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# Semantic architecture and the interpretation of prehistoric rock art: An ethno-(pre-)historical approach

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For Mrs. Joyce Engel-Cowpers

> The history of the human dwelling, the house, and the settlement has not been written yet. The reason for this is the fragmentary archaeological findings, and this in turn has two further qualifications: On the one hand, most of the remains of huts and houses have disappeared through time, destroyed by erosion and later human ways of using the land. And on the other hand archaeological research turned to so called 'settlement archaeology' only about one generation ago. (Jens Lüning 1989)

## Introduction: A thought experiment

Imagine you were in a cave somewhere and that you happened to discover a drawing on a rock such as the one shown in Figure 1. Without doubt, you would consider it to represent a real tree. Imagine further that by some sudden time warp you returned to prehistorical times and took a photograph of the object that the person who made the rock drawing had in his/her mind, or even perhaps before his/her eyes. You would unhesitatingly take it for a real tree (Fig. 2). If we further imagine that you could take a closer look at that tree, you would make a surprising discovery: it is an artificial tree (Fig. 3). Only a close external examination and a probing of its inner structure would reveal the truth: it is an artefact, made up of twigs, that looks like a tree. Mimicry? Trompe-l'oeil? Not at all: it is a holy tree. A deity is believed to live temporarily in it. Today, in Japan, it is still constructed annually at the same place and in the same form as an element of a very ancient institution, the

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Figure 1.

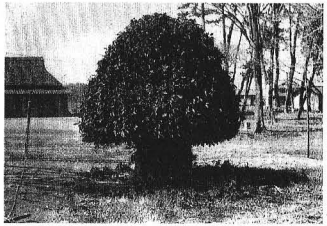


Figure 2.

Shinto cult of the clan or village deity (*ujigami*). In an earlier ethnographical and japanological study (Egenter 1981), I described in detail the circumstances surrounding the ritualistic construction of this artificial tree and raised a rather puzzling question in regard to the evolution of human perception and representation of the environment: could the artificial tree be the prototypical model used to perceive and represent the natural tree? More generally, to what extent did artefacts mediate prehistoric visual representations?

Indeed, what has been briefly outlined here in our thought-experiment is valid not only for tree-forms — which, incidentally, appear to be extremely rare in rock art according to the current interpretation of the data. It may apply to other, seemingly natural forms alluding more or less clearly to certain animals and human figures. All the drawings in Figure 4, which are reproduced from illustrations and photographs from



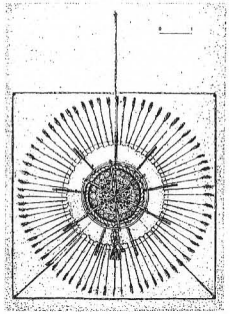


Figure 3a.

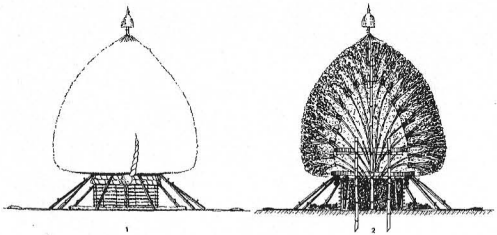
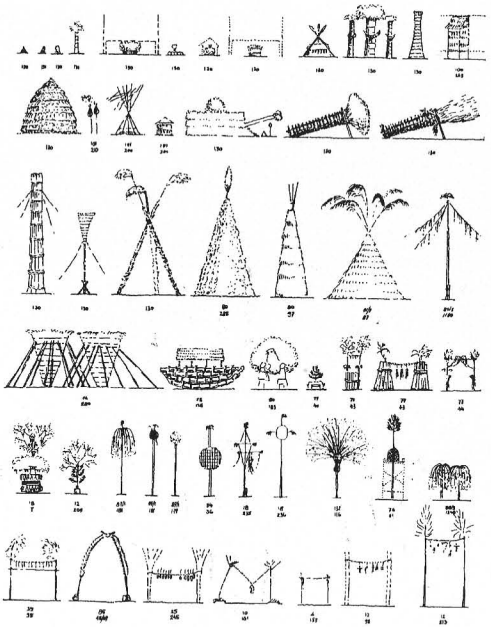


Figure 3b.

Japanese folklore literature, show territorial markers of local communities in Japan. Primarily of abstract geometrical form, these technogenetic (bundling stalks) markers were transformed by secondary processes — that is to say, by accumulation of new cultural elements — into plant-, animal-, or human-like form, or even into secondary topo-, cosmo-, or technomorphous types. This paper tries to use this ethnographic material for the interpretation of palaeolithic and neolithic petroglyphs and pictographs.



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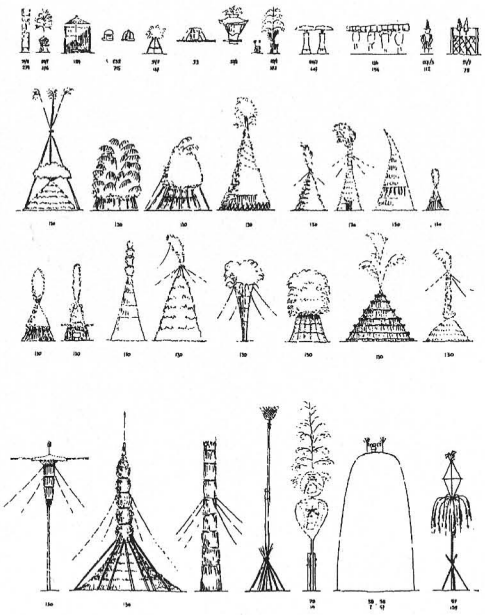

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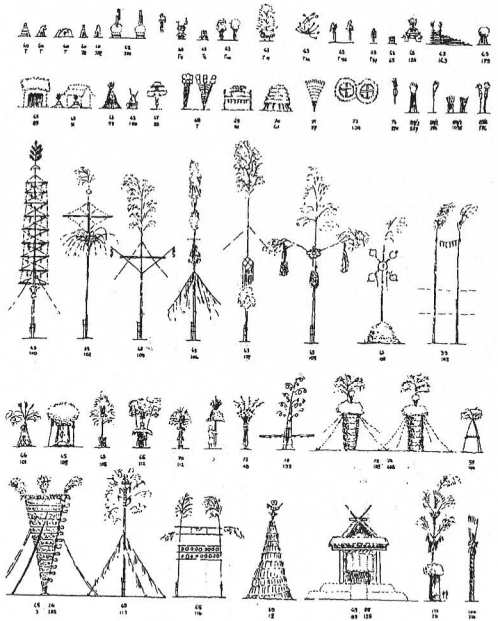

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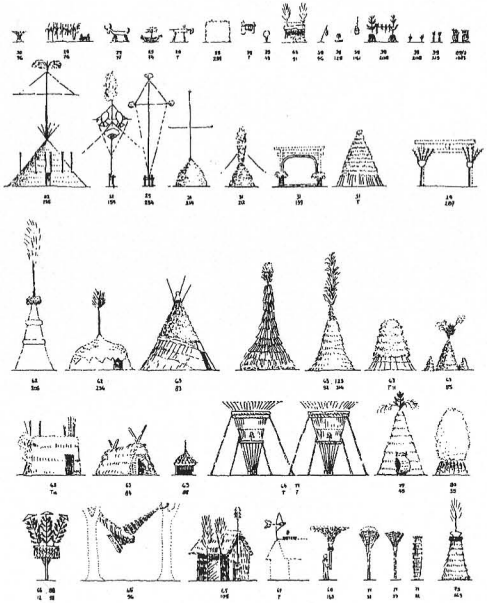

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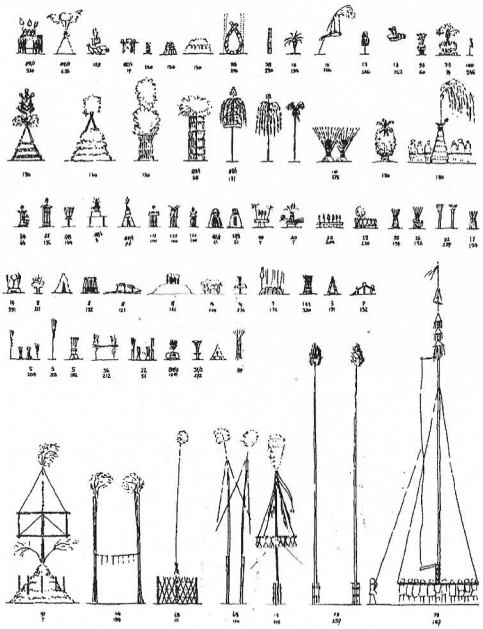

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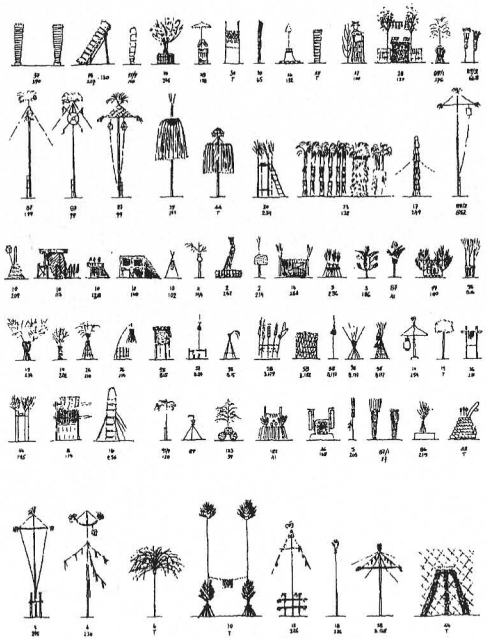

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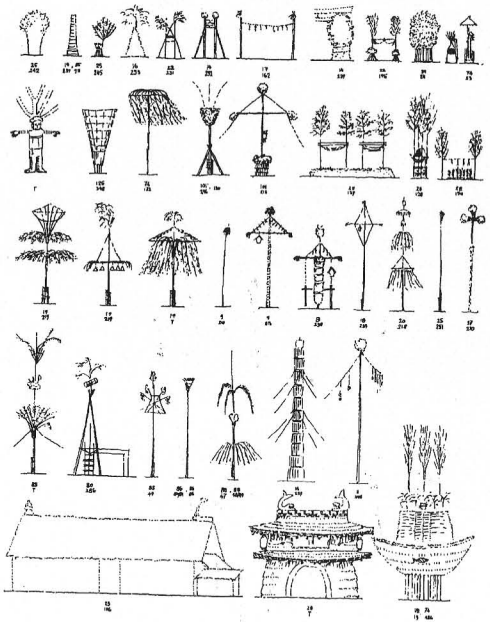

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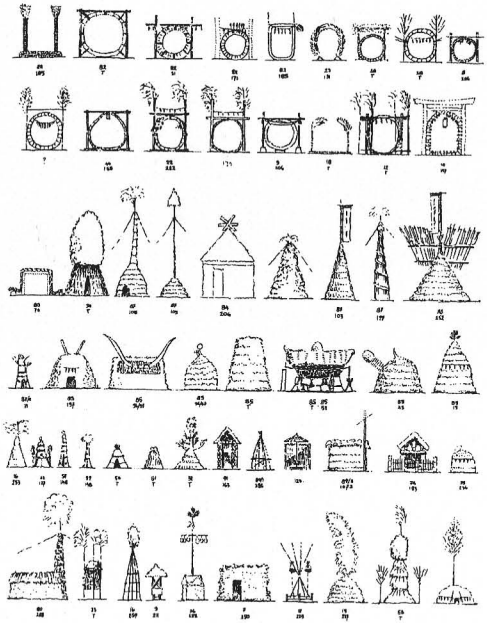

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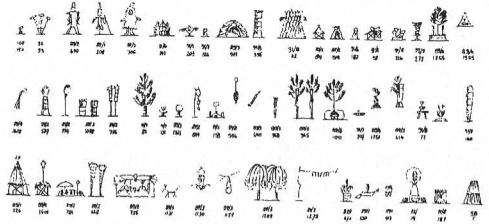

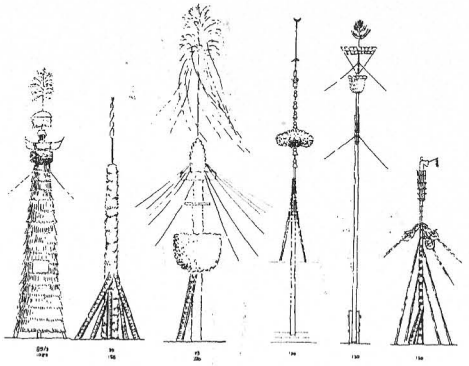

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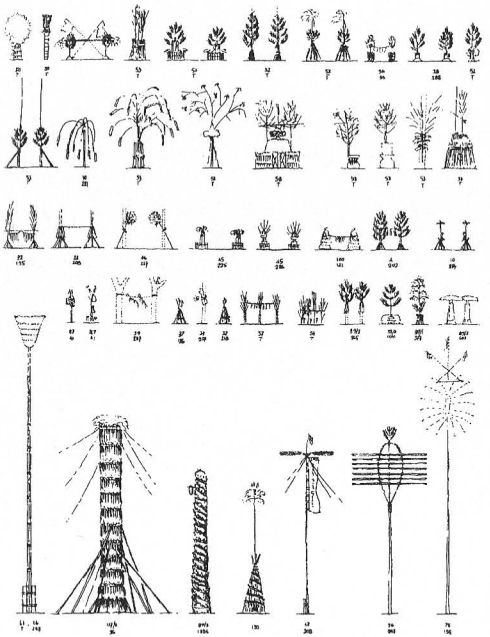

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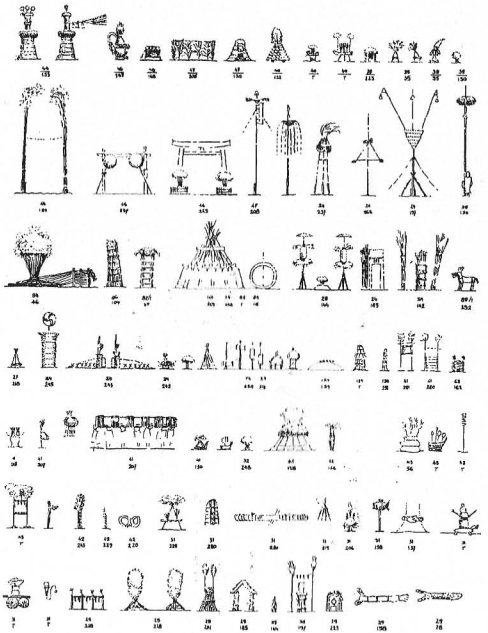

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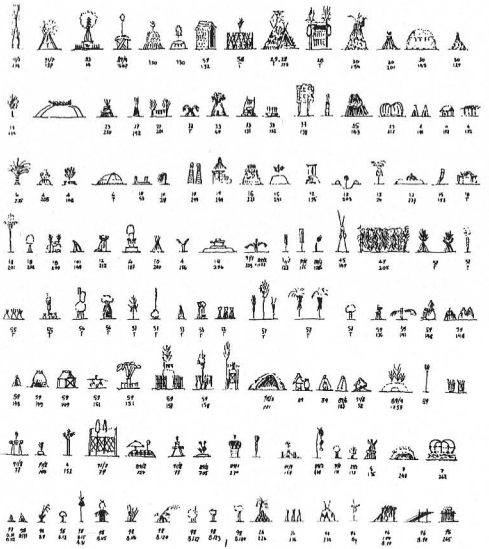

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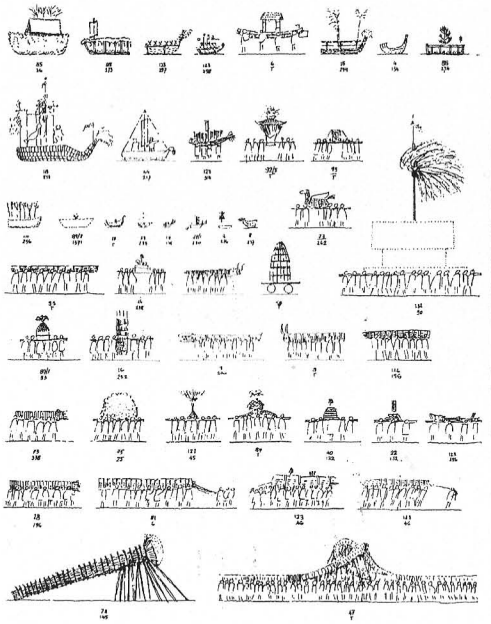

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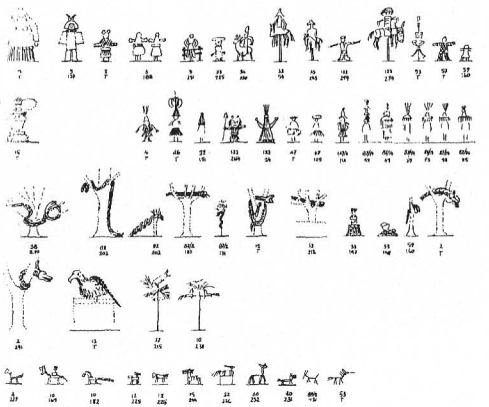


Figure 4a–n. *Repertory of forms of socio-territorial demarcation signs and sacred symbols (semantic architecture) reproduced annually in the same form in the greater part of 40,000 Japanese villages (some show technologically more evolved ones). The construction techniques correspond to the type described in this paper, using perishable fibrous materials and nearly exclusively the hand as a tool. Forms are dominantly geometrical, hut-like cones, bundled pillars, and decorated poles; but bio- (incl. anthropo-) morphous forms also occur, as well as techno- and cosmomorphous types. Since semantic architecture is independent of the size of the human body, size varies from small types of one or two feet up to tall constructions of more than ten meters height (all signs are drawn in the same scale and based on research of the author or on Japanese folklore literature).*

**Problems of interpretation of prehistoric representations**

The objects represented in the form of petroglyphs and pictographs can be divided roughly into two categories: (1) objects which are more or less clearly identifiable because they are anthropomorphous, zoomorphous, or bio-morphous in general; topomorphous (mountain, valley, 'map'); cosmomorphous (sun, moon, stars); technomorphous (tool, weapon, boat); and (2) objects which are not clearly identifiable because they are purely geometrical or relatively amorphous.

There is another set of qualities which aesthetically characterizes rock art representations. It extends from naturalistic, realistically proportioned art works to more or less stylized types, and finally to designs which are highly abstract, showing geometric forms which can no longer be identified as representing objects (Fig. 5). In the current archaeological literature, it is generally assumed that naturalistic representations are primary

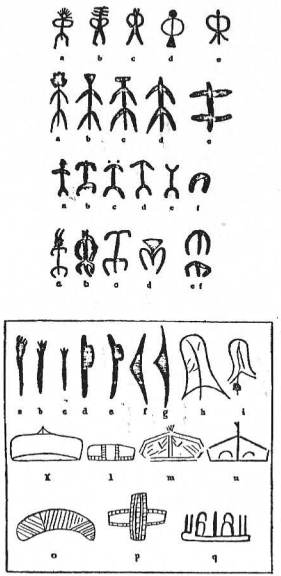


Figure 5a, b. *Various examples of rock-drawings of various sites. Some types suggest human figures, but are highly 'stylized'. Other forms hint to weapons, shields, huts, boats, or completely nonidentifiable forms.*



and that the prototypes of the painter were natural or instrumental forms. The conditions of 'style' are usually taken for granted and barely discussed. Purely geometric forms, if not otherwise identified, are interpreted in the frame of abstractly conceived Euclidian geometry.

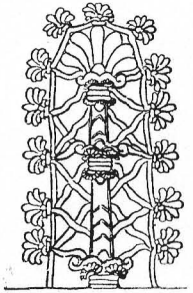
Anyone intending to discuss rock art in a world-wide context must necessarily refer to a theoretical framework of world-wide validity. Conventionally, this framework consists of three elements. First there is the formal expression — that is to say, the rather naive opinion that formal units indicate a direct relation with some natural or cultural object. This relation, it is believed, can still be identified today. The second element deals with the question of the meaning of such formal units in themselves or in the context of other forms. The third element concerns the purpose, the function, the social or human conditions that produced such forms. Interpretation in general is based on the concepts established by various other disciplines, such as history of religion, history of art, economic anthropology, etc.

One of the main problems of interpretation stems from the fact that we know very little about the material conditions of prehistoric societies. Archaeology presents us merely with what was durable, the 'remains'. Consequently, analogies with known ethnological conditions have been increasingly used for the interpretation of prehistorical data (e.g., Narr 1973); but, particularly with regard to rock paintings, the analogies do not seem to be sufficient. The ethnographic study of semantic architecture might provide some clues for the reinterpretation of rock art morphology.

## Semantic architecture

The notion of semantic architecture introduces a type of cultural object which until recently was virtually unknown in the social sciences because it simply did not correspond to the defined areas of various related disciplinary fields such as archaeology and prehistory, history and ethnography of religions, history and ethnography of art. Archaeology, prehistory, and protohistory referred to the artefacts of semantic architecture as 'idols', 'life trees', and often characterized them with idiosyncratic historical designations such as 'symbol of the deity Ishtar' (Syria), 'Djed' (Egypt), or 'Omphalos' (Greece), etc. On the other hand, the history and ethnography of religion designated analogous objects found in the context of so-called primitive religions or primitive beliefs by the terms 'fetishes', 'spirit-huts', and the like. Because of their constructive and tectonic characteristics, these objects are generally termed 'semantic architecture' in our conceptual system (Fig. 6-a–j).[1]

(a)



(b)

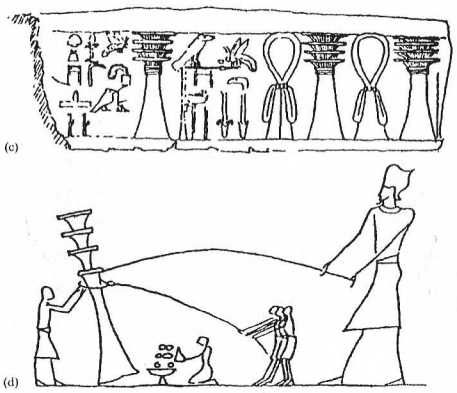
Figure 6a–j. *Small selection of historically documented 'life-trees' and other symbols: (a) Sumerian symbol of the Goddess Ishtar (reed-bundle), (b) Assyrian 'life tree', (c)–(g) various representations and reconstructions of the Egyptian Djed pillar and predynastic sacred huts (acc. to Andrae 1930, 1933), (h) 'Omphalos' of Delphi (acc. to Roscher 1913, 1918), (i) early Greek coins (Baumeister 1885), (j) coin of Byblos (Butterworth). There is a wide literature which shows the great quantity and wide distribution of this type of sign.*

Based primarily on the ideological biases of historically founded 'high' religions, the Eurocentric and hierarchically structured systems of religions created a category of 'lower' religions or 'primitive' beliefs, particularly if such cults were related to primitively constructed objects. Though 'fetishes' and 'idols' played an important role in earlier theories of religion (de Brosses 1760; Comte 1851; Tylor 1871; Schultze 1871; Frazer 1890; Van der Leeuw 1933, 1948; Mannhardt 1963), the outlook was dominantly animist, emphasizing the 'belief-systems'. Consequently, such objective representations (semantic architecture) have not been duly studied in their material, constructive, formal, or spatial aspects.

Paradoxically, the history of Christianization has documented globally quite well the existence of such 'sacred' objects, because the theologically educated missionaries used the artefacts of traditional cults as evidence to stigmatize the 'primitive' character of such beliefs, thus justifying their own efforts to 'civilize' and convert the populations which produced them.

The geographically and historically universal distribution of 'semantic architecture' is very important because it allows us to discuss the phenomenon anthropologically and to construct a framework of possibly global





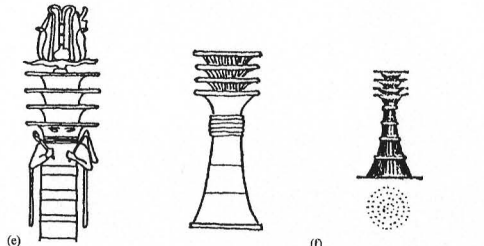
(c)

(d)

validity. Naturally, such sacred objects could not be found as archaeological remains because of their ephemeral material quality. On the other hand, numerous archaeological iconic objects made of durable materials suggest the prehistoric existence of semantic architecture, and various other indications lead us to the assumption that semantic architecture was widespread, particularly in neolithic times when it was an important and central element of village cultures (Fig. 7).[2] (For details see Egenter 1984.)

Research into semantic architecture is part of a wider framework, namely architectural anthropology, which we will describe briefly to show that the following suggestions are not isolated but stand in a global systematic framework.

Architectural anthropology is based on a new, comprehensive definition of architecture. It includes everything constructed by *Homo sapiens sapiens* and his predecessors. It is a theory of architecture dealing with architecture and buildings in the wider sense of constructive behavior and its effects on the human perception of environment and space (Egenter 1992). There are four classes based on factual source materials: (1) Subhuman architecture: nestbuilding behavior of higher apes.



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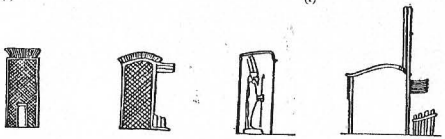


(g)

(h) (i) (j)



(a)

(b)

(2) Semantic architecture: non-domestic buildings or buildings unrelated to the human body endowed with semantic, social, and ideological functions. (3) Domestic architecture: buildings which offer space for protection of objects, animals, and humans. (4) Sedentary architecture: higher, horizontally structured units assembling several elements of semantic and/or domestic architecture.

Thus architectural anthropology is based on a particular approach, focused inductively on objective sources. In its reconstructions it does not rely on the historical method, which it considers too speculative. Against the classical archaeological method it postulates that what was most relevant for cultural evolution was not made of durable material. Against history in the narrower sense, insofar as it deals with the early history of any culture, it maintains critically that the most important



(c)

dimension of societies in the proto- and early historical phases — that is to say, what is generally called religion — is likely to be misinterpreted by means of historical (scholastic) retroprojections (Egenter 1992). It also contends that most interpretations of early texts show a very uncritical use of space concepts and thus legitimate an 'irrational' condition of thought. Important studies, such as that of Kerschensteiner (1962)[3] on the meaning of the term 'cosmos' in ancient Greece, are not sufficiently taken into consideration. What the historians call 'world-creation-myth' can often be traced back to the class of very locally limited settlement foundations (e.g., the Babylonian creation myth as foundation of a settlement, in Winckler 1906).[4]

Methodologically speaking, architectural anthropology is based on what the Vienna School calls 'structural history' (Wernhardt 1981), which

Figure 7a–d. *A very interesting source material are the earliest scripts of various ancient cultures: (a) Sumerian, (b) Creto-Mycenian, (c) Sumerian-Accadian, (d) Chinese. They were dominantly questioned on their meaning (deciphering), but rarely on their specific forms and characteristics, which are very similar. Particularly in regard to the Sumerian case we have enough arguments (Andrae 1933, 1933; Heinrich 1957) to postulate that these signs found on clay tablets in the lowest level of Uruk represent 'semantic architecture' built with fibrous materials. Used as socio-territorial markers by farmers in villages surrounding the early cities, they were copied two-dimensionally on clay tablets by urban priests and stored in the temples for taxing purposes.*

questions the epistemological value of history based on the sequence of dated findings. In contrast to the historical method, it emphasizes interdisciplinary methods like ethno-history, and ethno-archaeology, and ethno-prehistory, thus searching for meaningful structural contexts. Since architectural anthropology searches for patterns of constructive behavior rather than its remains, its focus is on the ethnographic evidence provided by traditional cultures which are still observable. Its goal is the systematic reconstruction of a constructive continuum, one which parallels the whole process of cultural evolution, including early phases of hominization, prehistory, history, and the present.



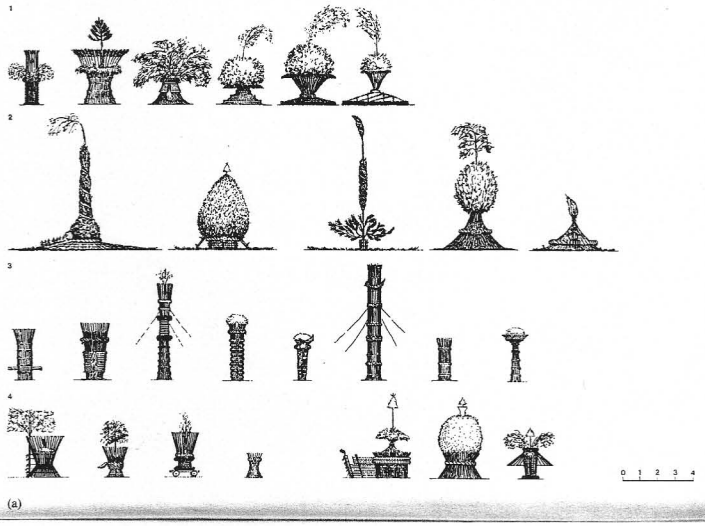
The understanding of subhuman architecture (nestbuilding behavior of the higher apes) is essential to this approach. As early as 1929, Yerkes postulated nestbuilding as the evolutionary basis of human 'constructivity'. In our concept it forms the firm scientific ground upon which it is possible to [illegible] and reconstruct architecture anthropologically (see

## Signs and symbols in Japanese Shinto religion

This section summarizes the main results of research conducted in Japan.[5] It takes into account the particular cultural-geographic conditions of the agricultural stratum of the Japanese hinterland. In one region, about one hundred villages were researched comparatively during a four-year period with reference to semantic architecture (Egenter 1982, 1994).

Japanologists consider Shinto as the autochthonous religion of the Japanese archipelago. Historically, it was superseded by Buddhism at the beginning of the eighth century in central Japan. In urban centers Shinto was assimilated in part by Buddhism's historically founded religion and temple systems, but has preserved a purely traditional form in its widespread village cults of the protecting local deity (*ujigami*). These often isolated village traditions clearly show traits which are deeply rooted in the prehistory of the Japanese archipelago. Japanese pre- and postwar folklore research (*Yanagita Kunio*) has collected a valuable corpus of data, particularly on rural Shinto cults and rites. But these important ethnographical sources have largely been neglected by Western researchers — first, because Japan is considered to be a high culture, and thus folklore studies are thought to be of secondary importance; and second, Japanese folklorists have followed Western schools in the interpretation of their own materials, and their particular significance has been overlooked. Naturally, another likely reason for this neglect is the language and script barrier.

Many traditional rites of Japanese village Shinto include or even have as their central content the construction of semantic architecture: pillars, huts, and other architectonic forms. But a wide range of bio- and technomorphous forms is also observed. Such signs and symbols are constructed



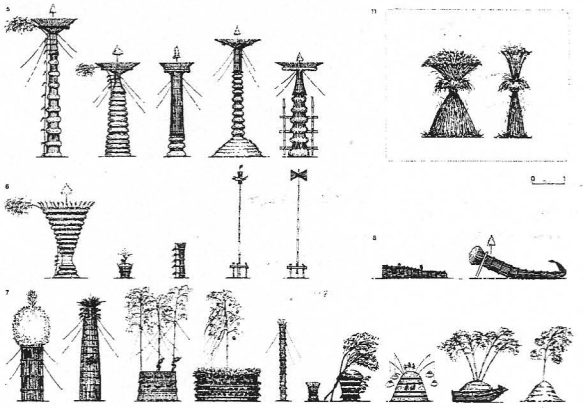




Figure 8a, b. *Main types found in the region surveyed. Most forms are definitely geometrical; they show allusions to anthropo-(male/female), terio-(tree), zoo-(fish, snakes, dragons), techno-(boat) morphous forms, but remain always strongly obliged to the constructive conditions. Important is the distinction of fixed and mobile types: the former permanently mark a particular spot, the latter are transportable, marking the relation between different places. They may change their meaning while being moved from one place to another.*

with primitive methods and are set up in particular places within the spatial structure of the villages. In order to define our inductive architectural approach, we must suggest some limitations to the conventional classification of such Shinto rites.

In religious terms, these signs and symbols are considered to be temporary 'seats of gods' (*yorishiro*). According to official Shinto religion, the spirit of a historically deduced deity descends from heaven into the sign and presides over the sacrificial ceremonies and banquets of the celebrating community. After the destruction of the sign, the sacred spirit ascends again to heaven. However, this theological interpretation does not reflect the actual original practices. Field research shows clearly that this exegesis of the ritual must be considered a secondary interpretation which spread to the villages with the official Shinto theology developed from Buddhism. What really counts is the traditional construction of the signs themselves: the rites and the built signs are the message (Egenter 1980, 1982; Ludwig 1983). Thus, the study stresses the conviction that the metaphysical aspects of semantic architectural forms are an intrinsic part of the tradition itself. The cultic value of the signs is based on the technological conditions of the structures and their territorial functions.

The technological aspects are indeed important. Semantic architecture in Japanese village Shinto shows three essential characteristics: (1) the constructions are essentially fibrous (vegetal flexible materials are used); (2) the technique implies the hand as a tool; and (3) all materials and processes are ecologically autonomous. These characteristics can be considered as criteria of autochthonous origins, indicating that this tradition may be deeply rooted in prehistoric times, since the materials and the constructive techniques used are consistent with very early forms of culture (Figs. 8–10).

## Morphogenesis and semiosis

In order to assess the relevance of such ethnological data to the object of this essay, some general morphogenetic and semiotic considerations will now be introduced. (1) Icon and idea: evidently these forms are not invented or designed, they are originally autonomous by-products of the technical manipulation of stalks and twigs which make up an artefact in the natural environment, a topologically fixed sign (Fig. 11). (2) Formal variety: the catalogue of signs gathered from Japanese folklore literature shows an extremely rich paradigm which is not, however, the result of a deliberate creation. It must have been formed over hundreds of years in numerous isolated cells of the Japanese archipelago (see Fig. 4). This



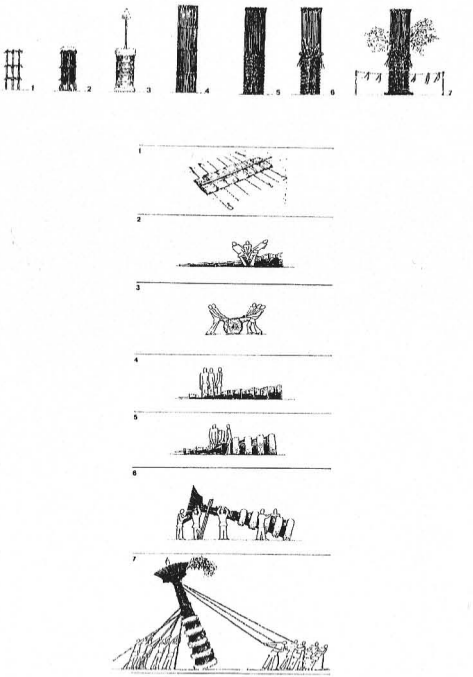


Figure 9a, b. *The drawing (a) shows the construction of the above-mentioned pillar type. The means to obtain stability for the building is very primitive. Piles are anchored in the ground. Then a cylindrical filling is produced, and this is covered with the symbolically and traditionally most precious material: reed. It is the material which widely covered the plains of the Japanese archipelago when it was settled by early agriculturists. Drawing (b) shows the construction of a mobile high-pillar type.*

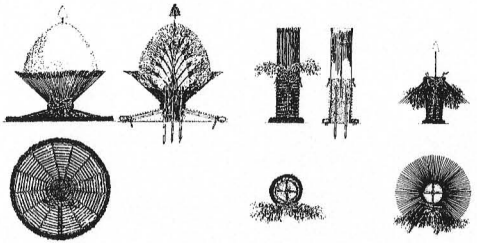


Figure 10a–c. *Two very basic types (9a and b) found in one representative village: hut and pillar types (Egenter 1982). The pillar type is produced in two variations: male (left) and female (right). The interior construction is very similar in all types. The formal difference depends on the way the outer reed is fixed onto the central construction. On the left type the reeds are broken in the center to obtain a kind of 'hourglass form'. On the right (male type) the reed stalks are left vertical and unbroken. In the female type the reed stalks protruding above the central massive cylinder are broken down and left hanging.*

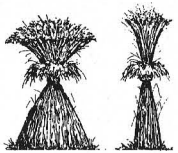


Figure 11. *Hut- and pillar-like types were considered basic in the region surveyed. This was suggested by the assumption of a primary rooted type. The formal difference is just the result of a quantitative difference. The increased diameter of the base transforms the pillar type into a hut-like form (note the 'hourglass' character of both, particularly the former). It is evident that these forms — produced by a simple grip of the hand — autonomously or technologically create in nuce all the formal characteristics, which we found with more evolved forms of the region surveyed.*

striking phenomenon constitutes a whole new type of 'sculpture', an immense field of plastic art which appears on the horizon of ethnology. For various reasons, the history of art never recorded it.[6] (3) Genesis of geometry: binding fibrous stalks always results in geometry: circle, cylinder, cone, triangle (Fig. 12). What is generally considered to be mankind's



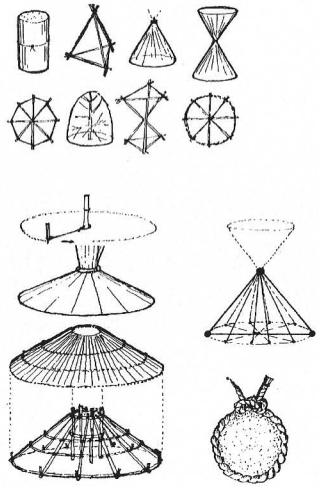


Figure 12.

most intellectual invention becomes a technical by-product of a primitive industry. It also implies that the geometrical forms were primary within this tradition and that the forms alluding to natural or cultural forms were secondary. (4) Proportion: the upper part is materially not independent; it projects from the lower portion. But the constructive conditions are different: fixed below, free above. Both parts represent unity and divergence at one and the same time (Fig. 13a). The term 'proportion', so important in art, becomes very objective here, not merely abstract or mathematical. In fact, the relation of the two parts is existential. If the *pro*-portion is too big, the form breaks down, and a portion without 'pro' loses its symbolic quality, its moving part, its soul. Philosophy? The signs are considered to be sacred (Fig. 13b). (5) Structural symbolism: the formal principle of 'coincidence of opposites' (like Yin/Yang cate-

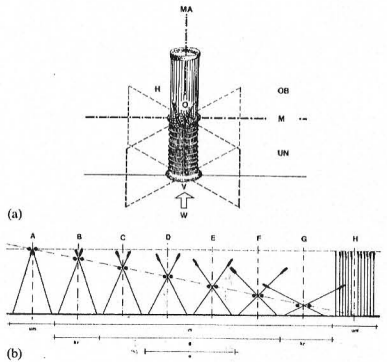
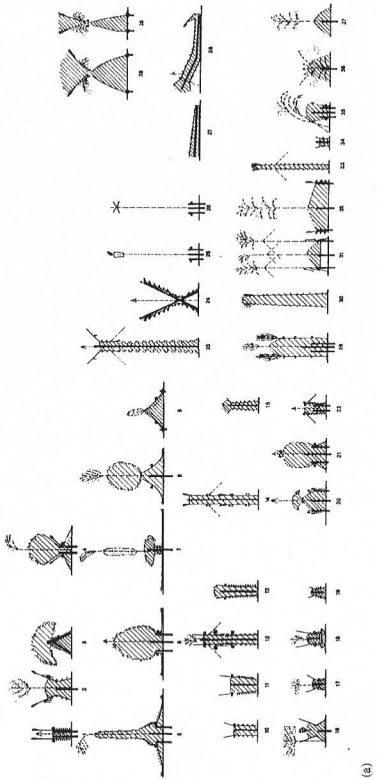



Figure 13a, b. *(a) shows the structural expressions of the fixed pillar type. The pillar articulates the environmental space into ›front‹ (V) and ›back‹ (H), and into homogenous sides. It further defines a vertical axis (MA). And the main rope and its level (M) articulates the form into an empty, transparent, mobile upper part (OB) and a fixed, technical, massive, well-defined lower part (UN). Evidently proportion is not mathematical or abstract here. The well-balanced form is a product of constructive conditions. Illustration (b) shows proportional conditions of the hut-like type: case (A) and (G) are impossible. In (A) the rope loses its constructive function, and in (G) the upper part becomes unstable, it breaks down. Ideal — the golden section — is (D). Note that the term 'pro-portioned' corresponds verbally to the form: the upper part juts out of a well-defined portion.*

gories) reigns in these forms (Fig. 14a, b; Fig. 15). Since the form originated from the technique of binding stalks into bundles, a lower part becomes statically stable by spatial triangles, the upper part remains mobile, the ears moving freely in the wind. The clearly defined and statically fixed cylinder or cone of the lower portion forms a strong contrast to the natural, loosely defined upper part, which preserves the natural condition that existed before a human act created the newly-made form. In its relation to the environment too, this form produces a striking contrast, particularly if it is still purely natural. Very important for the interpretation of such forms is the fact that they can develop later into complex symbolic systems (see Fig. 14b).

Thus we can recognize a deeply rooted global parallelism between such





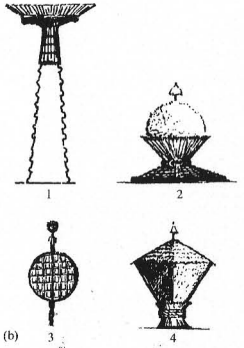



Figure 14a, b. *(a) The ethnographical survey of such forms provides access to their 'anatomy'. The inner structure can be analyzed in detail. All forms show explicitly the principle of 'coincidence of opposites'. (b) Often later types of symbolism can accumulate with the basic structural symbolism of the signs. In (1) the high pillar carries the most important reed-symbol inversely at its top; this is called Yin-Yang* (in-yo). *Thus a later system (imported from China) has accumulated to a primary one which is structurally conditioned. In other settlements the capital of the same type can take the meaning of 'sun-wheel'* (nichirin). *The Sino-Japanese designations show clearly that these accumulations cannot be ancient. In illustration (3) a mobile type of sign has become a mirror, alluding to the imperial sacred symbol. The surface of the mirror is made in a very surprising way: a rectangular bamboo-grid carries a meandering rope with paper-squares hanging from it. While carrying the symbol, the moving white papers represent the shiny flickering light of the 'mirror'. Here too, technical and material criteria show clearly that this 'primitive' mirror is a later accumulation. A rather original designation is found in the tetrahedric form shown in (4). The rope is called* 'moto', *origin.*

types of signs and symbols. It is evident that, proceeding from a relatively differentiated human constructive capacity, this type of primitive industry could have emerged anytime and anywhere, given certain environmental conditions. But there is another important aspect related to this objective semantic system.

Philosophically, these structures are very difficult to describe. Materially and in their outlines they form a unity but, if their qualities or categorial characteristics are taken into consideration, they are dual or bipolar. If the rope is included as an element, we would have to speak of a 'trinity' in which the rope is the means to achieve the whole form,



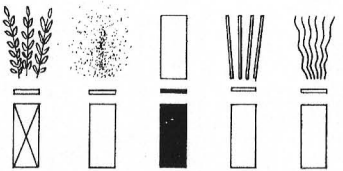


Figure 15. *This scheme shows what we called 'structural symbolism'. The particular structure of these buildings produces an expression which can be called 'coincidence of opposites'. The upper part is natural, the lower expresses the technique of binding. The upper part is formally unlimited, the lower is clearly, geometrically defined. Often, particularly if light falls into the ears of reed stalks, the upper part is shiny, the lower part becomes dark. The projecting stalks in the upper part are characterized by manyness; the lower part demonstrates a constructed unity marked by the most important sacred rope. In terms of construction the lower part is stable, whereas the upper part is explicitly unstable, mobile. We can best understand the meaning of these signs and symbols if we compare them to the Chinese Yin/Yang, which throughout early Chinese history was a model for the harmonious organization of the human environment.*

its condition *sine qua non*. The form is essentially non-logical or 'irrational' (Fig. 16). But if we look at the scheme which represents different forms all showing the same basic structural principle, we find a model for a cognitive system which may include quite different forms, identifying them as a higher group by their analogous or harmonious structure (Fig. 17).

Thus the local distinction (each settlement has its own form) is interwoven with a structural system (all forms are harmoniously structured) which allows identification in spite of differences. Two cognitive aspects of the same forms are combined: a differentiating and a generalizing one. In regard to early conceptualization, it may be remarkable that the pragmatic territorial function is related to the individual characteristics,

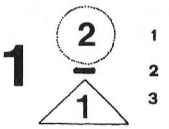



Figure 16.

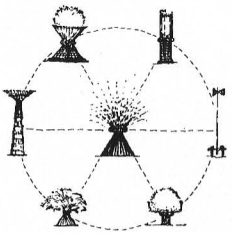


Figure 17. *Detailed research shows clearly that all forms follow the principle of coincidence of opposites. On the other hand there is a considerable formal variety. This corresponds to the principle of individualization and generalization. There is a general — and spiritual — principle, an ideology, which is common to all forms.*

whereas the structural symbolism, the spiritual and irrational element is related to generalization.

Meaning follows categories of ritual use. There are many cases where such mobile pillars have to be moved from one significant place to another. In the ritual context they obtain a markedly dynamic character while on their way. As a category, this dynamic phase is markedly opposed to the former topo-tectonic stability. Obviously, this led to metaphoric accumulations of later meanings: the pillars become wild fire-dragons, drunken lantern-ships, or strangely formed fish (Fig. 18). Indeed, the same object can have entirely different meanings according

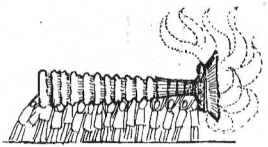


Figure 18. *The pillars change their meaning completely when they are moved from one to another place. The factual content of the new meaning is of secondary importance; the form makes punctual concessions, but what really counts is the categorial antithesis to the static condition of the sign. Such aspects of this tradition may give us new and interesting insights into 'irrational' human imagination.*



to the way it is ritually used. This means that the object is defined only superficially by its outer form, but essentially by its ritual function which is expressed in categorial terms (places and paths, stability and movement).

Particularly interesting for the origin of symbolic thought is the allusion in this context to the fish and the boat. It is an accretion through analogy: the fish and the boat are the perfect example of horizontal movement in a medium absolutely opposed to stability. Natural and instrumental, the fish or boat forms of our tradition are not really fish or boats, they are in fact mobile pillars. Evidently, they are indebted to the geometry of this tradition (Fig. 19), whose development runs from abstract and geometric forms to natural or instrumental ones.[7] Thus the word 'stylized' would have to be abandoned: the technological factor would be responsible for what we call 'style'.

In the region surveyed, several villages, showing the same basic tradition of semantic architecture, build artificial trees. This provides us with another model to show how this 'structural symbolism' of a human constructive tradition integrates natural phenomena (Fig. 20). The upper part of the tree is formed by inverted brushes stuck into a bamboo structure anchored in the ground. The brushes are formed around bamboo stalks using evergreen twigs of Camelia, and finally the upper part is cut in some places to create an even-looking tree-top (see Figs. 1–3).

Thus the form of a tree is entirely artefactual; the structural traits underlying the appearance remain closely related to the geometrical nature of the other types of semantic construction. The ritual context is exactly the same as in the case of other purely geometric forms; the tree is burned at the end of the rites. The meaning of the tree is of secondary importance with respect to the form of the object, the main formal motive being a semantic differentiation from the related forms of other villages of the region. We have used this example to show that the uncritical identification of petroglyphic forms with natural objects can be highly problematical. There is another example in the same region which shows traits of anthropomorphic representation: two markers, in the form of pillars whose basic structures are identical, are differentiated: one is male, the other female (Fig. 21). Obviously, neither 'gender' nor 'sexual symbolism' is concerned here. The two villages which are of the same origin, have basically the same pillar-type of markers, but had to differentiate the signs with a supplementary image of opposition or harmony: male and female. The differentiation shapes the female 'body' in slightly curved lines, and breaks down the upper part of the reeds by analogy to the common Japanese hairstyle. There are other details which denote gender.

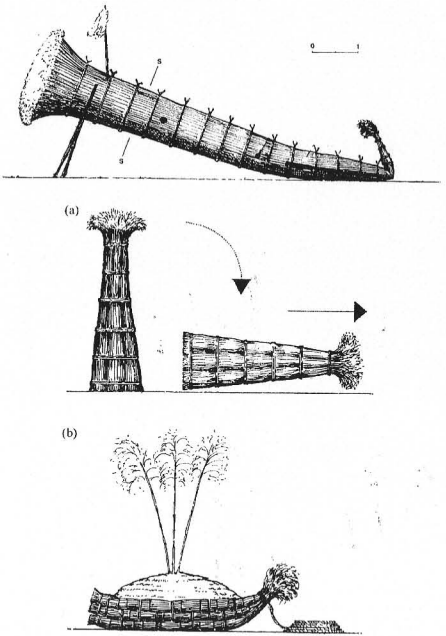
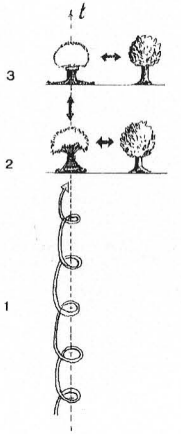



Figure 19a, b. *(a) The illustration shows a fish. It is called* 'namazu', *fresh-water catfish. But the form and the way it is made in the context of the other forms of the region tell us its meaning. Formally, it corresponds obviously to the mobile high pillars of the region, fabricated in sloping position supported by a wooden cross. Due to its dynamic function in the ritual, the form was predominantly horizontally interpreted, the lower end lost its static function, became conical, was interpreted as tail, the formal and terminological allusion to the fish, epitome of movement, was perfect. Note the largest part at the left: though it does not at all resemble the head of a fish, it is called* 'atama', *head. Evidently the homology of movement with the 'pillars' capital part ahead lead to this designation. (b) shows a boat which during the rite is pulled with long ropes from the site where it is constructed to the village sanctuary. Here too, a similar development led to the formation of an explicitly horizontal and dynamic form.*






The form of the natural tree reflects back on the demarcation sign: its originally geometrical form moves towards that of an "artificial tree"

The form of the marker enters into dialogue with the natural tree of the close environment. Mediator is the structural polarity of upper and lower parts. The similar relation of categories like defined/ non-defined, geometrical/ natural, compact/ loose, fixed/ mobile etc. provides the transmitter for the analogy.

Phase one implies the annually cyclic renewal of a hut-like type of territorial marker.

Figure 20. *Perception of natural form: the dialogue between the artificial sign of demarcation and natural form is based on categorial analogies. The natural tree shows the same essential categories as the artificial sign. The numerous leaves that form its unclearly defined upper part are mobile and natural, whereas the lower part is massive, clearly defined, nearly geometric, and unshakeably fixed to the ground. In Japan this argument gains ground with the phenomenon of the holy tree in Shinto: it is always marked as being sacred with the same rope that holds the artificial markers together. The natural sacred tree is thus paradoxically a derivation of the artificial sacred tree.*

However, the essential meaning is not the naturalistic aspect of each form, but their relation. A few formally quite incongruent traits (body shape, hairstyle, knots) are sufficient to suggest the difference and characterize the relation. If we had found these two objects drawn or carved on a rock surface, the possibility of discovering their meaning would have been very remote.

Snakes are also very interesting in this context. In some villages of the region they play an important role. But this has nothing to do with what one normally calls snake-cult (Fig. 22). Probably due to its characteristic patterns of movement, the sacred rope, which in this region is basically

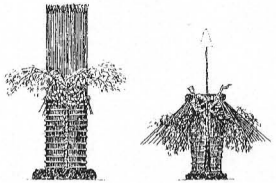


Figure 21. *We have mentioned above the differentiation into male and female form. In this case of an anthropomophous form, geometry and the characteristics of the built form again dominate entirely. The gender characteristics are applied in great discontinuity, without any sense for the whole. Curved lines are used for the female body, and the protuding reeds are made to hang like women's hairstyle. No heads, no arms, no legs. There is no perception of the totality of the human form. Evidently the male/female differentiation is a very late accumulation onto these forms. What counts is the formally different representation of two different, but genetically related settlements.*

a constructive element holding the markers together and, as such, is of prime importance, was considered to be analogous to natural snakes. In two villages, we found interesting cases. For example, illustration (Fig. 22a) shows a female (left) and a male (right) marker of the fixed type. Both have a thick 'dragon' (*ryû*) coiled around their 'body', obviously related to the main rope of other forms. Most interesting here is the formation of the dragon-heads. By no means do they show any similarity with dragon heads as frequently depicted in Japanese history of art. They consist of a small bamboo-twig, its pointed leaves moving nervously with the slightest movement of the air (Fig. 22a). Figure 22b shows another interesting case: the sacred rope which marks the entrance to the shrine precinct is considered to be a snake, and, since each rope has two ends — the tassels being interpreted as heads — it has become a two-headed snake. When the signs are built, this rope is cut into two pieces, now forming two one-headed snakes, which are wound around the newly made signs, thus 'guarding' them until they are burned (Fig. 22b). Japan's agricultural ritual scene is full of similar examples of snakes derived from sacred ropes. To interpret them in view of the Western concept of 'snake cult' would be to miss their actual content: the 'snake' is an essential constructive part of an ancient local territorial demarcation system, from which it derives its values.

It is usually taken for granted that early humans perceived the natural objects of their environment exactly as we perceive them, but this may



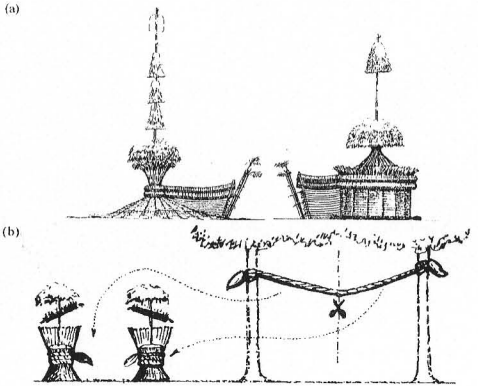



Figure 22a, b. *Snake, dragon, or cancer symbolism is found in many villages of the region. (a) shows two markers in female and male relation. The main rope has been transformed into a thick dragon's body, the two facing heads consist simply of two bamboo twigs. What counts is not the form, but the movement of the dragon's head. (b) shows on the left two markers set up in front of the sanctuary, on the right the entrance to the precinct, marked by two flanking trees. Through the year this gate is marked by a thick rope which is considered a big snake (daija). Since the rope has two ends, the snake shows two heads. At the ritual the snake is cut into two pieces — each now a one-headed snake — which are put around the newly made markers. Finally markers and snakes are burnt.*

be an illusion. How did this increasing capacity for perceiving structured objects come about? As we have attempted to show, the concept of 'semantic architecture' may provide a structural answer.

## Socio-territorial implications

Ethnographic analysis shows clearly that these constructions also have semantic functions in the social and the territorial sense. Different villages display different forms over a wide spectrum of practices. In many cases, the basic types are different; in other cases, similar basic forms are differentiated in primary or secondary details. Thus, in a spatial sense

In another sense too, they are the archives of the local village history. This can be explained with the following schemes. The first settler made the first sign in a region which was not yet inhabited. In the traditional legal codex this meant that he founded his own village (Fig. 26). The borders of the village territory were implied *in nuce*, in the central marker: a non-defined upper part, wild, natural, inaccessible to humans, inhabited by spirits; and a lower part, well-defined, the production area, to be covered by rice fields (Fig. 27). The farmer builds his house, and has children who, as his descendants, settle near his house to form the first part of his village. The founder, as the primary landowner (and the continuity of his house), has power over his descendants and, later, over peasants (see Fig. 26). The ritual renewal of the perishable sign in the center keeps this system intact over time (and documents social hierarchy), in particular the power of the founder's house — often with the present representative male being the priest of the renewal rite who explicitly 'owns' the symbol and the corresponding deity (traditional Japanese: *kami-nushi*, priest = 'owner of the deity') (Fig. 28).

If we assume that the cyclical renewal of the ephemeral system of demarcation is the primary content of rites of this type, then not only does this approach cast a new light on so-called primitive religion, but it also suggests that such object traditions linked to territoriality could be deeply rooted in prehistoric time.

The village layout is also related to the structural principle of the markers (Fig. 29). This suggests that the signs in fact served as Gestalt-models, as ideals of 'harmony of opposites' of the spatial environment as set out at the foundation act. The demarcation site is located in the border zone between hilly woods and flat land, and implies an inaccessible region beyond the markers, the realm of the woods and the spiritual world, thus delineating the human domain of the rice paddies and the settlement.

Access to the demarcation site follows a characteristic pattern which we call 'access and place scheme' (Fig. 30). This term is used similarly in Dagobert Frey's (1947) study on Afro-Eurasian sacred architecture. It implies the polar relationship between the static demarcation of a place and its dynamic access domain. Both form a polar unity, emphasized by static monuments and connecting paths, walls and gates. An elementary type with one polar pair of domains can be distinguished from a more complex type which shows 'embedded' extensions on the lower side, all focused on the same basic marker.

Thus, the tradition of signs constructed cyclically in stereotyped form defines the territorial conditions and the social structure of the settlement. Spatially, the place and access markers determine the layout of the village.



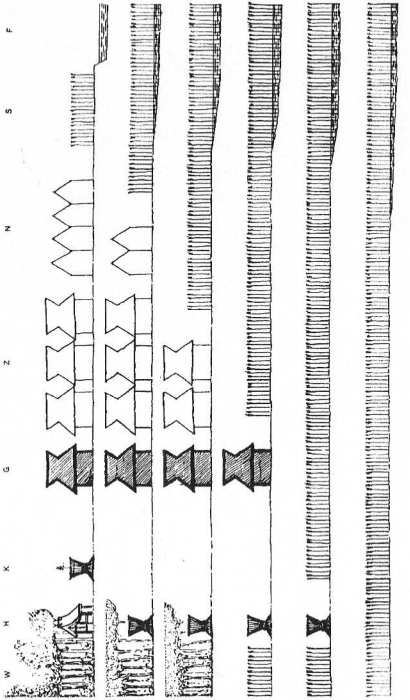


Figure 26. *The diachronic implications of these signs and symbols are shown in this diagram (to read from bottom up). The first settler made the first sign in a region which was not yet inhabited. The farmer builds his house, and has children; his descendants settle near his house to form the first part of the village. The founder has power over his descendants, and, later, peasants. The village is therefore hierarchically structured [illegible] later newcomers.*

each sign represents a certain territorial unit, a settlement and the land it owns (Fig. 23). Moreover, each sign represents a ritual association — e.g., young/elderly men's associations (Fig. 24) — and, according to the following formula, those who make and handle a sign 'own' it and, conversely, in the local landscape the sign represents those who made it and their settlement district.

It is important to know that, on the basis of the socio-territorial semantic function, very complex histories of settlement relations (genetic relations, associations, dominance and dependence, associations after struggles, etc.) are depicted (Fig. 25). In this sense, the rites can be 'read' as a kind of history of the settlement.

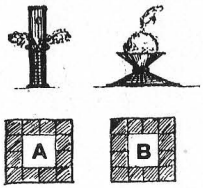



Figure 23. *The basic function of these signs is socio-territorial representation. Various forms represent various settlements and their representative social units. There is a tremendous 'semantic behavior' in this region to contrast basic forms or to differentiate details of common forms.*

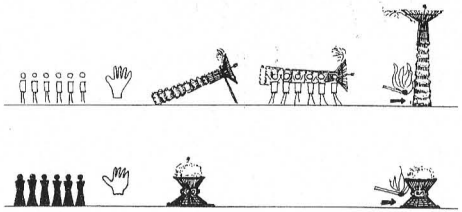


Figure 24. *The representative relation between sign and social respectively territorial unit is established by a simple formula: the sign represents those who made it and who handle it ritually.*



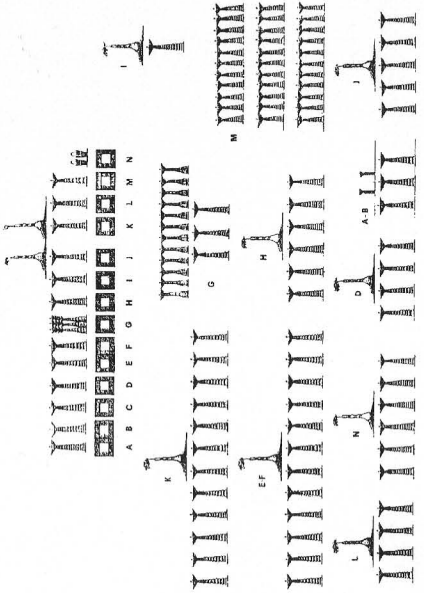



Figure 25. *This pattern describes the dominance of a small rural town founded in medieval times under the reign of the Shogun Oda Nobunaga over its surrounding agrarian settlements. The lower part shows the outfit and organization of local village festivals. All these villages annually [illegible] the superimposed central shrine of the town by constructing their village signs in front of the dominant shrine (see Egenter [illegible]*

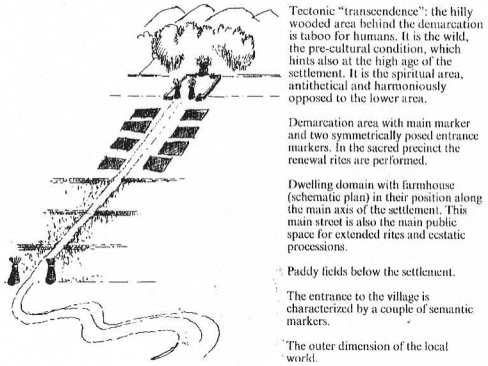



Figure 27. *Schematic representation of a typical pre-Buddhist and prehistorical settlement arrangement in Japan. The reconstruction is based on historical and ethnological sources.*

Note that we have an evidently primordial demarcation system which is set not at the outer limits of a demarcated surface, but in close relation to human paths, in the center of its categorially and polarly implied and correlated domains. The cyclic renewal of the demarcation system structures time, including ecstatic phases of festivity (renewal) and orderly normal times.

The cyclic time perception of non-historical societies has been widely noted, but the explanations remained vague, relating to the changes of nature. The material conditions of semantic architecture imply functional relations: the perishable material is replaced according to the annual cycle of the corresponding plants (e.g., reed). In the case of signs of the primary rooted type, the newly grown materials, which penetrate and hide the former artefact, directly suggest cyclic reproduction.

The cyclic destruction of the signs, which are representative of the traditional order of the settlement, results in the annihilation of these rules: people adapt to this unusual condition by ritual nakedness, drunkenness, chaotic noise in the dark of night, etc. In a striking metaphor, human social behavior imitates the ritual conditions related to the status of the signs. Correct placement of the tectonic form means social norm;



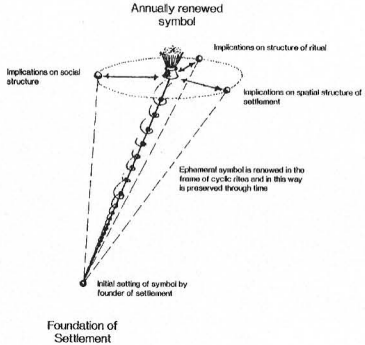



Figure 28. *Diachronically, the cyclically renewed socio-territorial demarcation sign represents its own continuity from the act of settlement foundation to the present. At the same time it also represents the continuity of the particular social and spatial structure of the settlement, and, of course, the ritual continuity to which it owes its existence in the present. It is evident that the sign is thus a* pars pro toto *of the whole settlement and its traditional social, spatial, and ritual order. Most of the ecstatic behavioral patterns related to such rites, formerly considered 'irrational', become quite reasonable: the categories of human behavior follow those of the sign. Chaos, ecstatic movements, drunkenness, etc. break out among the villagers if the sign loses its topotectonic qualities, becomes dynamic, or is destroyed. With the newly built sign the normal order of the village is reenacted.*

its displacement, destruction, or nonexistence means social anomy, or, literally, ecstasy. This recalls many 'irrational' types of behavior well known to ethnology or folklore and the history of religions. Eliade described similarly structured rites from a metaphysically deductive viewpoint as the 'eternal return of the origins'. In our inductive conceptualization, territorial claims manifested semantically at the foundation of the settlement are reenacted through the cyclic reproduction of the signs, year after year. Since the signs and the renewal rites represent the village archive in a historical and political sense, there is a vital interest in keeping the rites alive, an argument which seems more convincing than a mere 'belief' in the 'eternal return of the mythical origins'.

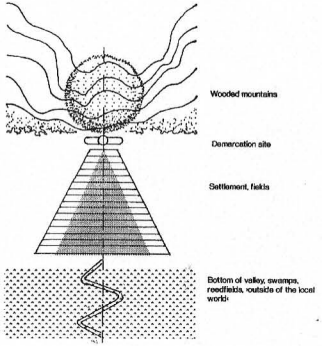



Figure 29. *The village plan is structured according to the structural principle of the signs.*

**Rock art and the prehistoricity of semantic architecture**

The results of an ethnographic analysis of a particular type of ritual related to 'semantic architecture' show a complex of relations between construction and form, symbolic implications, semantic functions in regard to social structure, territory, and time. At all levels we have pointed to the fact that this system bears witness to very elementary traits of human constructive behavior, close in all its aspects to purely environmental conditions and, at the same time, closely related to ideological structures. These considerations — and a great wealth of other material — lead us to globalize the results and formulate a general hypothesis regarding semantic architecture.

Given a relatively well developed human constructive capacity to use the hand as a tool, and environmentally omnipresent fibrous materials as structural elements and means of stabilization, the existence and development of semantic architecture would have to be assumed for a wide spectrum of cultures of early hunters and gatherers. Such primitively constructed territorial marking evidently gained great importance with the neolithic revolution — that is to say, with the first formation of permanent settlements. At the level of prehistoric implications of this



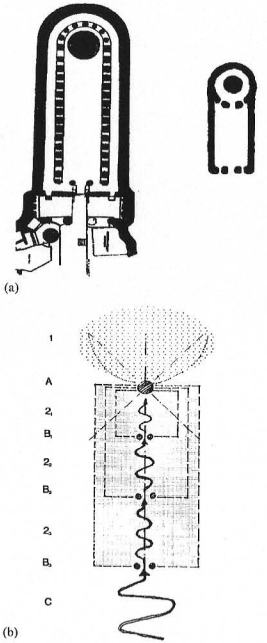



Figure 30.a, b *'Access and place scheme'. Frey (1947) showed that conceiving contradictory categories of movement and rest as a polar unity is very widespread particularly in sacred architecture over a widespread cultural area (Afro-Eurasian belt). (a) shows a Chaitya-cave-temple, India, with a village type on the right and a monumental type on the left (Frey 1947). Illustration (b): access and place scheme. ($B^1$) shows the 'elementary type' with the basic polar unity (1) and ($2^1$), ($B^{2-3}$) show the complex type in extension of ($B^1$) with different lower domains all 'encapsulated' and focused on the marker (A). (C) shows the outside of the local world.*

basic hypothesis, many secondary working hypotheses could be derived. Petroglyphs and pictographs could become a very important testing ground for such hypothetical approaches. The following examples relate essentially to technology and form, and to the spatial organization of settlements.

It is possible to question the uncritical identification of rock art designs as natural or instrumental forms, designated as human beings, or as terio-, zoo-, topo-, cosmo-, and technomorphous entities. What we readily take to be a tree, a bird, a mountain, could represent an artefact, an artificially constructed human being, tree, bird, or mountain, a handmade sun, a ritually built boat that has never seen water, a spear that has never killed, but which represents a designatory sign used at the foundation of a settlement.[8] Snakes in particular need to be reexamined carefully. Found over wide areas, they need not necessarily represent a natural snake, but may depict part of a tectonic symbolic object which it holds together in the technical sense.[9] In isolated form, it might imply a harmonious or disharmonious separation between two opposed domains.[10] Forms easily identified as natural or instrumental should be reconsidered from the standpoint of semantic architecture (Figs. 31, 32). This assumption would be particularly important if the forms were geometrically 'stylized' (see below) or outstanding in size. Faces or sub-faces must also be questioned as to whether they represent scenes of a ritual demarcation system.

Characteristic for such a scenery is the distinction between statically treated zones, possibly showing tectonic signs and symbols, and dynamic zones, showing predominantly horizontal or explicitly mobile structures, and dynamically treated figures in the course of processions, dances, etc. But even if we manage to identify certain figures in the above sense, this does not mean that their forms correspond to the function or meaning we would attribute to them through formal identification. Function or meaning of each form must be sought in the context of the whole design or in the spatial conditions of the whole site or sub-site.

As to the style, the technique of binding fibrous materials into a spatial form may provide particular indicators which can be used in the analysis of petroglyphs (Fig. 33). In general, style would have to be considered as the degree to which bio- (including anthropo-), techno-, topo-, and cosmomorphous figures are constrained by their constructive origin with regard to the technological conditions of their formation (e.g., the so called 'hour-glass form'). Particularly if paired with the above indicators, geometry in petroglyphic form would have to be examined from a tectonic point of view.

Geometric shapes would have to be considered as a primary, 'primitive' pre-naturalistic code. If the indicators tend in this direction, we might in



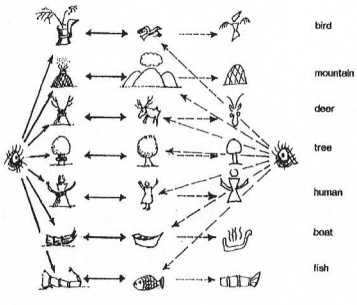
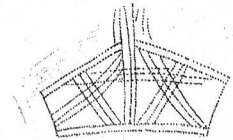



Figure 31a, b. *Perception of the natural environment in prehistory. This comparative scheme shows the conventional interpretation and the interpretation suggested by the analysis of semantic architecture. Conventional is the idea (b) that prehistoric man had a direct perception of his environment and that he conceived objects around him 'naturally' as we do today, and — for unknown reasons — used 'stylization' in drawing the natural reality perceived. But this may be an illusion. The scheme on the left (a) suggests that this conceptualization of environmental forms evolved by means of a dialogue between artificial signs or symbols and natural forms. Four types and stages can be considered in (a): (1) Petroglyphs depict dominantly geometrical artefacts used in the frame of cyclic rites. (2) Ritual artifacts dialoguing vaguely with natural form are depicted. (3) Natural forms serve as prototypes, but the way to conceive them in the design is still strongly conditioned by structural prototypes. (4) Natural forms are designed in a very naturalistic manner.*

general gain a very plausible anthropological explanation as to why very ancient human iconic expressions show a strong trend toward geometrization. As mentioned earlier, geometric qualities could characterize 'primitivity', but not in an abstract imaginary sense. Geometry came in by means of discoveries made while handling a particular and very important object of material culture: the territorial sign, an archive of local land-politics. At the same time, it embodied an ideology: it was a symbol of a harmonious view of the local world and, as such, it was a cognitive model. In visual dialogue with these primitively built territorial markers and the local environment, prehistoric man perceptually conquered his natural environment. From this vantage point, remarkable differences in



(a)

(b)

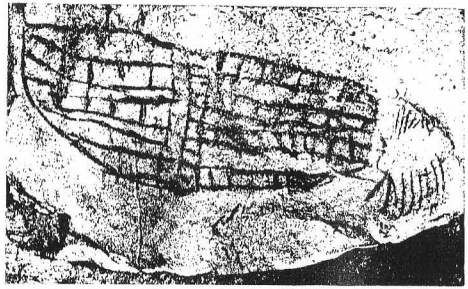
the size of figures within a surface or sub-surface would not necessarily have to be attributed to the imagination of the painter.

It is a remarkable trait of many petroglyphs that, in composing the picture, the 'designer' seems to act relatively freely with respect to the (relative) size of the objects represented. But, if the implied reality is constructed and artificial, size might correspond to the actual size differences in the artefactual domain of semantic architecture. Size difference of similar forms might indicate a hierarchical relation among the entities represented by the signs (e.g., settlements).

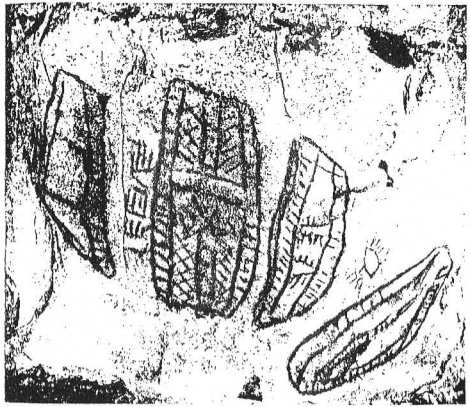
**A possible motive for drawing pictographs and petroglyphs**

Suppose we have indications that a petroglyphic representation refers to a cyclic ritual based on the behavioral continuity of a local tradition and to its semantic system, which was not durable in a materialistic sense but implied the status quo of local power. The motives of the painter could now plausibly be interpreted in new ways. Using the codes of his time and place (i.e., the particular ritual and its semantic architecture), the 'painter' wanted to 'design' or 'write' the political conditions on durable material, thus fixing them for the future. His paintings could be an individually intended fixation against potential alterations in the future or present alteration of the status quo. Such a behavior would have to

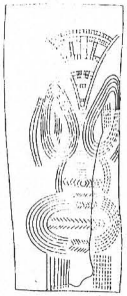




(c)



(d)






be understood in the context of the conceptualization of the spatial organization of settlements or territories.

Dagobert Frey (1947) and Otto F. Bollnow (1963) have both elaborated on non-homogeneous or polar space concepts — the former on sacred architecture throughout the Afro-Eurasian belt of ancient high cultures, and the latter phenomenologically and anthropologically. Besides these two innovative works there seems to be very little study on the evolution of human conceptualization of space, in spite of the strategic meaning of space conceptualization in various disciplines. If, with Bollnow, we assume that space conceptualization was originally related




Figure 32a–h. *That palaeolithic periods knew constructive processes is clearly proven in these explicit 'tectiformes' (a) and (b) . If we take the above classification, a form like the one shown in (c) and (d) would have to be considered of the first type. It clearly shows a structural texture and tends to cylindrical form. Form (e) shows strong structural traits in texture and in tectonical form and seems to allude to anthropomorphism; it should therefore be considered of the second type. The same is valid for the forms shown in (f). All variations are still very geometric and related to the hourglass form. What looks like arms is related to the narrow middle part, thus suggesting ropes or bands, rather than arms. But the examples at the left show a stronger emphasis on natural human form: the head shows something like ears, and what look like arms are protruding from the larger upper part of the 'body'. The conventional interpretation of the pictographs (g) as 'schematized representations of animals' seems to be rather naive. Evidently it takes the left of series (g) as an indicator for the rest, but it is very doubtful to simply see group (1) as 'sitting ibexes' or group (2) as 'stylized heads of deers and ibexes'. The painting shown in (h) must in this concept be a very evolved depiction of natural form, thus an example of type (4).*

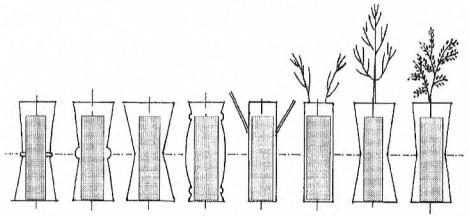



Figure 33. *In 'reading' such forms it is important to note that the technique of binding results in particular formal characteristics in regard to outline and texture: the rope is always rectangular in regard to the texture of the fibers or stalks (a) and forms a bulge at the outline of the form (b) . The place where fibers, stalks, or other similar materials are fixed together by binding (c) tends to bend the outlines inward (hourglass form). With two or more bindings the intervals tend to become more or less bulbous (d). The bound material shows high plasticity; it allows pointed sticks to be stuck in easily (e). The same can be said in the vertical sense (f). The material can be fixed around a pole or natural tree which is higher than the bound form, and thus sticks out (g). There are constructive implications that the central element is in line with the fibers. Any characterization of formal elements with leaves or other recognizable natural vegetable parts can be taken as a strong indicator that a petroglyph represents semantic architecture (h).*

to settlement, then most of what is translated of ancient texts or what has been reported in ethnography would have to be reconsidered.

According to Bollnow, human space conceptualization evolved through time from small dimensions to large extensions. This means that there were originally only a limited number of types which could be studied objectively within the human environment. In our opinion, the polar or complementary type is the most important — and the most widespread. Many social, aesthetic, religious, and temporal expressions of quite different cultures can be explained by a 'threshold' model which implies a semantic element situated in the linear center of two categorically opposed spatial domains. This model corresponds exactly to the structure and flexibility of this type of space perception. If, consequently, we assume that cultural or anthropological space conception was topologically or environmentally rooted and extended in polar relations[11] around the topos, this would imply the following consequences: sites, sub-sites, faces, and sub-faces would have to be recorded as a whole with exact localization of all figures within the whole of the arrangement. Each



figure, even if not identifiable, assumes a potential meaning within the whole. A given set of sub-figures, figures, or a site or a sub-site would have to be checked against the hypothesis that it mapped some close relation with the spatial organization of a temporary or permanent settlement, its social structure and its territorial conditions at a certain time. Hypothetical typologies of settlement-space organization as coherent system applied to a site would imply a need to consider its relation to other topological and environmental conditions, including the wider tectonic conditions such as mountains, rivers, stretches of water, etc. Testing the hypothesis that topological arrangements used the access-place-scheme, sites or sub-sites (e.g., cave) would have to be thoroughly analyzed with respect to the corresponding criteria (Fig. 34).

In general, the spatial should become a more important criterion in petroglyphic interpretation. It might become critical to ascertain where, in a given setting, a particular drawing is found. Sites of petroglyphs would have to be analyzed as a spatial system where the rear, center, and the access region are characterized by certain categorial values (static/dynamic; defined/ill-defined, artificial/natural, etc.) which may reflect on the formal conditions of signs, drawings, or tectonic design. Following Bollnow's theory of the 'micro-origin' of space perception, if the cosmic dimensions were relatively late factors in cultural evolution, we would have to ask what predated them. From this point of view the following hypothesis may be useful for rock art research.

The river was an important system of orientation in early settlement. The local river is not only of survival importance in regard to water supply, or in other essential economic ways (e.g., fishing), but implies a directional element from above (mountains) to below (ponds, lakes, sea) and, with branching rivers, provides an environmental network which allows localization and evaluation according to sources and mouths, according to upper and lower domains of a river.[12] Figure 35 shows a reconstruction of the 'horizontal cosmos' of the Ainu. The principle of 'coincidence of opposites' sets their sacred signs (S), their dwellings (D), and their territory (T) into analogy or homology. In the philosophical world-view of the Ainu, these different components are identical. All are dealt with in the same way, with the same intention to harmonize their environment.[13]

## Conclusion

Implicitly, our ethno-prehistorical comparison has tried to show that the petroglyphic source-condition is extremely limited compared with the

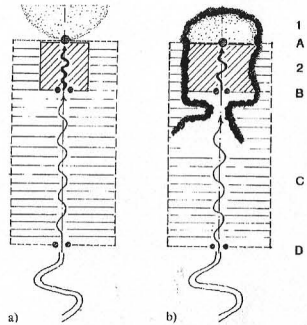



Figure 34. *(a) Elementary and complex access-place scheme: the elementary type of structuring space by means of the access-place scheme works with a set of markers. The marker (A) separates a transhuman beyond (1) from the human here (2). The spatial domain beyond the marker is charged with categories like wild, inaccessible, illimited, nonhuman, non-cultural, pure, dangerous, spiritual. The spatial extension in front of the place-marker is considered human domain, related to the renewal rites of the ephemeral sign. Towards the access direction this domain is delimited with two markers (B) flanking the access. The extended rectangle shows the complex access-place scheme. It extends in the direction of the access — potentially in several stages of 'encapsulation'. The whole organization with different levels of extension remains focused on the initial place marker. The* 'pars pro toto' *implication remains intact. Illustration (b) transfers this concept in terms of a working hypothesis on the spatial structure of a cave site. It suggests a specific layout in different domains with particular categorial characteristics according to the )elementary (and complex) access-place scheme( (1) could allude to a nonhuman beyond, which is wild, nonhuman, imaginary, spiritual. Zone (A) might have been marked with ephemeral signs. This would imply static and tectonic characteristics in this part of the site. Zone (2) implies the human or ritual zone in front of the monument. This would imply dynamic categories, related to the dissolution and renewal of the sign. Zone (B) designates the access-gate area which was eventually marked with perishable markers and other elements emphasizing the threshold between inside and outside. What is important in this hypothesis: the survey of the outer environment becomes as important as the inside.*

potential of the life-situation which might have produced it. It has become evident that conventional identification of figures and their interpretation may be considerably mistaken. The code to read petroglyphs may long ago have disappeared, particularly in our European agrarian cultures, mainly through the effects of Christianization. Consequently, to reconstruct past conditions strictly historically — that is to say, based



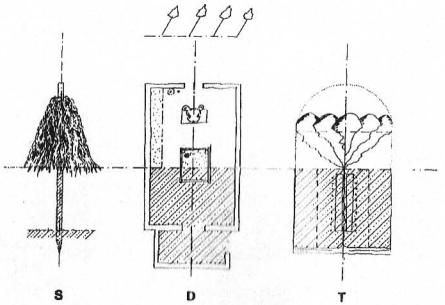



Figure 35. *The 'horizontal cosmos' of the Ainu. Formerly hunters and gatherers generally considered to be a cultural survival of a palaeosiberian stratum, the Ainu show a very complex system of spatial organization. Dwellings and their immediate environment (D), smaller collecting domains, gardening sites, fishing and hunting domains, as well as larger arrangements, particularly for bear-hunting and, finally, the whole river system (T) with the uppermost and inaccessible end of the sacred mountains and the contrasting orientation toward the sea were all structured like magnetic needles in an overall 'magnetic' system related to the direction of the river. This system was the basic condition of all daily, monthly, and annual Ainu activities. The basic principle was 'coincidence of opposites'. And this philosophical system was evidently represented in nuce and handed down over countless generations with their highly venerated signs (S; inau). The basic — and meaningful — motive of this system: living in harmony with contradictory forces of the environment into which man implants himself. In terms of cognition theory, it is evident that this system is antithetical to analytical science. This may be one of the reasons why Western ethnology never perceived the deep meaning of such types of spatial organization.*

on the sources of the local site — would be impossible. But this does not mean that the situation is hopeless. Our study points to a way which has been neglected: comparative settlement research.

For archaeology and prehistory, the excavation and interpretation of settlements is crucial. But the reconstruction of the vital structure or the meanings of such settlement-remains is often extremely difficult. All that could explain former meanings is lost. History and folklore, on the other hand, have a relatively good knowledge of rural settlement patterns, and know rural life throughout the European continent quite well, but history in this European domain was extremely dynamic. The historical or vital typologies are difficult to apply to prehistoric conditions.

Unfortunately, ethnology has very much neglected this important field of settlement studies. The emphasis has been on mobile material culture, on collections of easily transportable objects for the museums at home, and on social anthropology, religion, economy, etc. Only gradually is it being realized, mainly by forces coming from recent architectural research,[14] that the settlement studied ethnographically in its objective, spatial, and temporal aspects depicts a vital complex which questions, in many ways, conventional approaches. It becomes evident that the Western analytical approach developed in European urban conditions proceeds in facetted disciplinary divisions, and thus distorts or dissects, rather than factually represents, what counts: the vital and quite reasonably functional complex of the settlements' past and present, as represented in the traditional rites and cults.[15]

If approached ethno-(pre-)historically with a wide horizon, comparative settlement research could mean considerable progress for archaeologists and prehistorians. Typologies of settlement patterns and space concepts would be valuable at various dimensional levels: if types are limited and predictable within tectonic landscapes, this could contribute to finding new locations of prehistoric remains. A wider opening of the comparative research dialogue of ethno-prehistory would not only yield more realistic clarifications; we might also discover that our concepts of 'primitive' hunter and gatherer bands are quite illegitimate reductions, projections of our very limited point of view. Our study of the Ainus — originally a society of food-gatherers and hunters in the North of Japan — showed that this so-called primitive ethnic group had an admirably developed system of environmental organization based on the concept of the 'coincidence of opposites'. This philosophy structured the manner of their work, the evaluation of their landscape, their festivals, their houses, and their way of living in them. And this whole 'metaphysical' world-view was formally embodied in their age-old tradition of (perishable) sacred signs.

Recently, the interest in 'stony signs' has increased considerably worldwide. This is certainly an interesting development, and not only because its sources are quite different from the usual archaeological excavations. Scratched or painted by humans on durable surfaces, these designs correspond more to a prehistorical museum and thus transcend the notion of mere 'remains'. We can assume an active personal or impersonal will to represent on the surface used a part of the factual environmental reality. Rock art gives us a human 'view', much more so than what has been preserved in the ground. Consequently, deciphering this material involves much more and certainly quite different methods than merely interpreting found 'leftovers'.



## Notes

1. There is an immense literature on this topic in various disciplines — archaeology and history of art, particularly of Mesopotamia and Egypt; history of religion; folklore of high cultures; ethnology of all continents (for the literature in detail see Egenter).
2. A very important field of archaeological sources is paradoxically the earliest types of script in various ancient cultures.
3. Kerschensteiner shows that the original meaning of the word 'cosmos' was a well-formed order (e.g., military). In contrast to 'cosmos', which evolved spatially with cosmological discoveries, the word 'cosmetics' has retained the restricted spatial concept and remained closely related to the human face.
4. Basic for this criticism is also O. F. Bollnow's (1963) phenomenological study of the anthropological conditions of space. Through Indo-German etymology Bollnow relates the origin of human space concepts to the early formation of settlements, and shows clearly that 'cosmological' concepts of space in the modern sense were a very late development of the fourteenth-century Europeans and on, mainly related to the age of the great discoveries.
5. For the arguments in detail see below.
6. Though European folklore has preserved some scant remnants (e.g., maypoles, fire festivals, rural festive 'decorations' — see Kapfhammer 1977), they did not seriously enter scientific discussion because they were viewed in distorted ways (expression of primitive creeds, degenerated elite art, etc.).
7. Note that the whole history of boats speaks of this hypothesis: from earliest times boats tend to show ornamental or symbolic treatment of the bow!
8. All these phenomena exist explicitly in the Japanese Shinto tradition of the village protector deity.
9. A well-researched doctoral thesis on the wide spectrum of ritual behavior with artificial snakes and dragons in Japanese rural Shinto cults could convince many historians of religion of the conventional Eurocentricity of their basic axioms.
10. For an ethnographical wall-painting see Jain 1984. In most of the pictures presented, a 'wavy line' (snake or rope?) 'divides the painting into the "World of Gods" (above) and the region of Pithoro's [mythical figure] wedding (below)'. This meaning is probably related to the primitive hut which is built in the same ritual, but which — unfortunately — is not described in detail by Jain, only mentioned. Note also that the constructive interpretation of the snake provides us with a very pragmatic explanation of its anomic ethical values as the incarnation of chaotic or destructive forces: if it is taken off the local territorial sign and symbol, this dissolves, falls apart!
11. E.g., linear opposition of defined domestic domain and the non-defined wild extension; 'place and access scheme', etc.
12. Hitoshi Watanabe's (1973) detailed study of the ecosystem of a former hunters and gatherers population in the northwestern Pacific region (Ainu) is probably the most instructive study in this field. Unfortunately Watanabe completely disregarded the elaborate sign system of the Ainus and explained the elaborate spatial and social organization related to the river valley territory by a metaphysical system borrowed from Radcliffe-Brown (social solidarity between men and deities). Noteworthy were the inquiries of Ohnuki-Tierney (1969, 1972, 1973) into the time and space concepts of this hunters and gatherers population of the Ainu. But Ohnuki-Tierney's approach is not convincing: she maneuvers herself into great contradictions because her approach

is primarily based on the 'macro-origin' of spatial organization of the environment (see Egenter 1992 and subsequent volumes).

13. See also Clément et al. 1982.
14. Initial and most important: Amos Rapoport, *House Form and Culture* (1969). In the last two decades, many architectural departments of universities or technological institutes have developed a new type of worldwide ethnological research into 'dwellings and settlements' (Berkeley) or 'environmental design' (New York, Auckland, Sydney, Tokyo; for details see Egenter 1992 and subsequent volumes).
15. It is evident that what the historical outlook calls 'myth' in early Japanese history deals essentially with territorial conflicts triggered by intensified contacts with the continent (China, import of Buddhism). The formerly locally or regionally organized traditional system of land legislation (deities of highly ranked knots; deities of sprouting reeds; deities marking a particular place) are superseded by a spatially more evolved system of continental origins. Upon the completion of the administrative system the emperor becomes the principal landowner of the Japanese archipelago (so-called 'Taika Reform' of the eighth century).

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