultural traits (amongst others in the form of arrows) of Austronesians should be visible in locally made arrow designs. In central Irian Jaya, for example, the role of warfare ensures the widespread consistency in arrow designs (Heider 1970 in: Craig 1995: 240).

The Lapita designs which Craig used as comparison are, however, not obtained from arrow designs but from sherds of vessels. His comparative analysis indicates that the arrow designs, found throughout the northern foothills and the central range from the Mountain-Ok to Lake Kopiago, can be derived from the later period of Lapita pottery designs (Craig 1995: 255). However, there seems to be no relation between the early Lapita pottery designs and arrow designs of northern and central New Guinea. These more complex designs from the northcoast, Border Mountains, upper Sepik, Mountain-Ok and Porgera-Lagaiap River regions of New Guinea, seem to appear more closely related to contemporary southeast Asian designs (Craig 1995: 255, 256). In addition to his analyses, Craig argues that a direct comparison can be made between the designs on certain objects of Lake Sentani and equivalent paraphernalia of the Border Mountains and upper Sepik (Craig 1995: 256). He states that "this line of enquiry may elucidate 'the more recent period' of southeast Asian influence" (Craig 1995: 256). Thus, besides the divergent interpretation of Sentani motifs, Craig's study also seems to point to a non-Lapita origin of Lake Sentani motifs.

1.2 Methodology

By analysing design elements on prehistoric pottery and recent objects, aspects of continuity between prehistoric and recent New Guinean material appear to have been singled out. There are, however, some methodological problems that Newton and Craig have disregarded.

The time difference between Lapita and Dongson on the one hand, and recent Melanesian material on the other, encompasses approximately 2,000 to 3,000 years. This considerable time difference is supposed not to impede comparison, as the geographical continuity would eliminate the weakness of this diffusionist method of approach (Craig 1995: 237).

Furthermore, the two authors compare design elements that are retrieved from different objects. Newton compares design elements on pottery with design elements on bark cloth. Craig compares pottery designs with arrow designs; both are of objects that could be acquired by means of exchange. However, Lapita-pottery has not (yet?) been found in the interior of New Guinea. Therefore, Craig presupposes that the designs on Lapita pottery were similar to those on other Lapita objects that were acquired by prehistoric Papua societies and transmitted to the present ones. Thus, both authors consider past and present designs and design elements as analogous.

Apart from these problems of time and analogy, which will be discussed further in section 2, Craig and Newton disregard the social implications of a possible continuity in style and design elements. If style is considered to be a non-verbal manner of communication (section 3), what then are the deductions from their statement that there *is* a continuity in style? Are motifs and styles adapted without any reference to their 'original' meaning? Are they and their meanings transformed and adjusted to their new context? Or are motifs and styles incorporated because of their meanings? Moreover, what kind of continuity (section 3) do Craig and Newton aim for?

Another problem refers to the *status quo* of objects and artifacts [6]. In agreement with some archaeological scholars, I argue that objects cannot be isolated from their context in both past and present (Hodder 1982; Shanks & Tilley 1992: 119). This idea of context is totally ignored by Newton and Craig, who treat designs and design elements as separate entities. The relation between design and object, and their broader context is not discussed. Contrary to Craig and Newton, I will argue that objects and designs are 'meaningfully constituted' in their social and material environment (Hodder 1995: 12; Part IV: section 15,16). Because material culture is constituted within frameworks of conceptual meaning (Hodder 1995: 12), it cannot simply be separated from its context and cross-culturally compared without seriously neglecting its function and meaning.

Following the argument that objects cannot be separated from their context, a general structuring of culture in pre-defined sub-systems (the economic-, environmental-, technological- etc.) is not possible either (Barth 1992: 19-20; Shanks & Tilley 1992: 119). This because groups, institutions and environment are entangled in mutual interactions that result in overlapping structures. Thus, when studying culture or society [7], a holistic view is necessary (section 2 and 3). However, how holistic can you get? It is fairly impossible to get hold of all social and material aspects and relations of a society, including its entanglement in time and space. Subsequently there is also the problem of analysis. How can one analyse interactions, processes and structures between (in this case) material objects, individuals, groups of people, societies, institutions, techniques, environment and so on? For the sake of the argument (and this thesis), I

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[6] The terms 'objects' and 'artefacts' could be defined as material entities which belong respectively to present or recent societies and past, archeaological cultures. However, since artefacts are objects and objects are artefacts, I will use both terms to refer to material culture, both prehistorical, historical and present.

[7] Society and culture are abstract definitions for the same subject matter, although the perspective is somewhat different (Nadel 1951 in: Kloos 1981: 18). When using the term 'culture', reference is made to the whole of habits, institutions, symbols, values and of a group of people (Kloos 1981: 14). 'Society' refers to the "sharing of a system of action which is capable of existing longer than the life-span of an individual, the group being recruited at least in part by sexual reproduction of its members" (Aberle et. al 1950 in: Kloos 1981: 13). These definitions are commonly accepted in anthropology. However, some scholars advocate a more naturalistic view towards societies. According to F. Barth, societies are "disordered open systems" (1992: 21). Since ideas, considerations, and intentions differ among interacting persons, the final outcome is *not* a bounded and ordered entity, containing local communities as smaller parts (Barth 1992: 32). In this thesis the terms society and culture will be used arbitrarily, refering to Barth's "disordered open system" definition. The term 'social structure' will be used in Lévi-Strauss' sense, in which structure refers to the ordering of patterns of relations which exist between sociocultural elements, not to the ordering of social roles (Kloos 1981: 195).

will use analytically distinguished sub-systems such as the design-system of objects (Part III), the system of objects (Part IV), and the mythological system (Part V), in order to facilitate analyses of each part and get insight in the ways these parts interact with and within the 'total whole'. The analyses of these 'sub-systems' are conducted with the help of structuralist theory and method (section 4).

1.3 Objectives

In summary, my aim is to examine designs on objects of Lake Sentani, Northwest New Guinea and compare these with prehistoric Lapita and Dongson designs. As a starting point I follow Craig's (1995: 243) description of design elements and designs. In his analysis design elements are similar to motifs, which, in a particular order, make up the whole design. Although I prefer to define design elements and motifs on different hierarchical levels, in which a particular combination of elements makes up a motif, I will use the term 'design elements' in Craig's definition in order to prevent confusion. When referring to the whole design on an object I will use the term 'design system', hereby addressing the particular ordering of composed design elements (or motifs) that make up the system. When describing designs on a more artistic level, I will employ more neutral terms as decorations or ornamentations. The smallest elements in a decoration will be called design traits. These are always geometrical, since they form the basis of all shapes and forms. As such these are universal traits. A particular composition and combination of design traits makes up design elements or motifs. Design elements can be geometrical or figurative. Compositions of these elements can lead to finite or infinite designs, the latter are called patterns, which in a particular order, make up the entire design system (Figure 1.2).

Design traits:	Design element / motif:	Design:	System:
basic geometrical forms like lines, triangles, ovals and circles	composition of traits: 1. geometrical 2. figurative	composition of motifs: 1. finite 2. infinite (pattern)	order or structure of the design

Figure 1.1.2 The definition of terms.

After comparing the modern and prehistoric designs, similarities and dissimilarities will be explained by using theories concerning style and by ethnographical analogical inference. Thus the analysis will have a descriptive (a) and explanatory part (b).

(a). By describing designs, the extent to which present Lake Sentani designs correspond to designs found on Lapita pottery of Melanesia, particularly the region of the Bismarck Archipelago, and to designs found on Dongson material, can be determined. Besides a formal analysis, which will elucidate possible morphological, (dis-)similarities in designs and design elements, an analysis of the structural ordering principles of the design elements will be made as well (Part III).

(b). By determining the relation between object, style and society, explanatory statements about possible continuities in motifs and style between prehistoric and recent objects, can be made. In Part IV, the context of the Lake Sentani material will be discussed in order to demonstrate the entanglement of objects, designs and social life. In Part V, this aspect will be deepened by demonstrating the relation between (Lake Sentani) myths and designs. The structural ordering principles as analysed in Part III, will be further discussed and related to structuring principles in social life. This way, the social implications of continuity in motifs and style for both prehistoric and present cultures will be discussed and analysed. Finally, it will be discussed whether it is correct to search for parallels between prehistoric and recent material and use analogical inference to explain and give meaning to the archaeological record in this particular case.

2
Archaeology as a social science

Scholars like Newton and Craig legitimate their search for continuity and discontinuity between present and prehistoric design-elements by referring to the corresponding geographical area and the prehistorical relations, which probably existed between the two cultures that produced the studied design-elements. The time-gap of 2,000-3,000 years is thereby irrelevant. By comparing present with prehistoric material, they presuppose that the design-elements are comparable and analogous in the first place. By focusing on design-elements and their compositional principles, they ignore cultural imbeddedness and social meaning. In doing so they do not have to worry about any social implications their statements may have. In contrast to this superficial method, I will try to relate continuities and discontinuities in design elements and design systems to social life, in both the present and the past. In doing so I make use of a deeper analogical inference. In the next section some pros and cons of analogical inference and the related problem of 'time' will be discussed.

2.1 The use of analogy

All archaeological scholars use analogies in their interpretation of the archaeological record and the past. Moreover, the use of analogies in archaeology is inescapable (Hodder 1982). There is, however, some discord about the way analogies should be chosen and analogical inference should be deducted. Wylie (1985) has described two prevalent ways in which archaeologists choose and apply analogies:

"There are archaeologists who take analogies at face value from source disciplines (history, ethnology, etc.) even if they involve a number of inferential leaps, in the belief that they offer the basis of a satisfactory interpretation of the archaeological subject matter and maintain the thread of continuity of human behaviour between past and present. On the other, there are those who insist on detailed prior consideration (via ethno-archaeology) before proposing working hypotheses about archaeological data" (Wylie in: Murray & Walker 1988: 252).

The former archaeologists motivate their analogical inference by referring to the social character of the archaeological record. Artifacts are considered as remnants of (past) socially structured cultures and human behaviour. By using analogies derived from social disciplines, like anthropology and ethnology, explanations for and meanings of the archaeological record can be obtained. The uniformitarianist [8] proposition that archaeology deals with the relationship between human behaviour and material culture in

[8] The principle of "uniformitarianism" has its origin in geology and was put forward by J. Hutton (1785) and C. Lyell (1833). The geologically principle stated that ancient conditions were in essence uniform with present conditions (Renfrew & Bahn 1991: 22). The principle can be applied to the human past as well and "expresses a belief in universal principles which apply irrespective of time and place" (Bailey 1983: 174).

all times and places (Schiffer in: Binford 1982: 28) is, however, not shared by anybody. One prominent advocate of analogical inference, L. Binford, recognizes the singularity of the archaeological record and its limited information on this matter. According to Binford the archaeological record is located in the present, therefore the observed facts are contemporary as well (Binford 1983: 19). The archaeological quest is to translate these "contemporary statements of *static* material things into statements about the *dynamics* of the past ways of life [..]" (Binford 1983: 20; emphases mine). The only way to understand the relationship between statics and dynamics, and to be able to make statements about the dynamics of the past, is by studying the relation between human behaviour and material culture in the present (Binford 1983: 23). Therefore, ethnographical studies are important research materials that can link the present with the past. Despite the importance of 'actualistic studies', Binford is also aware of the difficulties involved in the choice and application of analogies:

"We must assume that knowledge gained from actualistic studies is relevant and applicable to the living systems of the past...[this] assumption is always conditional and may be false; that is we could be wrong in our judgements regarding the condition shared by systems or entities of the past and the present" (Binford 1982: 27).

Besides the possibility of wrong judgements regarding the proposed shared condition, the more pessimistic archaeologists claim that the selection of analogies is guided by what archaeologists want to know about the past (Murray & Walker 1988: 249). Logic presumption may misdirect fieldresearch (or analysis) and would implicate a subjectification and mystification of the past that does not lead to a meaningful archaeology. According to some scholars, the singularity of the archaeological record marks it off from ethnology and history (Murray & Walker 1988: 258). This implies that present or historical information, gathered by ethnologists and historians, is not directly commensurable with the material remains of the archaeological record. They acknowledge the temptation to impose conventional meanings, drawn from 'source-side' disciplines, on archaeological remains. However, the danger of disenfranchising the archaeological record, along with its singularity of explanatory possibilities, should prohibit these analogical inferences. "The archaeological record has to be given preference above ostensibly meaningful human science analogies" (Murray & Walker 1982: 258). Therefore, Murray and Walker (1982: 251), like Bailey (1983), stress the need for the development of archaeological theories. The explanation of the archaeological record with social theories is, according to their view, not right. The analogy has to be different, since the process of making it fit is the development of an archaeological theory. By reshaping theories from other disciplines towards the archaeological record, archaeologists can analyse the human action which derives from it (Murray & Walker 1982: 245). They advocate the application of falsification strategies in order to create archaeological theories and explain the archaeological record:

"Working hypotheses drawn from analogical inferences can be accepted if they: (a) may be refutable within the universe of data they are invoked to interpret, and (b) anticipate the likelyhood of changes in one or more parameters

vis-à-vis the analogical case(s), the detection of which may offer an analogy for developmental adaptations by past communities" (Murray & Walker 1982: 253-254).

In order to direct the efforts more to refutation of hypothetical analogies, biconditional analogical hypotheses have to be used (Murray & Walker 1982: 266).

In addition to this methodological problem, Hodder (1982) makes a distinction between 'formal' and 'relational' analogies.[9] Formal analogies refer to the common features of two objects. If they look alike they probably also have other similarities (Hodder 1982: 16). By identifying as many similarities as possible between two objects, the analogical inference becomes more plausible. In order to strengthen formal analogies two methods can be employed: a. the direct historical approach, and b. the cross-cultural approach. The direct historical approach is a way to strenghten and expand the number of formal analogies by comparing archaeological sites and objects with modern sites in the same area (Hodder 1982: 18). By assuming or establishing continuity between archaeological and ethnographic data, the use of present analogies in order to explain the past is better justified. The direct historical approach is also practiced by Craig and Newton. They use formal analogies (similarities in designs and design-elements) to make statements about continuity. However, they are not concerned with the implications and meaning of this continuity in style (section 3.1). The second method is the cross-cultural approach. By using many wide-ranging statements that are valid in different present situations, the archaeological situation can be explained in the same terms. This inference is based on the idea that present and historical cross cultural laws are probably also valid for the past (Hodder 1982: 18; Binford 1983: 23-24).

As already noticed, one major problem with formal analogies is the verification and therefore reliability of the similarities proposed. Formal analogies do not pay attention to the relational and contextual links that may occur between objects and situations. In order to determine whether certain formal similarities also imply a common content and context, relational analogies have to be detected as well. Relational analogies "seek to determine some natural or cultural link between the different aspects in the analogy" (Hodder 1982: 16). Thus, a prehistoric axe is not only an axe because of its formal simularities or analogy with present ones, but also because of the relations between qualities of the object and its context. According to Hodder (1982: 23-24, 27), this kind of analogy and the ideational and functional context of the variables, can lead to a proper use of analogy in archaeology.

In summary, Murray and Walker (1982) consider ethnographical data as a source for suggestions that have to be tested and refuted. So they clearly favour a critical rationalistic approach in line with Popper. This in contrast to Binford who advocates a more positivistic approach, and aims for the establishment of cross-cultural laws (for example Binford 1981; 1983; 1991). The search for these laws

[9] For example: the word 'pain' occurs in English and French contexts. Apart from this formal relation of a similar combination of lettres, there is, however, no relational similarity since the meaning of the word differs with its context (Hodder).

and the application of present analogies from all over the world on the archaeological record, is legitimated by the 'uniformitarianism principle'. Binford's methodology is clearly more liable to criticism, since the premises and analogies in it, cannot be tested.[10] In order to overcome this problem, Hodder advocates the use of relational analogies in combination with the ideational and functional context of the variables (1982: 23-24, 27). According to him, this combination can lead to a proper use of analogy in archaeology.

It is interesting to see that this discussion regarding the choice and application of analogies, is a reflection of the different attidudes towards the archaeological record itself. Contrary to Binford (1983: 19), I consider the archaeological record as being ontologically consistent with the contemporary record. This implies that there is no division between the material, archaeological record and the social system (Thomas 1996: 61). As put forward by Barret and described by Thomas (1996: 60):

"Social practice is in no way separated from the material world: material things are media which are drawn upon and deployed in social action."

Thus the material world is "continuously reworked in the unending performance of life" and subsequently its meaning is constantly constructed, reconstructed and interpreted (Thomas 1996: 60-63). By analysing the archeological record we make it static in order to comprehend it (Thomas 1996: 63). According to Thomas (1996: 64), the analysis of the 'evidence' can be discribed as a textual practice, which leads to an interpretation which *stands for* the past. So Thomas' idea differs from Hodder's vision, in which the archaeological record is concieved as being text-like, in the sense that according to Thomas the archaeological evidence is no record at all (Thomas 1996: 64). Accordingly, in order to comprehend or interpret the 'archaeological evidence', analogical inference is no problem at all. This does, however, not imply the advocation of a rigid uniformitarianism, which leaves no room for different or anomalous scenarios arising from the archaeological record itself. Contrary to Fletcher (1992), I believe that besides a basic methodological uniformitarianism, substantive uniformitarianism can be helpful as well. The first premiss concerns the universal relation between humans and their material environment, in both the present and the past. How these relations were constituted, and in what ways they were expressed, are the major issues of archaeology. In order to get insight into these relations, substantive uniformitarian logic can contribute to the development of hypotheses. Since we are only recently involved in the search for universal laws regarding the relationships between human behaviour and material culture, contributions to theory cannot be made by following a methodological uniformitarian logic only. So despite the difficulty

[10] In line of the *Annales* a distinction can be made between substantive and methodological uniformitarianism (Fletcher 1992: 43). Methodological uniformitarian logic presupposes the existence of simular processes and conditions in both past and present. Models of genetic reproduction are, fór example, based on this kind of uniformitarianism (Fletcher 1992: 43). Substantive uniformitarian logic presupposes a constancy in both the rate of processes and the occurence of a phenomenon (Fletcher 1992: 43). The latter is used in archaeology and has, according to Fletcher (1992: 43-44), to be discarded since it leads to premisses and associations which can not be tested in the archaeological record.

of testing certain premises and the resulting analogies, substantive uniformitarian logic can contribute to our understanding of the past. Our major problem is therefore how to make analogical inference as reliable and testable as possible.

In accordance with Murray and Walker (1988), I acknowledge that the imposition of analogies on archaeological data is a hazardous enterprise. However, the prize that can be gained is worth the shot. In accordance with Hodder (1982; 1986), I consider the context of major importance. Therefore one has not only to search for formal analogies, whether direct historical or cross-cultural, but also analyse the functional and ideational context of the objects in both past and present. Only after establishing relational analogies, formal analogies become more acceptable and valid. By acknowledging the weakness of analogical inference and subjecting it to a critical analysis, the advantages of the application of analogies are considerable. The great diversity in human conceptual and material practices is not fully understood without referring to historical or present societies. Trying to explain the archaeological record without imposing some rigid western or typical archaeological methodological scheme on it, is only possible when this diversity (and its continuum) is acknowledged. Anthropological, ethnological and historical data can be inexhaustible sources for possible screenplays that occurred in the past. In order to let the evidence 'speak' for itself, not only similarities have to be stressed but also, and especially the differences. In this way the danger of converting the archaeological evidence towards the ethnological (or other) source, is no longer present. Furthermore, the discovering of differences, which in their turn can lead to 'archaeological' theories, can only be made in comparison with present data.

2.2 The meaning of time

"Time is central to archaeology. It constitutes the major problem of interpretation and yet it is the reason for the discipline's existence" (Shanks & Tilley 1992: 7).

Archaeologists are, in contrast to their fellow colleague social scientists, capable of intertwining (pre-)history and anthropology (Little 1994: 8). In other words they can study diachronous processes, which can not be studied in present-day situations. One of the problems that arise while attempting such diachronic analyses is the time-depth between the archaeological- and the anthropological record.

For some scholars this time-depth is irrelevant since the uniformitarianism principle guarantees the equality of past and present processes and features (see Binford). Others, like Newton and Craig, follow a more restricted use of analogies and employ a geographical boundary. By using analogies from the same region as the archaeological record, geographical (and therefore cultural?) continuity is considered to be guaranteed and the analogies are considered to be more valid. By implication, the time-barrier between the anthropological- and the archaeological record is considered irrelevant. There seem to be, however, some serious problems with this direct historical approach. Considering the archaeological record as a material record, which has been almost always modified by natural or cultural agencies, apparent geographical

continuity does not always imply real, lengthy geographical continuity. Apart from post-depositional aspects, geographical continuity does not automatically imply commensurability between past and present cultures. The divergence and uniqueness of present and past cultures can impede comparisons between cultures and their elements. This rather extreme 'culture relativistic' point of view will, however, not be carried through since it leaves no room for further discussion and comparison. In contrast, the premise of the uniformitarianism principle disregards some variable and unique aspects of human culture that constitute the relativistic point of view (see previous section). Entangled with these issues are the problems of divergent time-scales and related processes, and the ways in which people experience time.[11]

In following Braudel's division of time, many archaeologists have attempted to deal with the temporalities and effects of various processes and phenomenons. The premise founding these attempts, is the idea that every action[12] has its own temporality which is visible on a certain time-scale. So, archaeologists often scale actions like acts, events[13], cycles, processes and structures in short-, medium-, or long-term time-tables. Disagreement occurs regarding the association of actions with scales and the nature of the subsequent effects of these actions on other time-scales. Most scholars, however, agree that the archaeological record, with its specific material residu, pertains to a different time-scale than the present ethnographical record. The archaeological record reveals processes that occurred over a lengthy period of time. This in contrast to the present ethnographical record in which mainly short-term processes are visible. For some scholars this idea leads to the argument that the time-resolutions of the present and the past are incommensurable, and therefore the use of analogical inference has to be restricted. This dualistic view constitutes one of the most prominent barriers between social sciences and archaeology. Since the former consider time socially and subjectively represented and study the single event which is supposed to be visible in the short-term process only, the temporal index of archaeologists is *not* comparable with that of social sciences (Bailey 1983: 167; Shanks & Tilley 1987: 121-122; Thomas 1996: 36).

These two approaches are founded on two interrelated concepts of time, which Bailey distinguishes as 'time as process', and 'time as representation' (1983: 166). Time as process refers to the

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[11] According to most scholars there are two kinds of time. Linear or sequential time, in which "events take place in a certain order along a moving continuum", and cyclic or durational time, in which "the time span of events and of intervals between events is relative and may be repetitive (Knapp 1992: 12)." According to some scholars the first time is experienced in daily life and the second in religious or mythical happenings. Cultural relativists, however, argue that concepts of time vary within cultures and are intrinsically related to various types of social organization (Knapp 1992: 12). In chapter V, I will reflect further on this discussion when analysing myths. For this discussion, the different views towards the methodological implications of time are more fruitful.

[12] The term 'actions' refers to the actions of humans, things, geological processes etc. Implicit I thus acknowledge that material things are active entities and can alter or influence human or environmental actions.

[13] See also Barth's (1992: 21-24) argumental distinction between two aspects of behaviour that feature in anthropological research, namely: 'events 'and 'acts'. Events refer to the outward, measurable appearance of behaviour. Acts "refer to the intended and interpreted meaning of that behaviour, its significance for conscious persons holding particular sets of beliefs and experiences." This distinction between act and event is an equivalent for processes attributed to the short- and long-term. According to Barth (1992: 21) "an event is an act by virtue of being intended and construable."

objective explanation of the past in terms of the past.[14] Time, in this view, is considered as a context in which, amongst others, social and geological processes, occur. The linking of time with process, implicates that different processes (geological, cosmic, biological, social etc.) refer to different time-scales, which can be differentiated in long-, mid- and short-term (Bailey 1983: 168). This relation is further enhanced by stating that processes *are* time. "There is only one time, but there are many types of processes" (In: Bailey 1983: 168). Therefore, time itself is considered to be linear and irreversible (Bailey 1983: 168-169). Contrary to this objective view, is the concept of time as a subjective representation. This latter view of time refers to the subjective explanation of the past by means of the present. It is practiced by social scientists who work with time as a socially constructed representation and is related to the study of short-term social processes (Bailey 1983: 166).

The distinction between 'time as process' versus 'time as representation', or 'measured time' versus 'experienced time' (Gosden 1994: 2) or the 'time of the world' versus 'time of the soul' (Thomas 1996: 33)[15] does, however, *not* imply incommensurability. The two forms of time are socially constructed concepts and dependent on structures of social formations (Shanks & Tilley 1987: 127; Gosden 1994: 6). They are made up of many different forms of time or temporalities that are created by every social act:

"[..]..social actors draw upon structures which enable action and in the action reproduce those structures. So every social act implicates different temporalities: the occasion or event of the action; the life history of the social actor; and the institutional time of structure" (Shanks & Tilley 1987: 127).

These different temporalities, which archaeologists prefer to scale in long-, mid- and short-term dimensions, are real but inextricably bound up and intertwined with each other. Out of these different, multiple temporalities which are socially constituted, time is constructed. When it is considered as a composition of events (with their temporalities) that occur in the past, the present and the future, time and all the processes involved have to be viewed as one complex entity. In this way the alleged incommensurability between different time-scales and their pertaining processes is no longer relevant, since they are all bound up in the same history. Moreover, the linking of scales with specific processes is no longer justified, because each process has its mark on every scale. Processes, whether social, psychological, geographical or biological, are not seperable scale-related 'features' in a stable context or dimension which is called time. Social practices, for example, do not have influence on the so-called short-term only. They are also part of the long-term and can encompass many centuries and even millennia,

[14] Knapp (1992: 12) also describes Bailey's distinction between time as 'proces' and time as 'representation'. However, unfortunately he switched the definitions of the terms.

[15] Measured time is a sequence of moments which can be counted. Experienced time is not sequential and not measurable (Gosden 1994: 2). The same can be stated about Thomas' (1996: 32-33) distinction between 'time of the world' and 'time of the soul'. The first refers to events that take place in a sequence and can be counted. The latter refers to a phenomenological conception of time.

which are visible in structures of the landscape, human thought and culture (Gosden 1994). Therefore social, economic and ideological factors are not only relevant to the study of short-term change, but also to long-term developments (Knapp 1992: 14).

Thus, the distinction between long-, mid- and short-term is for analytic purpose only in order to get more grip on the complex interactions of different processes and their occupation in time (and space). The division in three layers is quite arbitrary, since there are more (analytical) layers to discern. The problem arises, however, if processes and practices are strictly reduced to one of these time-layers. Archaeologists then start to worry about the commensurability between the layers and their assigned processes. Some archaeologists are convinced that social processes belong to the short-term, consequently, these cannot be compared with the long-term archaeological features. However, when stating that social practices influence processes in the long-term and even pertain to the long-term, the problem is eliminated. I agree that each event is essentially unique and incomparable. However, the focus of study is not specific events, but recognition of transitions from one event to another. "What are compared are the objects and relations of objects situated in events" (Whitehead 1957: 124-125 in: Binford 1982: 28). These objects and their relations are visible in both the (long-term) archaeological and the (short-term) ethnographical record.

Gosden (1994: 18) considers the long-term as a framework in which mainly unconscious (social) interactions and relations develop. The short-term encompasses more conscious action. Archaeologically, the long-term is visible with off-site methods and can be seen in landscapes, erosion, deposition, vegetation, and distribution of artifacts through the landscape. Within these larger structures of the landscape and artefact, more specific features are visible which are the result of short-term individual action, like burials, fire-places etc. (Gosden 1994: 18). I do, however, not agree with Gosden in the sense that a distinction can be made between long-term unconscious practices, and short-term conscious practices. Both habitual and conscious practices can lead to structures that are visible on both the long- and the short-term scale. His analytical distinction is too simple to account for the complex (habitual and conscious) interactions that occur between social and other process in both the long- and short-term. Instead of using the arbitrary distinction between long- mid- and short-term processes and the pertaining features, I suggest to view archaeological features as social features which are intertwined with different concepts of both measurable and experienced time. Specific cultural constructions of time are difficult to retrieve from the archaeological record. This does however not imply that archaeologists cannot use present or recent constructions of both time and social practice, in order to come to grips with the past. As put forward in the previous section, there is no strict division between the past and the present. Moreover, the relationship between humans and things is part of a continuum which never ends, and is subject to continuous interpretations and reconstructions.

3

Continuity and variability in material culture and style

In the search for prehistoric prototypes and modern analogies, many scholars limit their study to an analysis and comparison of design-elements. Some also study the structural principles that organise these design-elements. They do not, however, elaborate further on the social meaning of continuity and discontinuity in art styles between past and present cultures. This in contrast to many archaeologists who use and have used the analyses of style with different purposes and from different perspectives. Since the terms 'continuity' and 'discontinuity' constitute the major issues in this thesis, some remarks have to be made about their content and their interpretation. In this section the content of the terms will be defined. Subsequently some of the 'meanings' of style, stylistic continuity and stylistic variation will be discussed.

3.1 Continuity and discontinuity

Newton and Craig frequently employ the term 'continuity' in relation to designs and design-elements. Their studies are focused on the identification of formal analogies in the design principles and motifs of prehistoric and recent material. If these are found, statements about continuity are made. However, they do not reveal what is meant exactly by this statement. Explicitly they only make statements about continuity or discontinuity in designs. Implicitly, however, they state that a continuity in designs implies some kind of contact between (in this case) Austronesian Lapita and mainland New Guinean groups (Craig 1995: 240). Discontinuity between prehistoric Lapita- and recent New Guinean designs, therefore implies no contact or exchange, no diffusion of cultural traits. These implicit assumptions are made on the basis of formal analogies in designs only.

Van de Velde (1979: 42) states that continuity and discontinuity are statements about possible relationships *within* an area of research. They may provide insight into gradual or disrupted developments in a specific field. However, "they say nothing about states of affairs outside that field" (Van de Velde 1979: 42). And this is exactly what the studies of Craig and Newton reveal, nothing. Despite their linking of designs with cultural contact, they give no further explanation for a continuity between prehistoric and recent designs. Craig (1995: 238) remarks that continuity does not have to imply migration of Austronesian groups into mainland New Guinea. Exchange and warfare could have been adequate mechanism for achieving the distribution of Austronesian traits (Craig 1995: 238). These remarks do, however, not contribute to our knowledge regarding the complex interactions between different kinds of people that occurred some 2000 years ago and of which traces are visible in the material culture of the past and the present.

In order to shed more light on the different fields to which processes of continuity and discontinuity can pertain, I distinguish two main areas of society in which continuity can occur:

1. The social domain; the structure[16] of a group, which incorporates social position, relations, social distance, networks (Kloos 1981: 18).[17]

2. The cultural domain; the norms, values and perceptions of a group of people (Kloos 1981: 18). Therefore, social change implicates change in the structure of a group. Cultural change reflects changes in the values and perceptions of a group. Since cultural traditions are simultaneously maintained and actively invented, diffusion and continuity can be considered social processes (Hodder 1986: 12). Causes of social and cultural change are complex, and may involve many different factors. How specific events are perceived and how the possible responses are evaluated, depends on how the events are involved in individual and social strategies within particular culture-historical contexts (Hodder 1986: 15). Thus, it is rather the historical tradition that reproduces itself in relation to events in the world (Hodder 1986: 15).

Since the material domain is inextricably intertwined with the social and cultural domain, changes in material behaviour may result from changes in the social and cultural domain. In a structuralist-Marxist approach (e.g. Bourdieu and Giddens), material culture even plays a highly active role, "creating society and creating continual change" (Hodder 1986: 77). In this thesis two areas of research that pertain to the material domain will be studied: a. continuity and discontinuity in objects, and b. continuity and discontinuity in decorations and style. According to Van de Velde (1979: 43), continuity shows two distinctive forms: 1. pseudo-continuity and 2. continuity-proper. The first form refers to the cases in which "[..] all changes occur simultaneously and the length of the adoptive period is equal on all variables" (Van de Velde 1979: 43). For example "[..] the general introduction of a new style coupled to a repression of the old one [..]" (Van de Velde 1979: 43). Thus, if the introduction of all new traits occur in one point of time and the disappearance of old ones at another point of time, so the lengths of the adoptive periods are equal for all variables, then we speak of pseudo-continuity (Van de Velde 1979: 44). Continuity-proper refers to the cases in which "[..] innovations appear and old traits disappear at different points in time, and the lengths of the respective adoptive periods differ also". "It is discontinuous if the old traits had dissappeared before the new ones were introduced to replace them" (Van de Velde 1979: 43-44).

The relation between things and the social and cultural domain is not straightforward. Consequently, there exists no stable relationship between continuity or change in the material, social and cultural domains, either. Thus, change in one domain does not imply change in one of the other domains. This can be elucidated by referring to the continuities and changes in the material, social and cultural domains of Lake Sentani societies (Hermkens 1996; part IV). During the last century these societies have changed a lot. Besides demographic growth, the indigenous religions and many accompanying traits were replaced by new, Western and Asiatic ones. Especially the cultural and material domains of these societies

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[16] Social structure in this perspective is defined as the network of relations between people.

[17] By making a distinction between the social and cultural domain, I am not implying that these are two seperated fields of society. On the contrary, both domains are intertwined and are distinguished for analythic purpose only.

have changed. The social domain remained fairly the same [18]. Due to processes of colonialism and globalism, the material culture of Lake Sentani has changed considerably. New goods were introduced that rapidly replaced the indigenous tools and utensils. However, some objects remained in production, especially objects which are attractive to tourists and other foreign people. One striking similarity of these different items is the design elements that are painted or engraved. The range and diversity of these motifs are very limited, so different kinds of objects often have the same decorations. These motifs were already in use before 1900. Thus, despite many cultural and material changes there is a continuity in design-elements (Part V). However, there is a significant change in the structural principles according to which the design elements are organised (Hermkens 1996; Part V). This conclusion is in contrast with Craig's (1992: 242) observation in the Sepik area. In this case the introduction of a foreign shield resulted in specific changes of local shield designs. As a result, Craig concluded that structural or compositional principles are the most durable mode of perception, technique somewhat less durable and motifs the least durable aspect of an art style. The Sentani example shows that in another context, motifs can be the most durable aspects of a style.

3.2 Style and stylistic variability: an overview

As we have seen in the previous section, some aspects of style are more vulnerable to influences than others. Craig (1992: 242) distinguishes three aspects of style, namely: 1. structural or compositional principles, 2. technique and 3. motifs or design-elements. Contrary to many archaeologists, he is not interested in the kind of influences that change certain style aspects. Consequently, he is not interested in the meaning of these changes either.

Archaeologists assume that by studying the archaeological record, reconstructions of past social practices, the reasons for those practices and dynamics in social organisation, are possible. In order to gain access to the social culture which lies behind the artefact, spatial and stylistic analyses are applied.[19] Historically, content and application of the concept 'style' changed according to the questions asked and theories constructed, but the magical appeal remained. Style analyses are considered as *the* method to gain insights in archaeological cultures and their social actors. Stylistic variations can reveal insights into short- and long-term changes, inter- and intra-group relations and social practice (Shanks & Tilley 1992: 141).

[18] Despite the introduction of the Dutch and present Indonesian political system, local politics changed very little. Every Sentani village has its own ondoafi (chief), who controles local politics. Besides these petty chiefs there is one ondoafi who lords over whole Lake Sentani. Besides this hierarchical structure, relations between people are based on kinship. Cognates can claim money and goods from each other and frequently work together in the gardens.

[19] Stylistic analyses are mainly applied to ceramical decorations. The current definitions and explanations of style are therefore mainly based on archaeological and ethnographical studies of ceramics.

Since the archaeological interest in style, seven perceptions towards the concept 'style' and 'stylistic variation' can be distinguished.[20] Summarized, these are as follows:

Style is viewed as:	*Stylistic variation is explained as:*
1. chronology and 'culture marker'	1. diffusion, migration, innovation
2. culture	2. stratification, residence, marital form
3. habitual action	3. stylistic drift
4. regional adaptation	4. new adaptation.
5. social interaction	5. level of social interaction
6. structural ordering principle	6. not being relevant
7. information exchange	7. solidarity, borders
a. social ethnical identity (emblematic style)	a. isochrestical variation
b. individual identity (assertive style)	b. motor habit variation

In the following part these points will be described in more detail.

1. Until the 1960's styles in material culture were distinguished by identification and classification of types. On the basis of style typologies seriations were drawn up with which social historical organisations and changes within were defined and relatively dated (Sackett 1977: 374; Conkey 1990: 8; Shanks & Tilley 1992: 139). Different styles in ceramics or stone implied different groups of people and even different ethnic groups. Changes in style implied migration or diffusion of people and styles (Renfrew & Bahn 1991: 407; Shanks & Tilley 1992: 138). Objects were, in this view, considered as identity bearers of groups of people or cultures.

2. During the sixties some scholars put forward generalisations that were thought to be applicable in different times and places. These generalisations were related to the relation between style and society. According to Fischer (In: Merill 1987: 221; Hodder 1982: 173), stylistic categories were related to social stratification, residence pattern or specific forms of marriage. Designs with a large amount of empty space or with simple repetitive forms were associated with egalitarian societies. On the basis of cross-cultural psychological studies other generalisations were made, which related personality to form. An attitude towards domination was associated with a preference for geometrical outlines while resigned subjugation correlated with a preference for flowing, smoothly rounded lines (Hodder 1982: 173).

3. The processual approach of the seventies implied that style was separated from function (Dunnell 1978: 199; Conkey 1990: 10; Shanks & Tilley 1992: 139). From this perspective differences in style are considered as variability in form that are related to the changing social context of manufacture and use. Stylistic characteristics are not of interest for social groups because style is not adaptive and functional

[20] For a more extensive and detailed outline of archaeological perceptions to stylistic variation (1,3,4,5,7), I refer to: Shanks & Tilley 1992: 138-146.

(Shanks & Tilley 1992: 139). Changes in sociocultural systems have to be understood in terms of demographic structure of the group and its adaptations towards the ecological environment. The focus of interest is therefore on function, functionality, and efficiency, in stead of symbolic meanings and individual stylistic variations. Variations in style are related to small shifts in standards of style due to separations or discontinuity between generations (Shanks & Tilley 1992: 139).

4. Derived from Binford's ecological approach, some archaeologists argue for the relation between regional adaptation and (vessel) form. People -and consequently their material culture- functionally adjust to their specific environment. These adaptations are visible in the designs of objects since primary characteristics of (vessel) form are governed by (vessel) function. So if the functional activities of people change because of the need to adapt to different environmental conditions, the design of the object (vessel) changes as well (Shanks & Tilley 1992: 140).

5. From an interactionist approach, stylistic characteristics are related to the level of interaction between groups. The larger the interaction, the larger the stylistic similarity (Sackett 1977: 371). In this view there exists a relation between social and political aspects of style. Stylistic homogeneity is therefore also associated with isolated and closed societies. While stylistic diversity is associated with open societies *or* with societies who have little or no interaction with each other (Washburn 1988: 39; Shanks & Tilley 1992: 140-41).

6. Archaeologists who argue for a structuralist approach rarely make use of the concept of style. They view patterns of designs as conscious or unconscious visualisations of submerged internal, conceptual patterns of thinking. Because of the synchronical perspective, little or no attention is paid to changes or variations in decorations or style. They acknowledge that in the course of time, the meaning of a sign can change. Explanations for this transformation are not of their interest (see section 3).

7. The view that style is a non-verbal way to exchange information, implies that by means of style analyses information about groups of people, individuals, borders and interactions can be obtained (Wiessner 1990: 110). Variations in style could be the result of: the level of interaction between groups, inter- and intra-group differences, personal identity (status) (Wiessner 1990: 110) and physical differences between persons ("motor habit variation") (Arnold 1985: 221-222; Shanks & Tilley 1992: 141), which result in different production or patterns of use. So in this approach style is a symbolic medium to define individuals and ethnic groups.

Summarized, it can be argued that there is no unambiguous perspective towards the definition and use of style (Sackett 1977: 369; Wiessner 1990: 105). Attempts to arrive at one definition of style seem already inadequate in advance. Despite this dilemma Shanks & Tilley (1992: 151) employ the following definition of style:

"[..] mode of existence of particular attributes of material culture arranged in series, displaying regularity, and having specifiable social conditions of existence in terms of constraints placed upon discourse within a determinate

set of social relations mediating, and transforming the form in which social relations are, alternatively, conceptualized, represented and misrepresented."

No matter how 'true' or relevant this definition of style is, as a working hypothesis it is not very suitable. In the next section one of the many approaches towards the behavioural background of style will be discussed.

3.2.1 *Style as information-bearer*

Recently archaeologists have advocated the link between style and communication. In certain objects messages are transmitted by means of the available style options. According to this view, style can be used consciously (iconicism) or unconsciously (tradition) to convey information in order to define borders, identifycation of other, ethnical groups and to stimulate or restrict interaction with other groups (Sackett 1986: 269-270). Sackett (1986, 1990) describes the variation in options regarding designs of material culture "isochrestism". The variation in choice options is influenced or determined by social factors within the group in which the artist or producer functions. By social interactions with other groups or individuals choices can change. But within a certain group and time, choices are specific for a certain group or ethnicity (Sackett 1977: 371; 1986: 267). Variation in material culture that is socially bounded in this manner, is an expression of ethnicity and it is this variation which is indicated as 'style' (Sackett 1986; 267; 1990: 33).

The information that is sent by means of style does not only relate to ethnic boundaries. It can also refer to the individual or larger group relations. In line with this view Polly Wiessner (1983) defines style as:

> "[..] formal variation in material culture that transmits information about personal and social identity."

So she makes a distinction between individual and group-identity that are both expressed and defined in material culture by means of style-patterns. This distinction is related to two kinds of social referents which all styles possess. Namely, styles without distinct referent and styles with distinct referents (1990: 108). Thus, Wiessner discerns:

1. "Assertive style". Formal variation in material culture which is based on personal preferences. This style pattern gives information about personal identity (Wiessner 1983: 258). It would involve both the differences between individuals and a personal expression of the membership of a specific group. Assertive style is often unconsciously employed, it has no clear referent.
2. "Emblemic style". Formal variation in material culture which has a specific referent and sends a clear message towards a defined targetgroup with regard to kinship and identity (Wiessner 1983: 257). Emblemic style contains information about groups and boundaries, and usually refers to a social group with its norms and values. This aspect of style would change only very gradually, unless the referent (or targetgroup) changes or disappears.

According to Sackett (1990: 33) the degree of correspondence between two material cultures, is an expression of the ethnical relation between those two social units. The degree of presence or absence of emblemic style variation, is, however, no dimension for the interaction between groups.

3.3 Two dichotomies

Besides the previous behavioral explanations of style, style can be described in terms of components or opposites. One of the most fundamental dichotomies in archaeological theory has been the opposition between style and function. However, does 'function' reside in style or is this feature of material culture the opposite or complementary of 'style'? Sackett (1977; 1986) advocates the latter approach in distinguishing between stylistic and functional variation. According to his view objects have:

1. An active established function (e.g. from its manufacturing, to its use in different activities and its attributed roles).
2. A passive established style (e.g. form that is the result of specific cultural choices in a certain time and place, which are socially transmitted) (Sackett 1977: 370-371).

In this view, statements about activity concern the functional mode of an object, statements about the cultural-historical context or tradition, concern its stylistic mode (Sackett 1977: 371). However, both are complementary aspects of one single domain. "Style resides in the specific context-determined variants ('choices') assumed by functional form [..]" (Sackett 1977: 371). So every single object has both functional and stylistic attributes. This distinction is, however analytical it may be, not as clear as it seems.

Without residing into functional explanations, the distinction between functional- and stylistic modes (in Sackett's sense) is not evident. As well as in their conscious-unconscious (respective active and passive) intention as in their connotation. For example, when analysing forms and designs on lime-containers several intertwining features -which can be analytically associated with the two modes- are revealed. The form of the lime-gourds is functional, in the sense that it is: a. actively chosen for its ability to preserve chalk *and* b. to (passively or actively) distinguish between different persons according to status and gender. This same gourd-form is stylistic in the sense that it is: a. a cultural trait and tradition to use gourds instead of bamboo *and* b. to relate gourd-form to groups and individuals. The designs on the gourds are functional in the sense that they (actively and passively): a. make a distinction between different villages, and implicitly with other (stylistic) regions *and* b. make a distinction between persons and status (chiefs and commoners) and refer to mythological events. The same designs are stylistic in the sense that it is a tradition to (actively and passively): a. use certain motifs and arrange them in a specific manner, as in contrast with neighbouring villages and other (stylistic) regions *and* b. to relate specific motifs to certain persons and refer to mythological happenings. It can therefore be argued that stylistic forms are functional, and functional forms are stylistic. How then to define function and style? In this thesis I argue that style and function are neither opposites nor complementary. Both 'modes' are different perspectives of looking at the same object. Considering X=Y and Y=X, both modes have the same

features, and the same content. Therefore they are only analytically distinguishable. In social practice they are the same.

Another distinction, which is closely related to the 'style and function' dichotomy, is the distinction between utilitarian and non-utilitarian objects. To distinguish between objects, whose primary function lies in "the material sphere of technology and economics [..]" (e.g. tools, weapons, containers etc.), and objects that belong to the societal or ideational spheres of cultural life (e.g. figure and animal statues etc.) (Sackett 1977: 372) is, however, imposing *our* classification system on that of other cultures. Instead of using this analogues inference, I suggest to use an 'ethnographical' one: every object is utilitary and every object has a function and meaning. So against Sackett (1977: 372) I argue that most objects *are not* clearly assignable to one domain or the other. Objects have a multiplicity of functions, which cannot be labelled into primary or secondary functions. To explain this argument an example of Lake Sentani axes will do. Besides their use in the 'utilitarian domain', stone axes were highly valued and used in amongst others dowry payments. When marrying a woman, the bridegroom had to pay several axes to the family of the bride as part of the brideprice. Apparently, axes also pertain to the social, 'non-utilitarian' domain.

So when dealing with archaeological (and ethnological) materials it is better to ignore these (western) distinctions and employ a model in which the artefact can have multiple functions and meanings and can pertain to more than one of our western domains. In fact I suggest to get rid of our distinction between social, material, technological, economical and ideological spheres, it only leads to an highly simplified view towards past (and present) societies and people, and denies their dynamic entanglements and its complexity. Also, the awkward analytical steps from one 'system' to many 'sub-systems' and subsequently back to one 'system', can be passed over (Tilley 1990: vii).

4
Material culture and social structure

In this section a structuralistic approach towards material culture will be discussed. The term 'social structure' will be used in Lévi-Strauss' sense, and refers to the ordering of patterns of relations which exist between sociocultural elements (for further explanation see section 4.4). After discussing the (linguistic) origins of structural anthropology, the archaeological structuralist perspective will be dealt with. Purpose of this account is to introduce this approach which will be employed in Part III and Part V. In the former part, an archaeological structuralistic method will be applied in order to define the structural principles (orderings) of designs. In Part V a more anthropological method will be employed which is grounded in the theories of Lévi-Strauss. By analysing the structural principles of myths and the mythical relations with ornaments depicted on objects, insights in the meanings and relations of designs will be achieved.

4.1 Structural linguistics

Structural anthropology finds its origin in linguistics and mainly in the theories of F. de Saussure (1857-1913). De Saussure is known for his four dichotomies which have been of great importance in the development of structural linguistics (Lyons 1973: 11). The major dichotomies are 1. *substance* and *form*, 2. *syntagmatic* and *paradigmatic* relationships between signs, 3. language as *langue* and language as *parole*, and 4. *synchronic* and *diachronic* investigations. The first dichotomy refers to distinguishable aspects of the nature, or essence, of things (Lyons 1973: 11). When analysing 'things' a distinction can be made between substance (or matter) and form. Substance is defined as the foundation of variation and individuality which has no existence independently of form (Lyons 1973: 11). With regard to material culture, the substance consists of the raw, shapeless material which becomes something by imposition of a specific form. Languages result from the imposition of form on two different kinds of substance, namely sound and thought (Lyons 1973: 11). Or to define them in De Saussure's terms, on *signifiant* (signal or signifier) and *signifié* (signification or signified). The phonological composition of a word derives its essence and existence from the structure or form imposed by language upon the substance. The meaning of a word (signifié) derives from the imposition of structure on the vague and "inchoate continuum of thought" (Lyons 1973: 11). The combination of a specific 'signification' or concept with a specific sound-form, or 'signal', results in a linguistic *sign* (De Saussure 1983: 67). The relation between the psychic concept and the signal are arbitrary: any sound will initially do to convey a concept; however, once linked, word and meaning are a fixed combination, the so called sign. Since the sign is a combination of a signal associated with a concept, the linguistic sign itself is also arbitrary (De Saussure 1983: 67-68). Another feature is the linear characteristic of signs (De Saussure1983: 69). The signs obtain meaning in a specific order only. The meaning of signs is generated by the network of relations that connects them mutually.

These relations can be syntagmatic or paradigmatic [21], the second dichotomy of De Saussure. Syntagmatic refers to the rules of combination, paradigmatic towards the series alternatives or differences.

The third dichotomy of De Saussure is the distinction between *langue* and *parole*. *Langue* refers to the system of codes, rules and norms which structure languages. *Parole* is the use of the system by individual speakers (Tilley 1989: 185). "It is the language-system that is structured in terms of paradigmatic and syntagmatic relations [..]" (Lyons 1973: 13). Therefore the object of study is the analysis of the structure of the *langue*, the system. This analysis of the system has to be conducted synchronically, that is at a given point in time because relations between things occur in one time, simultaneously (De Saussure 1983). This implies that diachronic comparison of single elements (words) from different periods is not useful. A diachronic analysis of two language-systems can be attempted if both have been synchronically studied. Transformations of the earlier system into the latter could then be analysed (Lyons 1973: 14). De Saussure (1983: 74) acknowledges that the passage of time, which ensures the continuity of a language, has an opposite effect namely its ability to change linguistic signs. However, these variations and shifts in the relationship between signal and signification are not the focus of his study, but, rather, the synchronic analysis of *langue*. In brief the ideas of De Saussure can be summarized as follows:

(a). language is a social fact, (b). language is a system of signs, (c). signs are combinations of signals and significations, (d). every combination is initially arbitrary and consequently the sign itself is also arbitrary, (e). the focus of study are *not* the elements in a system, but the relations between them, (f). each element in a system derives its value from its position in relation to all other elements.

The Prague linguist Roman Jacobson (1896-1982) refined the theory of De Saussure. He introduced a dynamic form of structuralism with emphasis on the functions of language, language as a hierarchical system and on language as a communication-system. According to his point of view, messages could have an aesthetic function, for example art as medium. Contrary to De Saussure, Jacobson was interested in the meanings and changes in signs. He also advocated the joining of De Saussure's dichotomies, because a synthesis between the oppositions would be more realistic and informative. Recent scholars, like John Lyons (1973) have refuted the proposition that there are no substantive universals of language. Some scholars like (the American) Noam Chomsky, propose a universal language structure which is determined by the capacity of humans (contrary to animals) to learn and speak a language (Lyons 1973: 19). Others are more careful in their statement and argue that "[..] every language-system is unique though it may have a universal substructure" (Lyons 1973: 19). According to some linguists, this universal substructure is characterized by opposites like nose/mouth and vocal/non-vocal.

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[21] For example, in the construction *the little dog*, the word *little* is syntagmatically related to the words *the* and *dog*. The words *old*, *big* etc. are paradigmatically related with *little* in the context of *the....dog* since they can be regarded as alternatives in this context. This also occurs on the level of phonology. The phoneme /o/ is syntagmatically related to the phonemes /d/ and /g/ in the word *dog*. The phoneme /i/ is paradigmatically related with /o/ in the context /d-g/.

4.2 The way of the objects [22]

The French anthropological structuralist Claude Lévi-Strauss used the model of linguistic systems and semiotics in order to study cultural systems. Thus, social and cultural phenomena are considered signs; not the single elements are studied, but the systems of relations with which they are mutually connected. These unconscious mental structures are separated from practice, like *langue* is separated from *parole* (Hodder 1982: 8). Another premise of linguistic theory that Lévi-Strauss used was binary opposition. These structural rules were not only valid for all languages, but also for cultural structures. On the basis of polar opposites he constructed models for social structures. Lévi-Strauss studied, amongst others, marriage forms in terms of systems of underlying rules (1958: part I and II). These systems were realisations of a limited number of structural oppositions. Besides these studies of kinship and social organisation -in which the emphasis lies on the practice of social relations, the *ordre vécu*-, he also analysed myths. In these analyses the emphasis lies on the *ordre concu*, or the systems of thought. By means of the analyses of myths the internal logic of the mind could be studied. The structure of a myth reflects after all the structure of the human mind. In his book *The Way of the Masks* (1983), Lévi-Strauss analysed the relations between the myths and material culture of a society. His holistic theoretical point of departure implies that myths, and other aspects of culture, are part of the same system and cannot be regarded as separate and isolated objects. The underlying structuring principles that are used in myths, are related to the whole system and therefore also visible in material culture. By analysing the relations between myths and masks, Lévi-Strauss discovered the social and religious functions that the different types of masks represented (Lévi-Strauss 1983; see for a further elaboration on myth analysis, Part V).

Influenced by the structuralist approach, a group of anthropological scholars with an interest in material culture, argued that material culture is a way of communication. One of the most prominent advocates of this view is Gerbrands. He considers material culture as the materialisation of social practices. Social practices, behaviour or action can be seen as a conscious or unconscious dialogue with the environment (Gerbrands 1990: 47). This implies that material culture is a non-verbal way of communication. Objects 'speak' a language and it is up to the anthropologist to decipher its grammar by means of fieldwork (Gerbrands 1990: 47-48). Another consideration is made by Nijland (1989: 88), who sees social behaviour or action as the result of a more or less conscious sense of reality, a complex network which relates the individual with his or her environment or "*Umwelt*". These actions are discernable in a series of techniques, among others material techniques. Material techniques can be interpreted as humans in dialogue with the material, "[..] it is the communication of matter and energy with the *Umwelt*" (Nijland 1989: 93). The point of view that material culture is a way of communication, implies that objects, resulting from the dialogue between humans and matter, contain specific information, information about the relation between individuals and their social and ecological surroundings. Objects contain specific

[22] After Lévi-Strauss' *Way of the Masks* (1983).

information only in the context of the culture in which they were manufactured. They have so-called 'sign value' in their specific culture or 'sign system' (Gerbrands 1990: 48). From this perspective, objects have to be studied in their context because here the specific meaning(s) of the objects resides. [23]

4.3 Structuralist archaeological approaches

In the second half of the 19-seventies, a new vision developed in archaeological theory. Derived from studies of among others De Saussure, Noam Chomsky and Lévi-Strauss, archaeologists applied structuralist methods to the archaeological record. These methods varied considerably (Hodder 1986: 35; Tilley 1989) and it seems that the only consensus in their interpretation and use of structuralist theory, is that material culture -and the archaeological record- derives from human actions which are guided by beliefs and symbolic concepts which are internally structured and related to the social. These underlying structures of thought are visible in material culture only by analysing the relationships between things. Not the objects themselves but their relationships with other aspects of social life or the archaeological record, can reveal the underlying structures and their composing principles. Hence material culture is not a direct reflection of society. There are many different transformations and relationships between aspects of material culture and between material culture and society (Tilley 1989: 188).

Structuralists mostly employ the synchronic approach of De Saussure and they are not particularly interested in changes in time. They look for the structure at the basis of all aspects of human society. Analogous to the distinction of language as a system and language in use, is the dichotomy of form and function. The significance of material culture is not the representation, user value or function, focus of study are the systems of underlying structures and the relations of material culture with other aspects of society (Tilley 1989: 188). Summarized the position of material culture within a structuralist approach can be conveyed as follows:

"(a). Material culture is a framing and communicative medium involved in social practice. It can be used for transforming, storing, or preserving social information. It also forms a symbolic medium for social practice, acting dialectically in relation to that practice. It can be regarded as a kind of text, a silent form of writing and discourse; quite literally, a channel of reified and objectified expression.
(b). Although material culture may be produced by individuals, it is always a social production. [..] In regarding material culture as socially produced, an emphasis is being placed on the constructedness of human meaning as a product of shared systems of signification. The individual does not so much construct material culture or language, but is rather constructed through them" (Tilley 1989: 189).

In line with Lévi-Strauss' theory, some archaeologists argue that the human mind contains universal, reappearing patterns which can be analysed in polar opposites such as left/right; male/female;

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[23] It is obvious that this approach is similar to Hodder's contextual approach (Hodder 1986: 153).

bounded/unbounded, and so on. Since these thought patterns are not only visible in one sphere of life, but pertain to the whole culture, designs on, for example, vessels are ordered the same way. Oppositions in society are therefore visible in its material culture and visa versa (Hodder 1986: 42; Tilley 1989: 190).

In structural archaeology mainly two methods are employed (Tilley 1989: 190). The analysis of material culture in terms of polar opposites and the linking of structures from different aspects in the overall material culture patterning. The first approach analyses different materials in different contexts, like designs, settlements and burials, in terms of structural opposites (Tilley 1989: 190). In this way pot designs may be analysed in terms of oppositions that are also characteristic of other contexts. By making a conceptual link between opposites in different aspects of the archaeological record, it can be explained in terms of conceptual schemata (like boundedness) which can be related to social concepts like power and ideology (Tilley 1989: 190). One of the first to employ a method of binary oppositions was André Leroi-Gourhan. He interpreted Palaeolithic cave-paintings as signs for male or female and assigned different codes for combinations and the ordering of the signs in the cave (Leroi-Gourhan 1958). The interpretation of the signs was arbitrary: any image would initially do to convey a concept, in this case male or female. What did matter was the overall layout of the paintings and their structural ordering in the cave.

This emphasis on the structure of designs instead of on the content and meaning of individual motifs, also characterizes the second approach: the analysis and connection of structures. By linking design structures to other structures in the archaeological record, comparisons can be made and transformations of the same, structuring principle may become visible. Finally, the overarching structuring principles may be discerned (Tilley 1989: 190). In the analysis of design principles, the structural ordering of the smallest design-elements are described as a series of rules for linking, the individual parts are meaningless. Meaning resides in the relation between design elements and the way in which they are structured (Hodder 1991: 30). According to Washburn (1983, 1988), social structures and conceptual schemata are 'empirically visible' and measurable as structural consistencies in designs can be related to structural consistencies in other spheres of culture (Greenberg 1975; Washburn 1988: 17). By employing a symmetry-analysis on graphical designs, these underlying structures or patterns may be identified. These patterns can reveal insight into patterns of human behaviour and can be compared inter- and intra-culturally (Washburn 1988: 14, 24, 27).

The use of symmetry is a universal phenomenon. However, cultures use only a limited number of symmetries in their design system. The choice for specific symmetries is normative for the way members of a certain cultural group behold their world (Greenberg 1975: 45, 47; Washburn 1988: 24). Since the use and choice for certain symmetries is not arbitrary, imported objects are visible according to their different structural 'layout'. On the basis of a symmetry-analysis it is also possible to discern structural changes in design patterns (Washburn 1988: 27). Since design patterns pertain to the same system as behaviour-patterns, and even reflect culturally meaningful patterns of behaviour (Greenberg 1975: 45-47; Washburn 1988: 29, 34), changes in material structure are related to changes in social structure. The preference for

certain patterns or structures is not explained by symmetry analysis (Washburn 1988: 40). Besides, the meanings of motifs and objects are disregarded and considered not relevant because focus of study is the organising patterns that govern both design and society.

In line with the second structuralist method, Van de Velde (1979) conducted a structuralist analysis of pot decoration and hut distributions from the Central European Neolithic (Bandkeramic) communities. By analysing decorations on pottery and comparing these structures with grave-gifts distribution and hut distribution, social structures of the Bandkeramic communities could be revealed. Also in line with the second method was the analysis employed by Snodgrass (1987: 135). He used a structuralistic interpretation of both myths and designs, when analysing early figure-scenes in Greek art. In following Lévi-Strauss' view, he tried to establish wether time and temporal sequence are irrelevant in the depiction of mythical pictures (Snodgrass 1987: 135). Snodgrass concluded that in early Greek art the notion of time was not a subject of concern to the artist. The artist intended to show that the different actions that -in the story- took place in different times, were merely the distinctive and characteristic attributes of each figure (Snodgrass 1987: 138). The inherent structure of the myth depicted, is a timeless one. "The apparent violation of time is an accidental byproduct of the artists concern in giving each character his or her individual action or epithet" (Snodgrass 1987: 138).

A critique on structuralist archaeology concerns the relations that may exist between design-principles and other aspects of society, such as kinship and landscape use (Hodder 1991: 43; Renfrew & Bahn 1991: 427). According to the critics these relations are not necessary present. "The processual archaeologist [..] would wish to investigate whether there are any hypotheses here that would be open to testing" (Renfrew & Bahn 1991: 427). A second critique concerns the synchronic approach that is employed to analyse the archaeological record. Processes of (diachronic) change are not studied and therefore no insight is gained in the dynamic character of both past and present material cultures. Another criticism concerns the role attributed, or rather, *not* attributed to the individual agent (Hodder 1992: 105) and the lack of a theory of practice (Bourdieu 1977). Because of these shortcomings, processes of change are (relatively) disregarded in analyses of design systems. In order to overcome these points of critique, some scholars combined structuralist theories with symbolic, dialectical or other approaches.

4.4 The individual and social practice

According to De Saussure, language can never be separated from a group of speakers or the linguistic community. The same proposition can be made for material culture: it cannot be separated from its social context. Both the bearers of language and of material culture are groups of persons, not individuals. One of De Saussure's antinomies is the distinction between the individual and the linguistic community. In his view, language pertains to a linguistic community, whereas the individual is considered as having no influence on language (De Saussure 1983: 76). One of his other antinomies concerns the separation between *langue* and *parole*, which implies the separation of language as system from practice. In following

these assumptions, Lévi-Strauss was not interested in the individual and his influence on social practice either. However, when dealing with social practice, individuals may have significant influence on their material and social environment. As an example of the influence of one person on the religious life of a whole community, is made up by Asareu, the chief of Ayafo (Lake Sentani). Due to his efforts, the village Ayafo obtained 'the secret of the flutes' and the acompagning rituals. The secret and rituals became dominant and important aspects of social life (see Part IV and V).

In acknowledging the importance of the individual agent, Giddens, Hodder and Tilley have brought back the individual into structuralist theory. In doing so, they used amongst others Bourdieu's 'theory of practice' (1977) and his visions of structure and agency. According to Bourdieu (1977), structures are determined by past conditions and can be regarded as systems of objective relations which exist outside the history of the individual and his group (Bourdieu 1977: 72). These structures are material conditions of existence and characteristic of a certain group. Furthermore they produce the habitus (Bourdieu 1977: 72). Habitus, which resides between structure and practice, is constructed in the interaction of individuals and objective structures. It determines social practice, actions and habits (Bourdieu 1977: 73). That what people think is founded in the habitus, an opinion about what they experience is founded in the habitus as well. Cognitive structures (habitus) are produced by objective structures, and these cognitive structures reproduce in their turn the objective structures. Thus, (objective) structure is both the medium and outcome of action. Objective structures are therefore not stable but are constantly reproduced and transformed. Although actions and habits of people are not coordinated, they are systematic because of the inner law of habitus, brought into each individual during his or her socialisation (Bourdieu 1977: 80). Collective action develops in the dialectical relationship between habitus and objective events (Bourdieu 1977: 83).

This 'interactive', individualistic perspective, in which individuals have independent goals, interact with each other (Ingold in: Bazelmans 1996: 64) and have the ability to change the system, is especially present in Hodder's and Tilley's archaeological approaches. According to Hodder (1995: 99), "adequate explanations of social systems and social change must involve the individual's assessments and aims". In order to account for the complex interactions between structure and practice, Giddens (1984: 16, 374) introduced a dialectical form of structuralism, in which an emphasis is placed on the relationship between structures and the activities of individuals and groups situated within social formations (see also Tilley 1982: 26). According to this theory, "individual acts are orientated to principles or rules which in turn are reproduced by those actions. Action has consequences (intended and unintended) which form the social structure" (Tilley 1982: 26). However, social structures already exist as prior and mediating forms to the individual who can only reproduce or transform them through his social actions (Tilley 1982: 27,29). Again, structure is both the medium and outcome of social practices (Giddens 1984: 374). Hence, despite the individual's ability to make his own choices, which are directed by his own desires, wishes, interests, motives and so forth, he is limited in his actions by the world he lives in (Bourdieu 1977; Shanks and

Tilley 1992: 126; Tilley 1982). A 'stratified model of agency' derives from Giddens' (1984: 3,7, 376), who distinguishes three 'layers' of cognition or motivation involved in actions: discursive consciousness, practical consciousness and the unconscious. Although the agent acts, it does so under conditions over which it has but limited control (Giddens 1984; Thomas 1996: 47).

Contrary to these individualistic approaches, in which the agent is also described as a 'calculating, maximizing, individual', stands the collective or 'regulative' approach. In this view the individual does not exist in social relations. When interacting with each other, a collective or society is founded in which the lives of the individuals are subordinate (Ingold in: Bazelmans 1996: 64). A synthesis between the 'interactive' and 'regulative' approaches was put forward by Ingold, which he called the 'constitutive' approach (in: Bazelmans 1996: 64). This third approach regards the individual as a self-conscious subject, who's life is entangled with those of the people surrounding him. People are, however, not only in interaction with each other, but constitute each other as well, due to the history of their mutual commitment (Bazelmans 1996: 64).

Although in accordance with the 'disordered open systems' of Barth's (1992) view, in which action yields system, I agree with Giddens and Bourdieu with regard to the existence of certain structures that make up the framework of reference towards which social actor(s) choose and act. These choices are not free but determined by the options built into the system. An individual may have the impression of having a free choice, the possibilities are, however, predetermined. The processes resulting from the varying choices and actions of social actors are *not* determined. And it is this interactional process which results in the system. The system on which social agents base their different choices, determine their different individual actions, and so forth. In making these choices and actions, their interactions with other people are important as well, because they constitute the main link between the individual and his or her social environment. Since the individual exists on account of the group, social agency cannot be totally separated from constituting interactions with other people. Without them, the individual would not be able to identify himself or others. This identification does not only results from interactions with society, moreover a third party, the 'outsiders', which are groups of people not pertaining to the (etnic) community, play a major role in this constitution of identity. The images that outsiders have of other communities and individuals, are often incorporated in local ideas and expressions of identity. For example, the revival of traditional arts in Lake Sentani is mainly the result of European efforts to stimulate local production and economy. Initially, it were these foreigners who related the historical Sentani-style to the present population. Encouraged by tourists, who buy objects produced in this typical style, local people started to re-identify themselves with these (historical) motifs and objects.

4.5 The allocation of meaning in structural theory

The criticised static and a-dynamical approach of structuralism also comes to the fore in the allocation of meaning. Structuralist archaeologists are interested in the structure of mutual relations and organising

principles, underlying material culture (and society). By focusing on this aspect of (material) culture, only *one* form of meaning is imposed on the material. According to Hodder (1986: 41), not only the relationships between elements are of interest, but the cultural or symbolic meanings of objects, designs and patterns are important as well. The same design or object can have different meanings in different contexts. In order to acknowledge this problem, analyses of the symbolic meaning -which resides between the structure (of a pattern) and its social function- is necessary (Hodder 1986: 41, 42). Only if the meaning of an object is clear, is it possible to relate patterns of design to social function and organisation (Hodder 1986: 41-43). Therefore, Hodder (1987: 1; 1995: 27) advocates a post-processual, contextual archaeology, in which principles of structuralism are combined with, amongst others, attention for symbolism. However, when following a structuralist interpretation towards material culture, these different symbolic meanings are acknowledged and can be discerned as well.

Just like language, material culture results from the imposition of form on substance. In language there are two kinds of substance: sound and thought. This is also true for material culture; there is raw material and there is a concept, both are shaped by form. The 'object' or sign that results out of this combination retrieves its meaning in relationship to other objects or aspects of a society. In my view the different symbolic meanings that can be attributed to one object or sign, are located in the combination of material and concept. Instead of one concept, various (conscious and unconscious) thoughts and symbolic meanings make up a *signifié*, which in combination with a particular material and through the imposition of one kind of form can lead to one sign (object). A sign can have different meanings and implications under different circumstances. Due to this multi-conceptual aspect, objects have an indefinite number of features. And "since any object has an indefinite number of features, it can enter into an indefinite number of associations with an indefinite number of other objects" (Sperber 1979: 29). Hodder's (1986: 41) argument that without knowing the symbolic meaning of an object, its relationship with social patterns can not be discerned can therefore be reversed: without knowing the relationship of an object with social patterns, it is impossible to establish which features or meanings belong to an object.

In order to break through this impasse, I will use both perspectives in analysing the design-systems of Lake Sentani, Lapita and Dongson material. By focusing on the possible meanings of single motifs and objects, *and* their relationship with organisational patterns in both myths and society, a synthesis between element and system will be achieved. Furthermore it is argued that (varying with context) objects retrieve their (symbolic) meanings both from their associations and structured patterns with other 'things', and from the features and associations of the objects themselves (see also Hodder 1982: 10). Furthermore, material culture acts back on society forming a two-way relationship between behaviour and material culture (Hodder 1986: 13). So, "material items are structured according to principles or rules, but they also structure further individual actions as part of a particular ideological framework" (Tilley 1982: 26).

5

Conclusions

Following a linguistic analogue I argue that material culture is a social fact. That is, artefacts are the result of both conscious and unconscious actions and intentions of social actors, interacting with their social and material surroundings and limited in their options by an overall structural framework which mediates their choices and actions. This structural framework or system is in its turn influenced by the actions of different social agents. However, both the social and material outcome (the social- and the style system) of these actions are not a property of individuals, but of the whole community *and* a third party, individuals and groups who do not pertain to the community, the outsiders. Individuals can have influence on the use and depiction of specific techniques, motifs and even objects, which explains variability in a style-system. The structural layout of this system is, however, beyond their control, since this is determined by the prior existing social and material framework. This structural framework is not static, it is (pre-)historically and environmentally grounded and changes and transforms in time, due to the communal but varying actions of social actors. Like the structural framework or social system, the style-system is not only the result of actions towards the (prior) social and style system itself but also of interactions with third parties whose interpretations and actions (and material culture) are integrated. The way people see themselves, act and behave is not only governed by their own cadre of reference but also based on reactions to their behaviour by other individuals, groups of people and even societies.

In contrast to language, material things can have meanings outside their original context, their producing individuals and community. Objects have properties of their own and can affect both the actions of their producers as well as actions of their (unknown) receivers These properties or features of objects are not always consciously embedded and their effects are not (always) foreseen. This implies that the uses of style to send information, are both active and passive. People can be aware of their targetgroup and consciously use material properties to establish some kind of relationship or boundary. This would imply a discursive and or practical consiousness of people in relation to (their) social conditions (Giddens 1984: 374-375). This is, however, not always the case and whether or not style aspects are consciously or unconsciously used, depends on many factors which are difficult to determine. It therefore also seems impossible to predict the allocation of meaning of objects. However, objects retrieve their meanings both from their associations and structured patterns with other 'things', and from the features and associations of the objects themselves (Hodder 1982: 10). Also, material items are not only structured according to certain principles, they also structure further individual actions as part of a particular ideological framework (Tilley 1982: 26). Since people share many physical and social features, the social content and social constitution of objects imply a shared meaning as well.