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A comparative analysis of the gestures depicted in anthropomorphic
figures at selected rock art sites in Hawai'i and Australia.

Form Follows Function

Dissertation submitted by

Carol Breese Patterson

July 2003

for the Degree of Doctor of Philosophy
in the School of Anthropology, Archaeology and Sociology

James Cook University

Dedicated to my father, Charles S. Sink, one of the world's greatest architects
who continually strives to design buildings according to this model.*

* *FORM FOLLOWS FUNCTION* was Louis Sullivan's improvement upon Furness's "a building should proclaim its use" (Louis Sullivan, in Connely 1960, 200).

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Abstract

Nonverbal communication is inclusive of posture, gesture and proxemic behaviour that is major part of human communication. Therefore, can we observe the gestures, postures and proxemic arrangements displayed in anthropomorphic figures in rock art structured in a way that we can identify patterns and relationships? This thesis sets out to investigate whether these elements displayed in anthropomorphic figures are just random displays or if they are purposeful and reflect cultural symbolic systems. This thesis is not concerned with meaning, but rather patterns that may be meaningful when compared to similar patterns in the ethnography.

The systematic analysis examines the rock engravings of selected sites on the island of Hawai'i, Polynesia, and paintings in rock shelters of the Cape York Peninsula, Australia. The methodology is applied to two different culture areas, (Hawaii and Australia), where the subsistence strategies are different (agriculture vs. hunter/gatherer), and where the medium is different (painting and engraving). The purpose is to sample areas where anthropomorphic figures are prevalent and are important within the indigenous tradition of each area.

This thesis examines the gestural, postural and proxemic patterns displayed in anthropomorphic figures through a process of triangulation employing three different approaches: the gathering of ethnographic information from the culture considered responsible for the paintings or engravings, conducting convenient sampling of anthropomorphic figures from selected sites and building an empirical database, and the application of a structural analysis to a selected panel of figures from each study area.

Form is divided into categories of body types in each study area: T shape, Stick, Triangle Solid, Triangle Empty and Triangle Open in Hawai'i and; Stick, Full Bodied Stick, and Full Body in Australian. In both culture areas these body types operate as separate modes within a formal visual communication system. Distinct information is conveyed through a selection of form that is limited to these disparate body types. Body forms are not random, but seem to have an underlying structure which dictates their use. Gestures and postures are not random but are found in repetitive patterns that suggest purposeful use.

Plasticity is defined by the topographic characteristics that include engraved outline, solidly pecked-out forms, single-line figures and various colour pigments. All of these textural and physical topographical techniques encode meaning.

Proxemic arrangements are used to encode meaning by controlling the spatial relationships between figures within a composition. Cultural definitions of distance define personal and intimate space, as well as private or public space. Patterns emerge from the proxemic arrangements of repeating figures in the Hawaiian example, that mirror cultural constructs such as genealogy and kinship. Similarly, in Australia, the proxemic patterns reflect mortuary ceremonies and totemic relationships.

By taking this approach, a better understanding of the patterns and structures embedded within the visual displays by each culture can emerge. This information can then draw upon the similar structures in the ethnographic literature to formulate a better understanding of the rock art.

The evidence provided by the two study areas reveal cultural constraints and rules as to how individual figures are presented in rock art in terms of their form, gesture, plasticity and spatial arrangement. The grouping of anthropomorphic figures follows formal patterns depending on the cultural relationships and the intended meaning. Future studies of anthropomorphic figures in rock art could adopt the model of systematic analysis developed here to better understand the nature of symbolic systems in different parts of the world. Studying structures and patterns found in gestures, postures and proxemic arrangements can provide an avenue to the primary 'function' of a visual communication system, which is encapsulated into the 'form,' that inevitably follows.

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Statement on Sources: Declaration

I declare that this dissertation is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references given.

01, 07, 03

Carol Breese Patterson

July 2003

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Glossary

Affinity Checks - checks conducted with other elements in the panel, and with other panels in the region of the same age and cultural affiliations.

Anthropomorph - a design or motif having human form or attributes.

Anthropomorphous - having or resembling the human form - **anthropomorphic**.

Combined Meaning - meaning denoted from the context within which the grapheme is found.

Comparative Affinity - comparison of graphemes with similar characteristics in the same panel.

Contiguity - Any experience of two elements being related by proximity.

Extended Meaning - denoted from the cultural idioms, metaphors and site significance.

Factorality - is any experience of something as being a part of a whole, or as being a whole having parts.

Gesture - gestures can be autonomous signs or even 'languages', gestures can be contiguous with other modes of sign behaviour, and may play a part in the evolution of sign behaviour (Nöth 1990, 395).

Gestureme - smallest unit of graphic representation of a gesture that is distinguished from another.

-graph a word or element meaning: drawn or written.

Grapheme - smallest unit of graphic writing that distinguishes one meaning from another.

Grapho- a word element meaning 'writing' as in graphology.

-graphy - combining form denoting some process or form of drawing, representing,

writing, recording, describing, etc. photography, pictography.

Grapho-kineme - units of gestural articulation within the kinetograph.

Haka - 1. shelf, perch, roost. 2. recipient; medium, oracle, one possessed.*

Hanauna - generations; relative whose relationship was established several generations previously; ancestry, birth. **Hanaukeiki'ana** - childbirth;

Hanaumua - first born child.*

Icon - a picture, image, sign or other representation which stands for its object by virtue of a resemblance or analogy to it. **Iconic** - relating to or of the nature of an icon, portrait, or image.

Iconography - the making of an icon; representation by means of drawing, painting, or carving figures. **Iconographic** - of or relating to icons.

Kaku mele - poet, composer. To compose songs or chants.*

Kapu (Tapu, Tabu, Taboo) - prohibition, forbidden, sacred, holy, consecrated.

Ku.auhau - genealogy, pedigree, lineage, old traditions: genealogist, historian; to recite genealogy.*

Kineme -smallest unit of movement.

Kinesics - the recording of gestures and body motion using a notation system.

Kinetograph - the overall gestural and postural composition of a figure.

Kuamo'o - backbone, spine, road, trail.*

Mana - supernatural or divine power, miraculous, divinely powerful, spiritual.

Mele - song or chant.*

Mele inoa - name chant, ie., chant composed in honour of a person, as of a chief.*

Mo'o - succession.*

Mo'o kupuna - ancestral genealogy.*

Mo'o ku'auhau - genealogical succession.*

Mo'o lelo - story, talk, legend, journal*.

Morphology - the study of form, structure. The form of an organism considered as a whole, compositions.

Pictograph - a record consisting of pictorial symbols. A pictorial sign or symbol, painted, represented pictorially. **Pictographic** adj.

Pictography - the use of pictographs, picture writing, (graphics)

Pictogram - picture + gram

-gram a word element meaning something drawn or written, as in diagram, epigram, telegram, monogram.

Picture writing - the art of recording events or expressing ideas by pictures or pictorial symbols. Pictorial symbols forming a record or communication.

Plasticity - the surface properties of rock engravings or paintings which vary in ways that encode meaning. The plastic layer that functions iconically.

Proto-types - the 'ideal traits' used for describing the whole.

Semantic Density - the levels of meaning - polysemy.

Sign - a mark, image, gesture, or signal that has a conventional meaning associated with it.

Symbol - something used or regarded as standing for or representing something else; a material object representing something immaterial: an emblem, token or sign.

Symbol Affinity - comparison of a grapheme with others found in the rock art data base and ethnographic record.

Syntagm - a string of constituents forming a syntactic unit.

Syntactic Unit - a group of signs that when combined form a recognizable unit.

Syntax - the rules governing the order or structure of symbols.

Typification - a trait taken to represent the ideal. Prototype.

* Hawaiian Dictionary. Pukui and Elbert. 1986.

Part I

Background Context

Chapter 1 Introduction

1.1 Anthropomorphic Figures in Rock Art

Visual images, either painted or engraved, can be examined as visual communication systems (Olsen 1989) and categorised as styles that encode meaning (eg. Smith 1994, Cole 1998) or as semiotic systems (eg. Bouissac 1994, Sonesson 1994) that communicate through visual forms (Layton 1992). One assumption can be made without argument: that the majority of rock engravings and rock paintings represent visual constructs that communicate meanings at some level. What the meaning is, in absolute terms, will never be known but I would like to offer a multi-tactical approach toward understanding how meaning(s) was conveyed in some prehistoric rock images. I employ a new method to reveal patterns and internal structures of the images to achieve a better understanding of these images. This thesis, to a lesser degree, applies theories that have been tried and shown to be useful in rock art studies (eg. Layton 1992, Lee and Stasack 1999), particularly with the use of style categories that assist in establishing or suggesting chronologies and have some connections to cultural context.

There are gaps in the rock art literature regarding semiotic analysis of pictorial imagery. Applying the linguistic model to pictorial imagery as if it were a text is also problematic (Conkey 2001). There needs to be a new methodology for studying prehistoric art and

the internal structure of complex compositions. There also needs to be an adequate nomenclature to address its various categories for these internal structures.

This thesis works towards developing such a methodology. It considers only anthropomorphic figures, using examples from two unrelated cultural areas, Hawai'i and the Laura area of Cape York Peninsula, Australia. I make a broad-based assumption that anthropomorphic figures are meaningful images produced with purpose although with a great quantity of rock art in the world, there is no exegesis to their semantic content. I intend to explore a 'level of meaning' that is rooted in the human psyche that may not have been fully analysed before. I introduce a methodology similar to the neuropsychological model proposed by Lewis-Williams (1991), and Lewis-Williams and Dowson (1989), by examining whether the employment of a human universal body language even though its meaning will be culturally specific. How contemporary people interpret prehistoric images of gesture is problematic, but it is the purpose of this thesis to explore the process by which meaning is derived and to experiment with a new approach. I use a structural analysis to try and understand how humans may have used anthropomorphic figures in rock art images to communicate as part of a multi-faceted language.

1.1.1 Body Language

The components of human language include spoken, written, and non-verbal communication systems. The latter include gestures, postures, sign language and proxemic behaviour. It has been proposed by Corballis (1991, 1999a), Armstrong et al. (1995) and Armstrong (1999) that human language originated with gestured signs.

They argue that even in cultures with highly developed spoken languages, people still use gestural signs to augment speech. The last 30 years have produced a renewed interest in gesture and a more thorough examination of its role in the evolution of language and cognition in humans (McNeill 1995).

The human body can be used to transmit messages to an observer by movements or postures that can include the use of limbs as well as facial expressions. Non-movement can also transmit information. “There is no attribute of the human body, whether size, shape, height or colour, which does not convey some social meaning to the observer,” (Thomas 1991, 1). Of the many channels of non-verbal communication, only gesture, posture and proxemic location are considered in this thesis. The meaning(s) of non-verbal communications are only decipherable to the extent to which its cultural context is available, but semiotic analysis can help elucidate the underlying structures within a sign system.

1.1.2 Multi-faceted Approach

In his studies of the Arrernte, an Aboriginal people of Central Australia, language is what David Wilkins calls a ‘multi-media performance’ (Wilkins 2001). In his view, language is composed of three modalities as part of the whole communication process. These are 1) the spoken or verbal narration, 2) the simultaneously gestured aspect, and 3) the visual display drawn in sand or painted on canvas. Each medium (spoken, gestured and drawn) is a component of a larger communication grammar. Neither verbal, gestured or painted stories are autonomous. Like bound morphs, each needs the other as part of a multi-faceted communication system.

Similarly with prehistoric art, the missing components, verbal narration and gestures, cause major problems for determining what the 'story' may have been. The rock images in this study are far less 'abstract' than the sand drawings of Central Australia and therefore they supply more figurative displays of animals and humans in particular, with their gestures, postures and proxemic arrangement. But the absence of verbal and gestural narration limits the interpretation and revelation of meaning. It is possible, however, if gesture is so intimately bound up with verbal narration, that the pictorial art holds traces of the verbal/performance component. The identification of gestural components might offer an effective methodology for interpreting rock images, especially where the cultural context is known or can reliably be inferred.

1.2 Phenomenon - Gesture

It is probable that all humans relate to clear pictures of human beings on some level, and may interpret gestures and postures depicted therein according to their own experiences and cultural conditioning. The question posed in this thesis is whether gestural phenomena depicted in anthropomorphic figures in rock art communicate information to some degree in the way that gestures do among living people? Or are they simply random, decorative or idiosyncratic? Perhaps the following example from modern society will illustrate the phenomenon I am trying to understand.

The use of pictorial signage in public places in many Western European countries, uses anthropomorphic figures to indicate toilets, street crossings and exits. The most widely used "walk" signal is a silhouette human figure, shown side-on, depicting the action of walking. One leg is stationary while the other is lifted, bent at the knee, as if to take a

step forward. One arm is swung forward in front and the other one swung back. The signal for “do not walk” is a static full-bodied human figure, face-on, with arms down and legs stationary. These signs are ‘read’ by pedestrians through an interpretation of gestures and body postures, some of which communicate cross-culturally. Additional colour codes of red (stop) and green (go) accompany the signals but the population of colour blind individuals rely solely on the body posture as a signal. Toilet signage may vary in conventionality from culture to culture but as a rule, these signs are iconic and display a *static* figure to identify rules of access to the room, rather than an *active* gesture or posture to indicate the room’s purpose, thus:



Men



Women

Examples can be found of stick figures depicting an active gesture to communicate information in public settings, for instruction manuals, safety and emergency exit signage, stairway access etc. For example:



Stairway

These common icons found throughout the western world rely on societal conventions of sexual identity (eg. trousers = male; skirts = female), and a specific motion. The body gesture of ‘stepping up’ helps to identify an uneven surface, such as a stairway. One need not know how to read, but can identify the gender being familiar with the culture,

and the action by being familiar with different categories of public access used for walking. A similar system of communication encodes meaning in anthropomorphic figures in rock art. Each culture has its own system, and what that system is, in two cultural areas, is the focus of this thesis.

1.3 Addressing the Issues

This thesis addresses the problems of investigating possible gestural displays in anthropomorphic figures and their potential meaning(s) through three complementary but different approaches, which I call triangulation. In this method, no one source of information or method of analysis alone is considered.

The first component is a database built from a sampling of a representative proportion of the total population of images in two culture areas. This provides for empirical data that are entered in a database to create an observational matrix. From this, frequency counts and multi-factor analysis are performed.

The second component uses a rigorous survey of the relevant ethnographic data, which includes published statements from living people of the culture. The material from the ethnography is used to suggest parallels in the ways that people encode meaning. The indigenous commentary seeks a subjective view about meaning that would indicate whether a communication system exists. These two methods supply the quantitative empirical data along with the qualitative literature review and informal interviews.

The third component involves a structural analysis (qualitative) applying direct observation and semiotic analysis to identify binary relationships within the composition of anthropomorphic figures. The gestural and proxemic relationships are identified, as is their frequency of occurrence within the data.

A final synthesis combines both structural analysis and ethnographic data, frequency and associative analysis in a diagrammatic form. A single panel of contiguous elements is selected from each study area for analysis. Each element from the composition is analysed within its original context and then deconstructed to reveal its gestural and proxemic structure. I have created new terms to describe the internal consistencies of these semiotic constructs.

1.4 Aims and Significance

The aim of this thesis, therefore, is to investigate whether depictions of anthropomorphic figures in the rock art, from two diverse culture areas, have relationships to posture, gesture, and/or other aspects of non-verbal communication. The ultimate aim of the research is to suggest a methodology for the investigation and interpretation of anthropomorphic images in rock art, based on a broad hypothesis that such figures may reflect an observable and consistent pattern that is formally structured and culturally mediated. The specific questions that are addressed in this thesis include the following:

- 1). If gesture is so universal in human non-verbal communication, could we expect to find purpose and meaning in the gestures portrayed in anthropomorphic figures in rock art, or are they simply random idiosyncratic depictions of human gestures?
- 2). How can a process for analysing graphic information from anthropomorphic

figures be designed that will elucidate patterns of gestures?

- 3). Are there constraints to certain gestural positions?
- 4). Are there cultural influences or conventions that dictate the use of certain gestures?
- 5). Are there gestures that occur only in certain sites and not others?
- 6). Is the communication system independently accessible?

1.5 Structure of the Dissertation

This thesis is structured in a way to bring together the analysis of two study areas of unrelated cultures by applying a methodology of triangulation. The first, Part I, is the background content, and discusses the non verbal components of language with which this thesis is concerned: gesture, posture and proxemics. The chapter on theory gives a literature review of early studies and how they have evolved to incorporate visual media as communication systems. Semiotic analysis is introduced with a discussion of traditional terms that are problematical and new terms for the methodology are suggested.

The methodology used in this thesis is addressed in Chapter 3. It reveals how I investigate anthropomorphic figures through triangulation of empirical data, ethnographic data and a structured semiotic analysis of selected rock art panels.

Part II of the thesis addresses the first study area, the island of Hawai'i. The archaeological and anthropological data for Hawai'i are restricted to those elements that have potential relevance to studies of symbolic systems. Previous studies that have

identified the rock art typology are presented in Chapter 4. The background to the research process, the method of collection of the data and its analysis are presented in this chapter also. Chapter 5 provides the empirical data from Hawai'i with a description of the frequency of the arm and leg positions at the sampled sites. The next component of the triangulation method is given in Chapter 6: the ethnographic data relating to gestures. Here the ethnographic information that may be related to selected sites of rock images is compared and contrasted. The final component of the triangulation method is found in Chapter 7, the structural analysis of a selected panel that has been labelled the 'Family Scene'. In this chapter, the elements found in the panel are deconstructed in a manner to reveal the binary relationships, juxtapositions, frequency and contextual occurrences, along with possible associations from ethnographic analogy. This chapter provides an insight into the structure of the visual communication system.

In the third part of the thesis, I look at the rock paintings of the Laura area in Cape York Peninsula, Australia. Chapter 8 supplies the background geography and archaeological information found in the literature from previous studies. Again, the first component of the analysis is addressed in Chapter 9 concerning the empirical data collected from the Laura area. The chapter presents the data and analysis of five selected sites, and describes the patterns and anomalies in the body gestures. Chapter 10 highlights the relevant ethnographic material concerning gestures and discusses the use of different body types found in the rock art. I include graphic diagrams that I developed to illustrate core concepts of primary concern to these people. The ethnographic context is very complex in comparison to Hawai'i and it certainly warrants more study by future researchers. Chapter 11 applies a structural analysis to a selected panel that I have

named the 'Snake Bite' Panel. Here the graphic elements are deconstructed in the same manner as with the Hawaiian sample. The elements are discussed in relation to ethnographic analogy, their frequency of use elsewhere in the data and the context in relation to other images in the panel. Colour and superimposition are introduced as additional ways of encoding meaning. Chapter 12, *Form Follows Function* addresses the thesis questions set out in Chapter 1 based on the observations from the systematic analysis of the two cultural areas. I also identify areas for further research concerning depictions of gesture in rock art.

Chapter 2 Theory of Gesture, Posture and Proxemics

2.1 Introduction

Human communication includes both verbal and nonverbal elements. The term 'nonverbal' communication is used to refer to all of the ways in which communication occurs between people by means other than words. Nonverbal modes of communication include bodily activity, gesture (kinesics), facial expression and orientation, posture and spatial positioning (proxemics), touching (dermal), smell (chemical), and utterance (paralinguistics), that can be considered as communication devices other than verbal (Kendon 1981). Nonverbal communication plays an important role in human social behaviour (Argyle 1975) and may communicate, for example, sexual status, social position and mental attitude (Hall 1959, Darwin 1972, Poyatos 1976, Ekman 1977, Henley 1977, and Kendon 1981).

An Australian example is provided by Levi-Strauss, who noted:

The Australian tribes of the Drysdale River, in Northern Kimberley divide all kinship relations, which together compose the social 'body' into five categories named after a part of the body or a muscle. Since a stranger must not be questioned, he announces his kinship by moving the relevant muscle. In this case, too, therefore, the total system of social relations, itself bound up with a system of the universe, can be projected on to the anatomical plane (Levi-Strauss 1966, 168-9).

If nonverbal communication is common to all humans, it begs the question as to whether depictions of anthropomorphic figures in rock art portray aspects of this kind of communication in a structured and understandable way.

2.2 History of the Research of Gesture

From the time of the Renaissance, studies of gesture have been made by many observers. Francis Bacon, for example, believed gestures were like ‘transitory hieroglyphics’, and ‘a kind of emblem’. Giovanni Bonifacio and John Bulwer believed there was a universal, natural language of gesture which was understood by all nations and could be used to facilitate the conduct of international trade between European and native peoples (Thomas 1991). Charles Darwin was probably the first scholar to write about nonverbal communication. In *Expressions of the Emotions in Man and Animals* (1872), he describes animal and human body motions that he thought communicated information. Researchers of animal nonverbal communication have described the signals given by dogs, monkeys, chimps, horses, etc. that show a similarity in communication using facial/ear/eye/mouth expressions with those that humans also use to communicate information and emotions. Body posture is especially important in the animal kingdom although it is not considered a language per se, but rather, a set of *signals* that trigger responses in other animals (Argyle 1975). Animal communication is very often unconscious. The signals that a dog picks up at scent-marked posts or curbs may cause the back hairs to rise or bristle, or the tail to wag in response. The dog is not consciously trying to send a message, but rather responding to signals unconsciously. Whether conscious or not, the dog is still decoding information in the form of signs and responding with encoded body communication that a witness, be it a dog or human, could interpret.

Animal signals are interpreted by human societies who are in constant interaction with animal life. People of hunting societies depend upon their ability to “read” or interpret animal behaviour in order to understand what is being communicated in their environment. The signals given by animals are, for the most part, innate. They have evolved through time into social signals that are specific to each species. The human uses of signals are both innate and culturally constructed forms of nonverbal communication.

Boas (1921) described the body language of the Kwakiutl, Northwest Coast Indians who walked and danced in ways foreign to Europeans. Boas was able to use motion picture film to record Kwakiutl oral histories, songs and animated gestures that referred to characters in their mythology. With his early films he was also able to analyse frames of film footage to compare body postures and gestures. One of his students, Edward Sapir (1931), proposed that successful communication depended upon coded information that had to be learned. David Efron (1941), another of Boas’ students, studied the cultural relativity of gestures and body language among the south-eastern European, Jewish and Italian communities. A psychological approach was applied by Weston LaBarre (1947), who described nonverbal communication as a ‘pseudo language’ that was inseparable from vocal language.

Research has shown that gesture is not a universal language but is a socio-cultural construct that is not mutually intelligible by people of different cultural affiliations. Studies by social scientists, linguists and anthropologists have shown how gestures vary from culture to culture (Kendon 1981). Students working in the field invariably learn the

meanings of gestures so as not to offend the host, nor miss out on important information. LaBarre gives examples such as hissing in Japan as a polite deference to social superiors; the Basuto applaud by hissing whereas in England it is rude and is meant as an insult. Spitting in many parts of the world is a sign of contempt, yet among the Masai of Africa it is a sign of affection and benediction. The spitting of an American Indian medicine man upon a patient is a curing device (LaBarre 1947).

Are there 'innate' gestures that are common to all human beings? It cannot be assumed that simple gestures like head nodding mean 'yes' and turning from side to side means "no." Holt (1931) believed that the motions of 'yes' stemmed from an infant seeking its mother's breast, and the avoidance motion of 'no' was refusal of the breast.¹ But there are many exceptions when looking at this simple gesture, as demonstrated by LaBarre (1947) who calls this a 'sublinguistic' gesture language that is marked by cultural variances. There are no 'instinctive' gestures for personal relationships and interactions because the same gesture can have opposite or incommensurable associations (LaBarre 1947).

Cross-cultural studies of human societies have shown that some aspects of nonverbal communication have similarities in all cultures, such as facial expressions that convey emotions. But others, for example symbolic gestures, vary greatly from culture to culture. The differences stem from cultural conditioning rather than biological 'hard-wiring' of the brain.

1

LaBarre notes that this idea was originally Darwin's and taken from *The Expression of the Emotions in Man and Animals*, published in 1872.

2.3 Theory of Gesture

Of the nonverbal communication systems, gesture, posture, and proxemic behaviour are of special interest in this thesis. Signed languages are considered to be a more structured gestural communication system. It has been argued by Armstrong, Stoke and Wilcox (1995), Armstrong (1999), and Corballis (1991; 1999) that the development of human language originated with gestured signs and other methods of nonverbal communication. They point out that even in cultures with highly developed spoken languages, people still use gestural signs to augment speech.

Gesture is treated as a functional unit by Armstrong (1999, 46) “an equivalence class of coordinated movements that achieve some end.” Morris (1999) argues that there are both conscious and unconscious gestures that are recognised as cultural communications even though we are unaware of making some of them. Symbolic gestures have three kinds of structures, according to Armstrong: conceptual, neuromuscular and symbolic. Gestures are bipolar; that is they are meaningful as an action and as a concept. It is this status that gives them their communication capacity (Armstrong 1999).

Efron (1941) investigated whether gestures were culturally determined, and through his studies demonstrated how immigrant Italians and eastern European Jews changed their gestural habits as they became assimilated into American society. He categorised gestural movements as meaningful units that either accompany speech or add pictorial and symbolic information. A gesture is meaningful, first, by the emphasis it lends to the content of the verbal and vocal behaviour it accompanies. Second, by the connotation it possesses independently from speech of which it may, or may not, be an adjunct (Efron

1941). The first kind may be 'baton-like' representing a sort of 'timing out' with the hand the successive stages of the referential activity, or ideographic, in the sense that it traces or sketches out in the air the 'paths' and directions' of the thought-pattern (Efron 1941). These categories may be further broken down into (a) deictic, referring by means of a sign to a visually present object (actual pointing), (b) physiographic, depicting either the form of a visual object or a spatial relationship (iconographic gesture), or that of a bodily action (kinetographic gesture), (c) symbolic or emblematic, representing either a visual or a logical object by means of a pictorial or a non-pictorial form which has no morphological relationship to the thing represented (Efron 1941, 96). Efron was followed by McNeill (1992), and more recently Armstrong (1999), in describing the components of gestural systems of communication. The debate continues as to whether gestures conform to the definition of 'language' or should be considered as a structured communication system unique in itself.

2.3.1 The Difference Between Gestures and Signed Language

McNeill (1992) argues that there is a clear difference between gestures and signed languages. Gestures do not convey meaning in the same way as a signed language or a spoken language that segments and delineates meaning. Gestures are instantaneous with the thought process while sentences composed of words have to be strung out in time. The process of segmentation and linearization to form a hierarchy are essential characteristics of all linguistic systems, including signed languages. According to McNeill, "gestures are different in every way. They are multidimensional and present meaning complexes without undergoing segmentation or linearization. Gestures are global and synthetic and never hierarchical" (McNeill 1992, 19). Gestures are closely

linked with speech but have characteristics of their own that are different from spoken language.

Armstrong (1999) argues that the differences between signed language and spoken language can be traced back to the differences in the capacities of the brain's methods of perceptions. "The human brain has a much greater sensory acuity in the visual medium making, and this makes possible the use in signed languages of icons to a degree not possible for spoken languages" (Armstrong 1999, 19). He agrees with McNeill that signed languages are lineal constructs, but believes they communicate many bits of information simultaneously, like gestures (Armstrong 1999).

2.3.2 *Structure of American Sign Language and Aboriginal Sign Languages*

Stokoe (1960; 1972) approached American Sign Language (ASL) as a semiotic system and worked out the three major characteristics he called First Articulation, Second Articulation and Syntax of ASL. The main units of meaning were termed *signs* and *gSigns* (gestural signs). He characterised them as *emic* units of ASL in contrast to the *etic* units of sign language which he defined as gestures. Using the linguistic model he defined the non-signifying differential units of gestural signs as *cheremes* (Stokoe 1972). In contrast to phonemes (units of meaning in spoken language), cheremes are not elements in a sequence, but signed simultaneously as components of a gestural sign. These elementary components are termed 1) *dez* (designator), the acting (handshape) configuration, 2) *sig* (signation), the performed movement, and 3) *tab* (tabula), the location of the action. Stokoe was able to identify fifty-five cheremes (12 tab, 19 dez, and 24 sig) and describe the ASL lexicon of about twenty-five hundred signs (Stokoe et al. 1965).

Klima and Bellugi (1979), have developed this system further using cheremic analysis to show distinctions in the features of hand shape such as ‘dual,’ ‘radical,’ ‘touch,’ and ‘cross.’ They demonstrate the relationship of time and space by the proximal positioning of the signing, ‘in front’(future), ‘beside’(present), and ‘behind’(past) the head (see Figure 2.1).

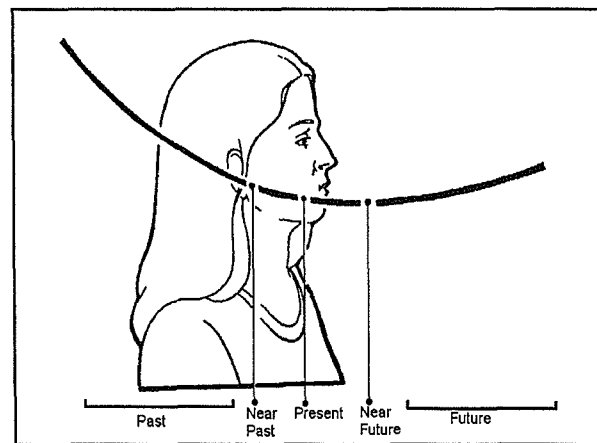


Figure 2.1 Proximal positioning of signing for future, present and past. From Klima and Bellugi 1979.

Australian Aboriginal and Plains Indian Sign Languages have been studied in detail and both differ from ASL in their communicative functions. Plains Indian sign language (PSL) has a higher degree of iconic and indexical motivation (Umiker-Sebeok and Sebeok 1978) and is a universal language because of its use to communicate between speakers of different languages (Mallery 1881). In contrast, Aboriginal sign languages are used for communication within a group, in circumstances when speech is not possible, as during hunting and in ceremonies when language taboo has to be observed (Kendon 1988). Sign languages of both the Plains Indians and Australian Aborigines are discussed further in Part III.

2.3.3 The Function of Gesture as Narrative

McNeill (1992) describes gestures as part of a narratological structure allowing them to embody specific information about the discourse structure. Figure 2.2 shows the different channels or modules of communication during a narrative, or performance (Armstrong 1975).

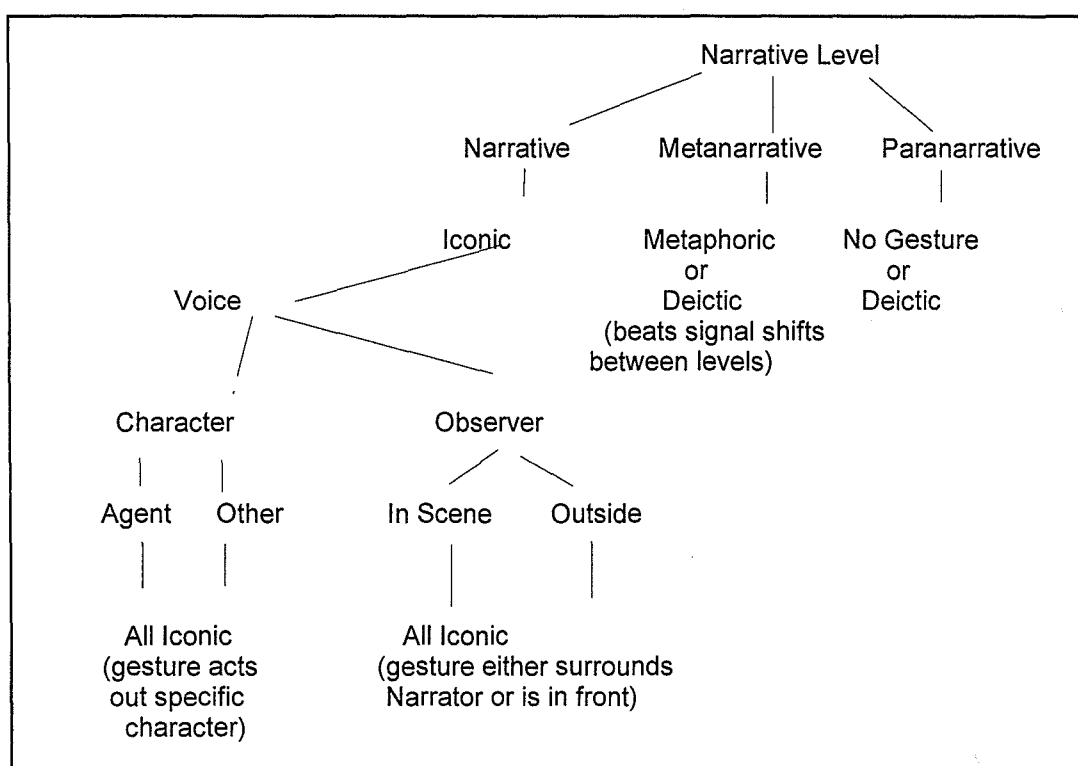


Figure 2.2 Narratological structure of gesture. Each branch leads to a specific type of gesture that is the gesture for that combination of narratological features according to McNeill (1992). It also diagrams the relationship of gesture in what Wilkins (2001) calls a multi-media performance.

McNeill gives a schematic illustration of how gesture and narration work in combination to produce what is considered human language. McNeill writes:

Gestures have relationships in storytelling, they mark various elements of story; that is, they participate in the depiction of action, person, space, and time (narrative events); and gestures participate in the articulation of the discourse (metanarrative and paranarrative events): that is, the role of gestures in narrative phenomena such as voice, perspective, order, etc., that take a given set of abstract story components and realise them in a particular way in a particular story (McNeill 1992, 189).

For the purposes of this thesis, I regard gestures as one channel of the multi-channelled phenomena of human language. Like Armstrong et al. (1995), Armstrong (1999) and Wilkins (2001), McNeill believes gestures and spoken language are parts of a single system. Language is more than just words because “images and speech are equal and simultaneously present in the process of the mind” (McNeill 1992, 2). He gives evidence from childhood development studies that speech and gesture develop in parallel, which demonstrates that they are both components of a single system (McNeill 1992). Gestural communication requires a different model for studying its structure and its relationship to other modes of language. The misconceptions around gesture have led linguists to study it in terms of spoken language “as a system for translating the hierarchically organised contents of the mind into linear strings of arbitrary symbols” (Armstrong 1999, 5). To correct this, McNeill has provided an understanding of gestural constructs in terms of ‘global and synthetic’ terms, rather than within the framework of linguistic analysis (McNeill 1992).

2.3.4 Gesture and Mental Imagery

Recent work by McNeill (1992) examines gesture in its revelation of the idiosyncratic imagery of thought and argues that gestures are an integral part of language as much as are words, phrases and sentences. He states that “Gestures are not just reflected thought but have impacts on thought and are what help to constitute thought. Gestures occur because they are part of the speaker’s ongoing thought process” (McNeill 1992, 245).

It has been suggested that gestures -- not words -- are the medium of thought. Not all people think in words. Mathematicians have stated that they think in other symbol systems. Einstein professed that:

The words or the language, as they are written or spoken, do not play any role in my mechanism of thought. The psychical entities which seem to serve as elements in thought are certain signs and more or less clear images which can be 'voluntarily' reproduced and combined. The above mentioned elements are, in my case, of visual and some of muscular type. Conventional words or other signs have to be sought for labouriously in a secondary stage, when the mentioned associative play is sufficiently established and can be reproduced at will (Einstein, quoted in Hadamard 1945, 142-143).

In trying to find the “inner voice” that transmits thought, Klima and Bellugi (1979) have interviewed deaf people who have never heard spoken words. They report that deaf people dream in signs and plan conversations in signs.

Armstrong argues that if gesture, instead of speech, was the basis of graphic communication we would have something like ideograms as writing.

This writing system would not evolve into an alphabetic system – in its latest stages, it might be something like the writing system of modern Chinese . . . (A)n ideographic (actually logographic) writing system has proved adequate to the needs of the Chinese, one of the world's most complex societies, through many centuries (Armstrong 1999, 76).

The value of ideographic writing is that it transcends different languages. China has many different language groups that make it difficult to use a phonetic writing system. A pictographic system reads in all languages.

Mallery (1972), Martineau (1973) and others have demonstrated that the same process occurred in pre-colonial North America in the presence of two hundred or more mutually unintelligible languages. The graphic communication system is pictographic and logographic rather than phonetic. Like Armstrong's suggestion, they argue that this writing system is based on gestures and Plains Indian Sign Language. Even linguists, as Armstrong points out, after forty years of their best efforts, “still use pictographs to

represent the (gesture) signs they discuss because of the extreme complexity of the sublexical structure of ASL (in four dimensions), reducing it to the two dimensions of phonetic writing may prove more troublesome than it's worth" (Armstrong 1999, 77).

2.3.5 Categories of Gesture

The following categories of gestures are used in coordination with speech. McNeill's (1992) classification of gestural categories is useful and is summarised below:

Iconic - a gesture that bears a close formal relationship to the semantic content of speech. Iconic gesture display in its form and manner of execution, aspects of the same scene that speech also presents.

Metaphoric - gestures are similar to iconics in that they present imagery, but present an image of an abstract concept, such as knowledge, language, itself, the genre of the narrative. More complex than iconics. A metaphoric gesture must depict two things, the Base which is the concrete entity or action that is actually presented in the gesture, and the Referent, which is the concept.

Deictic - gestures are pointing movements, which are prototypically performed with the pointing finger, although any object or body part can be used.

Beats - are defined as movements that do not present a discernible meaning, but can be recognised by their prototypical movement characteristics (McNeill 1992, 80).

Table 2.1 (McNeill 1992, 76) shows four gesture classification schemes that have been proposed. It compares McNeill (1992) with earlier versions from Efron (1941), Freedman and Hoffman (1967), and Ekman and Friesen (1969).

McNeill 1992	Efron 1941	Freedman and Hoffman 1967	Ekman and Friesen 1969
iconics	physiographics kinetographics	literal-reproductive	kinetographs pictographs
metaphorics	ideographics	concretization minor and major qualifying	ideographs underliners spatials
deictics	deictics		deictics
beats	batons	punctuating	batons rhythmics

Table 2.1 Gesture Classifications

Like Armstrong (1999) and Corballis (1999), McNeill believes that “speech and gesture are elements of a single integrated process of utterance formation in which there is a synthesis of opposite modes of thought - global-synthetic and instantaneous imagery with linear-segmented temporally extended verbalization. Utterances and thoughts realised in them are both imagery and language” (McNeill 1992, 33).

McNeill argues against considering gestures as something interpretable when captured in a photograph or drawing. Separated from the verbal dialogue they are meaningless. He believes gestures are schematic, while photographs are not. Gestures are structured by meaning while a photograph is not. “The meaning of a photograph is something we - the observers - bring to it whereas the meaning of a gesture is the foundation of its construction” (McNeill 1992, 34).

Is it possible, therefore, to do any more than identify possible gestures in prehistoric art, knowing it is without cultural context and accompanying verbal dialogue? I see problems with McNeill’s example of a photograph or drawing as the only representation of captured gestures. First, I believe talented photographers are aware of the absence of spoken language and compensate by capturing gestures that supply to the viewer the information missing from a vocal dialogue. Paintings of the Western European tradition are characteristic in employing gesture in their human (and animal) figures that communicate meaning beyond the necessity for a title or supplied story. Silent movies of the 1920s and 1930s were brilliant at conveying a story with minimal textual dialogue. The humour of Charlie Chaplin and the famous mime artist, Marcel Marceau are prime examples of gestural communication without speech. Mental images can be created and ‘meanings’ communicated without the accompaniment of text or verbal dialogue.

2.4 Kinesics

Studies in nonverbal communication, especially gesture, stimulated the need to understand the underlying structure in more detail. Birdwhistell devised the term *kinesics*, that he defined as the “systematic study of those patterned and learned aspects of body motion which can be demonstrated to have communicative value” (Birdwhistell 1963, 125). He used ‘*kinemes*’ as a term representing units of motion, to analyse the components of human postures and gestures. He believed there was a ‘language’ of movement comparable to spoken language, both in its structure and in its contribution to a systematically ordered *communicative system* (Birdwhistell 1972). Drawing upon the linguistic model, kinesic studies have distinguished ‘gesture’ as a *bound morph* (a stem form) and treated the position and activity of gestures as such forms. He writes:

These [units], analyzed, abstracted, and combined in the full body behavioral stream, prove to form complex kinemorphs which may be analogically related to words. Finally, these are combined by syntactic arrangements, still only partially understood, into extended linked behavioral organizations, the complex kinemorphic constructions, which have many of the properties of the spoken syntactic sentence. Only extensive further research is going to give us full understanding of the formal structuring of kinesics (Birdwhistell 1970, 101).

The *kinemorphology* describes gestures in terms of *kines* and *kinemes*. Although kinesic forms resemble linguistic models on some levels, the potentials of body activity and sequences of body motion to communicate are infinite. Kinesic analysis has identified significance and semantic structure that differ from a true linguistic model. According to Birdwhistell “body motion is a learned form of communication, which is patterned within a culture and which can be broken down into an ordered system of isolateable elements” (Birdwhistell 1970, xi). He identified thirty-two kinemes in the face and head area alone. His identification of single units of motion is the basis on which I built the Kinemorphic Matrix (Table 3.1) for my methodology.

2.5 Posture

Posture is the most rudimentary form of nonverbal communication. Key defines posture as “the manner in which the body is held or the arrangement of different parts of the body at the time of the communication item” (Key 1975, 27). Hominization, the erect posture and frontal orientation, is the origin for our categories of direction: up and down; left and right; in front and behind; over and under; beside and around; etc. Our concepts of space come from our eye level view of everything above a fixed ground. It is what Armstrong, Stoke and Wilcox (1995) call ‘language from the body politic.’ In their analysis language is derived from cognitive models of the body and its interaction with the environment. On a very basic level, the experience of the body is used as a reference for all human experiences.

2.5.1 *Posture from a Western Perspective*

Argyle (1975) states that there are three main human postures: standing; sitting, squatting or kneeling; and lying. Each of these has further variations corresponding to different positions of the arms and legs and different angles of the body. Some are used only in particular cultures. Posture is an important means of conveying interpersonal attitudes. Postures are associated with emotional states, either through direct physiological effects of emotions, or for symbolic reasons. Posture accompanies speech, in a way similar to that of gesture, though it is more slow-moving. There are powerful social conventions about posture, such as which postures are proper or what is appropriate in particular situations (Argyle 1975). The following stick figure illustrations (Figure 2.3), are examples of the postures and gestures interpreted as emotions and attitudes by western cultures, according to Sarbin and Hardyk (1953).

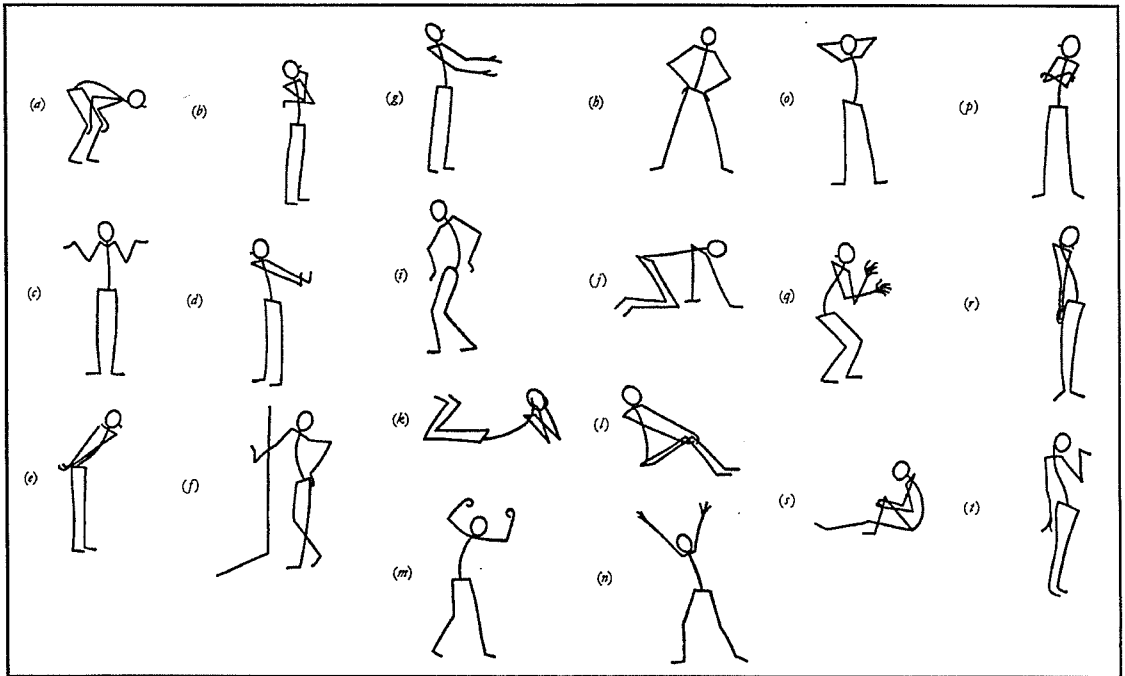


Figure 2.3 Postures interpreted as : *a* curious, *b* puzzled, *c* indifferent, *d* rejecting, *e* watching, *f* self-satisfied, *g* welcoming, *h* determined, *i* stealthy, *j* searching, *k* watching, *l* attentive, *m* violent anger, *n* excited, *o* stretching, *p* surprised, dominating, suspicious, *q* sneaking, *r* shy, *s* thinking, *t* affected, (gay). (illustrations from Sarbin and Hardyk, 1953 reproduced in Argyle 1975, 273).

Figure 2.3 illustrates postures that are easily identified by people of Western European cultures, and figure *t* is a clue to the era in which terms like ‘affected’ were used. The generation of the 21st century probably would not identify some of these postures in the same manner. But the dynamism of gestures in conveying meaning, whatever it is, remains unchanged through time.

2.5.2 Cross Cultural Studies of Posture

Early studies of postural habits of different cultural groups include those carried out by Mauss (1935), Bailey (1942), and Mead and Macgregor (1951). Kroeber claimed that posture “is one of the most interesting matters in the whole range of customs” (Kroeber 1925, 728). Hewes (1955) compiled a cross-cultural analysis of body posture in his *World Distribution of Certain Postural Habits*. Saitz and Cervenka (1962) followed

with *Colombian and North American Gestures: A Contrastive Inventory*. But it was Hewes who found the ethnographic record so deplete on postural information that he carried out his own research from published photographs. He surveyed 480 different cultures and found that thirty-four of these cultures were extinct or known only from archaeological data consisting of figurines, carvings, or paintings (Hewes 1955). Hewes found that culturally specific postures could be identified. One, for example, is the *nilotic* one-legged resting stance. Hewes writes:

The 'classic' Nilotenstellung occurs not only among the Shilluk and their neighbors in the southern Sudan, but in Nigeria (Elkin and Fagg 1953), Iran (Singer and Baldrige 1936), India (Koppers 1944), Ceylon (Buschan 1923), Australia (Elkin and Fagg 1953), in South America among the Nambicuara and Yecuana (Steward 1948), and, if we can accept the California element survey data, rather widely in the American Southwest (Gifford 1940; Steward 1948)...All instances of this stance seem to be represented by males. Aside from the Nilotic Sudan, where this posture is known to be assumed by cattle herders, we have little information on its cultural functions. Gifford notes that men of the Walpi pueblo at Hopi rest this way in the fields while hoeing (Hewes 1955, 236-37).

Although Hewes's research is limited, and has been expanded upon by more recent studies, I find one figure of interest in the second line of figures, (no. 23-25) that he calls the "nilotic" stance. (See Figure 2.4 Cross Cultural Postures). It has been singled out by Bill Harney Jr., Aboriginal guide in Katherine, Northern Territory, Australia as the stance for "guarding" or "watching" (Harney 1999 pers comm.). I was also told by Harney that this stance is signified by a single foot print that appears in an engraved rock art panel at Ingaladdii, Victoria River region. This panel has several human foot prints and a ship thought to represent a vessel on the Victoria River in the second half of the nineteenth century (Flood 1977), and so could be of ethnohistoric significance. More research is needed to understand in what context a single foot print signifies this stance, and what other meanings it may signify.

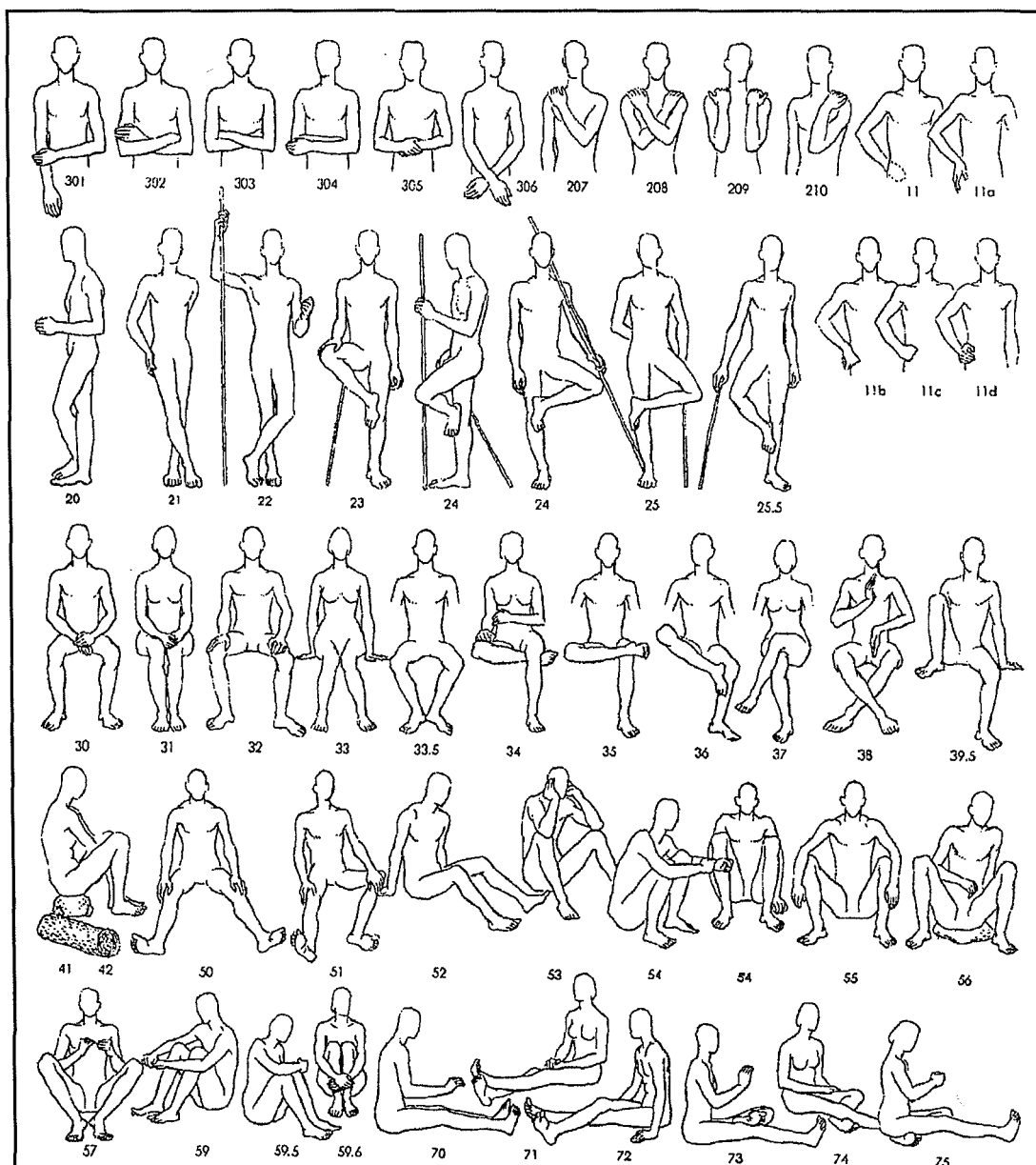


Figure 2.4 Cross Cultural Postures, number 23 - 25 showing the nilotic one-legged resting stance. (From Hewes 1957)

Although some of Hewes' data sources are problematic, if nothing else, he has drawn attention to the variations of posture cross culturally and pointed out that some postures are culturally specific. Argyle's illustrations of posture identify states of emotion and communicate moods and attitudes. Along with the postures and gestures discussed so far, another aspect of nonverbal communication must be considered: the way humans use space (proxemics) as a communication system.

2.6 Proxemics

The term ‘proxemics,’² as defined by Hall (1979), is the study of people’s perception and use of space. It pertains to the complex behavioural activities associated with what is known to ethologists as *territoriality*. It deals primarily with unconscious (out-of-awareness) distance-setting or spatial boundaries. Hall bases much of his work on that of Sapir (1927) and Whorf (1956).

Proxemics is the study of how humans use space and distance in day-to-day interactions. People of different cultures not only structure their spaces differently, but experience them differently. This influences the spatial experiences of the individual. For example, some people perceive ‘crowding’ while others do not. There are no universal constants in human proxemic behaviour (Hall 1979).

The development of proxemic studies really began with ethologists like Hediger (1950; 1955; 1961) who studied how people interact with other organisms. He believed that humans found it necessary to understand every aspect of game animal communication in order to survive. Hall credits Hediger as one of the first to systematically describe the various distances employed by birds and animals and to introduce the concept of individual space (Hall 1979). Hall designed a research technique to study proxemics with different cultures without being culturally subjective. He writes:

It is possible to learn a good deal about how members of a given culture structure their space at various levels of abstraction by setting up simple situations in which they manipulate objects. I used coins and pencils and asked my subjects to

²Hall writes: In the course of the development of proxemics, the work was spoken of as “social space as bio-communication,” and “micro-space in interpersonal encounters.” ...I decided to invent a new term that would indicate, in general, what the field was about. Among the terms I considered were human topology, chaology, the study of empty space, oriology, the study of boundaries, chorology, the study of organised space. I finally chose ‘proxemics’ as the most suitable for that audience likely to encounter the topic in the near future (1979, 307).

arrange them so that they were 'close' and 'far apart' and 'side by side,' and 'next to each other' and then tell me whether two objects were 'together' or not. Arab subjects were unable or unwilling to make a judgement as to whether two objects were close together or not if the surrounding area was not specified. In other words, Arabs saw the objects in a context. Americans saw the objects only in relation to each other (Hall 1979, 299).

For American culture, Hall identified four proxemic dimensions, each with a close and a far phase (Hall 1966).³ The measurement of Hall's spatial categories is based on the length of the human arm and its ability to hold or strike and the stride of the human legs to flee or defend. These physical limitations create the spatial definitions. (I have retained the imperial measurements of Hall). Hall's distances for humans can be summarised as:

1) **Intimate Distance** ranges from zero to six inches at the close phase and six to eighteen inches in the far phase. This area is reserved for physical involvement, and sensory inputs. The close phase can include wrestling and love-making, comfort and protection. The far phase includes interfamilial interactions. The arms can easily reach around and hold another person.

2) **Personal Distance** ranges from one and a half to two and a half feet at the close phase. This space is defined kinesthetically by what each participant can do to the other

³Hall (1996, 14) writes that his choice of terms to describe various distances was deliberate. "Not only was it influenced by Hediger's work with animals indicating the continuity between *infraculture* and culture but also by a desire to provide a clue as to the types of activities and relationships associated with each distance, thereby linking them in peoples' minds with specific inventories of relationships and activities

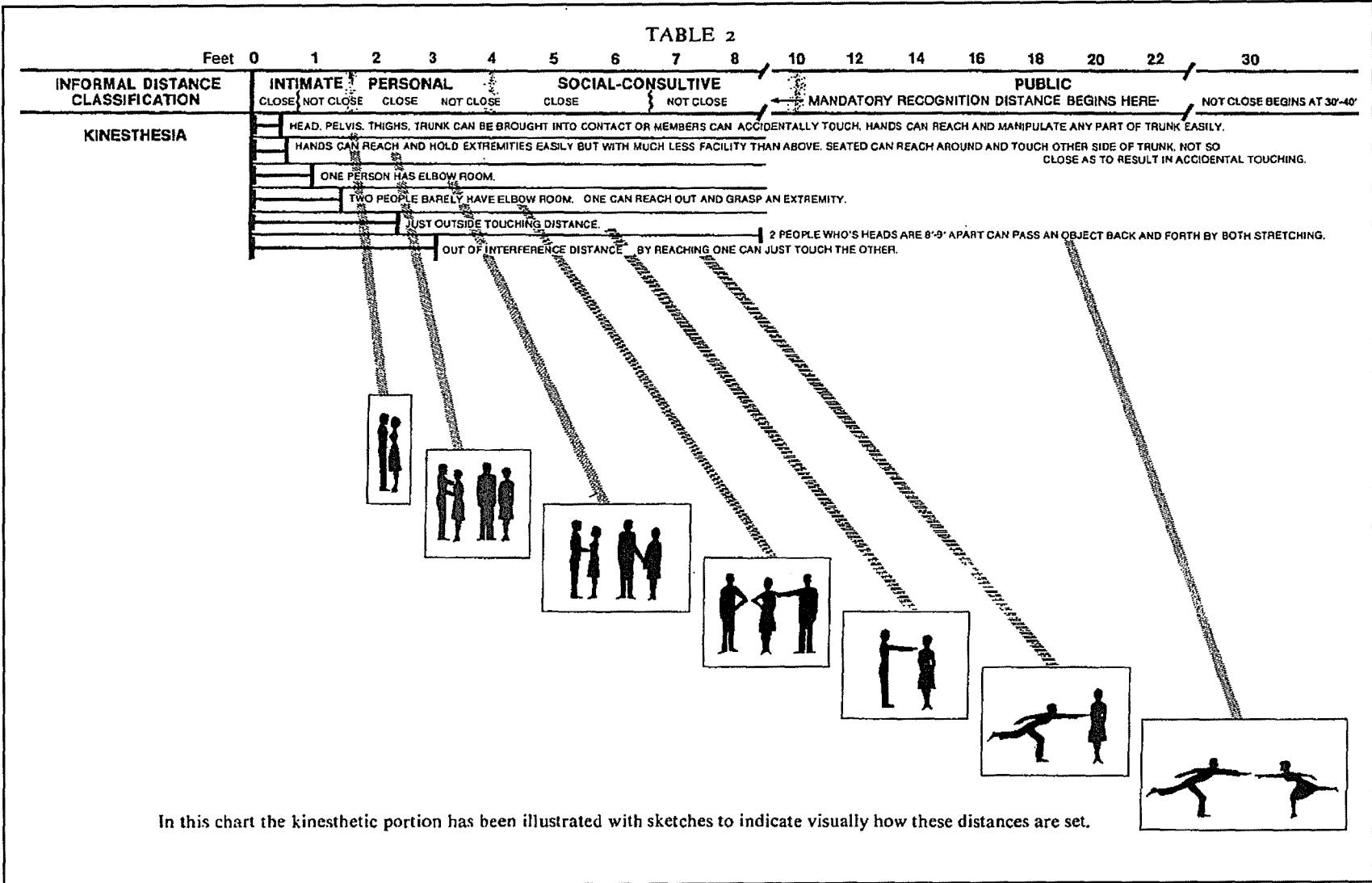
with his/her extremities. "At this distance, one can hold or grasp the other person . . . Where people stand in relation to each other signals their relationship, or how they feel toward each other, or both. A wife can stay inside the circle of her husband's close personal zone with impunity. For another woman to do so is an entirely different story," (Hall 1966, 120).

The far phase is a distance of two and a half to four feet. This is "keeping someone at arms length." It extends from a point that is just outside easy touching distance by one person to a point where two people can touch fingers if they both extend arms. This is the limit of physical domination in the very real sense. Beyond it, a person cannot easily "get their hands on" someone else. Subjects of personal interest and involvement can be discussed at this distance. All the details of the other person's features are clearly visible (Hall 1966, 120).

3) **Social Distance** The close phase is a distance of four to seven feet. Impersonal business occurs at this distance, and in the close phase there is more involvement than in the far phase. "People who work together tend to use close social distance. It is a common distance for people who are attending a casual social gathering. To stand and look down at a person at this distance has a domineering effect, as when a man talks to his secretary or receptionist," (Hall 1966, 121).

The far phase is a distance of seven to twelve feet. This is the distance to which people move when someone says, "Stand away so I can look at you." Business and social discourse conducted at the far end of social distance has a more formal character than if it occurs inside the close phase.... At the far phase of social distance, the finest details of the face, such as the capillaries in the eyes are lost"(Hall 1966, 122).

4) **Public Distance** is generally used to address an informal group at the close phase (12 to 25 feet), and the far phase, ranging from more than 25 feet, is used when addressing a formal gathering. This distance is also used between the public and an important official. Hall strongly emphasised the variables that exist with proxemic behavioural studies. People's behaviour is influenced by the way they feel, as well as other emotional, cultural and socio-economic factors. There is no known universal distance-setting mechanism. Each cultural group sets distance in its own way. Figure 2.5, Hall's Proxemic Chart, illustrates proxemic space in American culture.



In this chart the kinesthetic portion has been illustrated with sketches to indicate visually how these distances are set.

Figure 2.5 Hall's Proxemic Chart (From Hall 1966).

2.7 Discussion

While there is no known universal distance-setting mechanism, each cultural group sets distance in its own way. The question for this thesis, is whether the images from the sample sites display, in a consistent manner, culturally determined spatial boundaries? And if so, should they be considered as part of the analytical process? Part of the answer lies with the striking range of a person's arm that seems to be an important radius with which to determine *personal* space. I would argue that any objects or people portrayed within that radius are part of a relationship that defines *intimate* and *private* space. In contrast, social relationships with others define whether the space outside the arm's reach is safe or threatening. Hall (1966) agrees that definitions of *personal* and *social space* boundaries are cultural determined. How this may be depicted in rock art needs more research and is not within the scope of this thesis. It certainly is an open field for further investigation.

In summary, this discussion leads to the problem of how to analyse prehistoric visual art that is devoid of cultural context or an explanatory ethnographic voice in most cases. The theories provided thus far address nonverbal modes of communication, that of gesture, posture and proxemic relationships. The terms provided for each channel of communication apply generally to living and moving subjects. How do we observe and describe pictures of these communication systems? How can we deconstruct densely packed visual information that is coded in gesture, posture and proxemic arrangements? What nomenclatures exist that describe these three interlocking phenomena?

2.8 Gesture, Posture and Proxemics in Visual Art

Studies of gesture in historical paintings include those of the symbolic, iconic and indexical nature by Siger (1968) and Garnier (1982) in respect of medieval iconography. Gestural emblems are discussed by Bates (1975). *The Cultural History of Gesture; from Antiquity to the Present Day* (Bremmer and Roodenburg 1991) further examines gestures in visual art of the Western world. Spicer (1991), for example, discusses the 'Renaissance Elbow' a purposeful gesture that projects male boldness and the self defined masculine role in Western Europe from 1500 to the 1650s. He claims that the portraits of male military figures with their arms akimbo are associated with manly virtues.

In such pictures it was customary for the subject to have one hand on the hip and the other hand balanced on a sword, rapier or baton. This gesture was not seen as being appropriate for women of middle class and good standing. In family portraits, the husband was placed on the right of the wife, with the right elbow thrust toward the viewer and the left hand on the shoulder of the woman (Spicer 1991); see Figure 2.6.

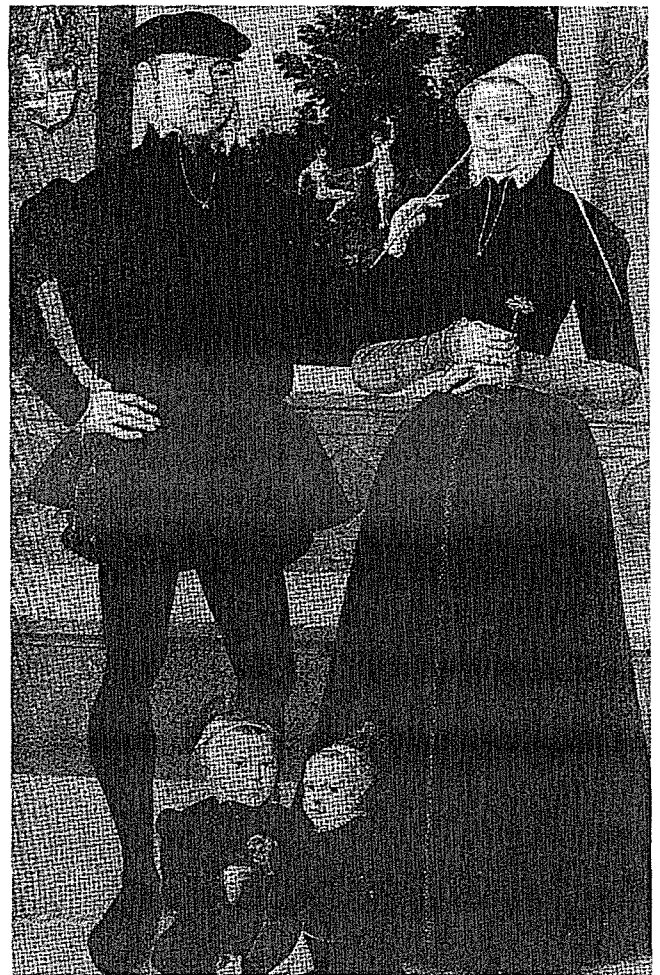


Figure 2.6 Family Group, 1559 from a northern Netherlands painter. (From Spicer 1991).

Other studies include discussions of gesture and rank in Roman art (Brilliant 1963), Byzantine depictions of eloquence through gesture (Maguire 1981), and the significance of gesture in the paintings of Hieronymus Bosch (Baaren 1990). Barasch (1987) has made an important contribution with his study of Giotto and the language of gesture.

Though there are many references to cite on European gestures portrayed in art, the gesture of 'arms akimbo' is one that has been used by both Australian Aborigines and Native Americans to depict 'white men' or European cultures. (See 'post contact art' in Flood 1997, and Martineau 1973.)

2.9 Gesture in Rock Art

A review of the literature shows very little research carried out around the world that addresses body language or the significance of gestures and postures in rock paintings and engravings. Wright (1985) observed variant hand motifs from central western Queensland and questions whether they represent mutilation practices or depict sign language gestures that illustrate totemic faunal species. His study is limited to hand motifs and does not consider other forms of body language. A few researchers have interpreted rock images using gesture and posture as a reference to their interpretation. Malaiya (1988) is more inclusive in her comparison of what are interpreted as dance scenes in the rock paintings of central India with examples of ethnographic analogies from tribal groups in India. The body gestures, postures and spatial positioning support Malaiya's argument that the paintings do depict dance. Fushun (1991) describes a major site of rock paintings in the southern-most region of Huashan, Guangxi Province, China, analyses their iconographic conventions and suggests meanings based upon the gestures of anthropomorphic figures. Novellino (1999) explores the Pālaqwan rock drawings of

the Philippines, using indigenous explanations and descriptions. Novellino interprets much of the rock art as a narrative of mythology that is communicated through cultural conventions of gesture and posture in the paintings. Tilley (1999) claims that the carvings at Högsbyn are “a narrative about becoming human” and uses gesture and body posture to support his theory.

2.9.1 *Gestures in North American Rock Art*

In North America, the independent works by Martineau (1973; 1981) and Rajnovich (1993) refer to gestures as the key to interpreting rock paintings and engravings. Their predecessors were scholars including Schoolcraft (1853), Mallery (1881; 1893), Seton (1918) and Tomkins (1948), who compiled extensive data on North American Indian pictography specifically to identify gestures portrayed in rock art. For example, Mallery claims:

The reproduction of apparent gesture lines in the pictographs made by our Indians has, for obvious reasons, been most frequent in the attempt to convey those subjective ideas which were beyond the range of an artistic skill limited to direct representations of objects, so that the part of the pictographs which still is the most difficult of interpretation is precisely the one which the study of sign language is likely to elucidate (1881, 370).

Later he writes:

Many pictographs are noted in connection with the gesture signs corresponding with the same idea (1893 II, 637).

The work of John Maclean on the Canadian Indian tribes includes the observation that:

It [sign language] has been systematized among some tribes into pictographs, which comprise a native system of hieroglyphs. These pictographs are the visible representation of the gestures. They are found painted on the face of cliffs in some of the strangest places, seldom visited by the white man... Human figures are drawn in the attitude of making gestures.. (Maclean 1896, 45).

A small handbook on Indian sign language for Boy Scouts (Tomkins 1948), contains several pages of symbols from painted hides and engraved rocks. A section of the book provides charts illustrating the sign language gesture and the equivalent graphic depiction or 'pictograph' of that gesture. Tomkins writes:

The attentions and investigations of the author have been for a long time devoted to pictography and to sign language, two studies so closely connected that neither can be successfully pursued to the exclusion of the other (1948, 74).

Based on the work of Mallery (1881; 1886; 1893) and Tomkins (1948), Martineau published *The Rocks Begin to Speak* (1973), addressing mostly historical rock art panels in North America, and shows links between sign language gestures depicted by the anthropomorphs and ethno-historic documentation. In 1981, with the help of B.K. Swartz, he co-authored *The Use of Indian Gesture Language for the Interpretation of North American Petroglyphs: a trial analysis*. This systematic structural analysis combining the methods of cryptanalysis and ethnographic analogy is the model I use for the third component of a triangulated methodology discussed in Chapter 3.

Martineau's work focuses on petroglyph panels that have been interpreted from information derived from interviews with tribal members and historical documentation of the events believed to be depicted in the panels. Martineau spent most of his life learning different Indian languages, speaking with elders of many tribes in their own language and studying Indian Sign Language. He communicated in signs with elders in Canada, Alaska, throughout North America and into Mexico. He found little variation among tribes with only specific signs like land forms or names of rivers difficult to interpret. His experience led him to believe that Indian Sign Language was a universal sign system that all Native people in North America could understand, with only a few signs that

were specific to each tribe. The work of La Mont West (1960), concluded that American Indian Sign Language was composed of iconic and lexical signs, of which 90% (mostly indexical) were understood or shared across cultural boundaries, while 10% (mostly iconic) were culturally specific.

Following Martineau's direction of research with the Ute, Paiute, and Shoshone, I investigated the Pueblo myths and petroglyphs found in the Rio Grande Valley, New Mexico. My research compared the existing sign language of the Pueblo people with the symbols and gestures of anthropomorphic figures depicted in the rock engravings near Cochiti Pueblo, New Mexico (Patterson-Rudolph 1988; 1993). The Pueblo elders I worked with were versed in sign language and the iconography associated with their creation myths. My research then turned to older, prehistoric rock images located in the Four Corners area of the Southwest that was abandoned by Pueblo people around A.D. 1300. Many of the previously identified iconography associated with Hopi, Navaho and Keresan mythology was present in this study area. In this study, I published several charts illustrating rock art symbols that have sign language gesture equivalents (Patterson-Rudolph 1997).

2.9.2 Gestural studies in the rock art of Hawai'i

The main studies of Hawaiian rock art are those of Cox and Stasack (1970) and Lee and Stasack (1999). Lee and Stasack (1999) did a formal analysis of body types and arm positions of the anthropomorphic figures but did not suggest semantic intent in the gestural depictions. Their studies of Hawaiian rock art did not address the significance of gesture in the images, nor was there any mention of anthropomorphic figures

associated with the gestural hula dance. For my purposes, Hawai'i, therefore, was a good candidate for testing a new methodology for investigating possible meanings in the gestures of anthropomorphic figures in the petroglyphs.

2.9.3 *Gestural Studies in Australian Rock Art*

A review of the literature of Australian rock art shows very little attention to gestures of the anthropomorphic figures. Welsh (1993) describes the earliest surviving paintings of anthropomorphs in the Kimberley region of Western Australia and divides the figures up into two tentative groups: 'bent knee' figures and 'tasselled' figures. Another significant study by Welsh, '*Fight or Dance?*' (1997), applies an analysis of gesture, posture and proximal arrangements to argue that groupings of anthropomorphic figures are portraying dance or ceremony rather than depicting a fight or battle scene. Lewis' (1988) study of the styles and chronologies of rock paintings of Arnhem Land, is mainly concerned with depictions of material artifacts such as dilly bags, hooked sticks, spears and boomerangs but notes some gestures and relationships of figures. 'Family' arrangements (see figure 2.7) were noted by Brandl (1973).

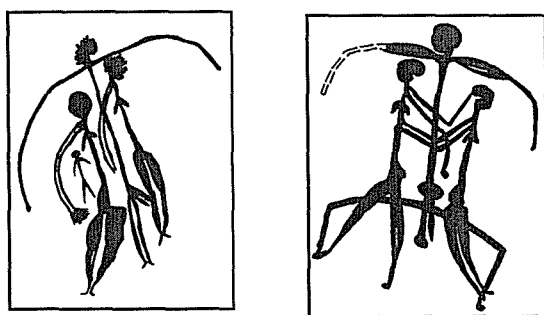


Figure 2.7 Two 'family arrangements' (from Brandl 1973, 50).

Chaloupka (1993), discussing human figures in Arnhem Land writes that different body gestures and poses are suggestive of different themes, but he does not conduct a formal analysis of each body position or gesture. He notes that body postures are an identifying

factor when sorcery images are discussed.

Sorcery images were painted primarily during the first contact era when foreign diseases were introduced and decimated hundreds of people. The sorcery paintings depicted humans with deformed and twisted bodies, lumps and swellings or long tenuous or claw-like fingers and grossly distorted sexual organs. . . . Sorcery images were compact and complex compositions with the violently contorted, grotesque bodies often having animal heads, the artist's imagination had no limits. And the list of implied deformities found in the art is endless (Chaloupka 1993, 208).

Chaloupka identifies the 'arm akimbo' gesture as one that portrays confidence and authority (Chaloupka 1993); see for example, Figure 2.8, a depiction of a 'confident woman.' The painting is from the historical period and depicts Maudie Maralginigini standing with her hands on her hips – the position of authority – between two smaller images of men, one of whom, like she, is smoking a pipe. The male figures are also shown in the powerful hands at hips position, and may represent buffalo shooter Fred Smith and another European. It is interesting that a European gesture, discussed previously, has been depicted by an Aboriginal group in Australia to characterise not

only Europeans but a person of their own group who has adopted European mannerisms.

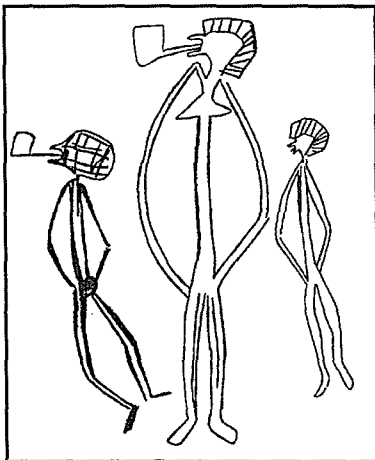


Figure 2.8 Arms akimbo gesturing confidence and authority. Locations: Ubirr site complex. Maudie 35 cm. (From Chaloupka 1993, 220).

Authors who have specifically addressed anthropomorphs in Australian rock art include Officer (1993), Gunn (1990) and Cole (1988, 1998). Cole (1988) did an extensive

survey of anthropomorphic figures in Laura documenting arm and leg positions in her data base, but did not address any possible semantic content of these gestures. Formal studies of gesture and possible relationships to Australian rock art have never been done. But Trezise (1971) makes one reference to the gesture that indicates ‘policeman’, and its representation in a rock painting by the line across the forehead of the figure. (See figure 2.9a and b).

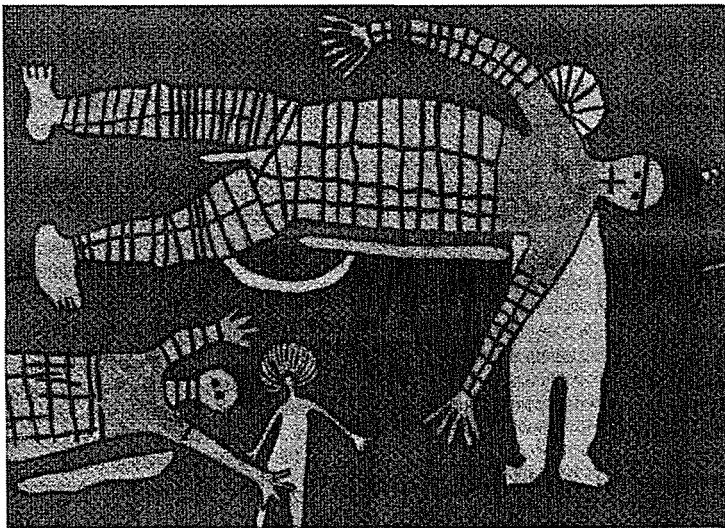


Figure 2.9a. A painting of the



b. Police gesture (from Roth

Crocodile Gallery site by Trezise (1971) depicting European policemen. Figure 2.9b is the gesture sign for ‘policeman’.

Trezise writes:

At the Crocodile Gallery Site there are painted two large European men, (horizontal orientation) with hats on top of their heads. Their upper chests and arms have been painted with a charcoal-clay mix to represent shirts. Caesar Le Choo identified these two figures as native policemen, the half oval on top of the head represents the peaked cap of the early police uniform. Willy Long made the sign language gesture for policeman, a slightly cupped hand above the eyes, followed by a gesture meaning to run away quickly (Trezise 1971,19).

Roth (1908b) recorded gestures and sign language in his studies of Aboriginal groups in Cape York Peninsula. The gesture for Government Tracker or Policeman (Figure 2.9b) that comes from two idea-grams; the peaked cap and the military salute (Roth 1908b). The “salute” gesture appears in the painting as a straight line across the forehead of the figure’s face, Figure 2.9a.

2.10 Semiotics and a Structural Analysis

Ferdinand de Saussure, considered the father of semiotic theory, defined semiotics as ‘the life of signs in society’ (Saussure 1916). Semiotic studies have built a foundation on which to understand non-verbal communication systems including visual displays. In the words of de Saussure (1916), semiotics is the “science of signs,” an arena with which to conduct an investigation of sign systems and formulate theories about function and form.

2.10.1 Semiotics of Non-verbal Systems

Koch (1983) claims that all semiotic structures are defined by their functions in text, system, and communication, and functions can only be described as relations between structures. In semiotic systems both form and functions are identified. In theory, a semiotic system functions so long as its elements and structures remain distinctly different from each other. The semiotic principle which guarantees this functional differentiation is called the principle of *pertinence* (or *relevance*) (Nöth 1990). It was first established in linguistics and later applied to the study of nonlinguistic systems. Prieto extends the principle of pertinence to the study of nonlinguistic codes (Prieto 1966; 1975b), such as they apply to traffic signs. He differentiates structural levels of both expression (signifier) and of content (signified). The principle of pertinence has been applied to the search for emic structures in a variety of semiotic codes, a problem that is ever present in rock engravings and paintings. The content of the signified may never be known. Often times it is ‘assumed’ based upon one’s own cultural perspective.

Examples of this principle can be found in the spiral motif shown here.

Olsen (1989) identifies this symbol found in Zuni rock art, as a clockwise



spiral. Martineau (1972) labels it as a 'descending inwards' spiral. Olsen is of a Judeo-Christian background and the genesis doctrine "go forth and prosper". It is my guess that her cultural background influences her assumption of the content. Martineau, on the other hand, bases his interpretation on Zuni, Hopi, and Keresan genesis doctrines of "finding the centre place". Thus, his cultural background influences his assumption that the spiral turns inward. While teaching cultural anthropology, over a period of 4 years, I conducted a test with all of my students by presenting this symbol and asked if they 'assumed' it turned clockwise 'outward' or counter-clockwise, 'inward'. I have found their answer to be based largely on their cultural background that reflected either an Eastern philosophy (inward) or Judeo-Christian orientation (outward). This example illustrates the 'principle of pertinence' or relevance and is important to keep in mind as a *caution* when applying labels to any prehistoric motifs.

2.10.2 Structuralism and a Semiotic Approach

Structure determines the interpretation of constitutive elements within a system, but at the same time the elements become meaningful only within the whole and the whole is only significant by virtue of its parts. Applying a structural analysis to a visual communication system implies that the communication system can be identified as a sign system. This is hermeneutic circling yet it is classic structuralism - individual units of any system have meaning only by virtue of their relation to one another. Structuralism looks for patterns in the relationships of semiotic units such as dualism, frequency counts and other repetitive elements within the semiotic constructs. A structural analysis can be applied to a system of signs to determine patterns of binary relationships. These relationships are viewed by some as a universal language and thought to be the common

thread found in all human communication and symbol systems. An example might be the neuropsychological model of Lewis-Williams (1981). Even though there are problems with these models, it is not the fault of the structuralist approach, but more with the interpretation of the data (Conkey 2001).

Structuralism is not concerned with meaning. Instead, it focuses on finding the embedded structure of the existing patterns and relationships as well as the manner in which meaning may be conveyed. Structural analysis can, therefore, be applied to symbolic systems where the cultural context has been lost or is no longer accessible. It is for this reason that a structural analysis is a useful tool for the study of prehistoric art.

2.10.3 Structuralism Applied to Rock Art

Structuralism as it was applied in anthropology, originated in the 1960s with the work of Levi-Strauss (1962; 1963; 1964; 1969; 1982). Leroi-Gourhan (1965) was probably the first to apply structural analysis to palaeolithic cave art. His intent was to find the internal ordering of images and his terminology came from linguistic analysis. Conkey warns that Leroi-Gourhan (1965) is criticised for creating categories, such as sexual dualism, that may exist in his own mental constructs rather than being a universal theme (Conkey 2001).

Vinnicombe (1959; 1976) and Lewis-Williams (1972; 1974) applied structural and semiotic analysis to the rock art in southern Africa and attempted to get beyond just the literal identification of motifs and into the metaphoric by the use of ethnographic analogies. Other studies have followed, including Munn's study of Walbiri iconography

(1966; 1973a). A semi structuralist approach applied to Aboriginal rock paintings at Laura by Cole (1998) conceded that “Although we are not likely to retrieve the semantic content from Laura rock art, we may safely infer the existence of a system of consciously and unconsciously encoded knowledge, with complex levels of esoteric meaning but potentially decipherable cultural and contextual meaning and functions” (Cole 1998, 31).

2.10.4 *Structural Analysis of a North American Rock Art Panel*

In 1981, Martineau, Swartz and Houck developed what they titled a “Trial Analysis” for the interpretation of North American petroglyphs based on the use of Indian gesture language (Martineau, Swartz and Houck 1981). The analysis applied the principles of cryptanalysis to investigate the depiction of gestures in petroglyph figures of the ‘Escalante’ panel, Washington County, Utah. Martineau was asked to interpret each graphic element using his method based on symbol frequency lists, topic elimination, affinity checks and tests, deduction and induction. Martineau’s own training in cryptanalysis helped him to develop this method and reduce the amount of guesswork. It tests the accuracy of any remaining guesses through consistency evaluations (Martineau 1973).

In theory, the structural analysis by Martineau, Swartz and Houck (1981) interprets graphic signs from within the Paiute Indian cultural context. To Martineau, the graphic elements are semiotic units with known content. Therefore, the term *symbol* is appropriate. Swartz argues in favour of the term *sign* instead of *symbol*, “because the marking may not be symbolic but a general abstraction” (1981). I applied this structural analysis model to a Pueblo Indian petroglyph, and to avoid the argument of ‘sign’ or

'symbol', used new terms *moneme* and *grapho-morpheme*, borrowed from the linguistic model (Patterson-Rudolph 1995). But problems occur with equating graphic signs to linguistic content. For the structural analysis that follows, I have chosen to use the term *grapheme* in reference to any graphic element.

The petroglyph panels used for these analyse have *density*, a term that describes the complexity of graphic elements that gain semantic content from their corporate and proxemic arrangements. Sonesson warns "that *density* means that no matter how careful a division we have made of a picture into units, it is always possible to proceed, introducing a third unit between each of the earlier pairs, and so on indefinitely" (Sonesson 1994, 293). Therefore, the divisions used here are analytical units that may or may not have been recognized by those responsible for the rock art or its consumption.

The combination of ethnographic data, grapheme frequency counts and context along with induction and deduction contribute together in this analysis. The process is arduous and requires systematic rigour. This exercise forces a close examination of juxtapositions, relationships, frequency and affinities that might otherwise be overlooked. Combined with the ethnographic literature, this structural analysis produces a deeper understanding of the semantic intent than has been produced by previous attempts of documentation elsewhere in the literature.

2.11 Conclusion

The two study areas of Hawai'i and the Laura region of Australia are rich with

anthropomorphic figures depicted in a variety of postures and displaying gestures that have never been examined in terms of their possible semantic intent. It has been shown that gesture is an integral part of all human communication and language. Depictions of gestures in anthropomorphic figures are therefore more likely to be purposeful than random, because of the encoded meaning they potentially contain. There have been serious studies conducted on gestures that accompany spoken language, and research as to the cultural associations with gestures in Western European art. But other than the work in North American rock art, there has been no structured and rigorous attempt to investigate the gestures depicted in prehistoric art in other parts of the world. There is a gap in the literature concerning these issues. I believe that the methodology described in the next chapter provides a means for identifying whether anthropomorphic figures in rock art are purposefully structured so as to convey meaning(s), and what the essential elements of such structures of meanings may be.

Chapter 3 Methodology

3.1 Introduction

The methodology in this thesis called upon three procedures. The first was the collection of data through direct observation of a sample of anthropomorphic figures. Data was collected by the sampling of selected sites. Attributes of all the anthropomorphic figures were recorded in a systematic way using colour photography. Each rock art panel was carefully photographed by positioning the camera back parallel to the painted or engraved surface to avoid any distortion. Multiple shots were taken at an equal distance from the panel, moving from one end to the other, to document all extremities of a complicated panel. Careful drawings were made in the field to record detailed observations that may not show up in the photographs. This proved to be critical in later analysis of specific hand gestures. The photographic images were digitized and through the manipulation of Photoshop, graphic renderings in black and white were produced of each anthropomorphic figure. Each figure was entered into a data base for frequency counts and analysis. The Kineomorphic Matrix Chart (Table 3.1) is the standard used for a systematic analysis of each gesture for every figure.

The second procedure examined the ethnographic data in the literature for analogous

information pertaining to gestures. This included dance, ceremonies, cultural rules for spatial positioning (proxemics) and patterns that occurred in the ethnographic data.

The third procedure is a semiotic analysis of selected sampled sites in which relationships are identified between graphic images and a synthesis of the frequency, ethnographic data and proxemic arrangements are identified. Through the combination of all three procedures, this methodology seeks to:

- 1) establish an effective way of describing anthropomorphic figures as individual motifs.
- 2) establish an effective way of distinguishing the relationships of anthropomorphic figures with other motifs,
- 3) establish a way of analysing the descriptive data to determine whether depictions are structured or are random and idiosyncratic,
- 4) establish whether meaning is encoded in a systematic manner through conventions of depictions of anthropomorphic figures, and
- 5) investigate whether depictions of these figures and the way in which information may be encoded is mirrored in other aspects of the cultural milieu in which they occur.

3.2 Empirical Data of Observed Gestures

3.2.1 Definition of Anthropomorphs

I define an anthropomorph as a visual image with an overall form and constituent attributes similar to a human body. I have accepted more than Cole (1998) and Maynard's (1977) definition of 'anthropomorphic', that is limited to a form with a 'head', two arms and two legs. I include T shaped figures, stick figures with strange branching 'genitals', or multiple arms or legs, and even connected figures that share arms or legs.

There are limits to Maynard's (1977) definition. As Officer (1993) warns, it is a convenient motif category, based on figurative interpretations, i.e. human-like, but it is difficult to tell, for example, when a turtle or lizard becomes an anthropomorph. Problems are also created by definitions of figurative and non-figurative, whether it looks like a human to 'us' or not (Officer 1993, 113). My own work with Hawaiian petroglyphs shows how difficult this division can be. Like Officer, I would also add that these are *etic* categories derived from 'Western' European conventions of separating man from beast. It is clear that such divisions are not universally used. For the purposes of this thesis, I survey only the human-like motifs, acknowledging that they may comprise only part of the potential anthropomorphic data that could exist in the study area.

3.2.2 Terminology: Kinemes

I recorded the attributes of each gestural articulation of the anthropomorphic figures in my sampled areas. To do this I turned to Birdwhistell's taxonomy for a moving subject. He defines *kinemes* as being the smallest unit of articulation in a gestural movement. Therefore, the graphic depiction of this unit within a gestural display would be a *grapho-kineme* a term I shall adopt in this study. The upper arm, the lower arm, the upper and lower legs are separate units of articulation. (See Figure 3.1).

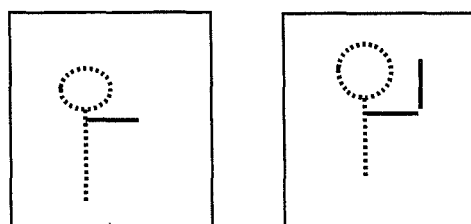


Figure 3.1 Illustration of one grapho-kineme (left) and two grapho-kinemes (right).

Each grapho-kineme is identified from articulation points such as the shoulder, elbow, hip, knee and ankle. The torso is treated as one single unit with three possible positions, vertical, horizontal and inverted. Although Birdwhistell found many more orientations for the spine, in order to stay within the limits of this thesis, I have simplified the orientation of the torso (spine) to only three categories. See Table 3.2 for an example of the Hawaiian data sheets.

3.2.3 *Observed Matrix*

The 'observed matrix' (Table 3.1) illustrates simplified gestural and postural positions that the human body can achieve. For this study, the entire arm and leg positions of each figure are treated as units of information and are entered into a data base. The upper and lower arms are considered separately and entered as two units of the arm. All of the natural positions of the arm are considered. Instances where the lower arm is folded up against the upper arm or the upper arm is folded next to the body or head do not occur in this rock art sample, so I have not created a category for them. There are several positions of the upper and lower leg that are physically impossible or unnatural, but they *do* show up in the sampled rock art sites, and therefore categories for these positions were created. Table 3.1 illustrates the variations of arm and leg positions for generic stick figures. These are all the positions used for analysis in this thesis. The table is divided into two sections, the first five horizontal rows depict the arm positions and all the combinations with the upper and lower arm. Rows 6 through 10 illustrate the leg positions, and all of the combinations of the upper and lower leg.

Across the top of Table 3.1, columns show each position labelled from A to G. The blank spaces for 1F and 1G, 2G, 4A, 5A,5B, and 5G are positions that are impossible to depict graphically because the limbs are folded back onto themselves. Rock art is essentially two dimensional and although it is difficult to portray folded limbs in an engraving, the position itself is not impossible. It is probably because of the limitations of the medium that they are not depicted in the rock art. There are, however, unnatural or 'super natural' positions that do appear in Aboriginal rock art and are included in the table (ie. 8A, 7B).

The generic stick figures illustrate the different categories (listed in the first column) starting with the upper arm position (second column) and adding the lower arm position as the viewer moves across the columns in row 1. Row 2 starts with another upper arm position and column A, B, C, D, E, F and G are additions of the lower arm to the upper arm. The bottom part of the matrix shows the leg positions starting with the upper leg and adding the lower leg. The matrix table illustrates how the data sheets are designed to record the subtle gestures that may encode meaning and reveal patterns that might exist. The data sheets contain over 70 categories that account for all the Hawaiian and Australian gestures, postures and spatial orientations. Consequently, a comprehensive spreadsheet can be established for future studies addressing questions I have not considered here.

Stick Figure arm & legs	Upper arms added to:	Lower arms A. Up and in	B. Vertical up	C. Diagonal up	D. Horizontal	E. Diagonal down	F. Vertical down	G. Down and in
1. upper arm up								
2. upper arm diagonal up								
3. upper arm horizontal								
4. upper arm diagonal down								
5. upper arm down								
Legs	Upper legs added to:	Lower legs A. Up and in	B. Vertical up	C. Diagonal up	D. Horizontal	E. Diagonal down	F. Vertical down	G. Diagonal in
6. upper leg up								
7. upper leg diagonal up								
8. upper leg horizontal								
9. upper leg diagonal down								
10. upper leg down								

Table 3.1 Kineomorphic Matrix Chart showing all the variations of arm and leg positions.

3.2.4 How a Figure is Identified

For this analysis, each figure is considered as facing the viewer, so that the “right arm and leg” is on the observer’s left. The categories of postures and gestures of each

anthropomorphic figure are distinguished by using the following criteria:

1. Body styles are categorized by the culture area. In Hawai'i, there are T figures, Stick figures, Triangle figures (solid, empty and open) and Full bodied figures (see Figure 4.5 for examples of body styles). T figures are essentially vertical lines with a cross bar as arms. Some have heads, some do not. Hands are usually not present. Legs are not present. Stick figures are simple line drawings of human figures. Triangle figures are defined by the triangle body outline, that is either solidly in-filled or empty (outlined). The outline can also be 'open' in what is called a Triangle open-bodied figure.

There are three Australian categories, Stick figures, Full Bodied Stick figures, and Full Bodied figures in solid colour or solid with a contrasting colour outline. Another category I call "Stubbies" (similar to T shape figures), was observed in other areas of Cape York Peninsula but not found in my sample area (See Chapter 8, for body styles).

2. Heads are categorised as solid (fully pecked in), or empty (outlined), or absent.
3. Arms are divided into upper and lower arm categories. Their positions in space are categorised as: vertically-up, diagonally-up, horizontal, diagonally-down and vertically- down.
4. Hands are noted with or without digits and as having "multi-digits or "3 digits" and their spatial position of "up", "down" or "perpendicular" to the lower arm is recorded. For the Australian sample, hands are either present or not and are always portrayed in-line with the arms.

5. “Male” and “female” gender is recorded due to a subjective identification of genitals, breasts or body shape.
6. Legs are described by the position of the upper and lower parts. The position of the lower leg may be diagonally inward or diagonally outward.
7. Feet, when present, are indicated as pointing up, horizontal or downward.
8. Additional comments are given on the far right column in the table.

The following are samples from the data sheets used to record all of the sampled anthropomorphic figures in the two study areas. See Table 3.2.

Figure	Body					Head				
	T	Stick	Tri-solid	Triangle-empty	Triangle-open	solid	open	none		
Left Upper Arm					Right Upper Arm					
vertical up	diagonal up	horizontal	diagonal down	vertical down	vt.up	dg. up	hz.	dg.down	vt. down	
Left Lower Arm					Right Lower Arm					
vertical down	diagonal up	horizontal	diagonal down	vertical down	vt.up	dg. up	hz.	dg. down	vt. down	
Left Hand					Right Hand					
open	closed	down	up	perpendicular	open	closed	down	perpendicular		
Torso					Gender					
vertical	horizontal	declined	inverted		male	female	none			
Left Upper Leg					Right Upper Leg					
vertical up	diagonal up	horizontal	diagonal down	vertical down	vt. up	dg. up	hz.	diag. down	vt. down	
Left Lower Leg					Right Lower Leg					
vertical up	diagonal up	horizontal	diagonal down	vertical down	vt. up	dg. up	hz.	diag. down	vt. down	
Left Foot					Right Foot					
up	perpendicular	down	digits	none	up	per.	down	digits	none	

Table 3.2 Data sheet. Categories used in the recording of anthropomorphic figures for two study areas. (vt = vertical, dg = diagonal, hz = horizontal, per = perpendicular).

3.3 Ethnographic Data Concerning Gesture

3.3.1 Hawai'i

The ethnographic literature for Hawai'i is extensive and my use of the literature is restricted to sources that include information on gesture, posture and proxemics as

meaning systems. The most valuable text relating to gestures is Handy and Pukui (1958) *The Polynesian Family System in Ka-'u, Hawai'i*. In particular, their descriptions of cultural metaphors used to describe kinship and family relationships are helpful. Malo (1951) is a source for traditional Hawaiian culture and expressions used to refer to spatial relationships to the land and sea. Valerie (1985) synthesises Hawaiian culture from earlier sources including Malo (1951), Pukui and Korn (1973) and Handy and Pukui (1958), and adds insightful perspectives. Beckwith (1970) gives information on Hawaiian mythology and her translation of *The Hawaiian Romance of Laieikawai* (1912) provides information on the importance of oral traditions and gesture dance. Buck (1938) contributes information on Maori and Hawaiian traditions relevant to traditional Polynesian gestures and particularly the use of 3 fingers. Fornander (1887) and Thrum (1923) are sources for early ethnographic documentation of Hawaiian rituals. Emerson (1909) is one of the earliest sources on the ancient *hula*, while Barrere, Pukui and Kelly (1980) document the *hula's* history. Stillman (1998) gives an excellent account of the evolution of the *hula* and differences between the ancient and modern forms of this dance genre.

3.3.2 *The Laura Region*

The ethnographic information for the Laura region in Cape York Peninsula is very sparse, in comparison to what is available for Hawai'i. In general, little work is specific to Laura and I have drawn upon studies done in adjacent areas within Cape York. Those studies done in the Laura region include the early work of variable reliability by Roth (1898; 1899; 1901; 1908; 1910), and Thomson (1933). Studies by McConnel (1936, 1937) give some details concerning the gestures associated with mourning rites. Roth (1908b) gives

the only illustrations of gesture signs. Linguistic work by Hale and Tindale (1933), Dixon (1972), Rigsby (1972; 1976), Sutton (1979), Havilan (1979), and Dixon (1980) give a conflicting picture of tribal boundaries and make no mention of gesture signs. Later work by Trezise (1971) makes some mention of gestures and sign language used among the Aboriginal people of Cape York Peninsula.

The study area of Laura, Cape York Peninsula suffered the disruption and removal of people from the country where their paintings are located. This has made contemporary investigations difficult concerning ethnographic information linked to the paintings. I found the detailed work by earlier writers listed above as the most valuable in supplying information as to the possible relationships to the gestures portrayed in the rock images. Roth, Thomson and McConnel worked with members of groups who were still living in 'their country' and retained knowledge of the myths and traditions, including gesture and sign language.

3.4 Structural Analysis of a Semiotic System

3.4.1 Semiotic Terminology

The structural analysis begins with the problem of terminology and the ontological question of identifying a sign/symbol or grapheme. Among the functional units which have been postulated in various fields of semiotics are the *choreme* in architecture, the *chereme* in sign languages, the *kineme* in kinesics, the *proxeme* in proxemics, and the *grapheme* in graphic displays (Nöth 1990, 184). A structural analysis relies on semiotic analysis and terminology. I have applied the following terms in italics above and applied them for tentative use in this thesis. See Table 3.3.

Modes of Human Communication Systems	Real time, linear	Recorded time/sequential Drawn (<i>hypothesised</i>)
Spoken Language	word, phoneme	grapheme, <i>grapho-morphemes</i>
Body language narrativity	figura, narreme, motifeme or mytheme	anthropomorphic figure, form, graphemes
Sign language	chereme	<i>chiro-grapheme</i>
Kinesics	kineme	<i>grapho-kineme</i>
Gesture	<i>gestureme</i>	<i>grapho-gestureme</i>
Proxemics	proxeme	<i>spatial arrangement</i>

Table 3.3 Terms for human communication systems and their graphic representation.. The new terms I have hypothesised are shown in italics.

Table 3.3 compares the terms used in human communication systems with the parallel units of representation in graphic illustration. The new terms I have composed are in italics. In my structural analysis (Chapter 7 and 11), every motif or image is treated as a sign and the binary relationships (if any) are revealed. These include; male/female, open/in-fill body forms, opposing arm and leg positions, multi digits or ‘bird track’ digits, and vertical and inverted torso orientations. From these relationships structures of meaning can be inferred.

The structural analysis presented here is different from the attempts by Leroi-Gourhan (1965) and Conkey’s definition of a ‘semantic free deconstruction of visual compositions revealing binary relationships of referential meanings’ (Conkey 2001). I have chosen to incorporate both the ethnographic context where it applies, and the observed gestural displays that also find context in the ethnographic literature.

In this thesis, semiotic and structural analysis is applied to the phenomenon of gestures as a system of signs. While depictions of gestures in rock art may not be thought of as a system of signs, I have identified gestural graphemes (gesturemes) as semiotic units that have semantic intent. This acknowledges that the depicted gestures are but a trace of the complete movement that may involve several kinemes in succession. The *gestureme* is but an icon for the complete gesture, a bit of the whole, a mnemonic device used to represent the entire gestural sequence or sign in sign language. This methodology is synchronic, in that the data collected is compared at a given time without consideration of its historical context. The phenomenon of gesture as a semiotic unit has not been articulated before in the rock art literature, therefore it has been a challenge to create the nomenclature that adequately describes the observable systems and properties.

3.4.2 Problems and Constraints

There are certain problems that arise in this kind of visual analysis. There are constraints within the medium of rock surfaces whether pecked or painted that concern three dimensional information being conveyed on a two dimensional surface. Cultural conventions may be used to overcome this issue that are not understood by today's population. Another problem is the sample size and whether it was adequate to account for all the possible variations. I am aware of potential problems in this thesis that arise from these methodological issues. But I am constrained by the physical aspect of sampling all of the rock art present as well as by the problem of not having access to the semantic intent of prehistoric authors of the rock art.

Part II Anthropomorphs in Hawaiian Rock Art

Chapter 4 Background of Hawai'i Island

4.1 Introduction

The following three chapters discuss the petroglyphs on the island of Hawai'i, that I visited in 1999. The aim of Part II is to apply the methodology of triangulation (set forth in the first chapters), to the data collected from five petroglyph sites. Chapter 5 is a summary of the actual petroglyph images that were entered as data. This includes the data sheets, a Summary Table of all the data sheets, and a written description and discussion of each category that appears in the Summary Table. The data sheets and analysis of the arm and leg positions, body types, postures, clusters and spatial positioning are provided in Appendix A (Hawai'i).

Chapter 6 presents the ethnographic links between petroglyph images and aspects of Hawaiian culture. This section covers Hawaiian cosmology, genealogy, rank and power, principles of Hawaiian religion and social structure.

Chapter 7 is a structural analysis of one large petroglyph panel. It is a semiotic analysis, the method of which was described in Chapter 3. The systematic deconstruction of the 'Family Scene', a cluster of anthropomorphic figures in a panel from Paniau, is diagrammatically presented in conjunction with ethnographic analogy and statistical comparisons.

The following are brief overviews of the geology, archaeology, and cultural history, which are relevant to the discussion and analysis of my sample of Hawaiian petroglyphs.

4.2 Geological History of Hawai'i

The islands of Hawai'i represent the northern-most extent of the area known as Polynesia. The islands lie on the Tropic of Cancer, 3800 km west of the coast of North America and about 6200 km east of Japan. Other islands in the Polynesian group include Samoa, 4190 km to the southwest and the Marquesas and Tahiti, 3860 and 4410 km respectively to the southeast. The Hawaiian archipelago consists of 132 islands, islets, sand cays and reefs, but there are really only 8 main islands at the southeastern. These islands range in size from the largest, Hawai'i, to the smallest, Kahoolawe that is uninhabited.

The Hawaiian chain of islands were formed by volcanic activity along the Pacific Plate. The volcanic cones that emerged above sea level were formed in succession - the oldest at the northwestern end and the youngest (still erupting) at the southeastern end of the chain. The islands' geologic history illustrates the gradual drift of the Pacific Plate as it moves ever so slowly towards the northwest. The midplate or intraplate islands originate from the "hot spots" or thermal plume of magma that rises from deep within the mantle. The slowly migrating lithosphere of the Pacific Plate gradually moves over the hot spots creating new islands by successive eruptions and extrusions of lava on the sea floor piling up a volcanic mass that eventually rises above the ocean. In time, the new island moves off the hot spot as it is carried along

by the conveyor belt of the crustal lithosphere. A new island then begins to form over the same more or less stationary hot spot. Over a period of tens of millions of years, an entire linear chain of volcanic islands successively rises from the ocean depths (Kirch 2000). (See Figure 4.1, Islands of Hawai'i.)

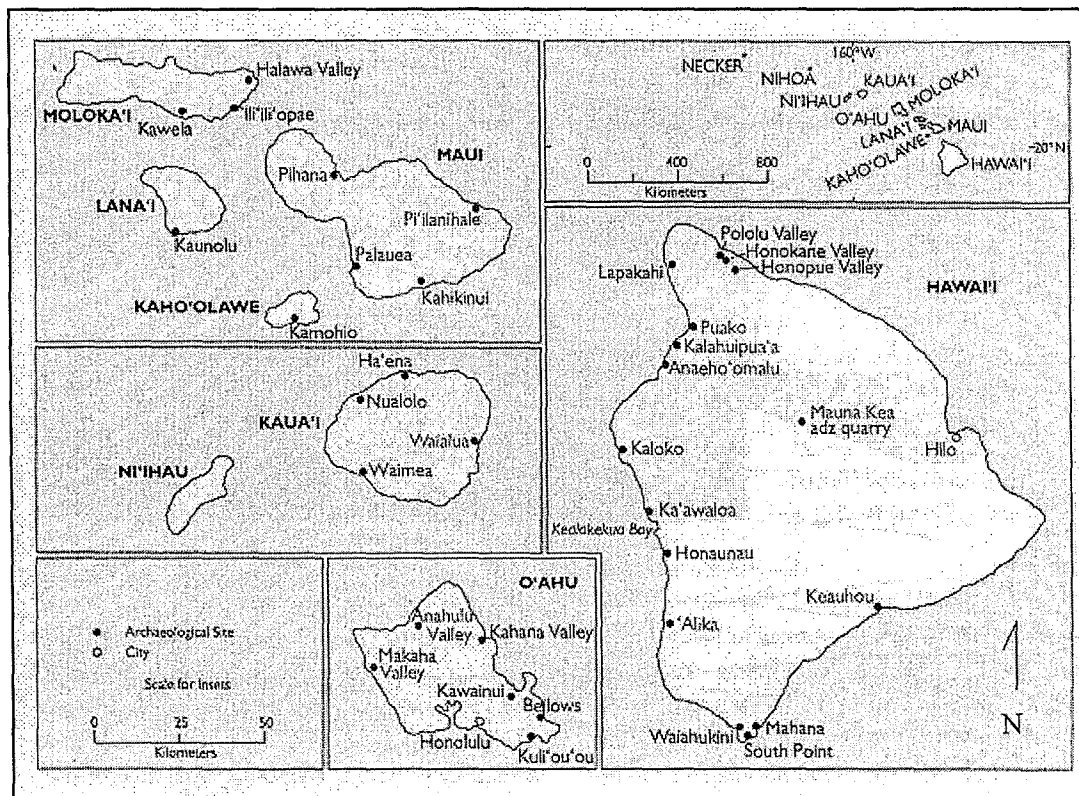


Figure 4.1 Islands of Hawai'i. (From Kirch 2000.)

The Hawaiians have acknowledged the geological age gradation in their own oral traditions, listing the creation of Kauai and Ni'ihau as the first two and proceeding on to Molokai, Maui and thus to Hawai'i as the sequence of emergence. The island of Hawai'i has had most of its volcanic activity during the occupation by the Polynesians (Kirch 1985). The Pele-Hi'iaka cycle of Hawaiian mythology (Beckwith 1970) refers to the volcano goddess Pele who moves her home from Laua'i successively to the other islands, to end up at her present residence in the crater of Halemaumau on Hawai'i (Kirch 2000, 46).

Hawai'i, being the youngest, does not exhibit the erosion marked by towering pinnacles of basalt formations found on Kauai. The island of Hawai'i gently slopes from broad alluvial plains up to high snow-capped mountaintops. There are two major volcanoes - Mauna Kea, "white Mountain" and Mauna Loa, "Long Mountain". The ecosystems range from rain forests to desert lowlands, freezing snow storms on the mountain peaks to hot dry lava beds along the coast (Kirch 1985).

Cox and Stasack (1970) list five types of rock surfaces that were used for engraving petroglyphs. The first is *pahoehoe*, a type of lava rock that, according to Hawaiian mythology, has been melted by the fires of *Pele*, the fire goddess (Malo 1951). The second are waterworn boulders, the third are cliff faces, the fourth are cave walls, and the last are white sandstone bench shelves composed of sea sand, called *kumu-one*.

The *pahoehoe* lava flows are the most used surfaces for engravings on the island of Hawai'i. *Pahoehoe* is formed by highly viscous lava flows that have cooled during their rapid movement across relatively flat areas. While cooling, the hot lava tends to bulge slightly into low billowy mounds, which crack apart at the edges forming slightly curved surfaces 1 to 3 m across (Cox and Stasack 1970).

4.3 The Archaeological Record

The people who first came to the islands of Hawai'i were probably from the Marquesas and Society Islands. The date of initial settlement, still a subject of debate, (Kirch 1985), was probably around A.D. 300. Oral traditions tell of multiple voyages by chiefs such as Moikeha and Pa'ao who made return voyages to "Kahiki" and back

(Kirch 2000). A second wave of migrants may have arrived between AD 1100 and AD 1300 (Kirch 1985). (See Figure 4.2.) Goldman (1970), believes the Second Phase came around AD 1200 with a strong Tahitian influence. This is based on evidence from fishhook comparisons by Emory et al. (1959). Emory (1979), believes the Tahitian influence was strong in the Hawaiian Islands during the twelfth century and noted that Hawaiian *heiaus* or stone platform temples used as places of worship resembled those of the Tahitian *ahus*.

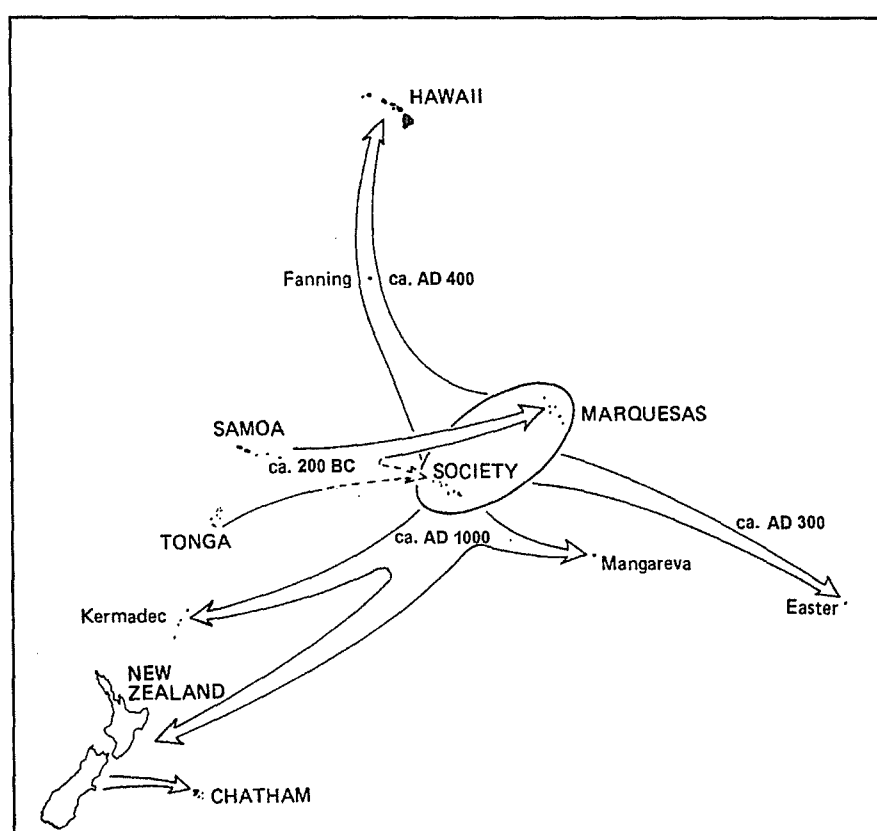


Figure 4.2 Polynesian migrations. (From Kirch 1985)

Captain James Cook sailed to Hawai'i in 1778 and was most impressed by the islanders and their social organization. He recorded a population of around 500,000 ruled by chiefs. Each chief had an allotment of property or domain over which he ruled. Cook recorded 4 to 6 chiefs in Kaua'i, O'ahu, Maui and Hawai'i. Moloka'i was subject to O'ahu or Maui. Kaho'olawe and Lana'i were controlled by Maui (Lee

and Stasack 1999). Hawaiian society at the time of Cook's arrival was stratified, with an elite group of rulers, a priest group, commoners who worked the land and a slave group.

The following figure (4.2), shows the cultural sequence as proposed by Kirch (1985).

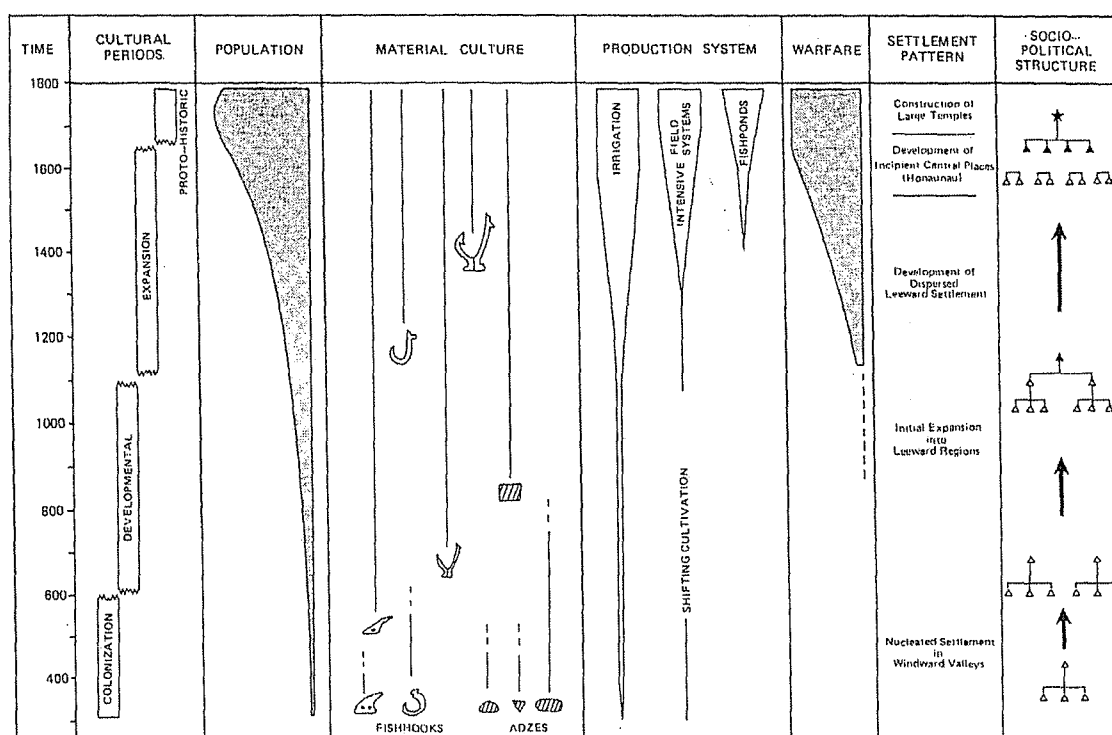


Figure 4.3 The Hawaiian cultural sequence (from Kirch 1985).

Goldman (1970), gives the following sequence of cultural stages that are taken from Fornander's five epochs and put into three main historical periods.

An **Early Period (AD 124 - 1100 - Epoch I, II, III)** when Hawaiian society was most traditional. Seniority ruled successions to title, authority and land holdings; chiefs were sacred and held religious prerogatives; the male line was preeminent; the power of chiefs was largely formal and ritual; and social distinctions between chiefs and commoners had not yet reached their full prominence.

A **Middle Period (AD 1100 - 1450 - Epoch IV)** when Hawaiian society entered a phase transitional to full stratification. During this period chiefs redistributed lands among their allies; paramount chiefs (*moi*) took control of island-wide administrations; a formal council, the *aha ali'i*, was established to safeguard the rights and privileges of the nobility; the

prerogatives of genealogical rank became more formal and less political and economic; the political authority of chiefs became more commanding; priests acquired new influence; the separation of chiefs and commoners gained momentum; new special roles and statuses were established; political rivalry grew more heated and chiefly authority shifted from one family line to another.

A *Late Period* (AD 1450 - 1820 - Epoch V) when the stratified society was fully established and the consolidation of political authority was completed. The period began with the practice of the redistribution of lands with each new administration. The social upheavals that resulted from the dislodging of landholders, and the dissatisfaction of chiefs with the lands given to them, touched off a sequence of wars that did not stop until they were forcibly ended by the Kamehameha conquest.

Kirch (1985, 298-308) uses his own formula as follows:

Colonization Period (AD 300-600);

Developmental Period (AD 600-1100);

Expansion Period (AD 1100-1650);

Proto-Historic Period (AD 1600 -1800).

Kirch (2000) believes the dates of the Colonization Period are controversial and more evidence is needed to confirm these dates. He agrees with others, based on the material evidence, that the Marquesas Islands were the homelands for the first Hawaiian colonizers. Green (1966) has also produced supporting linguistic evidence. Lee and Stasack (1999) have drawn parallels between some Hawaiian petroglyph motifs and those found in the Marquesas Islands. During the Developmental Period, contact between Hawai'i and eastern Polynesia was open, and Hawaiian oral traditions speak of annual visits by *Moikeha* and *Pa'ao*, who voyaged from "Kahiki" to Hawai'i, up until around the 1300s. Contact with the Society Islands is evident from a new style of fishhooks that appears around AD 1200. The Expansion Period is one of population growth and expansion to more areas. During this time, the production of food was increased, architecture became more elaborate (especially

religious structures), and the hierarchical system of land ownership became formalized (Kirch 2000). The archaeological record shows the development of the temple (*heiau*) system that was a direct result of the elaborate chiefly class and use of religious ideology to gain dominance over the common people.

It was during the late Expansion Period that the proto-historic system of land tenure was developed. It was called the *ahupua'a* system. This system divided up the land into units that ran from the mountain ridges down to the sea, thus incorporating many ecological zones. These units were put under the control of a chief (*ali'i ai ahupua'a*). This chief lived under the rule of a supreme chief (*ali'i ai moku*) who ruled over the *moku* or kingdom.

Another aspect of social organization that developed during the Expansion and Proto-Historic Period was the *kapu* system; a set of prohibitions and taboos that prevailed according to gender and rank. This is discussed in more depth in the section on cultural links and the postures associated with the *kapu* system.

4.4 The Rock Art of Hawai'i Island

The rock art found on the island of Hawai'i has been extensively documented by Lee and Stasack (1999). I have independently recorded a small percentage of the images they have documented and I rely heavily, therefore, upon their published photographs for the comparative studies in this chapter.

4.4.1 History of Rock Art Documentation

Publications on Hawaiian petroglyphs began in the early 20th century with Judd, (1904), Stokes (1908) and Brigham (1906). Scientific surveys were conducted by Emory (1922), Emory Ladd and Soehren (1965) and Cox (1961). Cox and Stasack wrote a popular book called *Hawaiian Petroglyphs* (Cox and Stasack 1970) that is still a landmark in Hawaiian petroglyph studies. A significant comparative analysis of three major petroglyphs sites was published by Ho (1988) from the island of Hawai'i. Georgia Lee has conducted research on many Polynesian petroglyph sites (Lee 1989, 1996, 1997, 1998) culminating with her most recent popular book on Hawai'i co-authored with Edward Stasack (Lee and Stasack 1999).

4.5 Petroglyph Site Locations of Hawai'i

The majority of petroglyph sites occur on the dry sides of the islands in open country near the shore (Cox and Stasack 1970) (See Figure 4.4). Lee and Stasack (1999), have found that the petroglyphs of Hawai'i Island are near or on prehistoric trails leading to villages or habitation sites, but not around occupation sites. Some petroglyph locations fall along boundaries associated with land divisions.

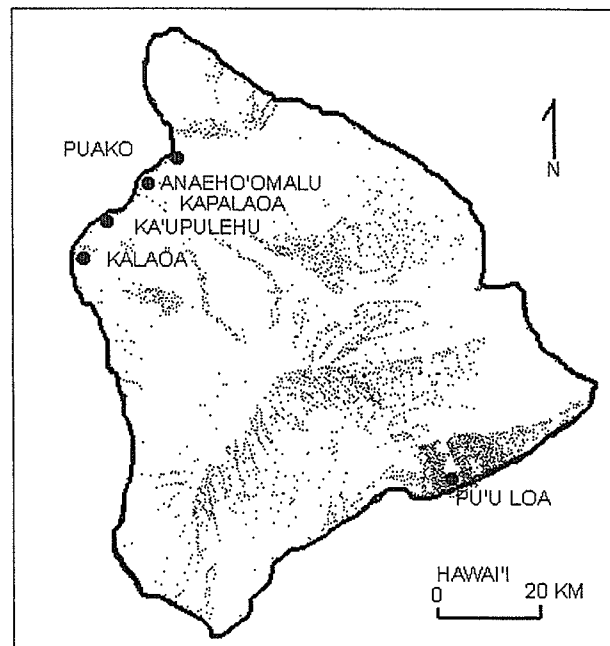


Figure 4.4 Hawai'i Petroglyph Site Map. (From Lee and Stasack 1999)

4.6 Petroglyph Engraving Techniques

The Hawaiian petroglyphs were created by pecking through the hard outer surface of basalt and exposing the lighter coloured material underneath. The pecking techniques are usually fine and precise while other less common forms are bold because of coarse abrasion and deep engraving. There are three different techniques: the engraved line figure that renders an outline or stick image; the area or surface technique that is fully pecked out, giving the bodies a fullness, or which define leg and arm muscles; the bas-relief or silhouette figure that is pecked all the way around, giving a raised appearance against the background of the pecked surface (Lee and Stasack 1999).

4.7 Rock Art Typology

Cox and Stasack (1970) classify the anthropomorphic figures in Hawaiian rock art as: simple linear, angular figures; triangular and columnar outline figures; triangle outline

with angular muscle additions; pecked-in curved muscle figures; and bas-relief figures. Lee and Stasack (1999) added a digital code to these classifications. I follow their typology to some extent but expand upon it to suit my own observations and the method of analysis I wish to employ. The following classification used in my thesis is given here (see Figure 4.5).

T Figures: are a line for the torso and a cross line for the arms. They may or may not have a head. The arms are up or down. There are rarely any digits. (See Figure 4.6 a.)

Stick Figures: are a line for the torso, a head, lines for arms and legs. The feet and hands are short lines perpendicular to the arms or legs. They may have an object associated with their hands or held over their head. They may also be connected to other stick figures at the head, arm or leg. (See Figure 4.6 b.)

Triangle-bodied Outline and Solid Figures: these figures have triangle shaped torso, with arms and legs and a head. The gender may be indicated by a penis or breasts (pectoral dots) or a vulva. They may be in outline or fully pecked. Feet and hands are indicated by a short perpendicular line. Many have an object held in the hand or held over their head in both hands. (See Figure 4.5 c and d.)

Triangle-open Bodied Figure: these figures are open at the base of the torso as shown in Figure 4.5 e.

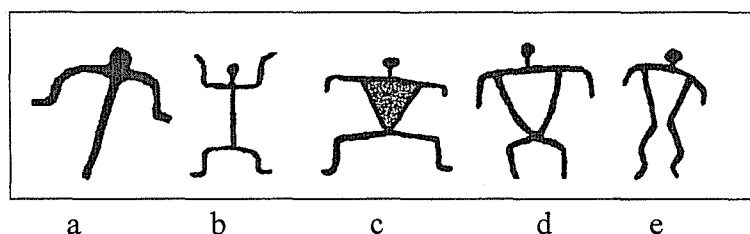


Figure 4.5 Examples of Body Styles; a) T figure, b) Stick, c) Triangle-full, d) Triangle-empty and e) Triangle-open body categories used in this thesis.

For my documentation, I have created more categories than were used by Lee and Stasack (1999). I have added distinctions for the upper and lower arm and leg positions, for the orientation of the torso, for outline or solid bodied figures and for open bodies. Instead of “connected figures”, I note whether each figure is part of a cluster or stands alone. I have not included disconnected body parts or footprints as part of my database for anthropomorphs. (See Table 4.1.)

4.8 Petroglyph Age Determinations

Dating of rock art in Hawai'i has been carried out by Dorn (1996) but, as Lee and Stasack (1999) note, the results only provide dates within the time-frame for occupation. There seems to be a broad spread of dates for a single “style” that contradicts the hypothesis of age sequencing based on style variations suggested by Cox and Stasack (1970). This confirms the imprecise nature of attempting to use “stylistic analysis” for dating (Rosenfeld and Smith 1997). Moreover, the direct method of dating is problematical as Dorn himself admits that “there may be problems discriminating between the carbon being dated, and that carbon which comes from prior organic weathering episodes” (Stasack et al. 1996).

The dates listed by Lee and Stasack (1999) are not regarded as determinative. There is controversy and on-going research for new methods and techniques for determining the age of petroglyphs (A. Watchman and M. Ho, 2000 personal communication), but it is interesting to note that the age estimates obtained by Dorn (column three of Table 4.1) support my independent hypothesis that using stylistic age determinations is problematical.

4.8.1 Stylistic Age Determinations

Cox and Stasack (1970) have proposed a temporal chronology by “evolution” of petroglyph styles, beginning with simple figures and ending with more complex or “naturalistic” figures. To them this seems like a natural progression from crude or abstract towards naturalism. (See Figure 4.6.)

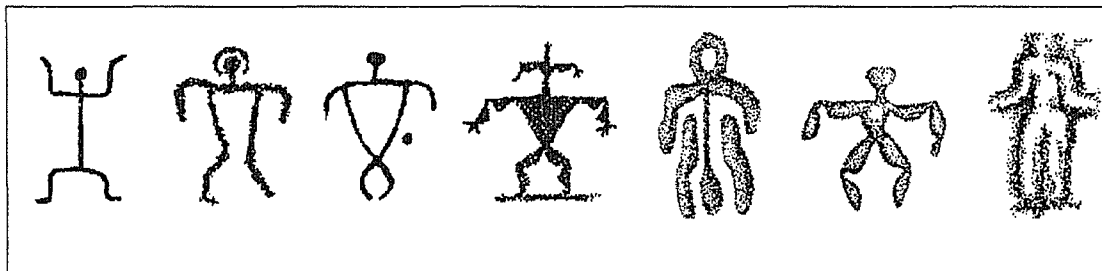


Figure 4.6 Summary of Hawaiian petroglyph styles (From Cox and Stasack 1970).

Lee and Stasack (1999), believe stylistic approaches to dating should not be discarded in favour of scientific dating.

Temporal information also can be obtained by determining evolution of style, changes in subject matter, associations with legendary events, oral histories, archaeological findings, known volcanic eruptions, and written records of the post-contact period. Relative sequences can be suggested by the overlapping of images, patination of units at a particular site, and by the small body of testimony from early informants (Lee & Stasack 1999, 156)

I have observed stick figures, assumed to be an older style, superimposed over triangular bodied figures, assumed to be of a younger style. Many panels contain a variety of body style figures that, in my view, are used simultaneously to depict different kinds of information. (See Fig 8.12 of Lee and Stasack 1999, pg 111 for example of dog and pig figures (very recent) with stick figures of the same technique and age appearance.) Lee and Stasack seem to agree with this in a statement about the Pu'uloa site,

In the light of our present knowledge of the lava flow, the time frame proposed by Cox must be compressed into a shorter (and later) period. Instead of allowing centuries for changes in the type of petroglyph being carved, it is likely that many of the different types of motifs were being carved at the same time (Lee and Stasack 1999, 94).

Considering the evidence of stick figures (so-called oldest style) found engraved over the top of Triangular Full-bodied figures (so-called youngest style) I am confident that variations in body styles were used for a purpose and not restricted to certain time periods.

4.8.2 Comparison of Rock Art Typology

Table 4.1 compares the typology I have developed based on a more detailed analysis of the body gestures and positions of the arms, feet and hands, with that of Lee and Stasack (1999) and Cox and Stasack (1970). The first column is the body type, with examples from the data collected. The second column is my typology, with a list of all the arm, leg, torso, head, hands and feet categories. The third column is Lee and Stasack's typology with corresponding numbers and letters used in their system. The fourth column is Cox and Stasack's stylistic evolution from the earliest to the latest. The last column is the ¹⁴C dating by Dorn in Stasack et al. (1996). The majority of figures that were sampled were stick figures and they have been grouped together in the row for stick figure style. The ages range from AD 983-1632 to AD 1660-1950. Triangle-open bodied figures date around AD 1432-1632 and Triangle full bodied figures date from AD 1650-1950. This supports the observation that certain styles (stick figures) transcend style constraints.













Body Type	Patterson Types (this thesis)	Lee & Stasack (1999) Style	Cox & Stasack (1970) Style	Calibrated C14 Dates (Stasack, Dorn & Lee 1996)
	T figure, headless	1100 Simple T no legs	(I) earliest primitive forms	
	T figure W/ head open or solid	not distinguished		
	Stick Figure R arm, 14 positions L arm, 14 positions R leg, 11 positions L leg, 11 positions Torso 3 orientation Head, 3 types R/L Hands, 5 types R/L Feet 4, types	1200 Stick figure Arms:** U,D,O,B,I,G, T, M, W Legs, A, M, W, C, R, G, N Head, A, L, H, D, B, T, P, R, F, O	(II) simplistic forms	*K23 983-1168 AD K33 992-1168 AD K12 1230-1290 AD K11 1290-1400 AD K28 1037- 1272AD K16a 1301-1438 AD K15a 1320-1440AD K26 1460-1640 AD K10 1660-1950 AD
	Triangle-bodied outline, empty	1400 Triangular Torso	(III) middle 1600 AD (Lee)	K16b 1432-1632AD
	Clusters	1101,1301 and 1401 Connected		
	Triangle-bodied open	1410 Open base		
	Triangle-body solid	1400 same Not distinguished		K19 1650-1950 AD
	Muscled - arms/legs empty or solid	1420 muscled	(IV) more naturalistic form	
	Muscled, just leg or just arm	1420 same		
	Not sampled	1500 naturalistic bas relief	(V) latest naturalistic, most evolved	
	Stick - profile Prostrate	1600 profile		
	Stick, splayed or frog position	1602 two figures back to back		

Table 4.1 Style Category Comparisons of Patterson, Lee and Stasack, Cox and Stasack and the Dating Chronologies of Stasack, Dorn and Lee.

(* K23 etc. are sample sites;

**U=up, D=down, O=opposing, B=object-in-hand, I=wing-like, G=digits, T=out, M=muscled, W=wavy).

Chapter 5 Hawai'i Island: petroglyph data

5.1 The Hawaiian Petroglyph Database

The field survey in Hawai'i was conducted at six sites. The largest site Puakō, is subdivided into sections and renamed Kāeo 1, 7, 9, 18 and 19, collectively labelled Kāeo 1 and Kāeo 18 (Figure 5.1). I recorded sixty-nine anthropomorphic figures from Kāeo 1 and forty-six from Kāeo 18. From Paniau, a site near Puakō, I recorded fifty-seven figures, from Ka'ūpūlehu fifty-one images, from Kapalaoa twelve, and from Kalaoa Cave, thirty-three.

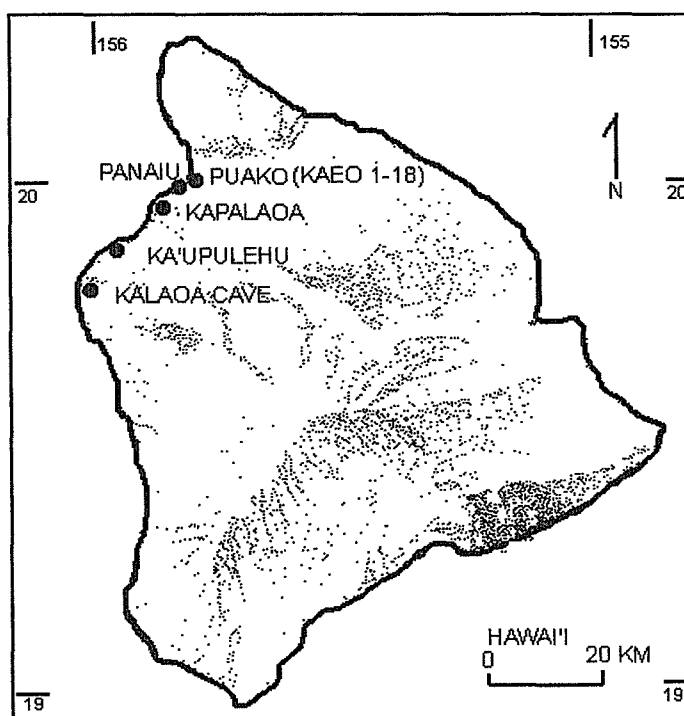


Figure 5.1 Map of Hawai'i with the sites of Puakō showing three of the subdivisions of Kāeo 1 through 18 and the sites of Paniau, the Ka'ūpūlehu site and Kalaoa Cave.

In total, my Hawaiian database is two hundred and sixty-eight anthropomorphic figures. Lee and Stasack claim to have documented over 3,829 petroglyphs (mostly anthropomorphs) for Puakō alone (Lee and Stasack 1999). Their Hawaiian data base total is 31,640 and more comprehensive in comparison, but my objective was to sample a broad selection in order to build a data base that is representative of the whole. I sampled each site by taking photographs (parallel to the plane of the rock surface) and making careful sketches while in the field. Each anthropomorphic figure was then redrawing from scanned photographs. Appendix A contains the anthropomorph data samples from each site, listing them as individual or groups (clusters). I make reference to additional data from Lee and Stasack when it is relevant to this analysis. I have also included illustrations from their publication in instances where their site drawings are more accurate than my own. Table 5.1 summarises the body types and all the different body articulations from each of the five sites. I use the following abbreviations in Table 5.1 to define the body types, arm and leg positions and feet/hands.

Body Type:

T = T shape
 Stick = Stick figures
 tri-sol = triangle solid
 tri-emp = triangle empty
 tri-open = triangle open

Arm Position

vt. = vertical
 vt.up = vertical up
 dg.up = diagonal up
 hz. = horizontal
 dg.dwn = diagonal down
 vt. dwn = vertical down

Hands: 3 dig. = 3 digits

Torso inc/dcl = inclined/declined
 inv. = inverted

Legs: dg. out = diagonally out,
 dg. in = diagonally in

Feet: perp. = perpendicular
 digits: multi, 3 dig. down

Site		Kaeo 1		Kaeo 18		Panaiu		Kaupulehu		Kapalaoa		Kalaoa Cave		Total
		No	%	No	%	No	%	No	%	No	%	No	%	
Total		69		47		57		51		12		33		269
Body type	T	7	10	1	2	0	0	4	8	0	0	0	0	12
	stick	58	84	24	51	54	94	8	16	3	25	16	48	163
	tri-sol	0	0	3	6	0	0	28	55	5	42	15	45	51
	tri-emp	3	4	13	28	2	6	8	16	3	25	1	3	30
	tri-open	1	1	6	13	1	3	3	6	1	8	1	3	13
Head	solid	43	62	34	72	57	100	49	96	11	92	33	100	227
	open	9	13	8	17	0	0	2	4	1	8	0	0	20
	none	17	25	5	11	0	0	0	0	0	0	0	0	22
Left arm	vt.up	1	1	0	0	0	0	2	4	0	0	1	3	4
	dg.up	0	0	2	4	0	0	5	10	1	8	8	24	16
	hz.	62	90	42	89	57	100	42	82	10	83	24	73	237
	dg.dwn	3	4	2	4	0	0	0	0	0	0	0	0	5
	vt.dwn	1	1	0	0	0	0	2	4	0	0	0	0	3
	wavy	1	1	1	2	0	0	0	0	0	0	0	0	2
	musc	0	0	3	6	0	0	2	4	0	0	0	0	5
	none	2	3	0	0	0	0	0	0	0	0	0	0	2
Right arm	vt.up	1	1	0	0	0	0	2	4	0	0	2	6	5
	dg.up	1	1	3	6	0	0	3	6	1	8	6	18	14
	hz.	62	90	43	91	56	99	44	86	10	83	25	76	240
	dg.dwn	2	3	1	2	0	0	1	2	0	0	0	0	4
	vt.dwn	1	1	0	0	0	0	1	2	0	0	0	0	6
	none	2	3	0	0	0	0	0	0	0	0	0	0	2
	wavy	2	3	1	2	0	0	0	0	0	0	0	0	3
	musc	0	0	3	6	0	0	2	4	0	0	0	0	5
Left lower Arm	vt.up	10	14	4	9	0	0	6	12	1	8	11	33	32
	dg.up	1	1	1	2	0	0	2	4	0	0	0	0	4
	hz	3	4	3	6	0	0	3	6	1	8	1	3	11
	dg.dwn	13	19	4	9	0	0	0	0	3	25	3	9	23
	vt.dwn	41	59	34	72	57	100	35	69	6	50	17	52	163
	none	2	3	0	0	0	0	0	0	0	0	0	0	2
	wavy	3	4	1	2	0	0	0	0	0	0	0	0	4
	musc	0	0	1	2	0	0	5	10	0	0	0	0	6
Right lower Arm	vt.up	9	13	18	38	0	0	12	24	1	8	12	36	90
	dg.up	2	3	1	2	0	0	3	6	0	0	0	0	6
	hz	4	6	4	9	0	0	3	6	1	8	1	3	13
	dg.dwn	6	9	7	15	0	0	1	2	2	17	3	9	19
	vt.dwn	46	67	29	62	56	99	30	59	7	58	17	52	185
	none	2	3	0	0	0	0	0	0	0	0	0	0	2
	wavy	3	4	1	2	0	0	1	2	0	0	0	0	5
	muscle	0	0	1	2	0	0	4	8	0	0	0	0	5
Hands left	multi	4	6	8	17	1	3	7	14	3	25	0	0	23
	3dig	11	16	9	19	0	0	7	14	2	17	1	3	30
	down	4	6	16	34	1	3	9	18	2	17	1	3	33
	up	4	6	0	0	0	0	4	8	2	17	11	33	21
(no digs) right	perp	18	26	6	13	0	0	2	4	2	17	0	0	28
	multi	3	4	5	11	1	3	12	24	1	8	0	0	22
	3 dig.	13	19	7	15	0	0	7	14	3	25	4	12	34
	down	4	6	9	19	1	3	11	22	3	25	1	3	29
	up	4	6	1	2	0	0	6	12	1	8	11	33	23
(no digs)	perp	18	26	8	17	0	0	2	4	8	67	0	0	36

Table 5.1 Summary of Petroglyph Gestural Attributes at Six Hawaiian Sites

Site		Kao 1		Kao 18		Paniau		Kaupulehu		Kapalaoa		Kalaoa		Total
Torso	vt	62	90	37	79	54	94	41	80	11	92	33	100	238
	hz	2	3	1	2	1	3	5	10	0	0	0	0	9
	inc/dcl	3	4	7	15	1	3	2	4	1	8	0	0	14
	inv	2	3	2	4	0	0	3	6	0	0	0	0	7
Gender	male	6	9	1	2	0	0	6	12	1	8	0	0	14
	female	1	1	2	4	0	0	0	0	0	0	0	0	3
	none	62	90	44	94	57	100	45	88	11	92	33	100	252
Cluster	dependent	60	87	37	79	57	100	43	84	7	58	30	91	234
	independent	9	13	10	21	0	0	8	16	3	25	3	9	33
Left leg	vt.up	0	0	0	0	0	0	0	0	0	0	0	0	0
	dg.up	0	0	0	0	0	0	0	0	0	0	0	0	0
	hz	54	78	21	45	57	100	16	31	2	17	13	39	163
	dg.dwn	9	13	21	45	0	0	27	53	9	75	17	52	83
	vt.dwn	1	1	1	2	0	0	2	4	1	8	1	3	6
	none	5	7	0	0	0	0	0	0	0	0	2	6	7
	musc	0	0	4	9	0	0	2	4	0	0	0	0	6
Right leg	vt.up	0	0	0	0	0	0	0	0	0	0	1	3	1
	dg.up	0	0	0	0	0	0	0	0	0	0	0	0	0
	hz	54	78	21	45	57	100	16	31	3	25	13	39	164
	dg.dwn	7	10	22	47	0	0	25	49	8	67	17	52	79
	vt.dwn	3	4	2	4	0	0	2	4	1	8	1	3	9
	none	5	7	0	0	0	0	0	0	0	0	2	6	7
	muscle	0	0	3	6	0	0	2	4	0	0	0	0	5
Left lower	vt.dwn	51	74	26	55	57	100	30	59	7	58	23	70	194
	dg.out	7	10	3	6	0	0	5	10	2	17	3	9	20
	hz	3	4	2	4	0	0	0	0	0	0	1	3	6
	dg.in	3	4	14	30	0	0	11	22	3	25	3	9	34
	none	7	10	0	0	0	0	0	0	0	0	3	9	10
Right lower	vt.dwn	49	71	25	53	57	100	28	55	5	42	24	73	188
	dg.out	8	12	3	6	0	0	3	6	1	8	3	9	18
	hz	3	4	3	6	0	0	0	0	1	8	1	3	8
	dg.in	2	3	13	28	0	0	7	14	5	42	3	9	30
	none	6	9	0	0	0	0	0	0	0	0	2	6	8
	muscle	0	0	4	9	0	0	4	8	0	0	0	0	16
Left foot	up	0	0	2	4	0	0	0	0	0	0	0	0	2
	perp	23	33	21	45	4	7	14	27	9	75	0	0	71
	dwn	5	7	3	6	0	0	3	6	2	17	0	0	13
	digits	1	1	4	9	0	0	2	4	1	8	1	3	9
	none	40	58	17	36	53	92	34	65	1	8	32	97	177
Right foot	up	0	0	0	0	0	0	0	0	0	0	0	0	0
	perp	32	46	24	51	6	10	15	29	10	83	2	6	89
	dwn	0	0	3	6	0	0	3	6	1	8	0	0	7
	digits	0	0	8	17	0	0	2	4	0	0	0	0	10
	none	37	54	16	34	51	89	33	65	1	8	31	94	169

Table 5.1 Summary of petroglyph gestural attributes at six Hawaiian sites.

5.2 Body Types

The data from the Kāeo 1, shows a high percentage of Stick figures. Of 91 figures, 69% (n=63) are Stick figures. There were 7.7% (n=7) T shape figures and 5% (n=5) are Triangle-empty. I found no Triangle-solid figures and only 5% (n=5) Triangle-open bodied figures. At what Lee and Stasack (1999), refer to as ‘boundary sites’, Kāeo 18, the percentages change. Of twenty-four figures, only 4% (n=1) is a T figure, eight (33%) are Stick figures, one (4%) is a Triangle-solid, but eleven (46%) are Triangle-empty, and three (13%) are Triangle-open bodied figures. Figure 5.2 gives a comparison of percentages of body types found at the six sites.

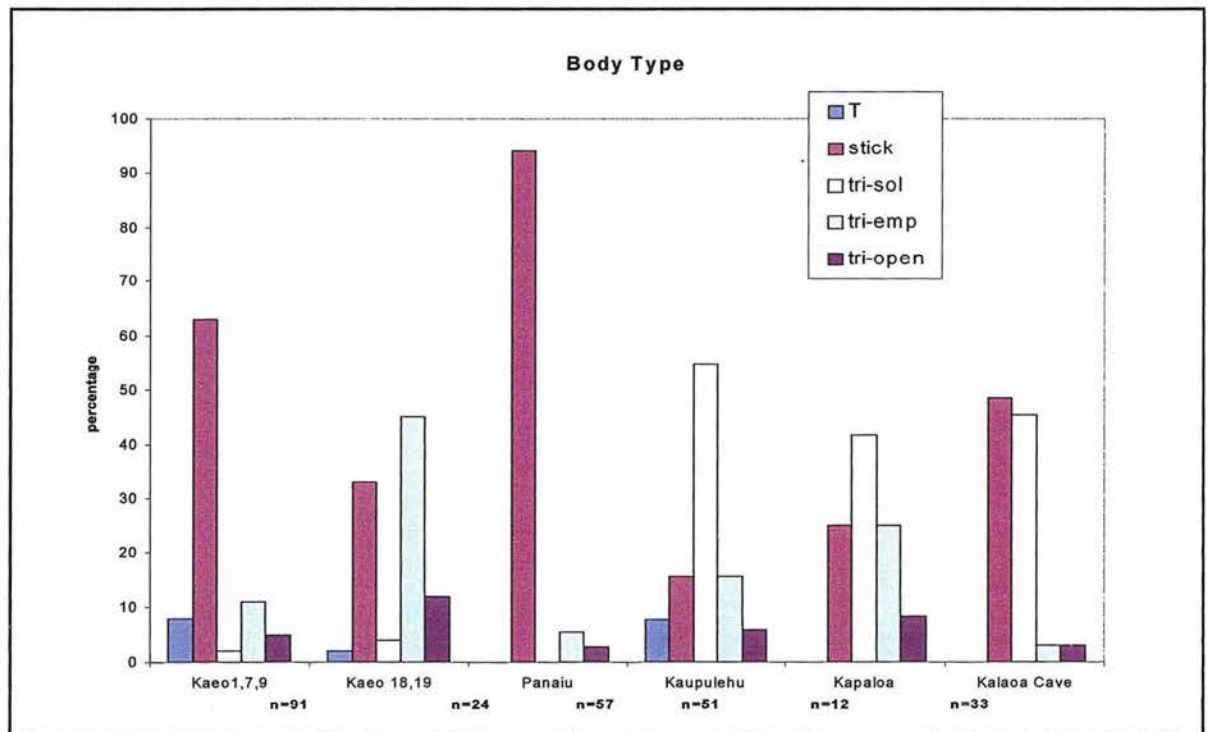
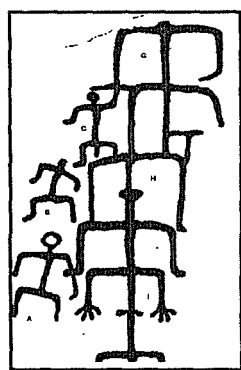


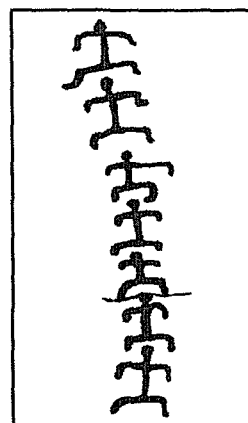
Figure 5.2 Percentages of body types from 6 different sites at Kāeo 1. Kāeo 18 is site18, 19.

Panaiu, though seemingly related to Kāeo because of its close proximity, appears to be very different on the basis of figure type percentages. Out of fifty-seven images, fifty-four

(94%) are stick figures, two are triangle-empty and one, triangle-open bodied, but stick figures are still the most common form. They are found in continuous lines, one positioned above another. The compositions found at this site contrast with those found at Kāeo where the stick figures are connected and sometimes branching (see Figure 5.3). These figures illustrate two different compositional arrangements, a), connected and the other b), continuous figures.



a) Connected figures



b) Continuous figures

Figure 5.3 Figures from a) Kāeo 1 showing connected figures, and from Paniau, b) continuous figures.

Ka'ūpūlehu has fifty-one figures, of which only four (8%) are T figures, eight (16%) are stick figures with the majority ($n = 28$, 55%) being triangle-solid figures. There are eight (16%) triangle-empty and three (6%) triangle-open figures. Data from the figures sampled at this site shows a change in preference for triangle bodied figures. This is distinct from the Kāeo and Paniau sites where the majority is stick figures and the internal composition of connected and continuous figures. Another interesting feature in this group is the high incidence of three digit hands with triangle bodied figures (see Figure 5.4 from Ka'ūpūlehu). This is discussed in more detail in the section on hands.

Kapalaoa is a small sample of only twelve figures. This site, however, is characteristic of triangle-bodied figures, of which there are five triangle-solid figures (42%), three (25%) triangle-empty figures, and only one (8%) triangle-open. I did not see any stick or T figures but they do exist at nearby sites in this area according to Lee and Stasack's data (Lee and Stasack 1999). Kapalaoa is similar to Ka'ūpūlehu in that the triangle-solid body type is dominant at both, followed by equal percentages of stick and triangle-empty body types. All other sites have only one dominant body type.

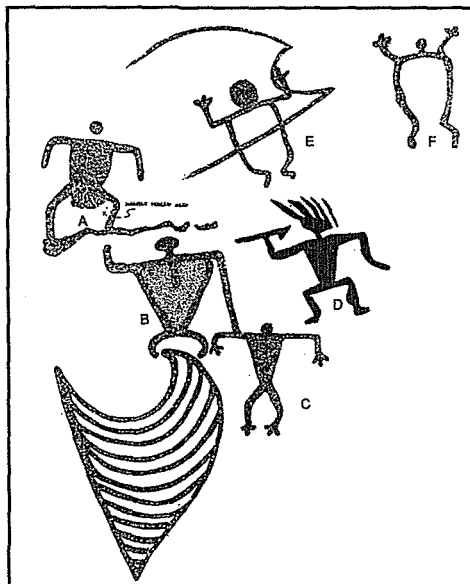


Figure 5.4 Figures from Ka'ūpūlehu (From Lee and Stasack 1999).

Kalaoa Cave is unusual because it is characterised by a nearly equal percentage of triangle (15 or 45%) and stick (16 or 48%) figures. The entire panel has upright figures with many holding 'paddles' over their heads. Only one figure has digits (three) on its hands. See Appendix A, Kalaoa Cave.

5.2.1 Plasticity

Any variation in body texture or application of techniques rendered on the rock surface is the topographic expression, or plasticity, of a motif. This attribute is as likely to be symbolic as variation in form. It may be a 'secondary function' of the plastic layers that function iconically (Sonesson 1994). "Plastic distinctions do not lack significance or point to a different period in time or different craftsmen. The plastic layer can only

convey symbolic meanings” (Sonesson 1994, 309). Evidence supporting Sonesson’s statement can be seen in the consistent use of both solid and outlined bodies that often juxtapose each other. This relationship is certain to be symbolic (see Figure 5.5).

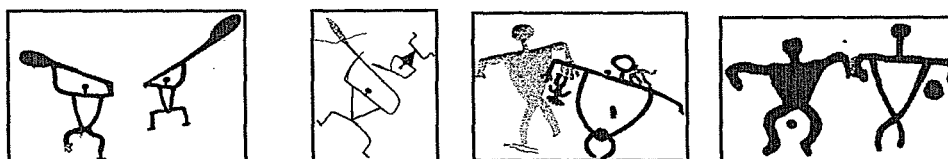


Figure 5.5 Variation of body outline and in-fill known as the *plastic* properties of the engravings.

The semantic intent for rendering a figure solidly pecked or outlined is unknown. What can be shown here are the binary relationships created by the juxtaposition of opposite textural applications. The speculation on what these relationships may represent is infinite: ‘in front/behind’; ‘husband/wife’; ‘male/female’; ‘older/younger’; ‘living/dead’; ‘self/other’; etc. This thesis, however, seeks to establish that such relationships exist in a manner other than a random fashion, and that they are likely to be meaningful.

5.3 Heads

The heads (like the bodies) occur with both empty and solid in-fill. The data from my survey shows Kāeo 1 with forty-three (62%) solid heads, Kāeo 18 with thirty-four (72%) and Kapalaoa with eleven (92%). Paniau and Kalaoa Cave have 100% solid heads. Ka’ūpūlehu has forty-nine (96%) solid heads. Correlations between solid heads and body type were not investigated in this thesis but would represent a further extension of the analytical model being developed here (see Figure 5.6).

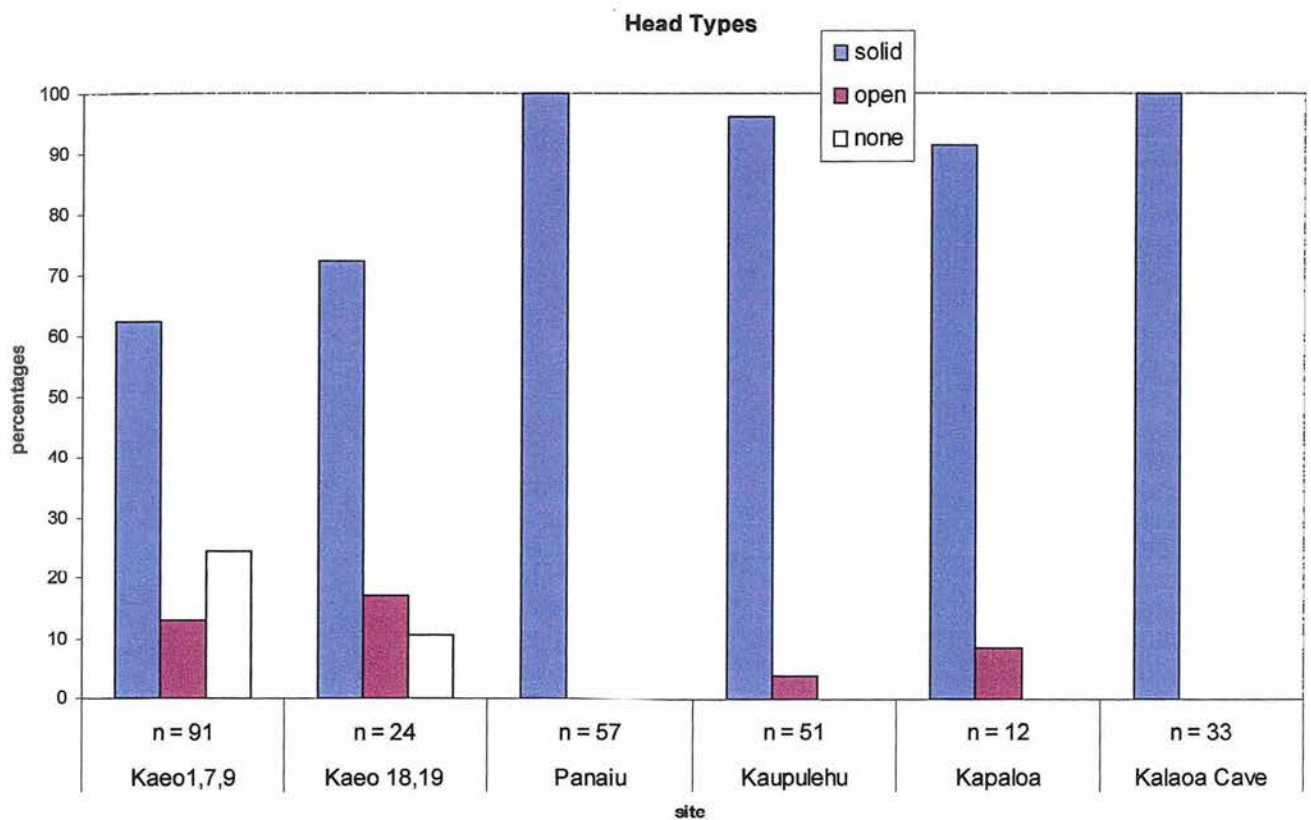


Figure 5.6 Percentages of head types from 6 different sites.

5.4 Arms

5.4.1 Upper Arms

The upper and lower arms are distinguished by juncture at shoulder and the elbow. Where the upper arms are difficult to distinguish from shoulders on triangle-bodied figures, the overall angle is considered for the upper arm position. Most upper arms are horizontal, but diagonally-up is also evident at Kalaoa Cave with eight instances, (24%) holding 'paddles'. At Kāeo 1, 90% of the stick figures have upper arms horizontal. At Panaiu all of the stick figures have this attribute (see figure 5.7).

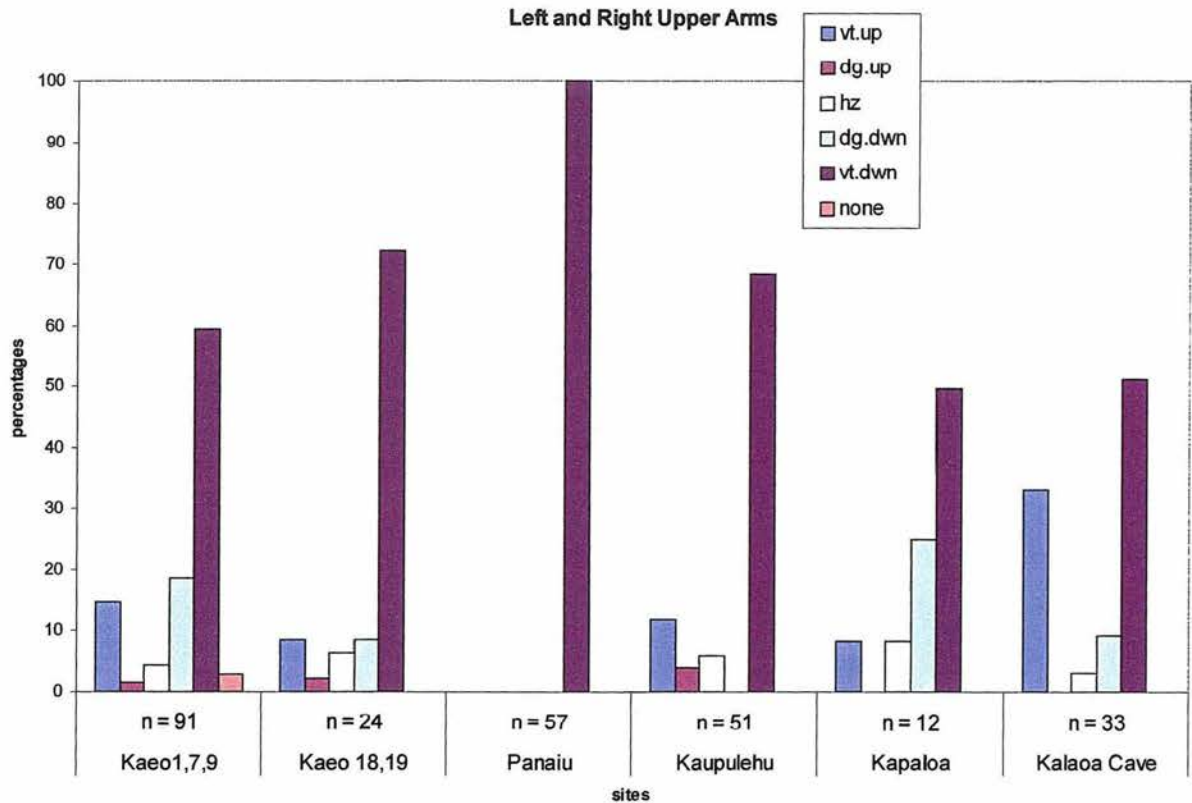


Figure 5.7 Percentages of upper left arm and upper right arm positions.

5.4.2 Lower Arms

The lower arms are especially important in depicting a gesture in sign communication systems (Kendon 1981). In the Hawaiian samples, most lower arms are shown in vertically down positions. At Panaiu all of the figures have the lower arms down. At Kāeo 1 - 19, 65% of the figures have the lower arms down. Ka'ūpūlehu is about the same with 65% average between left and right lower arm positions vertically down and Kapaloa with 54% down. Kalaoa cave has 52% for both right and left vertically down.

Lower arms in the horizontal positions are found in a minuscule percentage (0-4%) at all of the sampled sites.

Vertically up suggests a more “active” gesture. Kāeo1 has ten (14%) lower arms that are vertically-up. It is interesting that at the Kāeo18 through 19 sites there are four (9%) left arms up and eighteen (38%) right arms up. Similarly, Ka’ūpūlehu has six (12%) left lower arms and twelve (24%) right lower arms vertically-up. Kalaoa has eleven (33%) lower arms vertically-up. Opposing arms only occur on ten figures from my data base. Wavy arms and legs are found only on stick figures. Muscled arms are given a category but are not considered significant in terms of gestural positions for this discussion (see Figure 5.8).

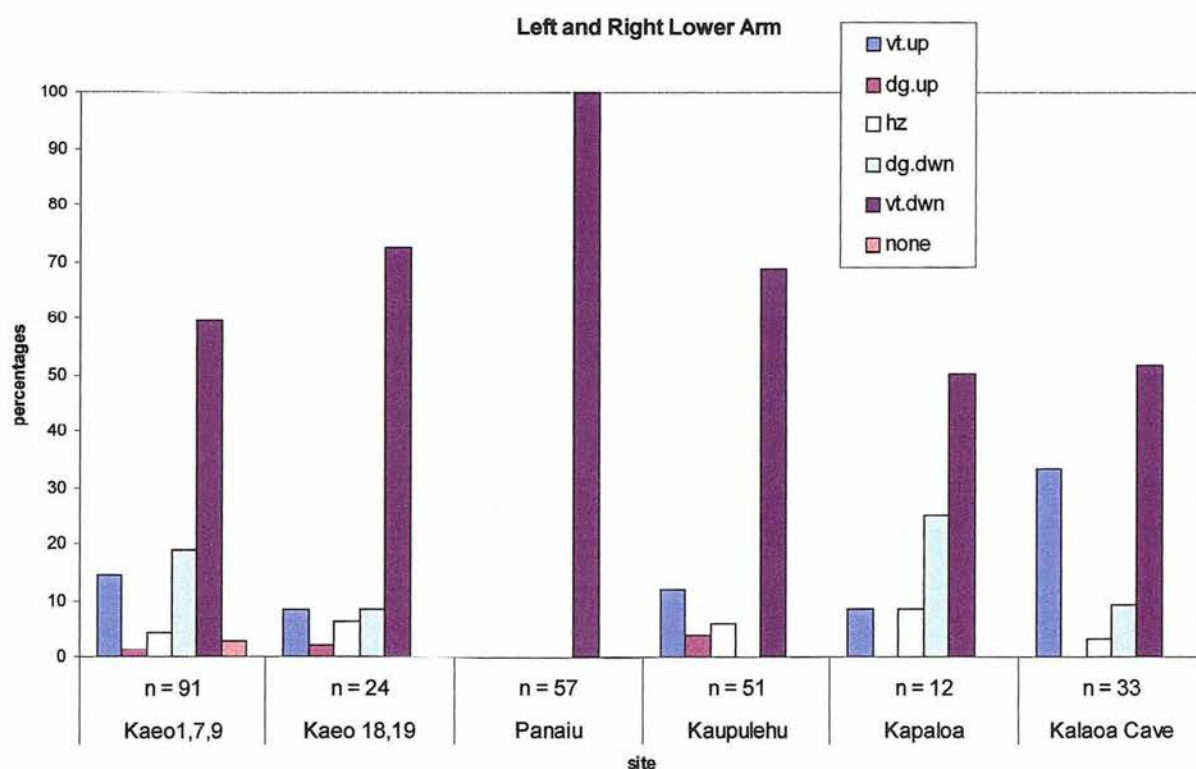


Figure 5.8 Percentage of lower left and right arm positions.

5.5 Hands

Hands are a critical part of gesture, as studies have shown, (eg. Kendon 1981). It is possible that hands are included in gestural depictions when they are significant (signify

something), and absent when not. For this reason my data sheets include a category for ‘hands’ or ‘no hands’.

5.5.1 *Multi-digits and 3-digit Hands*

There appears to have been a clear choice by the petroglyph engravers to consistently depict either multi-digit hands or three digit hands (see Figure 5.9). There are two ways of depicting three fingers. The first is in the form of a cross, with two fingers directly opposing each other across the palm and a third finger at 90 degrees to them. The second is the ‘fan’ type, with two fingers spaced at about 45 degrees either side of a third finger. In this study, I have created categories for counting both cross and fan arrangement of the three fingers.

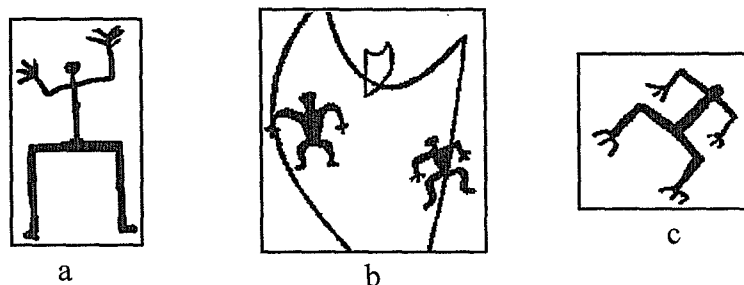


Figure 5.9 Selection of figures with a) multi digit hands, b) three digits in a cross formation and c) three digits in a fan formation.

Hands with more than three digits appear in about four (5%) of Kāeo 1 figures, between five and eight (14%) of Kāeo 18 figures, and in just one figure (3%) at Paniau. No Kapalaoa Cave figure has digits. The asymmetry of right and left hand digits at Ka’ūpūlehu and Kapalaoa is noteworthy in that Ka’ūpūlehu has seven (14%) left hands and twelve (24%) right hands with multiple digits, whilst Kapalaoa has three (25%) left hands and one (8%) right hand with multiple digits.

There seems to be more symmetry in the case of three digit hands for both left and right hands at all the sites. Kāeo 1 has eleven (15%/19%) left/right respectively, and Kāeo18 has the reverse (19%/15% left /right). The anthropomorphic figures at Panaiu have no 3 digit hands, while Ka'ūpūlehu has seven (14%) left and right, Kapalaoa has seven (17.5%) left over three (25%) right and Kalaoa Cave has one left (3%) to four right (12%). Three digit hands are found on triangle bodied figures and stick figures.

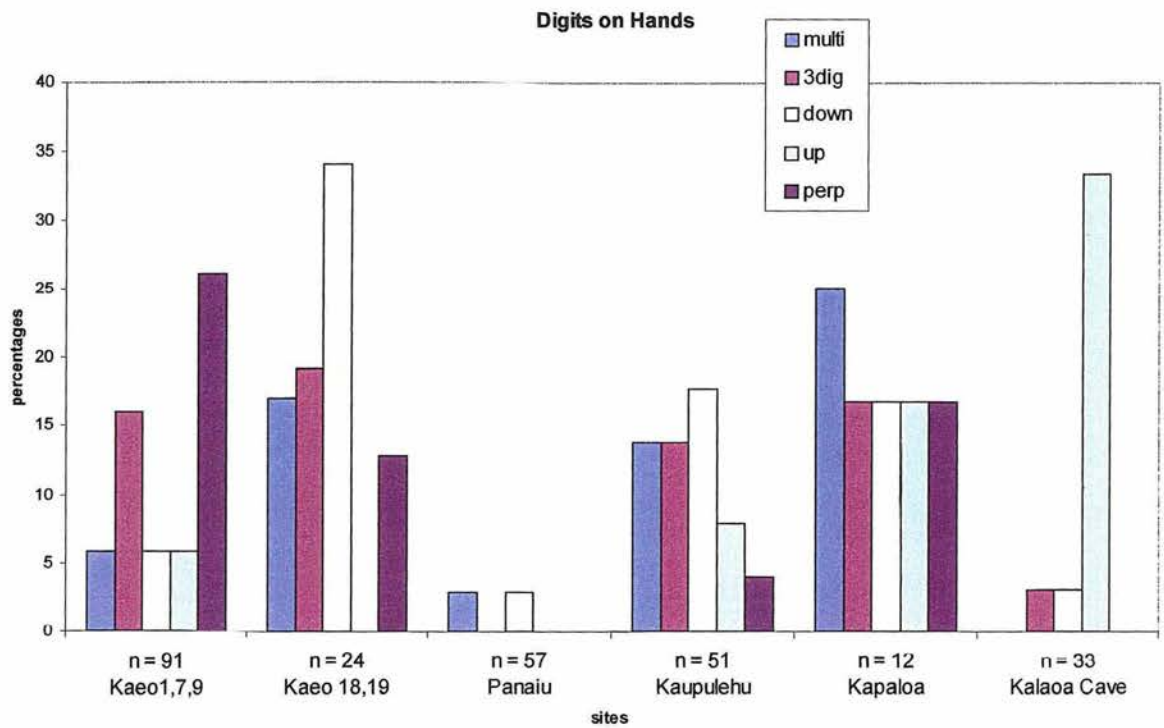


Figure 5.10 Percentages of digits on hands and their orientation up, down and perpendicular.

Multi fingered hands are found only on solid pecked figures, empty-bodied figures and stick figures. In some cases the hands are depicted in an exaggerated way with elongated fingers (see Figure 5.10).

5.5.1.1 Directional Use of 3-digit Hands and Feet

A closer examination of three digit hands has revealed that hands oriented up are never found with three digit feet. In contrast, three digit hands oriented *down* are found with both three digit feet and without. But, in instances where one hand is up and the other is down, the feet will not follow suit (see Figure 5.11).

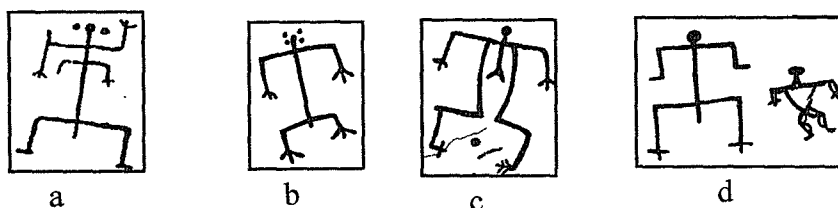


Figure 5.11, examples of three digit hands and feet. a), has opposing hand orientations with no digits on the feet. b) and c) have both hands in a downward orientation and their feet are also down or horizontal. d), has only three digit feet and the hands have flexed wrists. The second figure has only three digit hands.

5.6 Muscles

The depiction of ‘muscles’ is not consistent among the body types and even within the same body (see Figure 5.12). Some figures have ‘muscles’ only on their arms, (a), and some only on their legs (b). Some figures (c) have both arms and legs with ‘muscles’ outlined.

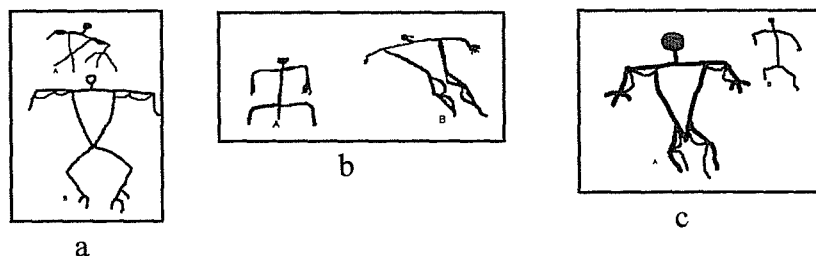


Figure 5.12 Outlined ‘muscles’ of only the arms (a), just the legs (b), and both arms and legs (c).

In some figures the muscles are filled in, (see Figure 5.13) but on others they appear on either the arms, the legs or both.

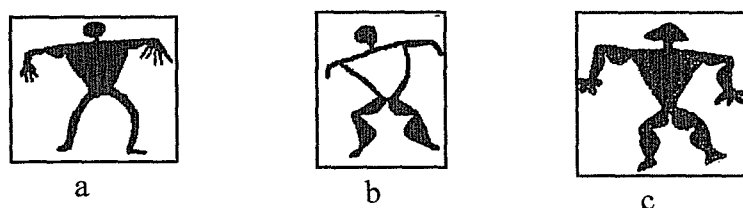


Figure 5.13 Solid muscles in a) the arms, b) the legs, and c), both arms and legs.

5.7 Torso

The torso orientation can be ambiguous when rendered on a flat horizontal surface. For this study I have assumed the orientation based upon the context of surrounding figures that are within the same cluster. Torso orientation is certain when other figures are touching or are very closely arranged within and around a figure. The majority of figures at all the sites sampled have a dominant torso orientation. Taking the dominant orientation as vertical, the other figures are categorised relative to it. Kāeo 18 is an exception because only thirty-seven (79%) are vertical, with seven (15%) inclined and two (4%) inverted. Ka'ūpūlehu has forty (80%) vertical with five (10%) horizontal and three (6%) inverted. Lee and Stasack (1999) warn that determining the orientation is problematic. In order to address this problem, I assigned an arbitrary label 'vertical/upright' to the most numerous class and measured the other figures relative to it. This does not guarantee that 'vertical/upright' really is 'vertical/upright' but it applies a descriptive method for horizontal panels that is consistent (see Table 5.2).

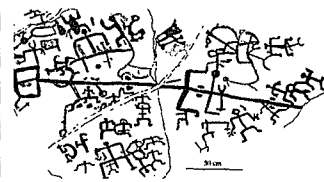
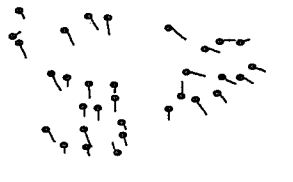
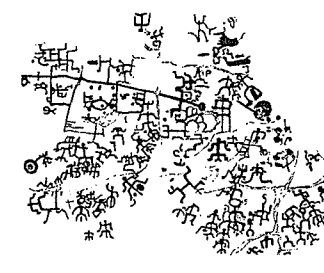
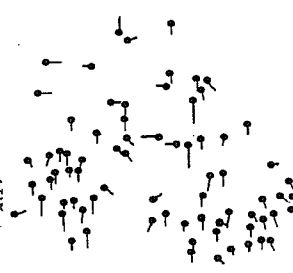

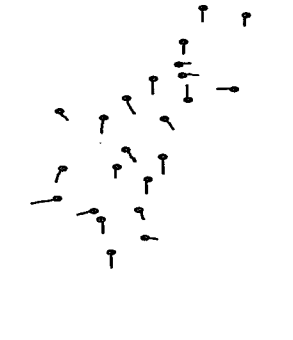

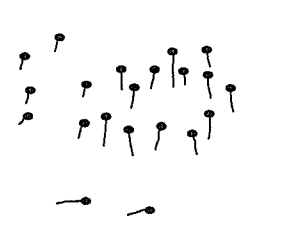

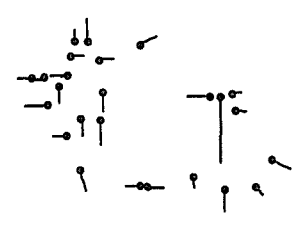
Panels from Kāeo 1	Reduction to dot and line motif	Vert.	Rt. angle	Obl.	Inv.	Total
A 		16 52%	9	6	1	32'
B 		48 65%	13	12	1	74
C 		12 52%	4	7	0	23
D 		19 90%	0	2	0	21
E 		7	11 46%	4	2	24

Table 5.2 Torso orientations of anthropomorphic figures found in clusters, from Kāeo 1.
Note: Vert. (vertical), Rt. angle (right angle), Obl. (oblique), Inv. (inverted).

5.7.1 *Torso Orientation*

Table 5.2 compares the different orientations of contiguous anthropomorphic figures from several densely populated panels on a horizontal plane. The first column shows the complex petroglyph panels. The second column displays each anthropomorphic figure re-drawn simply as a dot-and-line motif to emphasise the orientation of the torso. The third column enumerates the vertical from which the other figure angles are measured and entered in the remaining columns. One can see from this table that any orientation can be designated vertical to the viewer, but for purposes of comparison, the dominant orientation has been designated vertical. The number of these individual figures (with percentages) is recorded in the third column. The orientations of the other figures are categorised as “oblique”, “right angle” or “inverted” depending upon their orientation in relation to the first. Note that Row E was turned around so the majority are at right angles to the viewer’s vertical orientation.

Rows A, B, C and D show very high percentages of “vertical” orientations compared to numbers of all the other orientations combined. The table demonstrates that no matter how the viewer orientates themselves to the panel, the majority of figures will favour one orientation. Row E is an example of this. I use this table to demonstrate that no matter how the viewer orients the drawing (or orients his/herself viewing a flat plane) there *is* a significant proportion of aligned figures in contrast to what one would expect of random alignments. This table demonstrates the possibility that relative alignments are purposeful and that they should be part of the semiotic analysis. It is for this reason that the data sheets tabulate the vertical, horizontal and diagonal position of each figure in relation to others in the same cluster or in close proximity. I disagree with Lee and

Stasack (1999, 24) who simply state that “Human motifs face in all directions if they are located on flat and level surfaces.” The example given by Lee and Stasack appears in row E. Although it may appear to look like random positioning, there still is a higher percentage of one orientation and some possible orientations are absent. Figure 5.14 below summarizes the torso orientations for the six sites.

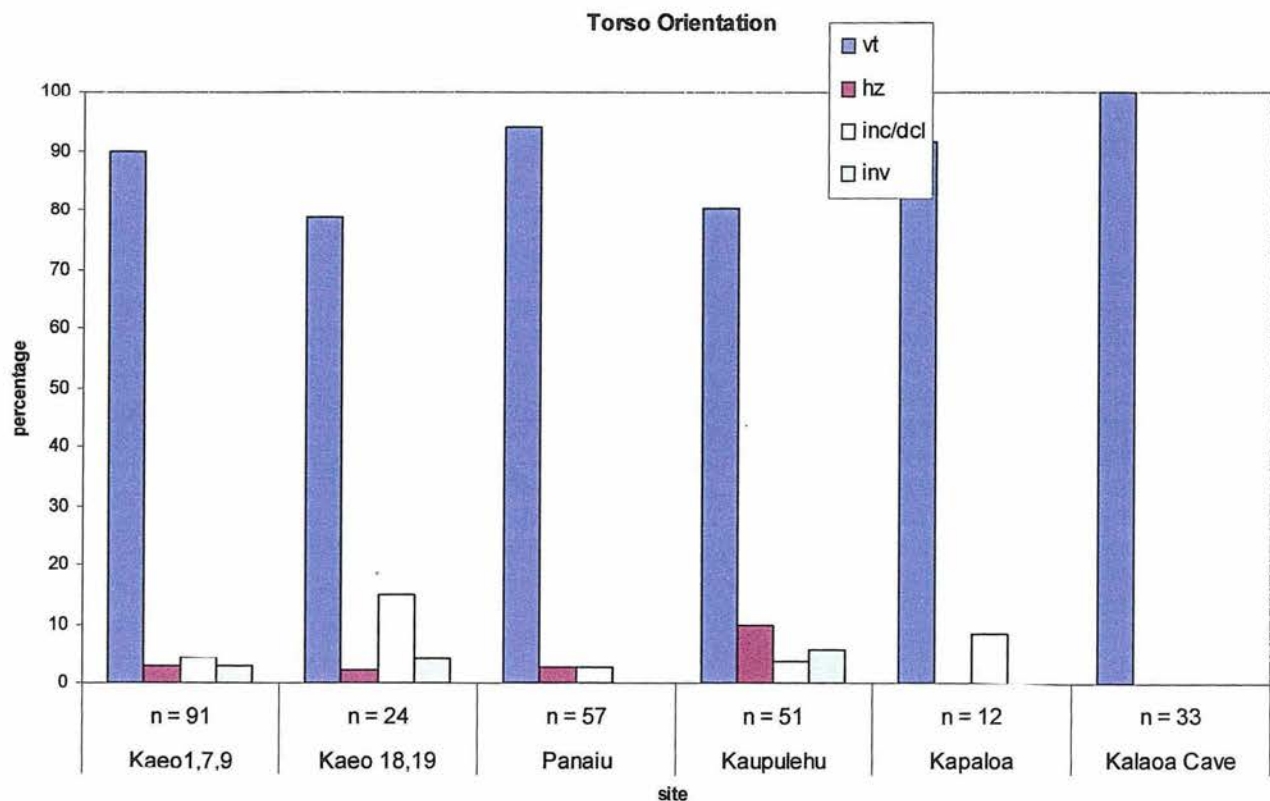


Figure 5.14 Percentages of torso orientation.

5.8 ‘Gender’

The identification of gender is problematical in that Polynesian societies recognized more than one gender. The apparently ‘gendered’ motifs may not be ‘naturalistic’ depictions at all nor have gender definitions been shown to be culturally determined.

Figures with nominally 'female' attributes may be indicating persons other than biological females. Most of the figures (from 88% to 100% at any one site), have no obvious 'gender' identifying features. Pairing with a juxtaposition of contrasting features may be one way of determining gender. Examples of figures that together portray a 'couple' or a 'family unit' are shown in Figure 5.15. Although one might assume the depiction of two genders through association and contrasting features with the other figure, this is impossible to demonstrate from the archaeological record. Previous scholars have identified female gender characteristics by 'breast' dots presumably for nipples, and/or a vulva represented by a natural hole or engraved depression (Cox and Stasack 1970). In the Hawaiian sample, there are contrasting figures in binary relationships that suggests a gender difference, without which the gender of either figures could not be speculatively determined (see figure 5.15).

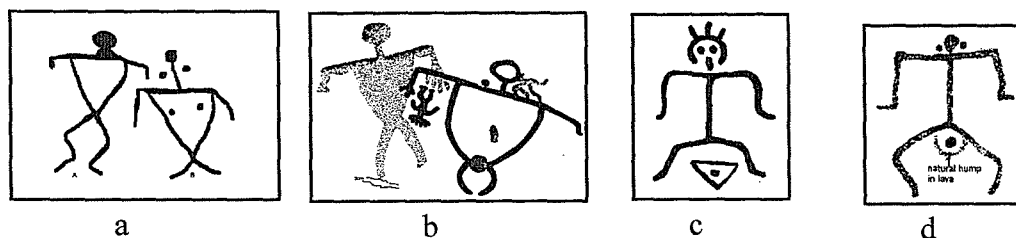


Figure 5.15 a) and b) show possible gender relationships by the juxtaposition of contrasting features. Figures b), c), and d) incorporate a natural hole that may indicate female gender.

The following figure (5.16) shows the distribution of 'male', 'female' and 'non specific' at the selected sites.

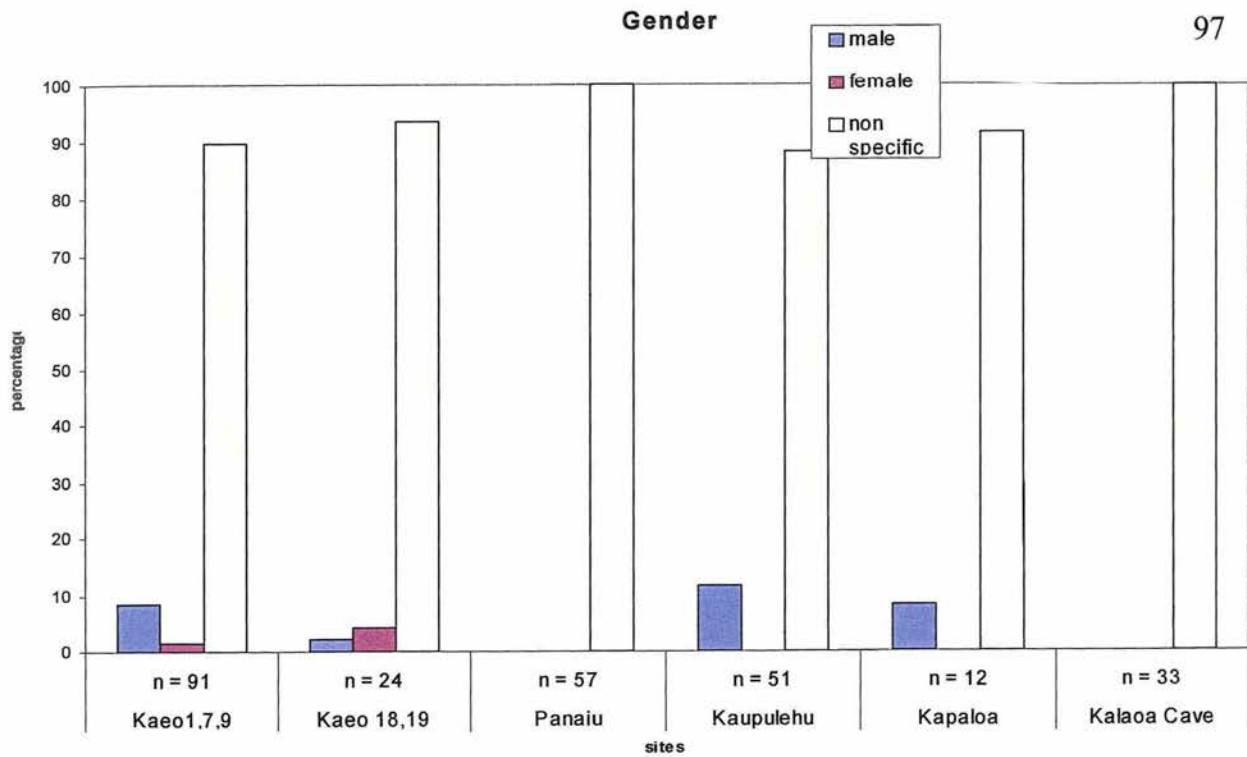


Figure 5.16 Percentages of Hawaiian samples showing gender attributes.

5.9 Legs

The first two categories for upper legs are ‘vertically-up’ and ‘diagonally-up’. Although there were no cases in my Hawaiian sample for these categories, they are retained because examples do occur elsewhere in Hawai’i (Lee and Słasack 1999) (see Figure 5.17).



Figure 5.17

Splayed or frog position.

Horizontal upper leg positions display the highest percentage, with fifty-four, (78%) at Kāeo 1, and 100% at Panaiu. Fewer horizontal leg positions are found at Kāeo 18, with only twenty-one (45%), at Ka’ūpūlehu, sixteen (31%), at Kapalaoa, three (21%*)¹, and Kalaoa Cave, thirteen (39%) (see Figure 5.18).

¹* average between right and left

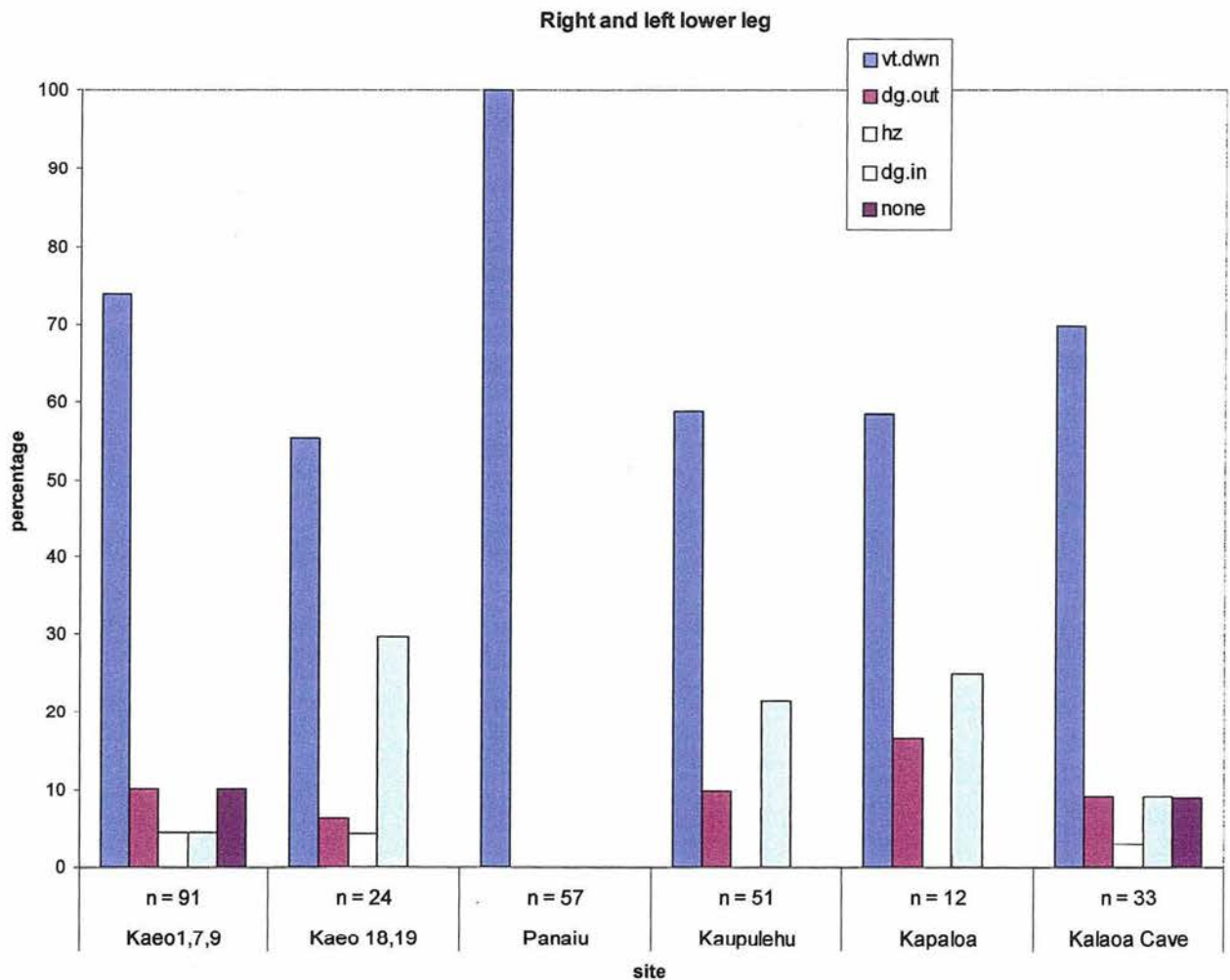


Figure 5.19 Percentages of left and right lower legs.

A small percentage of the lower legs are oriented diagonally-in. Kāeo 1 has 3% diagonally-in, and Kāeo 18 has 28%. There were none for Panaiu, whilst Ka'ūpūlehu had 14%, Kapalaoa has 42% and Kalaoa 9%. This gesture does not seem to be random, as shown in the case of samples from my data base (Appendix A, fig 70b, of Kapalaoa and 53a and b of Ka'ūpūlehu), there is a portrayal of one lower leg vertically-down while the opposite lower leg is diagonally in. The two figures in Figure 5.20 are mirror images. The posture illustrates bracing with one leg and springing off the other leg. These figures

looks dynamic rather than static (see Figure 5.20 below).

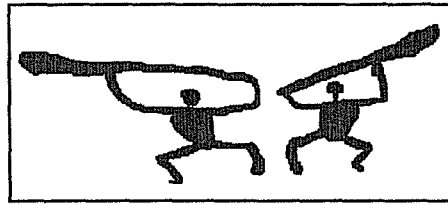


Figure 5.20 Two figures from Ka'ūpūlehu exhibit opposing 'mirror' postures, with facing lower legs vertically-down and opposite lower legs vertically-in. The overall effect is one of dynamic action.

5.10 Feet

Most of the anthropomorphic figures at Kapaloa have feet and almost all are perpendicular (83%). This is in contrast to the other sites where a low percentage of the figures have feet. Paniau has only two figures with feet, while other sites have about 50% with feet. Only a few sites show feet with digits, (0-17%). The most common (51% at Kāeō 18-19) are feet shown perpendicular to the lower leg. Exceptions are the three digit feet or branch-like feet. Feet are less likely to convey gestural information because they are much less differentiated.

5.11 Discussion

The data from my sample seems to indicate that arm positions are purposeful and carry semantic content. In some cases, the gestures are constrained to a specific site and body type. Although Lee and Stasack state that “ There does not seem to be any significant preference for a specific arm position at any location” (1999, 191), my data suggests otherwise. Paniau as an example of a site where 100% of the lower arms are down. I believe the proportions of arms reflects the nature of each individual site, with different localities influencing the selection of topics or concepts. Paniau is an example of the

tenacity in repetition of the same arm gesture (see figure 5.21).

The contrast between the central sites at Puako (Kaeo 1-7) having a higher percent of stick figures (69%) with that of the boundary sites of Puakō (Kāeo 18, 19) that have 62% triangle bodies, suggests a difference in preference from one to the other. My data shows a preference for stick figures in linear compositions, while triangle bodied figures are used in a varied assortment of spatial arrangements that is non-linear. Figure 5.21 shows the use of both stick figures and triangle bodied figures. The stick figures are in a linear composition while the triangle bodied figures are in a non-linear placement. Even though they appear with the stick figures, they are not aligned in the same way (see figure 5.21).

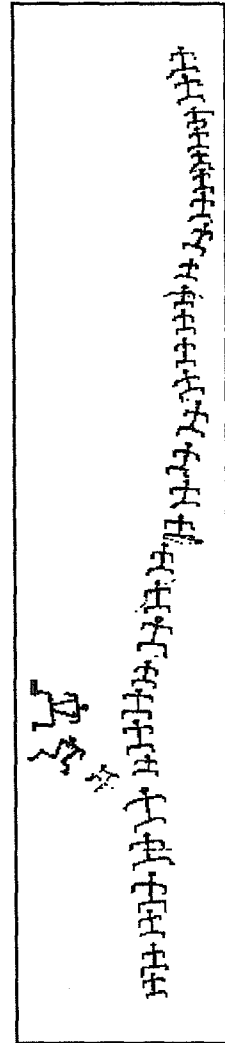
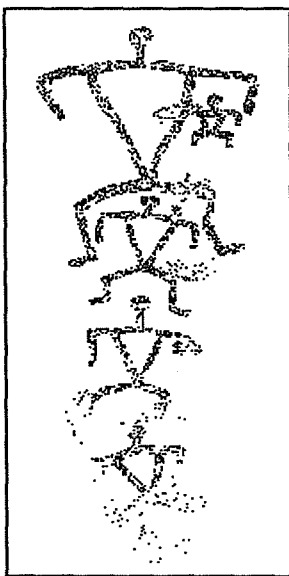


Figure 5.21 Paniau stick figures (from Lee and Stasack 1999, Fig. 3.96)



There does, however, appear to be a single exception to this pattern. Lee and Stasack (1999) record triangle bodied figures in a linear composition at Paniau 3 (see figure 5.22).

Figure 5.22 Triangle bodied figures in a linear formation found at Paniau 3 (from Lee and Stasack 1999, fig. 3.97).

5.11.1 Contiguity

As well as documenting the attributes of individual figures, it is important to include the context in which they are grouped. Their contiguity I refer to as a cluster and I distinguish between figures that are contiguous or independent. I have noted in the data sheets those figures that appear isolated or autonomous. Paniau is clearly different to the other sites, with 100% of the figures dependent or in a relationship with each other. Kāeo 1, 7, 9 and 18 have a mix of both isolated figures and large groupings of related and sometimes connected figures. In contrast, the entire site of Kalaoa Cave is one cluster with no isolated figures. It becomes clear that clusters are a spatial technique that has semantic intent. It is important to consider single figures within a cluster, rather than separately. The original context of a cluster is needed for a more holistic analysis.

5.12 Summary

The data for body types and limb articulations is summarised in the Gestural Attributes for Six Hawaiian Sites, showing a preference for stick figures at Kāeo and Paniau while triangle figures were preferred at Ka'ūpūlehu. All sites contained one or more of the other body forms demonstrating that they did not evolve from 'stick to triangle' but rather the form serves a function as a communicative element. All forms were used contemporaneously. Each form was specific to the subject matter intended. Arm positions, as well, seem to have a high percentage at certain sites and not others. Torso orientations have shown to have preference for one orientation over another, when each figure is considered in relation to all the rest, on a horizontal panel.

Chapter 6 Hawaiian Ethnography and Gestures

6.1 Introduction

The ethnographic data on Hawaiian culture is extensive. From a general survey of this data, I have extracted material regarding how postures and gestures are used and are important in Hawaiian society. I wish to understand the importance of these gestures as a visual communication system and then look for parallels in the structure and organization of these gestures as they are displayed in the rock images. The following is a brief description of some dominant themes in Hawaiian culture, such as genealogies, family relationships, and cosmology that are communicated in gestural displays during ceremonies, dance (*hula*) and traditional orations (*meles*). Examples in the rock art are given of anthropomorphic figures that possibly parallel these aspects of Hawaiian culture.

6.2 Hawaiian Ethnography

6.2.1 Social Organisation

Most of what we know of the social structure of Hawaiian society is based upon what was recorded during the first contact by Europeans. When Captain James Cook arrived in 1778, Hawaiian culture was a stratified society ruled by chiefs who had divided up

the islands into their own territories. Cook may have influenced the transition from chiefdoms to an empire, that resulted 17 years later in the rulership of all the Islands by King Kamehameha I. Hawai'i was unique from other Polynesian societies, in that all of the land and resources were controlled by structures of kinship, that may have evolved in late prehistory (Kirch 2000). Both collateral and lineal kinship relationships dominate orders of prestige, rank and power. Kinship and descent also influences *mana* (supernatural power), an essential ingredient needed for higher rank and power (Oliver 1989, Kirch 2000).

Hawaiian society was stratified into categories (Table 6.1) shown below. At the top of the hierarchy are the *ali'i* who were considered "royalty" in European terms, and were associated with sacredness and supreme *mana* (Oliver 1989). The *ali'i* were formed into eleven grades in ascending order, reaching all the way to the gods. The *ali'i 'ai moku* were the paramount chiefs, descended directly from a deity, and held the titles to land tenure and dictated orders of who worked the land and who carried out public work projects. Below the paramount chiefs were the priests. Malo (1951) lists several categories of specialized priests, *Kahuna*, who were part of the chief's entourage which also included political advisors, military experts, architects, astrologers, food handlers, priests, keepers of his images and paraphernalia, and servants to whisk away flies and stand over him as he slept. The specialized priests (*Kalaimolu, Kuina, Kahuna Nui*) were believed to be in control of the *mana* that was the source of power for the *ali'i*. The lower-ranking chiefs were in charge of the smaller divisions of land. They protected the people and provided for important ceremonies that required food distribution and retribution to the paramount chief. Among the lower chiefs at least ten ranking levels

were based on genealogical pedigree and *mana*. Below the chiefs were the *Konohiki* or land managers. These administrators controlled the land rights at the household level and acted on behalf of the district chief. Land use was designated by payment of taxes each year by individual families and the land farmed by the *maka'ainana* commoners.

This class system was subject to shifts between the ranks. Among the *ali'i 'ai ahupuna'a* dishonour could occur by the outcome of a battle resulting in lowered rank. Rank could be contested by a person knowledgeable in genealogical records resulting in either elevating or lowering rank to that of a commoner. Alternatively, a *maka'ainana* could elevate his rank to the status of a lesser chief based upon deeds of honour, or by marriage to a high ranking woman. But ultimately, supreme power and rank came from inheritance and direct lineage to the major deities (Brodley 1999). Table 6.1 gives a general description of the stratification of Hawaiian society.

<i>Lono, Kū, Kāne, Kanaloa</i> (Major Deities)			
Mediation			
<i>Ali'i 'Ai Moku</i> (King, descendant of Deity)			
<i>Kalaimolu, Kuina, Kahuna Nui</i> (Specialized priests)			
<i>Ali'i 'ai ahupuna'a</i> (Chiefs)	<i>Ali'i 'ai ahupuna'a</i> (Chiefs)	<i>Ali'i 'ai ahupuna'a</i> (Chiefs)	<i>Ali'i 'ai ahupuna'a</i> (Chiefs)
<i>Konohiki</i>	<i>Konohiki</i>	<i>Konohiki</i>	<i>Konohiki</i>
(Land managers)			
<i>Maka'ainana</i>	<i>Maka'ainana</i>	<i>Maka'ainana</i>	<i>Maka'ainana</i>
(Commoners)			

Table 6.1 Stratification of Hawaiian Society, (after Kirch 2000)

Rank achieved by genealogical ancestry depended heavily upon records committed to

the memory of orators skilled at reciting song chants of lineage going back hundreds of years. A child inherited his or her level of rank from both parents and some children gained their parents' combined rank, which served to elevate the child's rank above that of their parents (Malo 1951). Genealogical ancestry was of prime importance in establishing a person's social position.

6.2.2 *Genealogies*

The Kamehameha family pedigree can be traced back 99 generations to the original ancestor gods (Malo 1951). But as human ancestors joined the lineage it lowered the ranking. To combat this effect, the Hawaiian families of paramount chiefs encouraged the union between brother and sister. Children from this union were given the highest possible level of rank and consequently possessed an extreme amount of mana. "This is called *niaupi'o* rank. The union of brother and sister is called '*pi'o*' which means 'arching'. The union is symbolized by the image of a bow" (Beckwith 1972). Malo also records this symbolism calling it a "bow, a loop, a thing bent on itself. . . so sacred that all who came into his [the rank holder's] presence must prostrate themselves. He was called divine, *akua*" (Malo 1951).

The Hawaiians use fine gradations within this ranking system that are derived from family lineage. As a result, they have very accurate and complex genealogical records. Within chiefdoms, and in the rise of the unified state, there was a pattern of inheritance that was dependent upon high ranking individuals who passed down the ownership of fertile land to successive generations. Though traditional Hawaiian society was patrilineal, women of high rank were sought out for marriage to improve the rank and prestige of the children. At the time Cook landed women were allowed certain powers

that were equivalent to that of male chiefs. Over time, women attained the same, if not more power than men and bilateral descent became the norm (Goldman 1970). Linear genealogies are critical to rank, inheritance and land ownership and complex kinship structures are critical also in regulating day to day life. Lateral relationships are critical in defining political and family groups.

6.2.3 *Linear Structures: Generations*

There are many words in the Hawaiian language that are related to genealogy. The word *hanauna* means “birthings” and refers to one generation. Evidence of what appears to be the representation of a single generation can be found in what looks like a birth (Figure 6.1 below). The small figure positioned between the legs of a larger figure depicts the head-down body posture of a birth. The shoulders of the ‘mother’ are rounded, while the shoulders of the second figure are square.

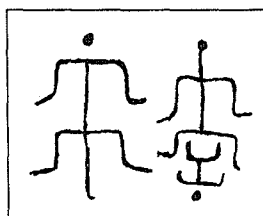


Figure 6.1. The ‘birthing’ scene from a panel at Kahuluu, Hawai’i (Cox and Stasack 1970).

Genealogical sequences would logically be depicted as a succession of births. It has been suggested that the body posture and spatial position of consecutive figures placed under the open legs of the one above it, illustrate a succession of ‘birthings’ by Martineau (1973) Figure 6.2. His interpretation was based only from the body posture and proxemic arrangements. The following sites at Paniau illustrate a the use of body gesture that appear to mirror the ‘succession of births’ or very long counts of generations that are of paramount importance in Hawaiian society, Figure 6.2, Paniau.

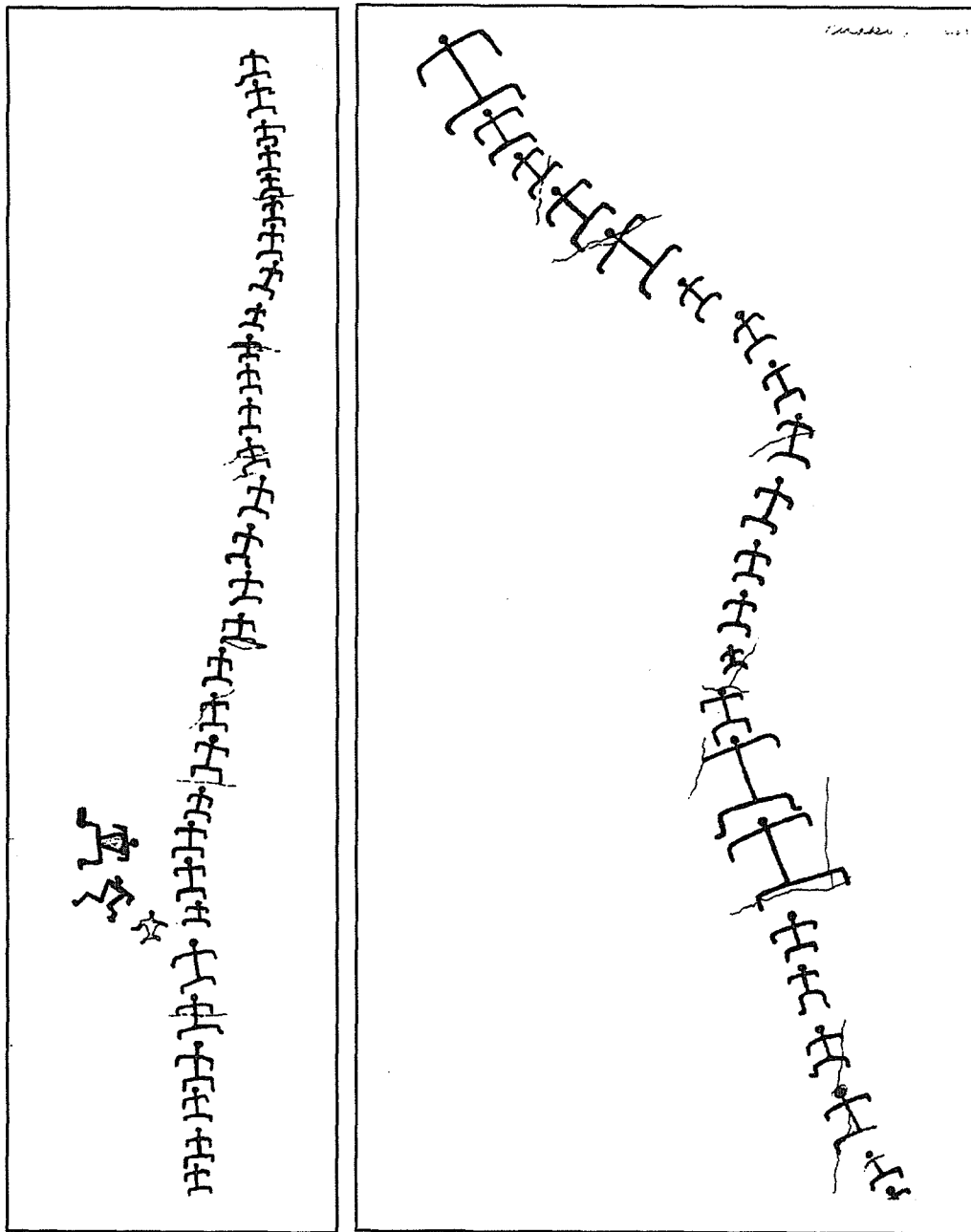


Figure 6.2 Anthropomorphic figures depicting long successions of “birthing” postures found at the Paniau site. (From Lee and Stasack 1999).

Linear structures are found in the genealogical records, that were kept by chants that recited in detail the names of every individual in the ancestral line. The most important chant was called the *Kumulipo*, that accounted for the origin and organization of the Hawaiian deities all in proper order. It contained a genealogical section that continued up to the time of King Kālakaua of the late 1800s. It was called the ‘Genealogy of the Beginning of the People of Hawai’i’ (*Kuauhau Ho’okumu honua o Hawai’i*). “This is the genealogy of the Hawaiian people, that is, from *Kumulipo-ka-po* to *Wakea* (the sky) and *Papa* (the earth)” (Beckwith 1972, 155). These two deities are the original Hawaiian ancestors and people of highest rank can trace their ancestry back to them. The *Kumulipo* is illustrative of lineal descent from the original ancestors.

The Hawaiians use the metaphor of a ‘spine’ to represent a line of ancestry that supports claims to rank and power. “Like your spine, your ancestry supports you throughout your life” (Ho pers. comm. 1999). Similarly, the linear composition of anthropomorphic figures at Paniau are like vertebrae forming a sinuous spine supporting the individual represented at the end.

6.2.4 *Lateral Structures*

In contrast, Cox and Stasack (1970) interpret Fig. 6.2 as “marching men”. They have chosen to view the orientation of the figures as heading toward the viewer in nearly an inverted vertical position. Cox and Stasack base their interpretation in part, on the interpretation of another small petroglyph panel located at Kahaluu, Kona, (Figure 6.3). This panel is reported to represent the headless form of Kamalalawalu, King of Maui, who tried to invade Hawai’i and depose King Lonoikamakahiki. The myth recounts the

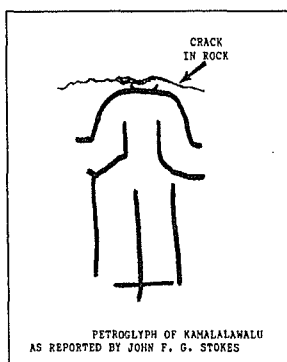
march of Lonoikamakahiki's men across the island to battle with the invading armies of Kamalalawalu. Cox recounts the story here:

When Kamalalawalu, king of Maui, invaded Hawai'i, Lonoikamakahiki the king of Hawai'i [about 1600 according to traditional genealogies] was in Kahaluu. On hearing of the landing near Kawaihae bay, Lono held a council of war at which two old priests presented the following plan: Lono was to disgrace them and drive them from court; they were to seek refuge from the enemy and confidence being gained advice was to be given that a march be made inland toward Waimea where they were to claim that Lono was in such a weak position that his defeat was certain. The plot succeeded, and while Kamalalawalu marched inland, Lono brought his forces along the coast from Kahaluu and cut off the retreat. Kamalalawalu was killed in the engagement that ensued. His body was brought to Kahaluu, a picture made of it on the rock, and the body sacrificed in the nearby haeiaiu [temple] of Keeku, (Cox 1970, 73).

The petroglyph site was recorded by Stokes (1906 n.d., 34-35 in Garn 1995). (See Figure 6.3 below.) He gives the following account:

The attention of the writer in the field was first drawn to petroglyphs at Kahaluu near the heiau of Keeku by information from a native that there was a picture on the beach... at a point about twenty-five feet from the sand was a doubly outlined petroglyph representing a headless human figure, cut into a smooth part of the lava to a depth of 0.5 inch. The guide said it was Kamalalawalu. About it in all directions were numerous faint single-lined figures which the native appeared to see for the first time, and which he suggested were Kamalalawalu's men (Stokes 1906, 34).

Cox and Stasack recount a slightly different story from the observations of Stokes, (1910, 45-46):



At the time of these investigations there was living in Kahaluu an old native named Malanui, eight-six years of age [born about 1823], who after the petroglyphs were marked led the writer to the beach and pointed out the figure of Kamalalawalu. [A large, deeply cut, headless figure on the beach shelf, under water at high tide.] The other petroglyphs, when his attention was called to them, he declared he knew nothing of, and offered no suggestions. The following bit of history had been previously communicated by him, and is confirmed in part by Fornander [1880, Vol.2, p.123].

Figure 6.3 Petroglyph of Kamalalawalu, (Garn, 1995, 79, fig.8).

Cox and Stasack linked this site and the Hawaiian legend to other petroglyph sites. They see the long strings of anthropomorphic figures found at Paniau as suggestive of 'Marching Men' (Cox and Stasack 1970). Their interpretation is problematical because, in my view, the Hawaiians were capable of showing multiples of 'men' in a linear arrangement in a lateral composition that did not incorporate the physical gestures of 'birthing'. An example can be found in the spatial positioning of anthropomorphic figures on the west wall of Kalaoa Cave, that are aligned laterally in horizontal rows. Also present are depictions of clubs or paddles held overhead in an active aggressive posture. See Figure 6.4.

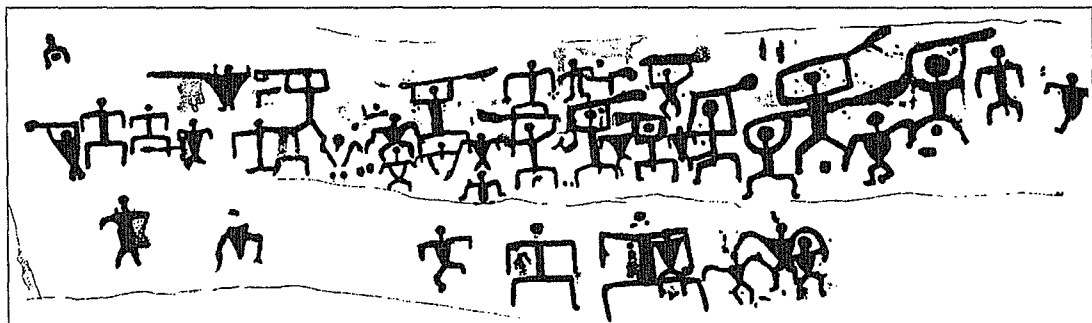


Figure 6.4 West wall of Kalaoa cave, showing lateral proxemic arrangements of anthropomorphic figures in horizontal rows. (From Lee and Stasack 1999.)

Paddles were used as weapons for fighting canoes, and, at times, ceremonial paddles were used in religious dancing. Paddles have enormous significance throughout Polynesia, related to status and became an extension of the person using it. Steering paddles were given names, and even the mythical canoes of the gods had their steering paddles named (Lee 2003: 82).

In terms of spatial arrangement, the different interpretations of Figure 6.2 seem to be derived from a personal cultural context. Cox and Stasack (1970), and Garn (1995)

favour the ‘Marching Men’ interpretation that may stem from their own affinity to war themes. Cox and Stasack speculate that this spatial arrangement of figures represents a solution to the problem of portraying many men moving or standing in a line. I would argue that the composition of body postures and spatial positioning of anthropomorphic figures at Paniau follow rules of Hawaiian family lineage that dictated social control and ownership of land. The **vertical** arrangements of Figure 6.2 represent a series of one-to-one relationships (genealogies and recitations of generations). Each figure is directly related to the next, but not to the others in the line. Whereas the **horizontal** composition in Figure 6.4 shows several rows in a relationship with each other as a whole. This group formation is representative of a group such as a ‘team’ or ‘regiment’ that is organized to communicate the solidarity of a ‘group’ typical of the military and simultaneously performing the same action. The structure of the information at Paniau and that of information involving land tenure is similar in form. In contrast, the information structure of war and aggressive action is different from that of genealogies and families.

6.2.5 Family

Information structures found to convey the idea of family is in the Hawaiian’s use of plant metaphors. Handy and Pukui write:

Oha means the shoot growing from the corm of the taro plant: The family as a group was termed ‘*oha-na*, which literally means “all the offshoots.” *Pulapula*, which was applied to human offspring or descendants, literally means offshoots of a plant. *Kupuna*, or ancestor, is probably the substrative, formed by the suffix *na* affixed to the root *kupu*, to grow. *Laupa’i*, which means specifically the first leaves put forth by the newly planted taro, is used figuratively to describe a family that is growing, producing many children. A person who had no grandchildren of his own and who is in danger of having no descendants was *lala make*, a “dead branch.” One with living descendants was a “living branch” (*lala ola*) (Handy and Pukui 1972, 198).

In a similar way, the branching plant metaphor can be seen in what Lee and Stasack refer to as branching or “connected figures” that occur at Kāeo I. Especially illustrative of this composition is Figure 6.5. This branch-like composition may be similar in structure to ‘family’ relationships stated through plant metaphors. The figures in Kāeo 1, a) and b) of Figure 6.5, show connected figures. Note that in b), there are two turtle-like figures with open bodies. In the context of Hawaiian culture, the ‘turtle’ may serve as an *aumakua* (totems, ancestors or spirit helpers) for the families or an individual represented here. The third illustration c), of Figure 6.5, also shows a figure with ‘root-like’ genitalia. This may reflect what Goldman (1970) calls “rootedness” in the way Hawaiians define their families.

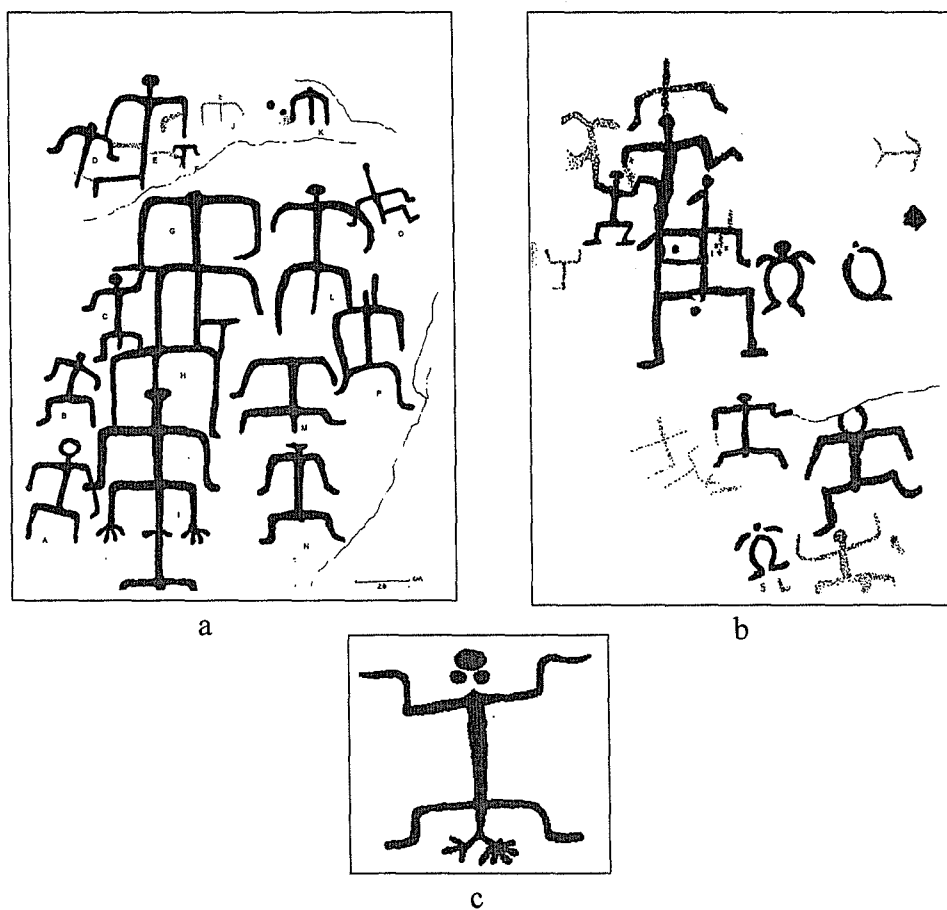


Figure 6.5 Samples from Kāeo 1 showing connected figures, a) and b) that have a ‘plant-like’ composition and may represent ‘family’ relations similar to the plant metaphors found in Hawaiian culture. Figure c) with root-like genitalia reflects similar Hawaiian metaphors of family relations.

The Hawaiian language is replete with metaphors that draw upon their natural world. It is important to examine these cultural idioms or metaphors because they are likely to have been used also in other forms of Hawaiian communication systems, including rock art.

6.2.6 *Ancestors*

The word *mo'o* is a general term used in referring to lineage. Handy and Pukui (1972) state that “the *mo'o* or lizard migration came under the leadership of *Mo'o-inanea* (lizard-that-enjoys-itself), who was their chiefess.” These lizard-people were both good and bad. They first settled on Oahu. All of the reptile, lizard or water dwellers were *mo'o*. The colour associated with *mo'o* is yellow and can be found in ponds and streams. “Those who were related to the *mo'o* (reptiles), or water spirits, took their dead, wrapped in yellow tapa to a stream with an offering of a reddish brown or brindled dog. These prayers were chanted till the *mo'o* appeared, large and small, and the body was lowered into the water to become a *mo'o*” (Handy and Pukui 1972, 151). According to Handy and Pukui (1972,197) the word *mo'o* or *kuamo'o* means succession. The word *mo'okupuna* means the succession of ancestors. The word *mo'oku'auhau* means the story or telling of genealogy. There are strong associations between ancestors and genealogical descent with the lizard figure. But stronger support comes from the ethnographic reports of Handy and Pukui who state that “The imagery of *mo'o* (lizard, with vertebrae visible) and *kua mo'o* (backbone, spine, road, trail) is apt and obvious as a simile for sequence of descendants in contiguous unbroken articulation” (Handy and Pukui 1972, 197). The Hawaiians use this metaphor of a ‘spine’ to represent a line of ancestry that supports claims to rank and power. “Like your spine, your ancestry supports you throughout your life” (Ho pers. comm. 1999).

Hawai'i has many rock art sites that depict lizard-like anthropomorphic figures. It has been suggested that three digit hands portrayed in figures are a reference to a 'lizard' or ancestor (Lee and Stasack 1999). The very large stick figure at Kāeo1 is believed to represent a lizard or *mo'o*. "It measures 7 metres in length and is heavily carved with numerous overlapping forms and figures including a long lizard-like form that continues across both sections" (Lee and Stasack 1999). Lee (2003, 84) writes: "Kaeo 1 have suggestions of *o'hana* (family, group, kin-group, related), with connecting figures, small feet, and a huge 'mo'o' (lizard or reptile) that spans the central portion of the site. Mo' can be translated as 'backbone' as in a family genealogy." Figure 6.6 is the tracing of the main panel at Kāeo 1 (from Lee and Stasack 1999, 16-17).

The Hawaiian culture emphasises genealogy, kinship and the importance of ancestors as determinants of rank and power. The parallels between the linear sequencing of anthropomorphic figures in the petroglyphs with that of Hawaiian social structure in terms of linear and collateral kinship structures, generational long counts, and ancestor worship are very apparent. The descending sequencing of figures in Figure 6.2 mirror Ho's metaphor of a spine-like support system connecting the ancestors to the present generation. The military-like lateral arrangement of Figure 6.4 suggests an aggressive composition with more affinity to 'marching men'. The lateral 'branching' depicted in Figure 6.5 are consistent with Hawaiian concepts of family and kinship. The multitude of kinship terminologies and the importance of ranking within groups are reflected in the complexity of Figure 6.6. This panel has a very complex composition involving different relationships between figures marked by the variations in gesture and proxemic arrangements. The Hawain ancestors and gods are the next topic of investigation.

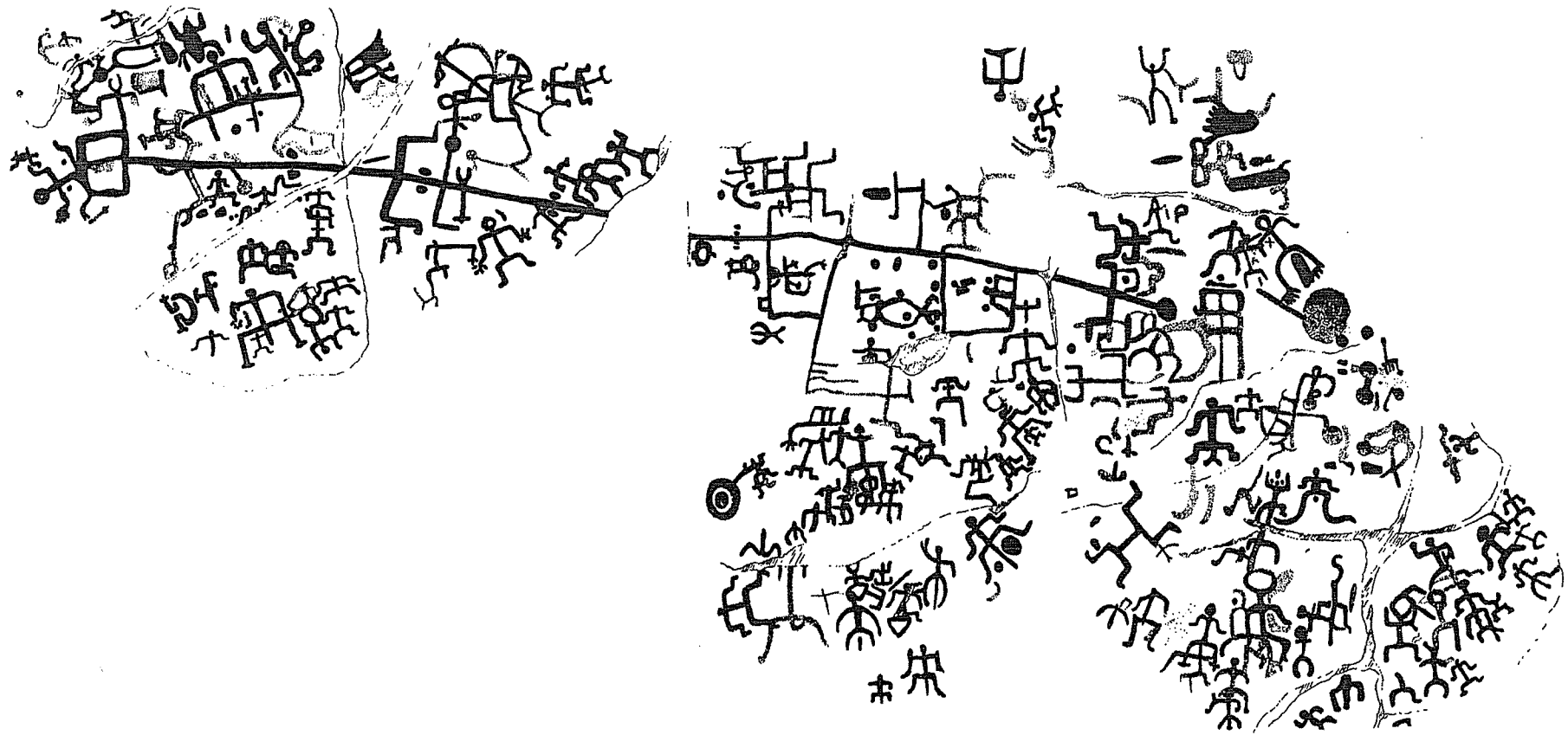


Figure 6.6 Tracing of the main section at Kaeo 1, believed to represent the mo'o or lizard ancestor according to Lee and Stasack (1999).

6.3 Hawaiian Cosmology

Among the hundreds of Hawaiian gods, there were four very important ones: *Kū* god of war, *Kanaloa*, lord of the ocean and companion to *Kāne*, the leading god among great gods and *Lono*, god of thunder, rain, agriculture and fertility. The origin of the universe has been preserved in the *Kumulipo*, a chant or creation story that has been passed down through countless generations. The *Kumulipo* states that in the beginning, there were two periods, that of night (*Pō*) and that of day (*Ao*). The *Pō* period is only for the gods and man does not appear. During the *Pō* time, the first life is formed of opposite sexes. From their union are born the simplest life forms that include corals and molluscs. The next section of the chant continues with *Pō: Pōuliuli* (Deep-profound-darkness), the male force and *Pōwehiwehi* (Darkness-streaked-with-glimmers-of-light), the female force. They create fish. In the third section *Pō'ele'ele* (dark night) and *Pōhaha* (Night-just-breaking-into-dawn) create the winged creatures, insects, and birds. In the fourth section of the chant, *Pōpanopano* and *Pōlalowehi* create the amphibians. The chant continues with the creation of animals, the fifth section describes the creation of the pig, the sixth section the rat, the seventh section the dog, and finally the eighth section describes people. From the appearance of people there is a transition from *Pō* to the *Ao* period. Here the genealogical accounts begin (Valeri 1985).

6.3.1 Images of the Gods

Beckwith (1972) writes that with the creation of men comes the birth of the gods, *Kāne* and *Kanaloa* whom all men worshipped. This relationship was manifested by small carvings and large statues of the gods that accompanied the men. Valeri (1985) even suggests that this represents man's ability to control the divine by means of images. The

relationship between the gods, and images of the gods is important because the Hawaiian sculptures that existed at the time of Cook's arrival may be represented in the "muscled" anthropomorphic figures (discussed later) found in the petroglyphs. Both are similar in stature and profile. The relationship between man and god, and representations of the gods clearly dominate Hawaiian cosmology and perhaps the petroglyph iconography. Valeri expresses the dynamic relationship between gods and men that is reflected in the carved images that would include petroglyphs.

"Man's appearance as the creator of divine anthropomorphic images (ki'i) marks, then, a transformation of the divine.... It is immediately clear, then, that the personal gods, represented by images man carves in his own image, do not exist independent from him and from the symbolic power that, as his very name demonstrates, characterizes him" (Valeri 1985, 8).

6.3.2 *The Pantheon and Multiple Meanings*

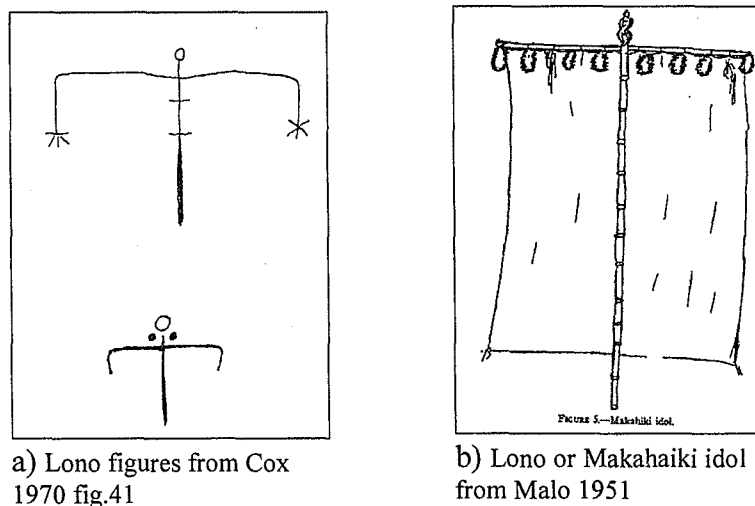
The concepts associated with *Pō* and *Ao* are found in metaphors for different states of divine power that are also relative to the states of being in Man. Each deity is also metaphoric of certain attributes that are manifest in the physical world. There are three forms they can take: natural phenomena and biological species; living human forms; and actinically produced forms like carvings (Valeri 1985). One of the manifestations for the god Lono, for instance, is the pig. The pig represents human properties such as virility, activity, bellicosity, etc. Table 6.2 illustrates the different attributes associated with the four major gods.

Gods	Kū	Kāne	Kanaloa	Lono
Colours	Red	Red, Black, White Yellow	Red, Black	Black
Directions	High, east, right	Right, east, north	Left, west, south	High, leeward, left
Days of month, periods of day	1 st to 3 rd days of lunar month, dawn	27 th to 28 th days of lunar month, dawn	23 rd to 24 th days of lunar month, sunset	28 th day of lunar month
Natural and inorganic phenomena	High mountains, high sea, sky	Emerged world, light, lightning, spring water	Subterranean world, sea bottom, seawater, tides	Clouds bearing rain, thunder, noise
Plants	Forest trees, coconut, breadfruit	Banana, sugar cane, bamboo	Banana, bamboo	Gourd, sweet potato
Animals	Dog, hawk, fish, game fish, bird	<i>ama'ama</i> and <i>aholehole</i> fish, rooster, pig	Octopus or squid, <i>'ama'ama</i> , <i>aholehole</i> , rooster, pig	Pig's attributes represented by deity Kamapua'a
Seasons	Season of kapu pule (temple ritual)	Sun's northern limit on ellipse, summer	Winter	Makahiki season rise of Pleiades rainy season
Functions	Fishing, war, canoe building, sorcery	Male power of procreation, irrigated agriculture, fish ponds, sorcery	Death	Non-irrigated agriculture, fertility, birth, medicine

Table 6.2 Principal attributes of the four major gods, (after Valeri 1985).

The major god Kū' is associated with war, fishing and other male activities such as canoe building, image carving and temple building. Thus, physical representations of Kū can be symbolised by these activities or objects (Valeri 1985). By extension, a dog, hawk or game fish are metaphors of Kū “because they evoke the warrior and his different attributes. Birds with precious plumage are the “bodies” of Kū because their feathers adorn the images carried onto the battlefield and decorate the helmets and capes of the warriors” (Valeri 1985). Table 6.2 illustrates the complex symbolism of Hawaiian iconography.

Cox and Stasack (1970) and Lee and Stasack (1999) have pointed out the possible representation of the god Lono by a certain stick figure in the petroglyphs. Figure 6.7 compares the illustration by Cox with a drawing of the god Lono by David Malo (1951, 144) and Lee and Stasack's drawing (1999).



a) Lono figures from Cox 1970 fig.41

b) Lono or Makahaiki idol from Malo 1951

Figure 6.7 a) Cox and Stasack's drawings of rock art figures they believe may represent the god Lono, (1970 34, fig.41) and also in Lee and Stasack (1999, 23, fig.3.23); b) Malo's drawing of the ceremonial mascot representing Lono, who resides over the Makahaiki festival (Malo 1951, 144, fig.5).

In Hawaiian cosmology, the balance of the sky, land and sea is important. Malo's sketch of the Lono figure includes the elements of both land, sky and sea. The white tapa cloth that is basted to the cross piece represents the sea. The cross piece is tied to the 'neck' of the figure has bound pieces of *pala* fern that represent the earth. From each end of the cross piece are hung feathers that fluttered and feather skins of the *kaupu* bird that represent the sky. The combination of these symbols represent the polysemic identity of Lono.

6.3.3 *Mana and Tapu (Kapua)*

The concepts of mana and tabu must be discussed here because they relate to virtually all aspects of Hawaiian culture. No part of life existed in isolation of these concepts.

Mana is the power and luck bestowed upon certain individuals who have either inherited this power or gained it through extraordinary good luck and bravery. “*Mana* can be a benevolent influence that intercedes between divine and human affairs. *Mana* refers to positive effects created by a vital force, not necessarily the force itself, but the quality of its magnificence as it manifests in the world” (Duffie 2001: 17).

Tapu, on the other hand, is a way of controlling *mana*. It is used to contain sacred *potency* that inhabits something, a place or person that is connected to the divine. *Tapu* preserves what is sacred and can also refer to something that contaminates what is essential pure, such as, the blood associated with menstruating or childbirth. These are considered polluted, dangerous, and forbidden. *Tapu* establishes modes of behaviour that ensures divine protection and prevent spirit retributions. “Any transgression of the laws of *tapu* lead to the withdrawal of divine protection. One’s life force is then exposed to the influence of malevolent spirits. Illness and non-observable physical cause was attributed to an attack on the life force by the spirits” (Duffie 2001: 17).

6.3.4. *The Family*

The gods and ancestral spirits communicated with their earthly descendants in what was part of a timeless social structure that stretched back to the primal couple, the first inhabitants of the earth (Copp 1973). They are ever present in the family structure as guardians and spirit helpers. The importance of ancestral spirits and helpers in the family structure is reflected in this passage by Handy *et al.* (1934: 5) “The family group was regarded as existing not only as a present reality, but as a concrete entity extending into the past and the future, including the dead and yet unborn.” Figure 6.8 is the petroglyph widely published and said to represent a ‘family unit’ (Huston 1973, Cox

and Stasack 1970). It may depict both the living (father mother and child) along with ancestor and spirit helpers depicted to the left and bottom of this panel.

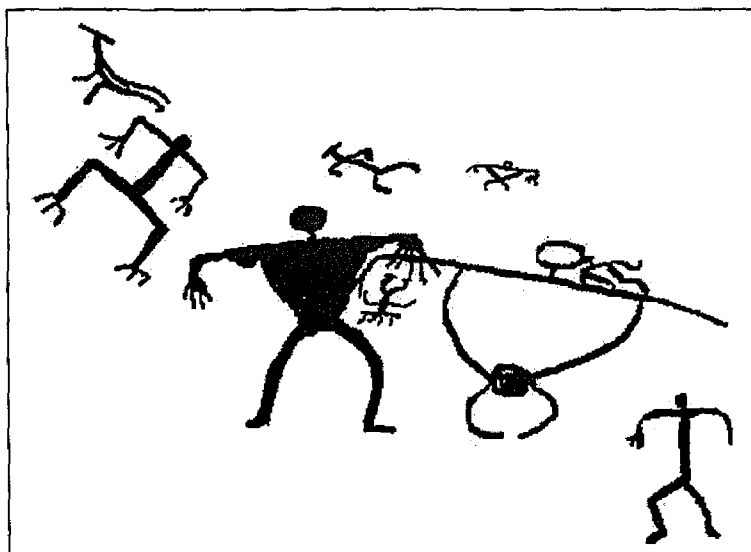


Figure 6.8 The “Family Scene” from Puakō depicting two large figures with a small inverted figure between them. Cox and Stasack interpret this panel as a “Birthing” panel. Huston (1973) interprets it as a couple with two children; the second child is the ‘open bodied’ figure on the shoulder of the large figure on the right.

This panel includes several styles of anthropomorphic figures that are grouped and even overlapping that encourages one to consider all of the figures as inclusive of the ‘family unit’ in accordance with the statement from Handy *et al.*, (1934). Each figure is discussed in detail in Chapter 7, *A Structural Analysis of the Family Scene*. The cultural context surrounding many of these figures lies in the understanding of the Hawaiian belief system that ‘family members’ include ancestor spirits and spirit helpers.

6.3.5 Spirits

For the Hawaiians, there are different types of spirits (*‘uhane*); the gods (*akua*); the ancestral guardians (*‘aumakua*); the disembodied souls endowed with *mana*; those obtained from worship (*‘unihipili*); and individual nature-spirits (*kupua*) (Handi and Pukui 1972). The *‘aumakua* are associated with kinship groups and can be acquired

individually. They can be passed down through families. The *'aumakua* can also represent personal gods who were once powerful chiefs and became ancestral deities of the family (Valeri 1985). The *'aumakua* can be ancestors worshipped by kinship groups as well as related to them by kinship bonds. To the Hawaiians, *'aumakua* may appear in a dream as an animal that manifests itself into a real animal. The *'Aumakua* can take a human form, or be entities within humans, such as *haka* “mediums” or be in anthropomorphic images carved in stone or wood (Valeri 1985). Rock images that have been thought to represent *'aumakua* animals or birds are shown in Figure 6.9.

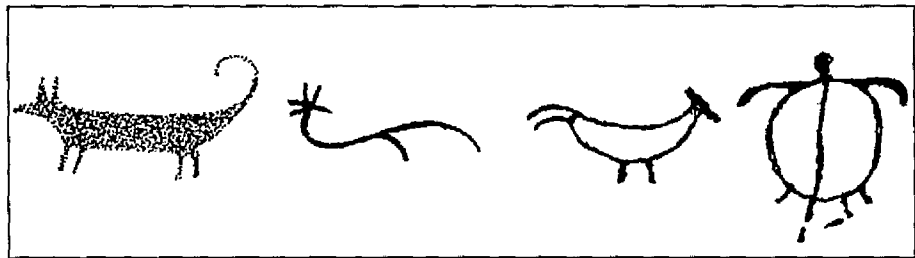


Figure 6.9 (after Cox and Stasack 1970). *'Aumakua* take on shapes of different species such as shark, owl, lizard, sea turtle, caterpillar, alae bird and field mouse. Each of these species is associated with different attributes

6.3.6 *The Haka and Noho.*

The Hawaiians describe the relationship between the living people and the spirits in terms of the *haka* and *noho*. The *haka* was a medium, a recipient, medium, oracle or person possessed by a spirit (Pukui and Elbert 1986: 48). The *haka* was a person chosen by the spirit, or spirits, to serve as a “speaking-mouth” (Valerie 1985). The spirit, be it *'uhane*, *'aumakua*, or *akua*, was always one to whose lineage the *haka* belonged to according to Handy and Pukui (1972). The Hawaiians claim that every family had someone, some relative who served as a medium for a spirit (Handy and Pukui 1972):

The characterization of the person, when the spirit is in possession of the medium's body and faculties as haka, implies the conception that the spirit perches upon the medium rather than entering by way of the mouth into the

stomach (as in the Marquesas, for example). The word haka means literally a bird's perch, or a rack to hang things on. The spirit is heard speaking through the mouth of its haka. In Hawaiian the haka is, in fact referred to as the 'speaking-mouth' (waha-'olelo) of the spirit (Handy and Pukui 1972, 132).

Figure 6.10 is a detail of the 'Family Scene' that illustrates this kind of relationship described by Handy and Pukui in terms of body posture and spatial positioning of the small figure perched on the shoulder of a larger figure with its head overlapping the other's head.

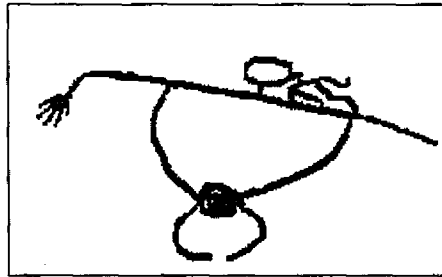


Figure 6.10 Selected figures from the 'Family Scene' showing the pose of a small figure 'sitting on the shoulder' of a larger figure. The small figure has an open body and is leaning toward and touching the head of the larger figure.

The Hawaiian word *noho*, refers to the possession of a medium by a spirit or god, (Pukui and Elbert 1986: 268). It means "to sit" or "to dwell," and is applied to the temporary dwelling-with or sitting-upon a chosen person who is a medium (*haka*) by that particular spirit. When a person dies, their spirit can often be persuaded with offerings of food and prayer, not to pass on but to stay with a member of the family. The spirit may "sit" upon a relative who is *haka* for the purpose of explaining the cause of some trouble that is afflicting the house. Such a spirit (*'unihipili*) could be beneficial or malevolent, depending upon the good or evil motives of its *haka*, or keeper (the person who has endowed it with *mana*) (Handy and Pukui 1972).

Hawaiian cosmology holds clues that may be helpful in understanding the gestures and spatial positioning of anthropomorphic figures. The use of different body forms and spatial positioning are not random or decorative, but rather, find references in the ethnography. Examples are found in Figure 6.10 that depicts a relationship between the large figure and the small open-bodied figure positioned on its shoulder. The contrast in body forms shown here can also be found in the relationship between living person and a spirit in the ethnography. Similarly, the figures in Figure 6.5 and 6.8 depict relationships that have equivalency in the Hawaiian cosmology and family structure.

6.3.7 Summary

The ethnographic background outlines the social organization of vertical structures that dictates rank and power, the collateral structure of kinship relationships and the horizontal formation of a group. These find parallels in the vertical arrangements of figures in the rock art that may depict 'generations' while the connected arrangements resemble the 'kinship' relationships. The horizontal alignments parallel activities associated with organized 'groups' of people. Family units that are inclusive of ancestors and spirit helpers find parallels in the panels of anthropomorphic figures of mixed body form, posture and spatial arrangements. I believe the use of form (stick, triangle, open-bodied triangle, triangle solid) is a unit of meaning that transfers information about a specific subject, rather than varying in form as the results of an evolutionary process. This is evident in depictions of a family unit where the use of different body forms directly parallels the complex relationships of both living and deceased members.

6.4 Iconic Gestures and Postures in the Rock Art

This section looks at several examples of iconic representation of a gesture or posture that can be directly associated with an action or activity. They include fishing, boxing, the *hula* dance, and taboos.

6.4.1 Fishing

There are several examples of what are interpreted as anthropomorphic figures 'fishing'. The following Figure 6.11 is from Ka'ūpūlehu.

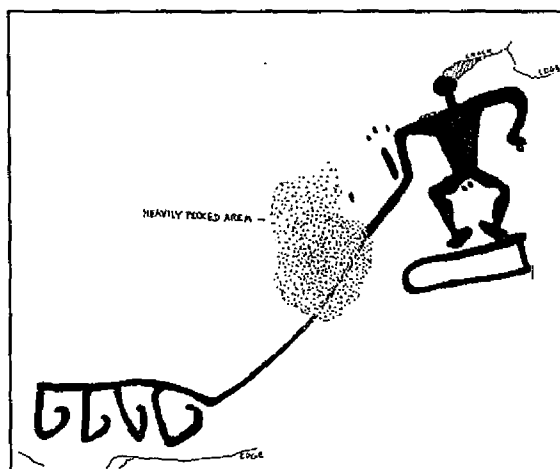


Figure 6.11 'Fisherman', from Lee and Stasack (1999). The figure has a line extending from his elbow down to what seems to be a row of hooks. The raised forearm is in the 'gesture' of wrapping the line between palm and elbow when fishing.

This figure is called a 'fisherman' because of the *gesture* involved in fishing. A native guide at Ka'ūpūlehu explained to me simply that the fishermen wound the fishing line around their elbow and palm. The arm is bent upward and the hand held open to receive the line as it is pulled in or cast out. One can see from this engraving that only the finger tips of the open hand are depicted, because the palm is horizontal to receive the fishing line. From this gesture, the line appears to extend from the elbow, but in fact it is wound

off the elbow and palm as the fisherman rotates his arm. American Indian and Aboriginal Australian elders that I asked to interpret this panel made no connection to the act of ‘fishing’. They described a figure with a long arm and ‘evil’ fingers. The Paiute elder from North America, thought it represented a ‘thief’. Further research on the cross cultural interpretations of gestures in rock art is discussed in Chapter 12.

Similar examples of the ‘fishing’ gestures appear in the panel at Ka’ūpūlehu. (See Figure 6.12). This panel may have helped my American Indian friends understand the iconic representation of ‘fishing’, because of the added information, along with the spatial position of the fish below the fisherman.

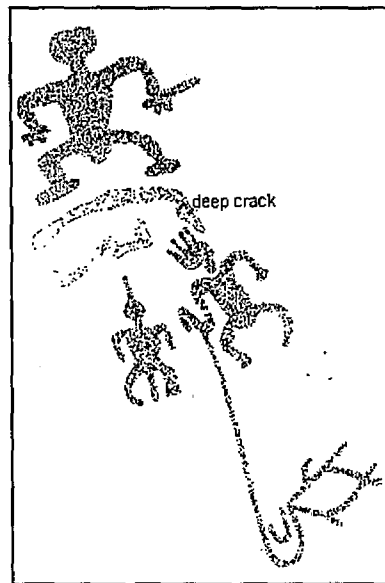


Figure 6.12 Fisherman and fish at Ka’ūpūlehu, (From Lee and Stasack 1999). The fishing line descends from the elbow.

6.4.2 *Taboos (kapu)*

Taboos called *kapu* in Hawaiian, accompany certain levels of rank. They are restrictions and degrees of sacredness applied only to the people of highest rank. “It demanded full

prostration from subordinates below a prescribed rank in the presence of the Source or of any intimate object belonging to him” (Goldman 1970, 216-17). Taboos required commoners to fall on their faces, cover their eyes and heads so not to even see an *ali'i* passing by. If one remained standing the punishment would be death. The following Figure 6.13, illustrates what I believe represents this position as a prostrate gesture.

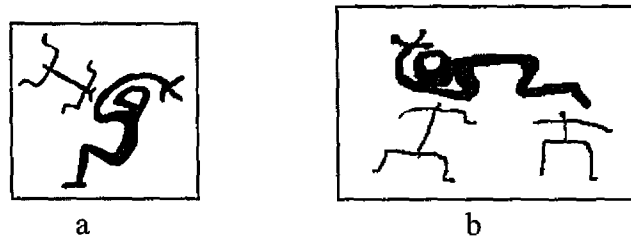


Figure 6.13 Prostrate figure from Kāeo 1. The first a), is Lee and Stasack's orientation based on their interpretation as a praying figure. The second b), is my orientation based upon the context of other vertical figures.

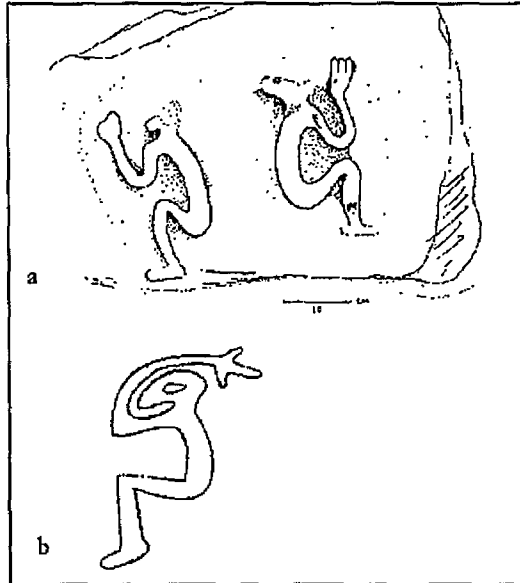
Lee and Stasack (1999), interpret these gestures as “profile anthropomorphs with knees bent and in squatting position,” and place these figures vertically in their publication. When viewed in context with the other figures in the panel their orientation is horizontal or perpendicular to the vertical figures surrounding them.

This orientation is illustrative of what the old Hawaiians describe as one of the postures for prayer. Stokes (1930) reports:

Old Hawaiians... describe several postures - depending on the nature of prayers - standing on hands and knees, on elbows and knees with forehead resting on the hands, sitting with legs and hands folded also sitting with legs to one side and hands on the ground. In all these positions, they say that the level of the head should be hung (Stokes 1930, 37).

Lee (2001) depicts Figure 6.14b) in a vertical position and draws a comparison with the carved images a) on the Moanalua Valley petroglyph boulder (now in the Bishop

Museum) that she believes depict “crouching” or “praying”(Lee and Stasack 1999, Lee 2001).



The two figures in a) and the petroglyph b) are not the same. The difference can be observed in the position of the faces of a) looking upward, and figure b), covering the face with the arm (Figure 6.14 from Lee (2001).

Figure 6.14, a) two bas-relief figures from O'ahu, excavated from Moanalua Valley and placed in the Bishop Museum, Honolulu, and b), praying figure from Kāeo. (From Lee 2001)

Although they may depict different types of praying, attention to the orientation and details of the posture must be examined. The presence of a prostrate figure in the petroglyphs may indicate the context of another figure as being of superior rank. Taboos required the posture of prayer in a prostrate position. I believe Lee has incorrectly represented this figure (b), in her illustration reproduced in Figure 6.14. It should be oriented in a horizontal position as I have illustrated in Figure 6.13b on the previous page.

6.4.3 *The Hawaiian Hula*

When considering the gestures of Hawaiian communication systems, it would be impossible to ignore the *hula*. The *hula* is a gestural dance that uses arm and hand movements to illustrate or enhance the words of a song or chant. Malo (1951) and Emerson (1909) write of an “ancient”, *hula* that at the time of Cook’s arrival was associated with the elite class and child naming ceremonies. The *hula* has been defined by Emerson (1990:13) as “an affair of premeditation, or an organized effort, guarded by the traditions of a sombre religion.” Or what E.S.C. Handy (1931: 12) called “a magical ritual designed to bring rain and fertility.” But Charlot (1979:18) defines the *hula* as “dance with chant, that is, bodily gesture always connected to language which makes it meaningful rather than abstract.” In this context, the *hula* plays an important part in understanding Hawaiian communication through gestures. The *hula* chants, together with elaborate gestural signs, relate the histories and knowledge of the gods and ancestors (Klarr 1999: 3). Hawaiian cultural knowledge is thus encoded in part in the gesture dances that transmit information from generation to generation.

The *hula mele* (song) described historic events of battles, royal births, environmental events and provided navigational information. The *hula mele*s were used for reciting genealogical records that served to establish the ruling classes (Klarr 1999). With an expected birth of a child of rank, the *haku mele* (song composer) was required to compose a *mele inoa* (name chant) for the new chief-to-be. When a *mele* was composed to the satisfaction of the family, the *hula* dancers were summoned to commit the song to memory and to decide upon the proper gestures to accompany the dance to tell the story of the child’s ancestry (Malo

1951). “After that the men and women of the *hula* company danced and recited the *mele inoa* of the unborn chief with great rejoicing, keeping it up until such time as the prince was born; then the *hula* performances ceased” (Malo 1951, 136). The *meles* composed for the birth of an *ali'i* had to be correct and perfected to the point that no evil would come to the unborn child or the chanter. The *hula* gestures were so important that the fate of a person depended upon the appropriate gestures, and not random or fanciful displays. They convey meaning that is of paramount importance to Hawaiians. It would follow that gestures depicted in rock art would be restricted to what was culturally appropriate, to prevent the negative results from random depictions.

The creation stories related previously in 6.3 (Hawaiian Cosmology) are integral to understanding the symbolism choreographed in the dance performances of the *hula*. The traditional *hula* was rooted in the origin myth of the universe recounted in the *Kumulipo* that describes the union of Wākea, the sky father and Papa, the earth mother who in turn created everything else (Klarr 1999). The *hula* played an important role in helping to maintain a balance between the gods and increase the fertility of the earth. The Hawaiians believed that in order for life to flourish, there needed to be harmony and cooperation among the gods. This harmony could be affected by elaborate rituals and prayers. The *hula*, and therefore gestures, were a major instrument used to transmit their desires and adoration. Gestures were required in maintaining the balance and critical to the well being and safety of Hawaiian society.

The gods were responsible in an ongoing way for the fertility of the land. They had to be stimulated and aroused to perform their fertilizing function. The use of erotic chanting and dancing in religious ritual as well as for sexual orgies in ritual contexts occurred during the season of abundance surrounding harvest. The erotic dancing was designed to stimulate and bring into action the *mana* of the gods who were believed to be animated by the same emotions as men, and on whose procreative abilities the fecundity of human beings, the earth and sea depended (Handy 1927).

The chief was the channel of divine *mana* on earth. As the first born male of the tribe, he stood for land and people as the prime embodiment of generative power in nature (Handy 1927). The generative organs of the divine chief are thought to be particularly potent. Chiefs are associated with exaggerated sexual activity and prowess in ordinary life. Chiefs are typically polygynous and expected to have more affairs and conquests with women in their community. The chiefly reproduction activity and results was highly ritualized; their first matings, and birth of their first child were surrounded with elaborate rites celebrating the continuation of their lines.

The concepts of *mana* and *kapu* relate to virtually all aspects of Hawaiian culture. No part of life existed in isolation, and consequently, the *hula* also operated within guidelines defined by *kapu*. Students training in the *hula*, observed tabu restrictions including sexual abstinence, and food restrictions. Fully trained dancers were held responsible for their gestural actions that could attract *mana* to the person being honoured by the dance and care was taken to observe *kapus* restricting the unappropriated gestures (Listopad 1973, Klarr 1999, 3).

In traditional Hawaiian culture, all aspects of life were integrated in a holistic view of the universe and the *hula* was a manifestation of the continuous interaction and communication between different entities. One function of the *hula* was to attract the positive aspects of the universe, to increase *mana*, fertility and well-being. For Hawaiians, words have both meaning and power and had to be regulated; to quote an old Hawaiian saying, “in the word is life, in the word is death” (Elbert 1970, 19). Some words bring bad luck, and their usage is considered a bad omen which can effect either the unborn child or the chanter.

Emerson (1990,37) noted that Hawaiians believed “the fate-compelling power of a word of ill-omen was inevitable...if it did not result in the death of other one eulogized retributive justice turned the evil influence back on him who uttered it.” The same was true for body movements, as certain gestures could also impart bad luck (Pukui *et al.* 1972, I: 58-59). Gestures depicted in petroglyphs most certainly conveyed meaning and conformed to rules of form and use. Fear of tapu and the influence gesture has on Hawaiian beliefs can only lead to the conclusion that meaning is conveyed through its depiction also.



In an experiment, I contacted a professional *hula* instructor, Dr. Paisner of Hawaiian history and ethnic dance and showed her a book on Hawaiian petroglyphs to see if she recognized any of the gestures depicted. Figure 6.15 is the petroglyph panel that I showed her. Paisner identified the following elements and states:

Figure 6.15. Paisner, (2000) identified this figure dancing the *hula* holding circular gourd shields. This figure is from Kaeo 1.

The circles are the feathered gourds, one in each hand. The leg is lifted and tilted to the side. The big figure is possible a teacher and the two smaller ones are students. They are both doing this kind of hula, with and without the gourd (Paisner, personal communication 2000).



Figure 6.16, *Hula Dancers of the Sandwich Islands*, by Louis Choris 1822.

Paisner drew a comparison with the illustrations of the *hula* done by Louis Choris in 1822, (Figure 6.16).

The hands are flexed at the wrists, and the feet are flexed as they are lifted from the ground. The arm gestures are very rigid and each part of the arm is at a sharp angle to the joint. The anthropomorphic figures with wavy arms and legs have similar characteristics of sharp angles to the joints.

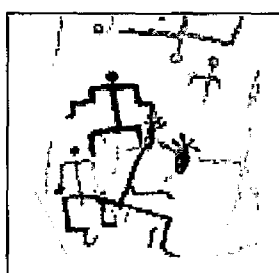


Figure 6.17 "Hawaiian man dancing, three views," original sketch by John Webber in Bishop Museum Library, neg. no CPBM399912. (From Barrere, Pukui and Kelly 1980, 16).

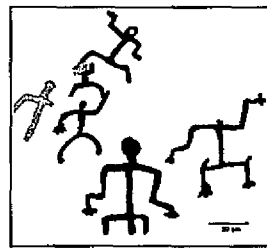
Figure 6.17 is an illustration of the male *hula* by Webber (date unknown) and shows the flexed wrists and knees that are similar to the petroglyph gestures and postures shown in Figure 6.15. Examples of anthropomorphic figures with flexed wrists and feet are shown below in Figure 6.18.



Kāeo 1, sec. 17-19



Kāeo 1, sec.2



Kāeo 36

Figure 6.18 from Puako, Kāeo 1 and Kāeo 36, (from Lee and Stasack 1999) depicting wavy armed anthropomorphic figures with flexed wrists.

The ancient *hula*, *‘āla’apapa*, predates the modern *hula* of the Kalākaura era (Stillman 1998). This class of *hula* has specific structural features that set it apart from modern or Westernised *hulas* called *hula ‘auana*. The distinction between what is considered indigenous (pre-contact) *hula* and the Westernised *hula* are apparent in the melody, movements and costuming, as described by Stillman,

“For example, *mele* - poetic texts - in the ancient *hula kahiko* stream (class) are said to be chanted, in contrast to the *mele* in the modern *hula ‘auana* stream, which are said to be sung; *hula* movements and gestures in the ancient *hula kahiko* are considered to be vigorous in effort expended by dancers as opposed to movements and gestures in the modern *hula ‘āuana* stream, often characterised as soft and languid. Thus, *hula ‘āla’apapa* are *hula* in the ancient performance stream, in which the *mele* is chanted rather than sung, the movements are vigorous and bombastic rather than soft and languid, and the instrumental accompaniment is provided by the indigenous double-gourd *ipu* rather than the Western guitar or ukulele” (Stillman 1998, 2).

The ancient *hula* is characterised by chanting and vigorous movements that are recognizable in early sketches and paintings of the contact period. Arms are ridged with flexed wrists bent at 45 degree angles. In contrast to the ancient *hula*, the contemporary *hula* is characterised by gentle, soft and languid movements.

Figure 6.19 is a petroglyph found on the wall in the ruins of a *heiau* formally called the “*Hula heiau*”. It is at Kama’oali’i, a site said to be a *hula heiau*. The petroglyph is of an anthropomorphic figure with wavy arms and legs and has an affinity with the ancient gesture dance in its angular ‘wavy arm’ motif shown here.

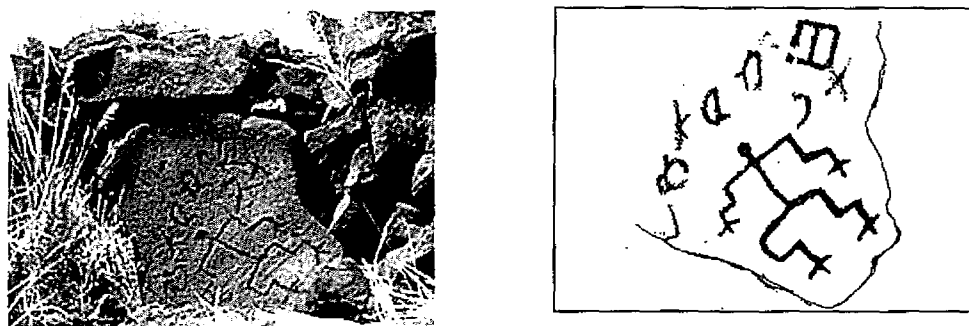


Figure 6.19 *Hula heiau*, ‘Kam’oali’i.’ This site according to Lee and Stasack is said to be a *hula heiau* with an anthropomorphic figure on the wall of the *heiau* with wavy arms and legs. (From Lee and Stasack 1999, 7).

The *hula* schools, *hālau*, trained dancers in the traditions and the *tapus* of the tradition and were run by families in different regions throughout the islands. Tradition dictated a set of standards for proper etiquette that observed *tabus*. Emphasis was placed on keeping the *hālau* traditional and to preserve the *mele hula* in its original form.

6.4.4 *Makahiki Festival*

The ritual cycle of the *Makahiki* (New Year’s festival), dedicated to Lono, starts with the rising of the constellation Pleiades at the beginning of the rainy season and continues for 3 months (Valeri 1985). The season marks the anniversary of the creation of the world as recorded in the *Kumulipo*. The main theme of fertility is represented in the procession of the *Makahiki* Gods. One of “feather gods” were carried in one direction while another set of “wooden gods” were carried in the opposite direction (Valeri 1985). For four days *hula* dances and boxing matches were performed. During the boxing matches two parties stood face to face insulting and mocking each other. Sometimes fights broke out, stones were pitched and people were injured or killed (Valeri 1985). An illustration of the *Makahiki* Festival is shown in Figure 6.20.

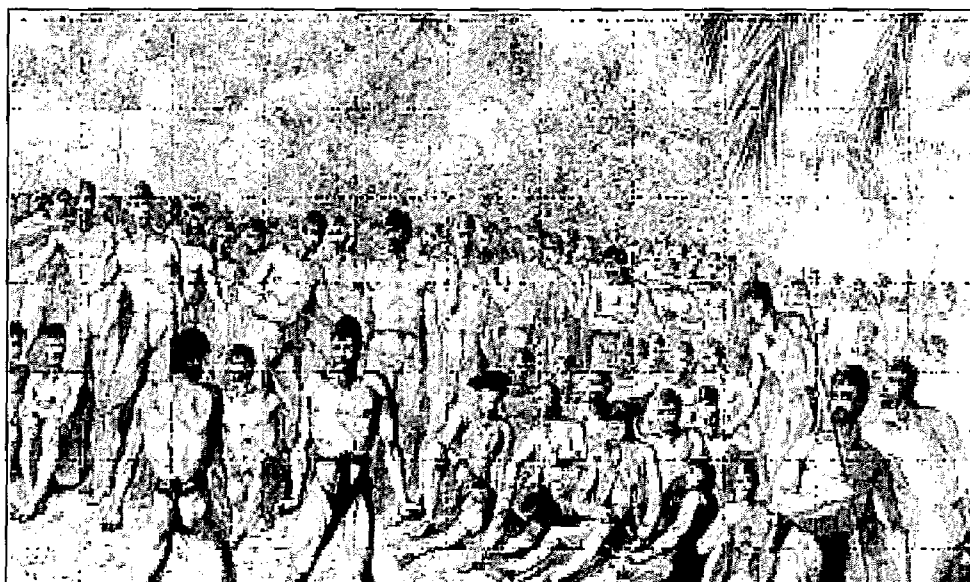


Figure 6.20 Boxing Match before Capt. Cook at Owhyhee, lithograph by John Webber, 1770. “The boxers are probably performing postures of a stylised taunting dance often performed before a contest. The posture is evident in many of the images” (Cox and Davenport 1974, 92-93, plate 45).

This illustration and the one following, clearly show the formalization of gestures associated with boxing and the Makahiki festival. The posture for a stylized taunting dance performed before a contest is clearly communicated in this lithography by John Webber, 1770.

In the illustration by Webber shown in figure 6.21, the god Lono is shown surrounded by the boxing matches between men with postures and gestures of flexed wrists and tight fists. The bas relief figure c), from Kaeo1 has the flexed fists and muscled arms lowered to the sides that are typical of the boxing gestures.

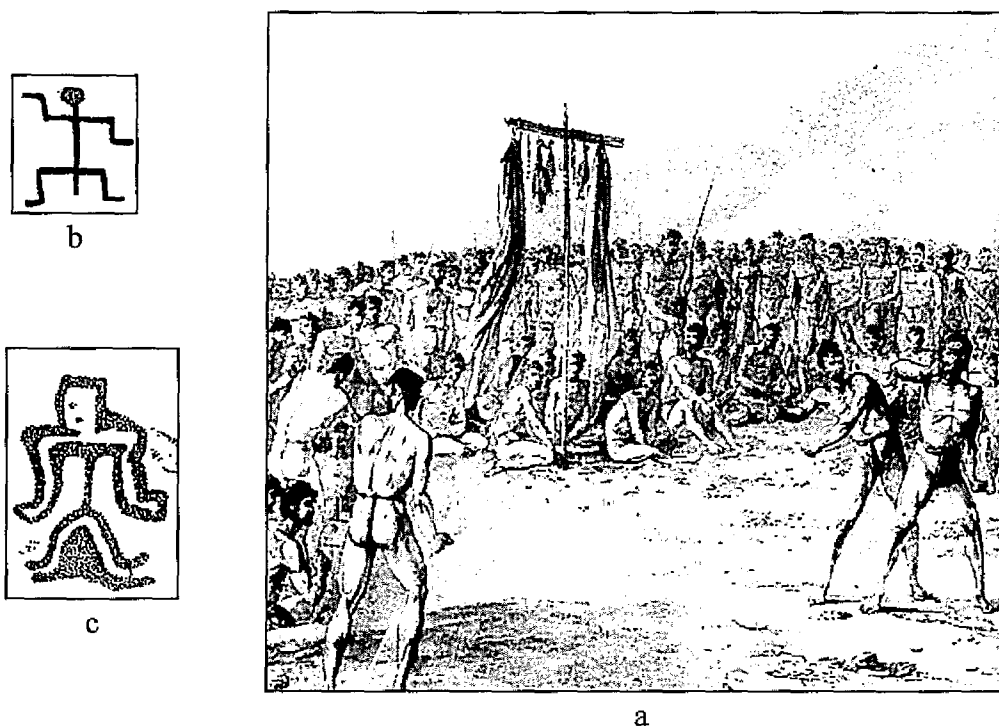


Figure 6.21 a) Boxing Match before Captain Cook at Owhyhee in 1770. Lithography by John Webber at the Bernice P. Bishop Museum. Petroglyphs b) and c) from Kāeo 1 also display this posture.

The Makahiki was a time when the *akua* of rain, Lono was manifested in various forms that included the procession of idols, the boxing matches and the *hula*. The *hula* augments fertility and prayer. Through gestures the prayers are conveyed that bring about the balance between the forces of the universe.

6.4.5 Summary

Iconic gestures such as fishing, praying and boxing, identify the topic of a number of petroglyph panels. The *hula* is an elaborate gestural dance relating creation stories and migrational histories. The power of gesture can be found in the respect and attention paid to gestural protocol in *meles* and *hulas*. The power of gesture is suggested by the belief in the *mana* and *tapu* associated with each gesture in dance and most certainly as they are depicted in petroglyphs.

Chapter 7 Structural Analysis of a Group of Anthropomorphic Figures, Hawai'i

7.1 Introduction

The structural analysis begins with the problem of terminology and the ontological question of identifying a sign/symbol or grapheme, as opposed to assuming non-semantic associations. This analysis is concerned with identifying relationships and patterns within the structure of the composition and integrating cultural information in a systematic way, without attributing modern values or contemporary meanings (cf. Layton 2000).

The structural analysis presented here is different from the attempts by Leroi-Gourhan (1965) and Conkey's 'semantic free deconstruction of visual compositions revealing binary relationships of referential meanings' (Conkey 2001). I first deconstruct the visual image and then the observed gestural, postural and proximal displays are described. I then present parallel ethnographic material that is characteristic of the same structure or pattern where it applies. For example, the gestures observed in the anthropomorphic figures may have expression in the ethnographic context, such as

'birthing' or 'supplication'. I am trying to identify structures of meaning/information rather than the meaning/information.

7.2 Terms for this Analysis

The 'Anthropomorphic Group' was selected for analysis because of the seemingly contiguous elements grouped within a reasonably flat accommodating surface. Terms are applied in the manner in which the pictographs are treated as text. A *grapheme* is the smallest unit of graphic writing that distinguishes one meaning from another. Each motif is referred to as a *grapheme* and labelled alphabetically, A to I. Some of the motifs are composites of two or more identifiable graphemes that have been combined.

Kinetography is the overall gestural and postural composition of the anthropomorphic figure. *Grapho-kinemes* are units of gestural articulation within the kinetograph, as defined and illustrated in Figure 3.3.

Hermeneutic associations are assigned in the following manner. A *literal meaning* is proposed based on connotative observation. A *combined meaning* is denoted from the relationship between the grapheme and those found adjacent to it. An *extended meaning* is proposed based on the context of other graphemes and their associations in the panel. The *extended meaning* takes into account cultural idioms, metaphors and significance of the site and its geographical location. The term *meaning* is used to facilitate the understanding of the way meaning is *structured*, and not to infer what the actual meaning might be. The hermeneutic associations suggested by ethnographic analogies are given from the cultural context supplied in the literature. I

am aware that these 'meanings' are not definitive, and are limited by my search of the ethnographic data, whereas a much more in depth study of the vast amount of ethnographic literature available would reveal more. What is of concern is not what the meanings are, but how the structure is used to convey meaning that is similar in structure to the system used to convey information within the culture.

Symbol affinity compares each grapheme with others found in the rock art data base and the ethnographic record that share similar attributes. *Affinity checks* are made with other symbols in the panel, and other documented panels from the same region. *Comparative affinity* compares graphemes that have similar characteristics or even repeat themselves within the same panel. The contrasting data of *opposites* and *variations* of the graphemes is presented from the ethnographic record.

Spatial syntax involves an analysis of the spatial relationships of one grapheme to another. Certain graphemes are hermeneutically defined by their spatial relationship to another.

Gesturemes are identified by the grapho-kinemes observed in the panel. *Gesturemes* are gestural phrases of semantic structure. They play a significant role in supporting or negating hermeneutic analysis. They are the key factors in determining the 'actions' or visual narrative depicted in this panel.

Syntagms are composed of grapheme units that form the petroglyph panel, and are deconstructed, unit by unit moving from left to right. The alphabetic notations begin with the largest, most dominant graphemes, i.e., A, B and C. The outer graphemes

are labelled F, G, H and I. Starting from the far left, F and E, the analysis progresses across the panel to graphemes in visual order but not necessarily alphabetic order. This is done so the viewer understands the relationships of each grapheme to one another, in their spatial arrangements and juxtapositions, regardless of their alphabetical identification. Each grapheme is described in the following order: Kinetography (where applicable), Literal meaning, Combined meaning, Extended meaning, Symbol affinity, Comparative affinity, Spatial syntax, Grapho-kinemes (where applicable), Grapho-kineme affinity (where applicable), Gestureme, and Ethnography.

7.2.1 *Site Description*

The petroglyph panel that I use for structural analysis, named the ‘family group’ (Lee & Stasack 1999), is from Kāeo 18 (Figure 7.1). This a flat panel measures 1.7 x 1.0 metres and is located on a large area of *pāhoehoe* rock surface. Lee and Stasack (1999) and Cox and Stasack (1970) record only four figures, (A, B, C, & D central to the composition), whereas I count nine. They observe that the triangle-bodied male is fully pecked out and was made first, and the female figure’s left arm is pecked over the hand and body of the male (Lee and Stasack 1999). This site is described as the “birth scene of an *ali’i* child” by Cox and Stasack (1970). The following analysis of this panel includes more figures than are shown in either Cox and Stasack (1970), or Lee and Stasack’s (1999) publications. For this analysis, I am applying Hall’s (1963; 1979) determination of private and personal spatial arrangements to define all nine figures in this panel as one group.

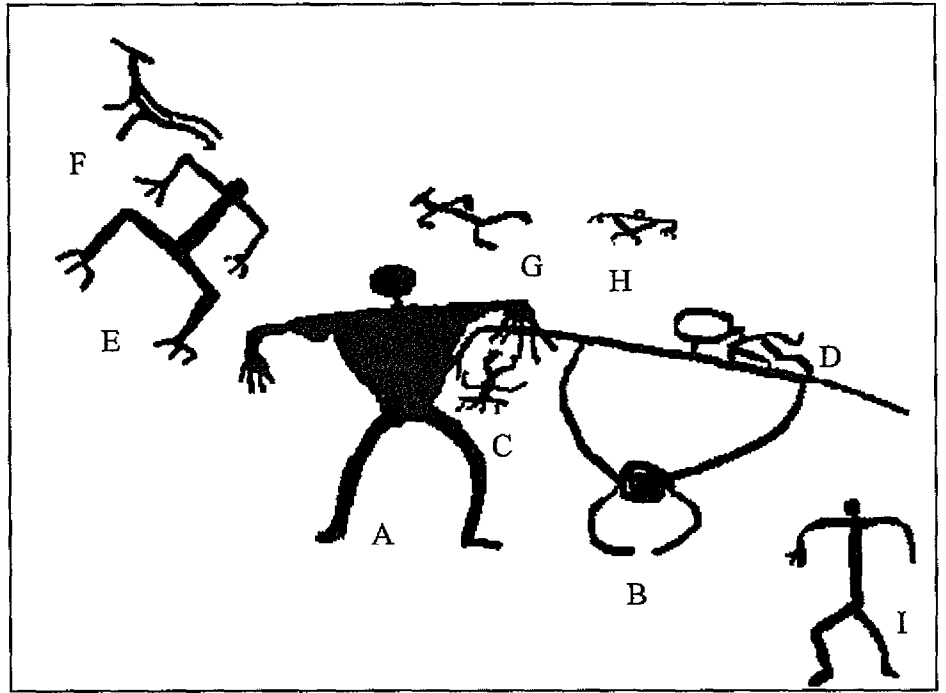
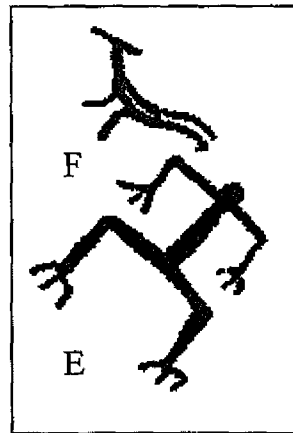


Figure 7.1 'Anthropomorphic Group' from Kaeo 18. Individual graphemes are labelled A - I.

7.3 Graphemes F and E



7.3.1 Grapheme F



Literal meaning - identified as a 'bird' F

Combined meaning - with grapheme E, possibly a name glyph or descriptive modifier of grapheme E.

Extended meaning – 'bird' forms are associated with '*aumakua* ancestor spirit guides (Malo 1951, Valerie 1985, Lee and Stasack 1999).

Symbol Affinity – with grapheme D.



Both have open bodies. Both are located over or on the shoulder of a larger anthropomorphic figure.

Comparative Affinity – Compare figure 3.16 of Lee & Stasack 1999, "owl (?) may represent an '*aumakua* (see Figure 7.2 of a dog (a), chicken (b), bird (c) and turtle (d)).

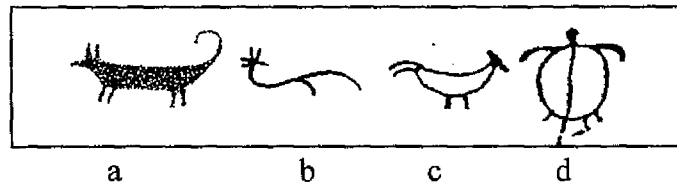


Figure 7.2 '*Aumakau* figures a)dog, b) chicken, d) bird, c) and d) turtle. (From Cox and Stasack 1970).

Lee and Stasack identify a 'bird' figure under the arm of the open bodied anthropomorph as an '*aumakua* in Figure 7.3 below (Lee and Stasack 1999).

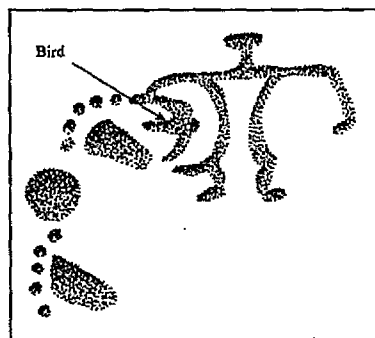


Figure 7.3 Petroglyph with a 'bird' under the arm of an open bodied figure (from Lee and Stasack (1999).

Gestureme - static, and perhaps iconic rather than active.

Spatial Syntax – Grapheme F is positioned in close proximity to the head and shoulder of grapheme E. This suggests a relationship between both graphemes.

Ethnography –The ‘Aumakua

Valeri writes that “the ‘aumakua are associated with kinship groups and are individually acquired and thus can be passed down through families. The ‘aumakua gods are the personal gods of chiefs and people and known as ancestral deities of the family (Valeri 1985, 20).

The ‘aumakua are worshipped by kinship groups as well as related to them by kinship bonds. They are like ancestors and represent kinship relationships. In some cultures this relationship may resemble Totemism, or clans that are associated with totem animals and ancestor spirits. To the Hawaiians, ‘aumakua may appear in a dream as an animal that manifests itself into a real animal. ‘Aumakua can take a human form, or be entities within humans such as haka “mediums” or be in anthropomorphic images carved in stone or wood (Valeri 1985, 21).

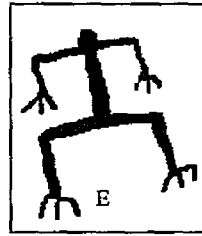
David Malo writes, “‘Aumakua take on shapes of different species such as shark, owl, lizard, sea turtle, caterpillar, alae bird and field mouse. Each of these species is associated with different attributes” (Malo 1951, 83). He also writes:

The people carved images of their gods resembling what ever creature or entity that dwelt in the sky, earth or water. Gods of the sky resembled birds, beings of the earth were earthly, Gods of the water resembled creatures of the water. They were carved to resemble the description of an imaginary being, and not to give the actual likeness of a deity that had been seen (Malo 1951, 83).

The ‘aumakua images functioned as protective spirits for individuals and for family lineages stretching for many generations. They were imbued with mana imposed by their ancestors born previously in the family line (Malo 1951). ‘Aumakua worship is an ancient practice that prevails in all levels of society (Malo 1951, 96).

7.3.2 Grapheme E

Grapheme Composite



Combination of:



Grapheme 1) 'three digit' feet and hands

1



Grapheme 2) stick figure

2

Kinetography

Grapho-kineme upper arms; horizontal

Grapho-kineme lower arms; vertically down

Grapho-kineme upper legs; horizontal

Grapho-kineme lower legs; vertically down

Literal – anthropomorph stick figure with three digits on hands and feet.

Combined meaning – human figure with three digit-feet and hands and feet, may suggest they are significant and change the meaning from simple anthropomorphs.

Extended meaning – three toes may refer to lizard-like hands and feet that suggest an affiliation with 'ancestors'. This form is common throughout the Pacific and may have a conventional or widespread meaning. The spatial position off the shoulder of Grapheme A, creates a relationship between grapheme E and grapheme A. The relationship of F to E is the same spatial positioning as the relationship of E to A.

Symbol Affinity – Grapheme C has three fingers on one hand. Grapheme H is a triangle bodied figure with three digit hands.

Comparative Affinity – My data records ten stick figures having multiple fingers, and twelve with only 3 digits. Of the triangle bodied figures there are eighteen with

multiple fingers and thirteen with 3 digits. The examples from Chapter 5 are repeated here. (See Figure 5.11)

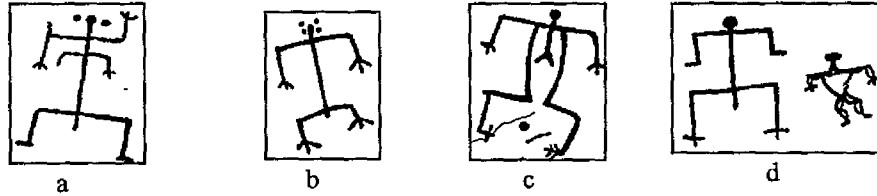


Figure 5.11, Examples of three digit hands and feet. a) has opposing hand orientations with no digits on the feet. b) and c) have both hands in a downward orientation and their feet are also down or horizontal. d) has only three digit feet and the hands have flexed wrists. The second figure has only three digit hands.

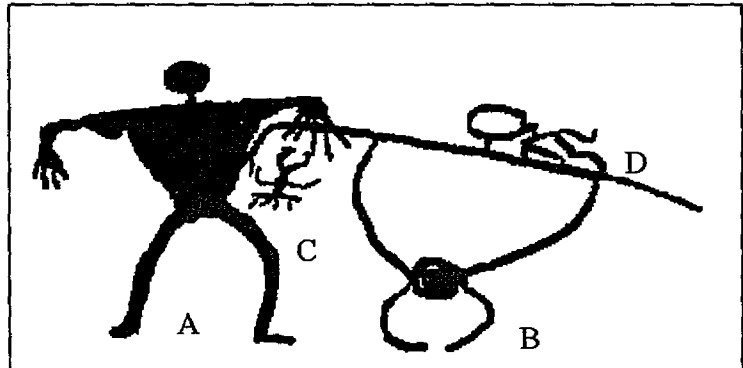
Spatial Syntax - Grapheme E is placed between grapheme F and grapheme A suggesting it may serve as a descriptive element for figure A. Grapheme F is not considered 'inclined' due to the nature of the horizontal surface it is engraved upon. It requires the observer to walk around 45 degrees in order to face it squarely, at which time it appears to be vertical.

Gestureme - The posture of the arms, vertically down and legs vertically down is found at a high percent in Hawaiian iconography, that suggests a significance in terms what this gesture might mean.

Ethnography - Digits

Three fingers are significant throughout the Pacific in reference to 'ancestors' and 'spirits'. They are associated with embodying spirits and protecting the living. The Maori *Matua-Tonga* or *Hoa-Tonga* (First Man or Creator Man) has three fingers representing a divine trinity, the Sun, Moon and Earth. The Maori were the children of the Sun, Children of Heaven and Children of Man. The three fingers on Maori carvings also represent Intellect, Character and Physique (Route 1926).

7.4 Syntagm consisting of graphemes A, B, C, D.



7.4.1 Grapheme A



Kinetography -

A

Grapho-kineme upper arms; horizontal

Grapho-kineme lower arms; vertically down

Grapho-kineme right and left upper leg; diagonally down

Grapho-kineme right lower leg; diagonally down

Grapho-kineme left lower leg; vertically down

Literal meaning – an anthropomorphic triangle-bodied figure with muscles.

Combined meaning – grapheme A is rendered with fingers overlapping B “female” and touching C “child”. This suggests the identity of A as a male or father figure. A is distinguished from grapheme B in three ways: A has no rock hole suggesting a vulva or ‘female’ gender; A has ‘muscles’ rendered in the upper arm; and A is solidly pecked in. By deduction, A may be male.

Extended meaning – father of ‘family scene’.

Symbol affinity – This figure has a wide triangle style body in the same proportions as grapheme B. The similarities in body size may suggest a contemporary relationship

between A and B. The contrast in outline and in-fill technique of grapheme A and B suggests a contrast or opposition in gender or partnership role.

Comparative affinity – There are no other examples in my data of two figures touching or overlapping in this manner. Spatial arrangement and juxtaposition of what appears to be different genders are found on a boulder at the Mālama Trail site, Puakō’ Ho interprets them as ‘male and female ancestor spirits’ (Ho 1999 pers. comm).

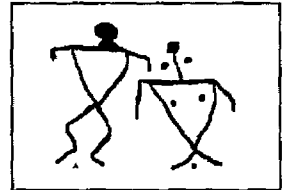


Fig. 7.4 Contrasting figures

Spatial Syntax – The placement of a male figure to the (viewers) left of a female figure is identified by Ho as a cultural convention for the proper positioning of a couple (Ho 1999 pers. comm.). Malo (1951) states that a man stands to the side and slightly behind his wife who is always on his left.

Grapho-Kinemes – The gesture with arms down is suggestive of a neutral (not doing) position as opposed to arms-up that signals ‘doing’ something.

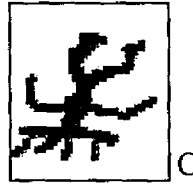
Grapho-kineme affinity - Lee and Stasack (1999) and Cox and Stasack (1970), document many sites with triangle figures with arms down. Lee and Stasack show Puakō to have 48% arms down compared to 4% up, 4% opposed and 11% out. My data for all the body styles with lower arms down, shows 48% at Puakō, 65% at Ka’ūpūlehu, 37% at Kapaloa and 30% at Kalaoa Cave. The variation from site to site suggests a usage for the lower arm position to carry meaning.

Gestureme - The left hand of this figure has extended fingers that are overlapped by the arm of grapheme B and the ends of the finger touch the foot of grapheme C. This is rare and may indicate ownership, kinship or other family relationship.

Ethnography - Throughout the Pacific, ranked societies have strong family and kinship relationships that would likely be portrayed in some way in the rock art.

7.4.2 *Grapheme C*

Grapheme Composite



Combination of:

Grapheme 1) - inverted stick figure



Grapheme 2) - "headdress"

**Kinetography** -

1

2

Grapho-kineme upper arms; horizontal

Grapho-kineme lower arms; diagonally down

Grapho-kineme upper legs; diagonally down

Grapho-kineme lower legs; vertically down

Literal meaning – upside-down in relation to A and B. A small figure with 'headdress' in between a large, 'male' figure and 'female' figure.

Combined meaning – 'dead' or recently born (cf. "Birthing" motif) child with headdress, between two parents.

Extended meaning – death or sacrifice of the child of a high status (headdress) of couple/family.

Symbol Affinity – The inverted grapheme C has some similarity to other figures with headdresses in the region. None have been found that were inverted.

Comparative Affinity – My data of inverted figures shows 4 at Puakō, 0 at Paniau, 3 at Kaūpūlehu, 0 at Kapaloa and 0 at Kalaoa Cave.

Spatial Syntax – This grapheme is placed under the arm of both the male to the left and female to the right. The arm positions suggest a protective gesture. The size ratio of this grapheme to the two on either side suggests the concept of 'child' between 'parents'. The inverted position suggests 'death' as a state opposite to that of A and

B. Although Cox and Stasack (1970) believe the inverted 'child' represents birth, I would argue that the orientation and spatial positioning of this grapheme does not depict 'birthing' as it would if it were placed between the legs of the 'mother' figure. Examples of 'birthing' depicting a small figure under the legs and body of another figure are shown in Figure 7.5.

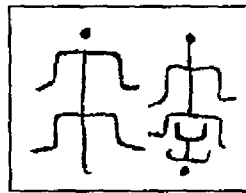
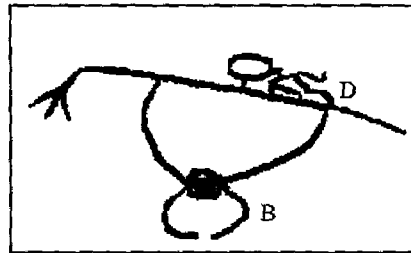


Figure 7.5 "Birth scene from Kahuluu, Hawai'i", (From Cox and Stasack 1970)

Ethnography – The child (small inverted figure) is thought to be of high rank because of a chief-like headdress (Lee and Stasack 1999). The inverted position may indicate the "sacrifice of the first fruit" that was customary of *ali'i* parents. Malo records the custom of symbolically sacrificing the first child born to the *ali'i*. This "opened the way" and allowed the children who followed a prosperous life. The composition and orientation depicted in this panel suggest that it may be a reference to this custom (Malo 1951). "The *hiapo* (first born) is consecrated to the deities at birth" (Handy and Pukui 1972). This is especially true among the nobility. "Chiefs gave (*ha'awi*) their children to the gods" (Kamakau 1962) which consecrated the sacrifice of the first fruits of generative activity. This activity is made possible by the deities, and therefore its products belong to them. However, the consecration of the first fruits "frees" the remaining ones, and "clears the way" (*mawaewae*) for the younger siblings (Handy and Pukui 1972). But the first born are not really sacrificed to the deity, instead they are metaphorically represented by a pig. The rite

incorporates the male child into the *hale mua* (men's house) (Malo 1951). The first born guarantees that there will be more children. The same is true of the first products that have been manufactured or produced by labour. The Hawaiians also practised the sacrifice of the first catch when fishing, the first produce from the garden, and a sacrifice for the beginning and end of a voyage.

7.4.3 Grapheme B and D



Grapheme B) Triangle bodied figure outlined.

Grapheme incorporation - rock incorporation of a natural hole for a "vulva".

Kinetography

Grapho-kineme upper arms; horizontal

Grapho-kineme lower right arm; diagonally down (no left lower arm)

Grapho-kineme upper legs; diagonally down

Grapho-kineme lower legs; diagonally in (curved around)

Literal meaning – B is an outline triangle figure with a natural hole in the vulva position. C is an open-bodied figure "perched" or "lying" on shoulder of grapheme B.

Combined meaning – Female figure in an intimate relationship with a very small figure.

Extended meaning – Female figure (B) is a *haka*, when combined with a spirit figure (D) ('*uhane* or '*aumakua*, or *akua*). (See ethnography below).

Symbol affinity – Grapheme B contrasts to grapheme A, in graphic texture and form.

Grapheme B is an outline form similar to A, but with female genitals indicated.

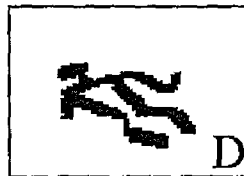
Comparative affinity – My data shows 3 examples of ‘female’ figures at the Puako site. I found no samples of female figures at the other sites. D is on the opposite side when compared with F to E, or E to A.

Spatial syntax – Grapheme B is positioned next to and actually touching grapheme A, C and D, that suggest an ‘intimate’ relationship with all three. Grapheme D is well into the intimate space, while grapheme C is within personal space and grapheme A within private space according to Hall’s (1974) definitions.

Ethnography – Handy and Pukui describe the relationship between a spirit and a person who served as a medium, that prevailed in Hawaiian beliefs.

The haka [is a person who] was chosen by the spirit, or spirits, to serve as “speaking-mouth.” The spirit, be it ‘uhane, ‘aumakua, or akua, was always one to whose lineage the haka belonged...It was a relative... there was no lineage, or ‘ohana, which did not have someone who served as a channel of communication. (Handy and Pukui 1972, 132).

7.4.4 Grapheme D



Kinetography

Grapho-kineme upper arms; diagonally down

Grapho-kineme lower right arm; diagonally down with flexed wrist up.

Grapho-kineme upper legs; diagonally down

Grapho-kineme lower legs; diagonally in

Literal meaning – open-bodied figure

Combined meaning – open-bodied figure combined with the shoulder of grapheme B. The head is combined with or contiguous with the head of grapheme B.

Extended meaning – helper or spirit figure talking or speaking in the ear or mouth

of grapheme B. (see ethnography below)

Symbol affinity – similar to grapheme F, ‘bird’ figure that has open mouth near the head of grapheme E but left and right orientation differ.

Comparative affinity – My data shows 7 open-bodied figures at the Puakō site, 1 at Paniau, 3 at Kaūpūlelu, 1 at Kapaloa and 1 at Kalaoa Cave.

Spatial Syntax – This grapheme is resting or incorporated into the shoulder of the large female figure grapheme B. The head of grapheme D is touching or incorporated into the head of grapheme B. As previously noted, D is located on the opposite side as F is to E or E is to A.

Gestureme - This grapheme is positioned on the shoulder of grapheme B, in a reclining posture. The head is incorporated with the head of grapheme B. The right arm and leg are incorporated into the larger figure. This gesture suggests ‘talking or whispering’ in the ear of grapheme B. By ethnographic extension it may represent “speaking through the mouth of the person” (see ethnography below).

Ethnography – Malo gives many examples in Hawaiian culture concerning the advice or prophecies given by one’s ‘aumakua or spirit helper (Malo, 1951). Handy and Pukui write:

Noho, meaning “to sit” or “to dwell,” is applied to the temporary dwelling-with or sitting-upon a chosen person who is a medium (haka) for a particular spirit, which may be an ‘uhane’ (disembodied human soul), and ‘aumakua (ancestral guardian) or an akua (god). The characterization of the person, when the spirit is in possession of the medium’s body and faculties as kaka, implies the conception that the spirit perches upon the medium rather than entering by way of the mouth into the stomach (as in the Marquesas, for example), for the word haka means literally a bird’s perch, or a rack to hand things on. Nevertheless, the spirit is heard speaking through the mouth of its haka, and who it is that is speaking can be recognised sometimes by quality of voice. In Hawaiian the haka is, in fact, referred to as the ‘speaking-mouth’ (waha-‘oleo) of the spirit (Handi and Pukui 1972, 132).

7.4.5 Discussion

This petroglyph panel is interesting because four different body styles are used in a single composition. (See figure 7.6.)

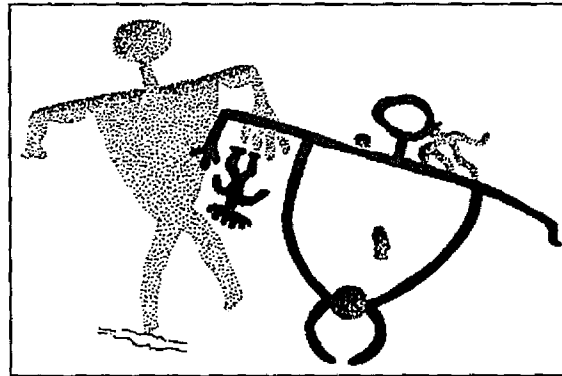
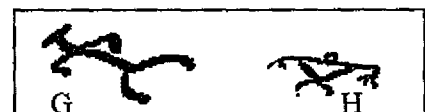


Figure 7.6 'Family Scene' from Lee and Stasack (1999)

Lee and Stasack's (1999) drawing is rendered to distinguish the different layers of superimposition. Grapheme B has the right arm on top of grapheme A. The pecking technique is deeper and more compact than that of grapheme A and of grapheme D. This illustration challenges the idea that stick figures are engraved at different time periods than triangle-bodied figures. Here, the out-lined triangle figure (B) and a stick figure (C) are superimposed over a full bodied triangle figure (A), and an open-bodied figure (D) is engraved as part of an outlined triangle figure (B). All four figures are of different techniques and styles but are presented in a relationship to each other. They are one composition composed of four different body forms.

7.5 Syntagm of graphemes G and H



7.5.1 Grapheme G

Stick figure inclined

Kinetography

Grapho-kineme upper arms; horizontal

Grapho-kineme lower arms; vertical down (inwards)

Grapho-kineme upper legs; diagonally down

Grapho-kineme lower legs; vertical down

Literal meaning - anthropomorphic stick figure

Combined meaning – stick figure inclined toward head of grapheme A.

Extended meaning - the meaning of inclined stick figures is not known except to suggest a personal relationship because of the close proximity of its head toward the head of anthropomorphic grapheme A.

Symbol affinity – grapheme D is inclined toward the head of grapheme B. Both figures are not vertical in relation to the other figures.

Comparative affinity – My data shows 10 inclined figures at Puakō, 1 at Paniau, 2 at Kaūpūlehu, 1 at Kapaloa and none at Kalaoa Cave.

Spatial Syntax – This figure is placed above the larger figures and near enough to suggest a relationship.

Gestureme - I am unaware of any ethnographic analogy for the gesture of the lower arms pulled inward towards the torso.

Ethnography – Stick figures may represent generic associations with ‘ancestors’ in contrast to full bodied figures that may represent actual persons. Stick figures placed in close proxemic space to full bodied figures, may act as descriptive or supportive elements to these dominant figures. The cultural references to ‘ancestors’ dominate much of the Hawaiian oral traditions and any reference to family relationships, (as may be depicted here) would not go without mention of each member’s ancestors in establishing kinship, rank and social position within the family.

7.5.2 Grapheme H

Triangle bodied figure with three digit hands



Kinetography

Grapho-kineme upper arms; horizontal

Grapho-kineme lower arms; vertically down

Grapho-kineme upper legs; diagonally down

Grapho-kineme lower legs; vertically down (may curl inward)

Literal meaning - anthropomorphic triangle figure with three digit hands.

Combined meaning – triangle bodied grapheme (H) may have affinity with the larger triangle bodied female grapheme (B) positioned directly below it. Both are outline figures with curvy legs and three fingers on one or two hands.

Extended meaning – The smaller triangle figure (H) may be a descriptive grapheme for the larger triangle figure (B). The meaning of triangle bodies as opposed to stick figure bodies is not known.

Symbol affinity – Grapheme B, triangle outline body figure.

Comparative affinity – Triangle bodied figures with three digit hands occur at other sites at Puako, (see for example, figure 7.7 below).



Figure 7.7 Triangle bodied figure with long 3-digit hand, Puako.

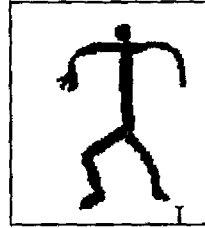
Spatial syntax – The spatial positioning of grapheme H above grapheme B may be significant. Both are outline-triangle bodies.

Gestureme - The arm gestures of grapheme H are the same as grapheme E. Both have 3 - digit hands. Both E and H are positioned over or near the shoulders of A and

B. The significance of a downward gesture (as opposed to upward) is not known.

Ethnography – The 3 digit hand motif is discussed previously in this chapter.

7.6 Grapheme I



Kinetography

Grapho-kineme upper arms; horizontal

Grapho-kineme lower arms; vertically down

Grapho-kineme upper right leg; diagonally down

Grapho-kineme upper left leg; more vertically down

Grapho-kineme lower right leg; diagonally in

Grapho-kineme lower left leg; vertically down

Literal meaning – anthropomorphic stick figure with one leg bent.

Combined meaning – person stepping up or walking.

Extended meaning – person may be stepping up towards the larger graphemes A and B.

Symbol affinity – grapheme E, and grapheme G.

Comparative affinity -There are hundreds of stick figures in the data base, especially at the Puako sites. Asymmetrical lower legs, diagonally-in occur in depictions of opposing figures with ‘paddles’ (see Chapter 5, figure 5.20).

Spatial Syntax - Figure I is located below the large, central figures. It is still within what may be considered as public space (Hall 1966), and may have a relationship with them but of a different kind to those of E, G, and C.

Gestureme - grapheme I, has both upper arms horizontal and lower arms vertically

down. Only one arm has a hand with multiple digits. The legs are asymmetrical, with the right leg diagonally-down and diagonally-in (bent knee), while the left leg is nearly straight diagonally-down. This gesture suggests 'stepping forward' toward the male and female couple (A and B) near to it.

Spatial syntax – grapheme I is positioned under the out stretched arm of grapheme B, within this figure's personal space zone. For this reason it is considered a significant element to this panel.

Ethnography - the significance of this grapheme in the ethnographic record is not known.

7.7 Discussion

This panel is an example of what can be learned by observation and analysis of many complicated relationships, the juxtaposition of contrasting body forms, the gestures, postures and spatial arrangements of all of the figures. In many respects the semantic content seems relatively accessible without investigating the ethnographic literature. This method of structural analysis involves a process of documentation, observation, and accurate recording that is objective. It includes the gestures, postures and spatial arrangements as part of the analysis. The semantic context is primarily based upon these two avenues of investigations before ethnographic analogy is brought into the discussion.

The following interpretation by Cox and Stasack (1999) demonstrates the limits their observations that in part are based on intuition rather than a more comprehensive analysis:

The father and mother are side by side. The figures are larger than the average petroglyphs, about 3 feet high and somewhat more elaborate, which probably indicates their importance. The male's body is a wide triangle, the surface of which is entirely pecked out. The female's body is equally wide but rounded rather than angular, the vulva is shown as a large circular cavity, much deeper than any other marks in the area. On her shoulder is a girl child, judging by the open torso. The father is holding another child by the feet with the head down. The head of this child is of particular importance. It is stylised as a horizontal bar with vertical comb-like bars rising from it, perhaps the crest symbol of a high chief (Cox and Stasack 1970, 48).

Though their visual observations are accurate, their interpretation of 'open-bodied' figures as *female* is without justification. They do not address the postures and gestures of these figures, nor the juxtaposition of adjacent figures outside the realm of the primary figures. Similarly, Lee and Stasack (1999) do not include the peripheral figures in their publication of this panel. Too often is the case in rock art studies where the elements considered important to the viewer are the only ones recorded. Stick figures are often ignored in favour of recording only full bodied or triangle bodied figures. More importantly, it is the structure and patterns observed in the rock art that can be used to demonstrate the validity of similar relationships recorded in the ethnography.

As for style, Lee argues that stick figures and triangle bodied figures are from different periods (Lee 2001). Yet dates for stick figures precede, as well as being contemporary with triangle-bodied figures (Lee and Stasack 1999). As stated in Chapter 4 (Table 4.1), I have observed stick figures superimposed over triangle-bodied figures. This observation has suggests that both styles were used during the same period but for different semantic purposes, and were not part of an evolution of styles. The Hawaiian sample indicates that different body forms may be used to represent different 'entities' related to the main topic. For example, a triangle-body

figure may have associated stick figures and open bodied figures that act as adjunct narratives related to the main topic figure in the narration. Each body form is conventionalized to convey a specific type of information. Together with gestural, postural and proxemic arrangements, these different body forms makeup a larger system of communication.

7.8 Summary and Conclusion

The following Table 7.1 of comparative patterns and relationships summarizes the use of body forms that have parallels in Hawaiian social and political structure. Only four categories appear in this table, but there are likely to be more. The first column illustrates a selected petroglyph panel that typifies each category. The second column provides a description of the observed structure within each panel. The third column identifies the analogous patterns and structures that are found in the social relationships of the Hawaiian culture. The fourth column identifies the structure within the political relationships that occur in Hawaiian culture.

In the first example, Vertical Linear Sequence, the repeating identical figures are characteristic of a stratigraphic series count. The body forms are in a linear sequence that appears formal and tightly controlled without observable variation in individual figures. Each figure has a direct relationship with the one above or below, but not with any other figure in the line. This configuration appears to convey low context cultural information that would be relatively easy to access by an outside person. In contrast the Unoriented Disparate Group, appears to contain complex relationships. In Hall's terms, this grouping reflects high cultural context that is not accessible to outsiders (Hall 1986).

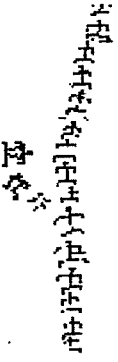
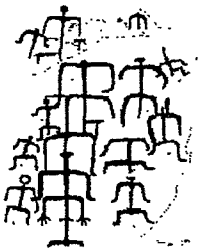


Graphic Description	Observable Patterns and Relationships	Ethnographic Parallels in Personal & Social Relationships	Ethnographic Parallels Constructs Religious/Political Relationships
 <p>Vertical Linear Sequence</p>	<p>All the same gesture and posture. Stratigraphic sequencing, where A is to B, B to C, C to D, and A has no direct relationship to D. There is no radical change in size, form or orientation.</p>	<p>Linear genealogical systems of groups where single individuals are defined by a 'genealogical relationship in a chronological sequence of key ancestors.</p>	<p>Political power is derived from claims to direct lineages to ancestors. Patrilineal hierarchical society validated by linear sequences of individuals of rank & status. (eg. chiefly 'lines', priestly 'lines' etc.)</p>
 <p>Vertical and Horizontal Conjoined Sequence</p>	<p>Series of vertical sequences of similar posture and gesture. Potential for relationships between vertical groups. Central figure is conjoined to other figures.</p>	<p>Potential ethnographic parallels where groups are comprised of more than one genealogical lineage, like a village or relationships of one lineage to another.. Settlement patterns and land is allocated by inheritance and multiple lineages.</p>	<p>Bifurcation of chiefly lines and descent from common figure. Changing political allegiances create new lines and split up others that influence land allocations and settlement patterns.</p>
 <p>Horizontal Group</p>	<p>Different rules of proxemics indicate a 'group of people' not sequential. Relationships are lateral, with different individuals of similar purpose. Postures and gestures are similar but vary slightly with individual figures.</p>	<p>Hawaiian society has 'groups' of people that bolster cultural identity and a sense of power. Outsider could recognise a "grouping of people" but not identify what kind of group.</p>	<p>Political and religious power is achieved by creating and managing 'groups' of people such as a 'party' of warriors, or fishermen, or paddlers, etc. Identification of different groups.</p>
 <p>Unoriented Disparate Group</p>	<p>Gesture, posture and proxemic arrangements are complex. Each figure is unique and relationships are potentially very complex.</p>	<p>Complex family relationships that include non-human entities such as spirits and ancestors. Each member has a different relationship with each other.</p>	<p>Religious and political power is variable and can change from the managed by sub-groups and individuals. Complex rules of etiquette and protocols in religious and political relationships.</p>

Table 7.1 Comparative Summary of Hawaiian Patterns and Relationships

The organization of the second group, 'Vertical and Horizontal Conjoined Sequence' also exhibits uniform body forms, gestures and spatial arrangements. The conjoined sequence implies relationships to members both vertically and horizontally. Patterns like this are found in the Hawaiian kinship systems terminology in which the same generation and same sex relatives are called by the same terms. It implies groups comprised of more than one lineage, like social group or village. In the political realm, it parallels the bifurcation of chiefdoms and the splitting of alliances from one leader to another forming dual lines of allegiance.

The Horizontal Group depicts anthropomorphic figures with the same orientation, body form and gesture, but with minor variations among some individuals. The figures are not sequential but lateral with the potential for relationships between individual. The implication is a "group" activity that may be identified by the objects held over the head of many of the figures. Parallels in the ethnography concerning 'groups' of people engaged in activities include things like dances and ceremonies, war parties and battles, or fishing and sea fearing events.

The final group, 'Unoriented Disparate Group', contrasts with all of the previous examples. Each one of these anthropomorphic figures is unique. There is no formal structure in the body form, orientation or proxemic arrangement. Each figure has a unique relationship with the next and with all others in the group. Four different body forms are used to convey different kinds of information. This composition is rated 'High Context' because the information is impossible to access by an outsider. The proxemic arrangements of each figure show close relationships between individuals

that have parallels in the family and spirit relationships in Hawaiian culture. Political relationships are less obvious. Power is managed by sub groups. Land ownership is dependant upon identification of different relationships between individuals. Power is awarded to those who qualify through inheritance rather than prestige (as with other parts of the Pacific) (Kirch 2000).

In conclusion, this structural analysis is a step towards a better method of investigating the Hawaiian petroglyphs. This type of analysis is a systematic examination using direct observation, statistical analysis and ethnographic analogy as a way to identify the patterns that are present in both the visual information and Hawaiian social systems. The structural analysis and summary table of this methodology are necessary to draw out the parallels and differences between the rock art and the cultural relationships. This methodology provides a new approach which is valuable in understanding how the Hawaiian petroglyphs are part of a broader information system.

Part III Australia

Chapter 8 Laura Ethnographic Context

8.1 Introduction

The second part of this thesis addresses the gestural displays in rock art of the southeastern part of Cape York Peninsula, Australia. This region is characterised by the sandstone rock formations that stretch for 1600 kilometres from Cooktown inland to Laura and across to the Palmer River area to the west. It is an area of about 1554 square kilometres of open forest country divided by rivers and creeks, steep cliffs and high mesas (see figure 8.1).

The sandstone formations harbour thousands of caves and shelters that were visited by Aboriginal groups who, over the millennia, have painted images that were important to them. This region has become known as one of Australia's richest concentrations of Aboriginal rock paintings. The stylistic characteristics of the painted motifs are described by the term 'Quinkan Rock Art Tradition', named after the spirit figures that are found in great quantity here (Cole 1995, Trezise 1971).

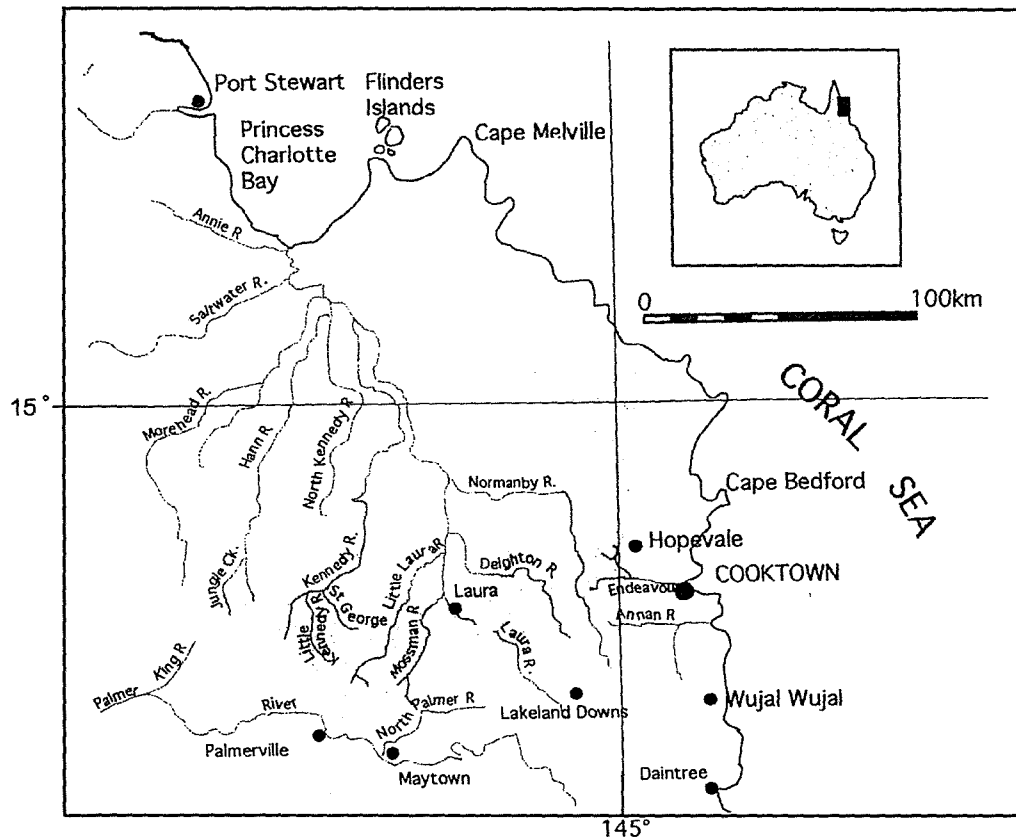


Figure 8.1 Map showing the location of Laura and the sandstone formations that makes a great arc through the area. (From Cole 1998).

The anthropomorphic figures in this region display certain arm and leg positions that have been critically analysed from the quantitative data; these are discussed in Chapter 9. This chapter, however, is concerned with identifying cultural elements that are significant and may be relevant to the interpretation of the painted motifs. For example, mortuary rites and ceremonies figure prominently in the cultures of Cape York Peninsula, and items such as 'bone cylinders' and 'mourning pendants' have been identified by previous studies of the rock art (Trezise 1969; 1971; Cole 1988; 1995; 1998). The following ethnographic summary supplies the information on which I build reasonable comparisons with the gestures displayed by the anthropomorphic figures in my sample.

8.2 Ethnographic background

8.2.1 Historical Review

There is very little ethnographic data from the Laura region. Most of the information comes from detailed studies done further to the west on the coast of Cape York, and up on the northern tip as well as the eastern and southeastern coast of the Cape. The early work for the central interior of Cape York was provided by Roth during the years of his employment as “protector of the Queensland Aborigines” from 1897 to 1910. Figure 8.2 shows the geographical areas of ethnographic study in the Cape during the early part of the last century. Roth’s study area, mentioned above, was for areas E, D, and C, of the map. These were followed by McConnel (1930a; 1934; 1936; 1937; 1939), who studied areas A and B; Thomson

(1933), who studied area B; Hale and Tindale (1933), who studied the Princess Charlotte Bay area C; and Sharp (1934a, b; 1937; 1939) in various studies covered A, B, C, D, and E.

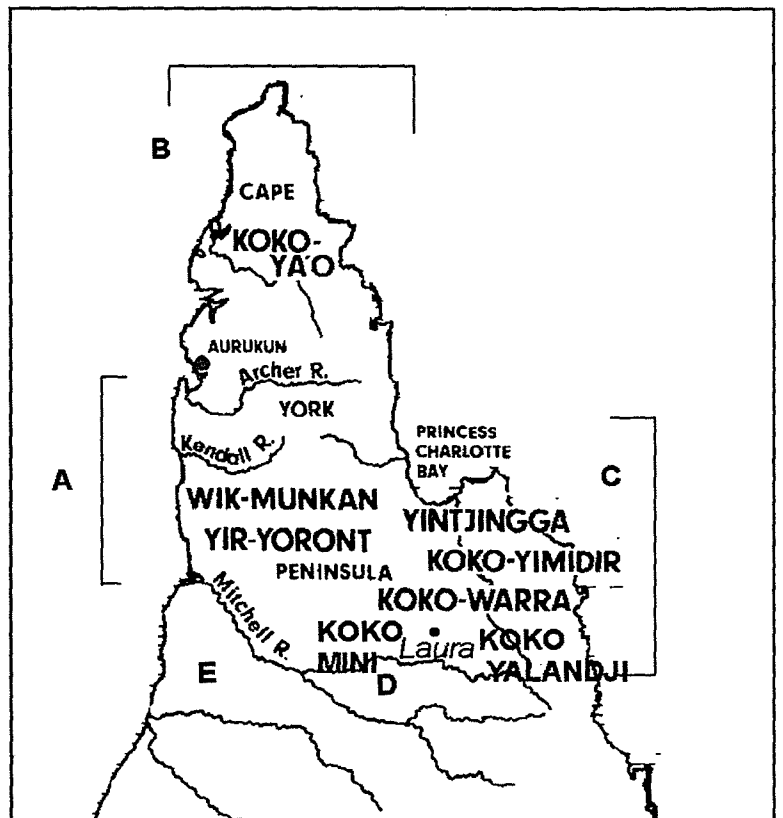


Figure 8.2. Cape York Peninsula showing the various study areas by early ethnographers during the beginning of the last century.

From these early records and others that followed, such as Terwiel-Powell (1975), von Sturmer (1978) and Taylor (1984) some broad generalizations on the social organization can be reconstructed. For this thesis, I draw on material that appears to be common to all of Cape York Peninsula. The more specific the information, the less reliable it will be for Laura itself. Therefore, I focus on the primary belief systems and major events within a personal life experience. I begin with the linguistic affiliations of the people who inhabited the area, followed by a discussion on sign language and gestures used by the groups in this area.

8.2.2 *Language Affiliations*

The linguistic affiliations at the time of European contact in the Laura area are still controversial, and a clear determination has not been established. Early studies by Roth (1897), Sharp (1939) and Thomson (1933) describe the Laura region as one shared by the *Koko Yalanji* and the *Koko Mini* speaking people. To the north the area was shared with the *Koko Warra* who inhabited the Deighton and Normandy Rivers (Roth 1910b). Over the century new spellings have been applied to these language groups and different divisions have been set between language families and dialects. Table 8.1 shows the different spellings that add to the confusion in interpreting the literature. Note the three columns dated '1976' are the linguistic spellings published in one volume. See also the discussion by Rigsby (1980), classifying *Kuku-Thaypan* as a Paman language and a dialect, along with Rarmul, of the same language. Sutton (1976) has reclassified the *Koko Minni*, *Koko Yimidir*, and *Koko Yallanji* as part of the central Paman language group.

Date/Author	1960	1976	1976 Sommer	1976	1980
1898 Roth	Trezise	Alpher		Sutton	Brady et al.
Koko Olkool	Olcoola				
Koko Warra	Gugu Warra	Gogo Wara	Koko Wara	Central Paman languages	Kuku Warra
Koko Minni	Gugu Mini	Gogo Mini			Kuku Mini
Koko Yimidir		Guugu Yimidhir	Gugu Yimidhir		
Koko Yellanji	Gugu Yalanji	Gugu Yalandji	Gugu Yalandji		Kuku Yalanji
	Taipan	Thaypan	Kuku Thaypan	Kuku Thaypan	

Table 8.1 Spellings of linguistic affiliations in the Laura region.

The following map (Figure 8.3), sketched by Roth (1898) at the turn of the century, supports Trezise (1969) in estimating what groups were most likely to be associated with the rock art sites in the Laura region.

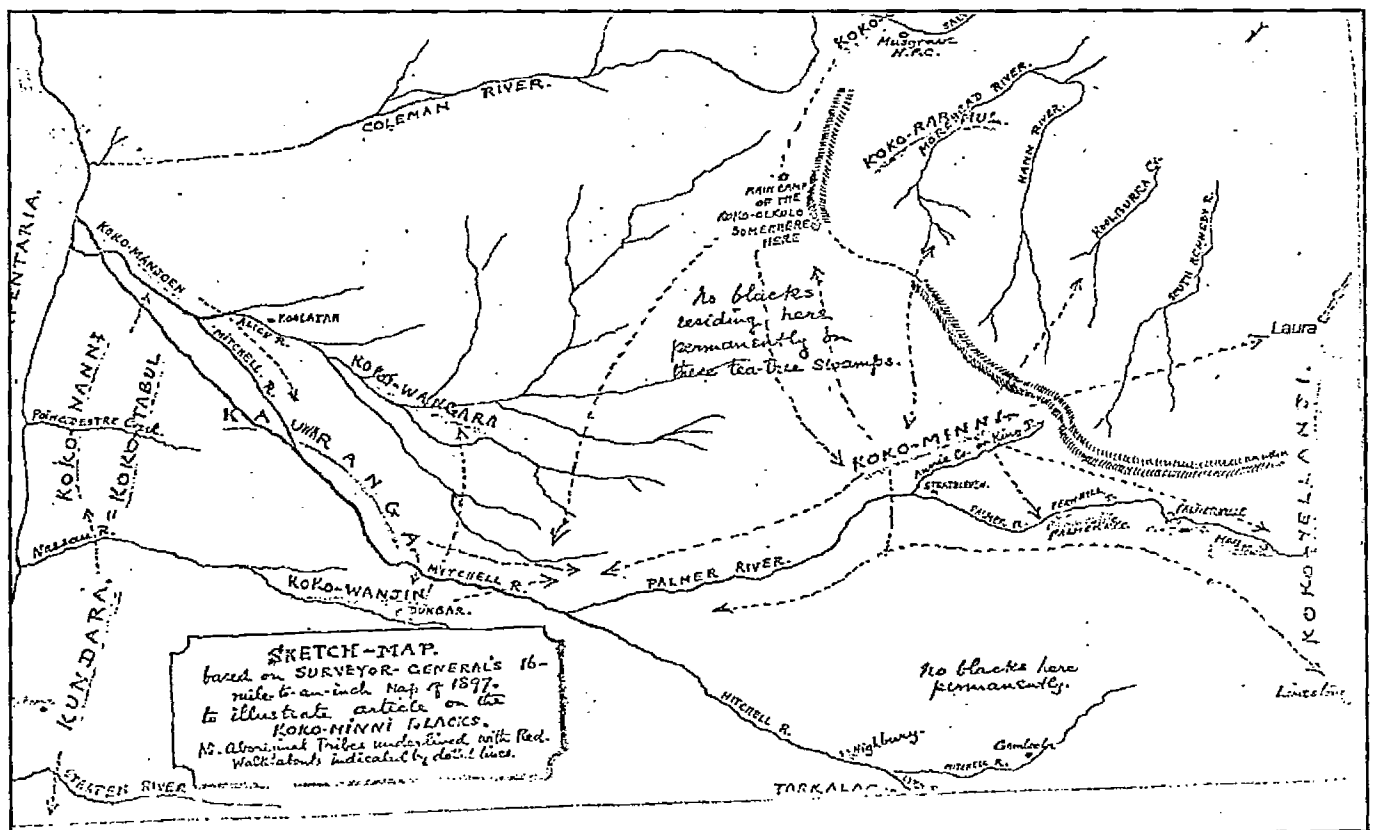


Figure 8.3 Map from Roth 1898 showing the movements and linguistic associations of tribes in the Laura region.

Even in 1898, Roth notes the absence of Aboriginals in many areas. Aboriginal society was subject to huge upheavals and disruption during the 19th century resulting in the displacement of people from their country, and in some cases this “displacement” meant “extermination”. The map by Roth illustrates the constant movement across ‘countries’ and contact between different ‘tribal’ groups. In this diagram the Koko-Yellanji, Koko-Minni, Koko-Yimidhir, and Koko-Warra moved all through the Laura area. Roth locates the Koko-Yimidir extent from Cooktown and the Koko-Yellanji from Butcher’s Hill bordering on the southern extent of the Koko-Warra and the eastern extent of the Koko-Minni (see Roth 1899). For the purpose of this thesis, I have retained the names given by Roth (1898) as well as Sommer (1976).

8.2.3 *Sign Language*

Sign language was reported throughout Cape York Peninsula and was used by both men and women (Roth 1898; 1908b). The earliest recordings by Roth were signs for animals and plants as well as kinship relations, and general subjects of interest. He recorded signs for the Koko Minni of the Middle Palmer River and the Gugu (Koko) Yimidhirr. Recent studies of the Gugu Yimidhirr were conducted by West (1961-1965) and de Zwaan (1969), who filmed the signs and captured conversations accompanying the signs. Kendon (1988) describes the sign language, from viewing these films, as highly pantomimic and improvisational in character.

Extensive space is used, there is much whole body action and face action, and there is little differentiation in the hand shapes use. This is in contrast to what may be observed in the sign language recordings West made from representatives of groups further to the north, especially the Ombila and Pakadji. The signing recorded from members of these groups is mostly one handed, uses restricted space, uses much hand differentiation and is rapid, and does not involve the use of the body or face. These are all marks of a highly developed sign language. In

this area speech taboos were observed by widows and as is clear from West's films, the best signers he recorded were women (Kendon 1988, 45).

These signs are made primarily with the hands, in discrete formations. The studies by Roth and West were focussed on signs used around camp with references to game animals that may have been signed while out hunting. In contrast, the signs used for long distance communication would involve more extended arm positions and not subtle hand formations. For example, Berndt (1940) observed sign language used by the Jaralde, of Murray Bridge, South Australia in which people used extended arm positions during hunting trips or while travelling, for communicating across distances too far to hear spoken words. The sequence of signs 'to attract attention' between two people employs the open palm and raised arm, to exchange information about their travel. Kendon (1988) compares signs used in different areas around Australia (from the available literature) and finds that Aboriginal groups in Queensland share only 11% to 12% of them. This may be true for the discrete hand signs, but for long distance communication, it would be necessary to use an extended arm and flat forward facing palm for visibility. Signs used for long distance visibility would most likely be a shared sign.

8.2.4 Social Organisation

The material from studies by Sharp (1939), Thomson (1933), McConnel (1939) and Roth (1989) are used for the following summary of social organization and spiritual belief systems. The information from these study areas are contiguous and relevant in forming an ethnographic analogy. The social organisation for the hunter/gatherer mobile Aboriginal groups of Cape York Peninsula is very different from the Hawaiian sedentary,

hierarchical chiefdoms. Sharp (1939) and Thomson (1933) categorize “tribal groups according to totemic organization” (Sharp 1939, 102) and include the area of Laura as ‘VI Olkol Type,’ that include the Koko Warra, Olko and Koko Mini people (Sharp 1938).

The social organization of the Olkol Type tribes of Cape York Peninsula followed a pattern of patrilineal descent that consisted of patrilineal clans and exogamous, patrilineal moieties. Sharp writes:

The totemic organization of the tribes in this area is characterized by named patrilineal moieties associated with strongly developed totemic patterns, by four named sections which, however, are totemic only indirectly as segments of the moieties, and by clearly defined local patrilineal clans responsible for the practice of a totemic ancestor cult and localized totemic control rites of the talu type (Sharp 1939, 439-442).

8.2.5 Totems

Each moiety had several totems that were assigned to individuals or collectively by a term *kupi*, that meant “world” or “nature”. The patrilineal totemic clan was an important element in the social structure of all of the tribes in this area. Each clans, in turn, could have multiple totems (Sharp 1939). There were strict taboos on moiety totems, but not on ordinary clan totems. Totems in this area included not only plants and animals but also natural phenomena and such abstract concepts as sexual passion, adolescence, various diseases, swimming, copulating, making a spear, vomiting, colours, psychological moods, heat and cold and so on (Sharp 1938, 69). Totems include things like a corpse, ghost, ritual objects and cultural artifacts. Sharp believed that a totem may have been anything that was found in a mental or physical environment including classes or species of things, activities, states or qualities which were constantly recurring and were considered to be durable (Sharp 1938, 69).

There were various kinds of ceremonies, including totemic ceremonies for *increase* and *cleansing*. There were ceremonies that retold the activities of mythical ancestors, and ceremonies for boy's initiation (Sharp 1939). Among the most commonly portrayed totems found in the rock art are mythical ancestors that are both anthropomorphic culture heroes and therianthropes (part human part plant or animal) beings. The land is also divided up and named using totems and the names of individuals or groups of people are derived from those territories (or *countries*). Countries are represented in the totemic rites that are performed by these people and these activities reflect the attitudes and behaviour toward the countries, (Sharp 1938, 69).

8.2.6 Country

Further understanding of what 'country' means to Aboriginal people of Cape York Peninsula, can be found in Langton's (2003) description of the Dreaming and totemic connections that is called 'Story' in Aboriginal English. "Deceased ancestors are conceived of as spiritual presence in particular places expressed both a resonating 'spiritual' trace of the once-living persons returning to *story* place as the 'returning' to a place of an ancestor's spiritual force whose source is *story*, (Langton 2003: 254).

When working in the field with George Musgrave and Tommy George, both Elders of the KuKu Thaypan group I experienced what Langton describes as their obligation to 'sing out' to ancestors who are the keepers of life forces - to protect those who are travelling with them from the dangerous spiritual forces emanating from emplaced spiritual beings... When these Beings are addressed by George Mustgrave,... George might say to the ancestor Being, "OK, old thing, it's just me. *Alpulkal*, You know me. I've got some friends with me. Don't hurt them," (Langton 2003).

Three varieties of totemic rites were found in this area. The first were *control rites* used to regulate the quantity of totems. They were believed to either increase their abundance, or control and even diminish their quantity. The rites were either for the benefit or harm of the community, depending upon the will of the operators and the kind of totems under their control. There were *historical rites* that reinforced belief in ancestors by symbolically recreating the ancestors themselves and their practices. There were *mourning rites* that emphasize the totemic affiliations of the deceased and of the surviving clans men or moiety members. It was believed that the dead's totemic spirit returned to its totemic homeland where it had resided since the ancestral epoch (Sharp 1938).

8.2.7 *Marriage and Kinship*

Clan members within a certain moiety were the only eligible partners to members of specific clans in the opposite moiety. Each clan consisted of around 25 to 50 people. The Cape, as with most of the rest of Australia, was divided up into known patrilineal 'clan estates' belonging to senior clan members (Elders) whose knowledge of the territory and 'sacred law' demanded respect from any transgressors (Sutton and Rigsby 1982; Chase 1984). Claim on the land was due to local knowledge of the stories, totem sites and burial sites of their ancestors (Terwiel-Powell 1975). Clans were in charge of certain ceremonies and responsible for "increase sites" (Sharp 1929). The moiety system divided each tribe into two opposing groups. These moieties had special roles in ceremonies and determining marriage partners. Moieties also opposed each other in ritual combat (Sharp 1939). For most groups in the region, each moiety was in turn divided into two marriage regulator classes or sections (e.g. Terwiel-Powell 1975).

8.3 Personal Relationships

8.3.1 *Self*

The relationships around that of 'self' can be illustrated in the following diagram (Figure 8.4). A person's self-identity incorporates three components as a whole. From one's self in the centre emanates the patrilineal clan membership. The clan is in turn encircled with a personal ancestor. Figure 8.4 illustrates this relationship.

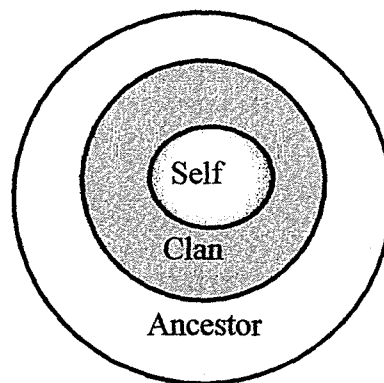


Figure 8.4 Diagram of 'self' in relation to clan and ancestor.

From one's self is the direct identity with the patrilineal clan that each person is born into. Associated with a personal clan membership is the ancestor figure of that clan. The three are all components of one's identity of *self*.

8.3.2 *Ancestor*

An ancestor is both a deceased person and a mythical ancestral spirit. Ancestors are all related to various elements within the natural and supernatural environment. The name given to an ancestor may also identify it with an animal or bird form. An ancestor can manifest into a form, that might even be an environmental phenomena such as 'great rain', or a descriptive form such as a 'black dog' or a 'painted spear' (Sharp 1937).

These personal ancestors or guardian spirits help the individual in times of stress, illness

or attack by supernatural forces. They lead a hunter to game, can assist in finding food or water and even a mate. They are never malevolent, and can always be called upon in times of trouble. “In the bush, one can feel the presence of the ancestor, and its intimate and affectionate, gratitude (Sharp 1937, 184).

Spirit ancestors are also ‘mythical ancestors’ that tie the past to the present and tie a person to ‘country.’ It is here that a person feels rooted and one’s country serves as a territorial base for activities of both spirit and self. Although spirit ancestors leave their home residence, it is here that they return when they need to. “A person feels the protection of his ancestor when he is in his clan country” (Sharp 1937, 185).

Apical ancestor is the deceased ancestral person from whom descent is traced by the members of a group, the family or clan that claims a traditional affiliation to part of the land. Deceased ancestors are conceived of a spiritual presence in particular places expressed both a resonating “spiritual” trace of the once-living persons returning to *story* place as the “returning” to a place of an ancestor’s spiritual force whose source is *story* (Langton 2003: 254).

Langton writes:

Deceased ancestors thus never depart from the landscape. The land is full of spiritual presences who are the ancestors of traditional owners, usually grandparents. That is, they were people known to the speaking subject in their own lifetimes, and they must be spoken to in the appropriate language. No matter how long a person has been absent from their country, their ancestors’ spirits remain in the landscape and can be heard voicing their spirit presence. If one does not “sing out” there are dire consequences...(Langton 2003, 262)

The relationship of an ancestor to different elements in their environment is represented

by multiple totems of the clans. Species of animals and plants, and classes of other material things, are known as totems. Activities of animals or people, or the qualities of rain, parts of the body, or of cultural items such as dilly bags can also be included as totems. The categories outlined below show the variety of totems described by Sharp (1937):

Material - fire, clubs, axes, pointing bones, shelters, huts.

Sociological phenomenon - betrothal, bachelor, adolescent girls, adventurousness, right and wrong marriage, stealing.

Physical - birth, menstruation, seminal emission, defecation, nausea, vomiting.

Conditions - status, qualities, cold, hot, happy, ashamed, memory, intellect, senses.

Time - dawn, seasons.

The following diagram (Figure 8.5), illustrates the relationship of ancestors and the interconnectedness to other things including songs, gestures, ceremony, ritual, myth, and country. “The weather, earth, rain, animals, floods, wet season is related to various anatomical parts of man and beast, to sex, marriage and babies, to life, to variability of famine, cultural and natural things and actions”(Sharp 1937, 156).

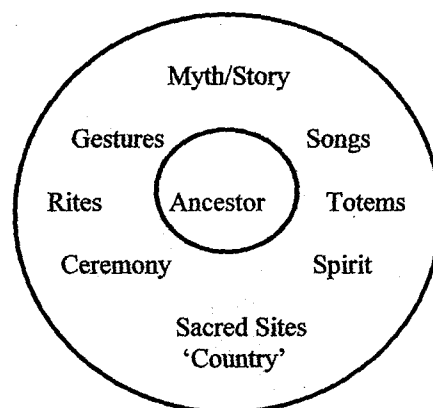


Figure 8.5 Diagram of the relationships of personal ancestors to ‘country’, totems, spirits, myths and stories, rites and ceremonies.

8.3.3 Spirit

From the beginning of life, each man, woman and child has their own guardian spirit ancestor. It is a double in name, personal characteristics and social status. It is separate and independent - not a shadow or reflection. Figure 8.6 illustrates the inward relationships of 'self'. Here, the 'external spirit' is contrasted with "internal spirit represented by the breath and pulse, the life force (Sharp 1937, 183).

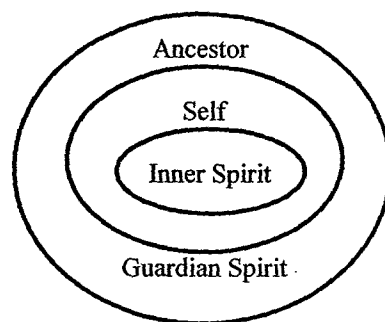


Figure 8.6 The inward and outward relationships of spirit to 'self'.

The separation of body and the spirit is a major concern in the Wik region where Sharp (1937) conducted studies. Among the Kugu-Nganychara, the relationship between body and spirit is seen in a variety of complex ways. There are dual divisions summarised as:

1. body and spirit,
2. good spirit and bad spirit
3. shade - seen by clever men

“People are either good, bad or cheeky buggars. You can tell by the shape of their liver after death”(Sharp 1937, 183).

8.3.4 Totemic Complex

The guardian spirit ancestors are what tie the individual to a particular country. This country is where the totem spirit itself resides, and the only place where it can apply its fullest protection and provide good luck. This connection of self to the country and

personal ancestors and clan relationships are part of what Sharp calls the ‘Totemic Complex’ (Sharp 1937). McConnel’s model studies on the Wik-Munkan (Wik-Mungkan) and adjacent tribes of Cape York Peninsula document patrilineal clans, each of which had a number of totems that varied, from plant and animal subjects to psychological, social and biological states of being. Some were items of material culture as well. People were given personal clan names that created a bond between the person, his/her clan totem (*pulwaiya*) and the sacred place of origin (*auwa*) (McConnel 1930). For example, a young man would acquire a totemic name, and thereby be protected by his *pulwaiya* or totemic ancestor spirit. He acquired the hunting rights and privileges of his father’s clan (McConnel 1934). The interconnections between clan ancestors, country and increase sites, myths and songs, and the availability of food sources is all interrelated within this “totemic complex”.

Two parts of the life-cycle were associated with the *auwa* (the place of origin). When a person died, mourning dances were held while the corpse remained in the camp. In some instances the songs that were sung related to the Ghost clan myth of the tragic end to the ancestral husband and wife (McConnel 1937, 346-64). “The spirit of the deceased travelled to the *auwa* and transformed into the totem species again. In this form, the species resumed mating and reproducing or ‘increasing’, and all was as it should be and no unfinished business remained” (McConnel 1937, 364). This summary of what McConnel, Sharp and von Sturmer have found in their ethnographic studies of Cape York Peninsula lays the foundation for understanding the cultural significance of the rock art in this area. Similar patterns emerge from both the totemic complex model and the visual displays found at Laura. These patterns are discussed in detail, in Chapter 10, the Laura rock art.

8.5 Gestures

8.5.1 *Gestures of Kinship Relationships*

Kendon (1988) found kinship relations signed in many parts of Australia, even from places where there was no well developed sign language. He believes special attention should be paid to kin signs when studying the structure of kin relationships within a society. In most areas of Australia, kin signs are articulated by pointing to a body part. The body part is the focal point of the interaction most characteristic of the kinship relationship and becomes symbolic of that relationship (Kendon 1988). In many languages, kin terms can be found that are closely related to body part terms. These body parts may also become the locus of articulation for the corresponding sign. The signs thus, are concrete manifestations of the way of thinking of kin relations. (Kendon 1988:331).

Sharp's (1937) study revealed that the gesture language was well developed among the Cape York Peninsula tribes, as elsewhere on the continent, and the indication of particular relatives by a gesture was part of a larger system of communication. Gesture signs were also used for the major life events such as birth, initiation, marriage, and death. Not a lot of information is available for birth, and marriage and the information on initiation ceremonies is not appropriate for this study, nor accessible to me. Death, on the other hand, has been documented to a great extent by McConnel (1937), Sharp (1927) and Roth (1907). The concept of death is important because of the complex relationships a person has to family, clan, country and totemic ancestors. The mortuary practices and associated gestures surrounding death are discussed in some detail.

The gestures for kinship were recorded in Sharp's (1937) study. "When an individual thinks of a specific relative, he says that he has a feeling which manifests as a tingling sensation in a certain part of his body corresponding to the kind of relationship they have towards that person" (Sharp 1937, 70). Sharp uses the example of the response European people have to someone who sneezes. Those people standing near the person sneezing might respond with "Bless you". In this Aboriginal community, persons within earshot of the sneezer respond with a gesture sign according to their relationship to that person. The mother to son would sign 'breast' while a brother or sister to that person would give the appropriate sign 'bicep' (Sharp 1937). The following are seven kinship categories that were signed in Sharp's study:

- 1) *shin* - older and younger brother and sister; father's father; father's father's sister; son's son and son's daughter.
- 2) *biceps* - father and father's sister; son and daughter.
- 3) *acromion* (shoulder blade) - Mother's father and mother's father's sister; sisters; son's son and son's daughter.
- 4) *breast* - mother's brother and mother's sister's son and daughter.
- 5) *thigh* - mother's brother's son and daughter (man's wife); father's sister's son (woman's husband) and daughter.
- 6) *scapula* - mother's mother and mother's brother.
- 7) *buttocks* - mother's mother's brother's son and daughter (mother-in-law); father's sister's daughter's son and daughter.

This system of terminology can be even more refined when the gestures are used to refer to a person who has just died. Special terminology is used in reference to the person's kinship affiliation from the time of death until burial two or three years later. There are fifteen kinship names of relationships to the dead in Sharp's study (Sharp 1937).

8.5.2 *Life Events and Gestures*

According to Berndt (1975), the dominant themes in Aboriginal Australia are those concerned with initiation, revelation (post-initiatory rites), fertility (increase of various natural species, man and seasonal renewal rites), and death (mortuary rites). Von Sturmer (1978) says there are “three life crises”: conception and birth; initiation, including increase ceremonies; death and mortuary ceremonies. The following material discusses these major life events and the gestures that refer to them.

8.5.3 *Birth*

I have conducted a thorough search throughout the literature for a gesture sign indicating ‘birth’ and have not found any depiction in Cape York. The Walpiri Hand Talk (Wright, 1980) lists ‘child’ showing the gesture for birthing a child. Generally, it is signed as something emerging from between a woman’s legs. In Laura, the sign for ‘child’ is used but I could not find the sign-language gesture for birthing.

8.5.4 *Marriage*

According to Roth (1897) the ceremonial sign of marriage is represented by the building of a hut and the lighting of a fire on the part of the girl . . . and the seizing of her wrists on the part of the husband. In the north-west district sign language, the idea-gram for marriage by capture is represented by a wrist-grasp (Roth 1897, 3). There is little variation around Cape York Peninsula. The wife may be given to her future husband by the wrists. If ultimately the girl is too shy to go to her future husband’s hut, her brother or father will accompany her; if still recalcitrant, her husband will seize her wrists and pull her in (Roth 1897, 6) (Figure 8.7):

When the girl's father and mother's brothers consider her bridegroom so, but never a word to the girl. The future husband thereupon paints himself up, takes all his fighting weapons with him, and tells the news to the other men of his own exogamous group. He next watches his opportunity to find the girl away from her parents or out in the bush with the women, approaches her as silently as he can, and seizes her by the wrists. The other females will try and help her to get away, by the will call upon his group mates for assistance to keep them off (Roth 1908, 7).

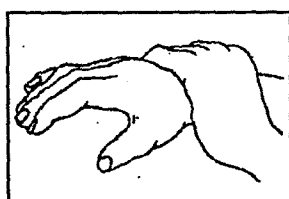


Figure 8.7 Sign language gesture for marriage (Roth 1908).

8.5.5 Initiation

The sign language gesture for 'man' is made by pointing to the scars across the chest, that were obtained during or after initiation ceremonies. These cicatrices identify an individual's status in the society and his level of initiation. Grooves cut into the rock or a boulder have also been referred to as 'tribal marks' symbolizing the initiation marks for a man.

McConnell (1934) observes that the Wikmunkan women adopt different hand positions according to their kinship relationship to a male at certain stages of his initiation ceremony. A woman who is a sister to the initiate will place her hand on the back of her neck, while a woman who is a father's sister places her hand on her shoulder.

8.5.6 Death

The sign language gesture for death is made with closed eyes, and fixed arms in extended position: the stage of rigour mortis (Roth 1908) (Figure 8.8).

McConnel (1937) reports beliefs concerning the dead and mortuary rituals were much the same everywhere on the peninsula (see also Tindale 1933). They included burial or cremation, hiding away or carrying around the exhumed bones or mummified corpse, and of preserving the dead by one method or another. The following beliefs and actions taken are characteristic of the mourning rituals for all of Cape York Peninsula:

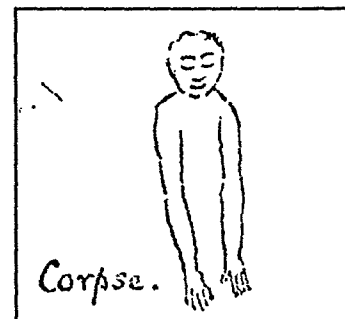


Figure 8.8 Sign for corpse.

- 1) belief in the reappearance of the dead in the form of ghosts which may haunt the living,
- 2) attempts to lay the ghost by adjuration or mourning song and dance;
- 3) the imposition of food and speech taboos upon mother, widow or other relative of the deceased and his or her family,
- 4) the enforced payment of food dues to parents, brothers and sisters of the deceased,
- 5) the identification of the spirits of the dead with their clan totemic centre.

Roth describes the procedure for mummifying a body, by suspending it on a pole lodged in two forked posts. "A fire is lit underneath to dry it. When dried and shrunken it is wrapped around with sheets of tea-tree bark and fastened with strong twine or rope made of fibre from roots of wild fig-tree or wattle" (Roth 1907). Bark coffins such as these are pictured at several rock art sites in Laura, as discussed in Chapter 10. The body is carried in a long bark bundle for over two or three years. It is kept by the clan in charge of the widow, mother or other relative. The bundle is carried on the heads of two women, one at each end. When at camp, it is placed on the two forked posts and guarded during the day or even taken with them on daily hunting expeditions. Eventually, the members

of the deceased's immediate family decide that the period of mourning should be terminated (McConnel 1937, 348). The mummified remains were preserved in bark bundles. Paintings of these bone cylinders are found in many of the painted sites in Laura and identified by George and Musgrave (1995, 21).

8.5.7 *Mourning Dances*

Among all of the Cape York people, the mourning dances were performed when a corpse was in the camp. McConnel writes:

After death, a few days later when all the important kin have arrived in camp to gather in the evenings or at night to "sing to the spirit". Songs and dances associated with the deceased are performed with the intent of luring the spirit into the presence of the living, a senior man or woman will nominate a site in the deceased's country where the spirit is then directed. The place nominated is always a major site, or a feature associated with a major site. A prime consideration is the presence of good drinking water. Sometimes predictions are made that the spirit will create observable changes in the typography of the site aw which it has taken up residence. Thus a close identification is drawn between a person, a song (and dance), and a major site (frequently with awu associated with it) the deceased's estate, where the spirit continues to have a biding influence (McConnel 1937, 397).

The gestures that accompany the dance vary, but stamping out the rhythm with flattened feet on the ground is a general characteristic. The Kendall river women extend their arms in a manner suggestive of the *laying of a ghost* (McConnel 1937). Roth describes the gestures of the mourning rituals in the Laura region (Figure 8.9):

The men sit or stand around the slung corpse, the women, advancing from a distance in pairs, keep singing and stamping as they approach: the stamping consists of a simultaneous jerking movement of both feet, the dust being thrown up with each jerk. There is a belief that by thus stamping there is a chance of bringing the life, vital principle, back into the dead body. ...the women make the same steps when an individual has a fainting fit. If the young man met his death in the water a corresponding dance takes place in the element, the throwing up of the dust with the feet being now replaced by the splashing of the water with the hands (Roth 1907, 369).

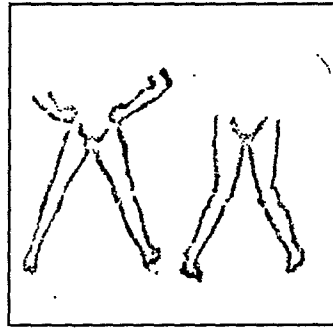


Figure 8.9 Mourning dance, (from Roth 1907).

Every mourning dance has its accompanying song that comes from the myths of culture heroes. The myths describe a ritual that is specific for each occasion. For the mourning ritual, it is sung by women of the Ghost clan who are the only ones who know how to sing it. Figure 8.10 depicts the women singing and dancing the mourning ritual on the beach. Notice the bent knee and forward stretched arms.



Figure 8.10 Mourning dance performed by the women of the Wiknatanya and Wiknatara tribes on the shores of the Gulf of Carpentaria (McConnel 1937, 370)

8.5.8 Summary

This chapter has briefly covered important topics concerning the ethnography of the Laura region. Sign language and gestures are important features of communication with these people although not much is known about specific gestures other than what was recorded by a few ethnographers at the turn of the 20th century. The totemic cycle is a

dominant feature that must be understood to some extent when trying to put the rock art in an ethnographic context. Life events, such as birth, marriage, initiation, death and mourning dances are all part of a larger cycle that involves 'story' and 'country' defined by totemic ancestors that coexist with the living. The rock art of this area appears simplistic in its organisational composition in comparison with that of the Hawaiian, but when understood from a totemic context, it parallels that of totemic relationships and complexity. The hunter/gatherer groups of Laura exhibit a looser organizational pattern compared to the Hawaiian chiefdom societies, yet the Aboriginal cultural context is far more dense than the Hawaiian, and deserves more detailed explanation that is beyond the scope of this thesis.

Chapter 9 Data from the Laura Area, North Queensland

9.1 Introduction

The rock art of the Laura region of southeast Cape York Peninsula is known for its distinct 'Quinkan' style named after the spirit figures that appear in the art and mythology of the local cultures.

9.2 Methods

The sample sites for this study were selected because of their accessibility and the availability of data from previous publications. Photographic documentation was carried out during two field trips in 1997 and 1998. A third visit was carried out in 1999 to specifically record anthropomorphic figures from each site and document many that were unrecorded by previous researchers. My samples were collected from two areas within the Laura region. Three of the sampled sites were near the town of Laura, Split Rock, Gugu-Yanji and Giant Horse and three other sampled sites were in the area known as Jowalbinna. The sites in Jowalbinna include Giant Wallaroo, White Cockatoo and Long Tom and Amphitheater site on Brady Creek and the Yam Man and Yam Camp sites on on Sheperd Creek.

For this study I have grouped the individual localities into 6 sites totalling 219 samples:

Site 1 - Split Rock (SR1) panels 1-3; Split Rock 2, panels 4-6.

Site 2 - Gugu Yalanji 1(GY1) panels 1-3; GY2, panels 4-6.

Site 3 - Giant Horse (GH) panels 1-3.

Site 4 - Giant Wallaroo (GW1) panels 1, 2; GW2, panel 3.

Site 5 - Brady Creek (BC) numerous individual panels at site 1, 2, and 3.

Site 6 - Amphitheatre (BC3) individual panels added to BC3.

This study focussed on previously unpublished anthropomorphic figures. The simple stick figures termed 'poorly drawn' by Trezise only appear in published photographs when they are contained within a major panels and recording them was unavoidable. I believe these figures reveal valuable information transmitted through gestures. The repetition of specific gestures is likely to have been purposeful and encoded meaning to Aboriginal people (see Figure 9.1).

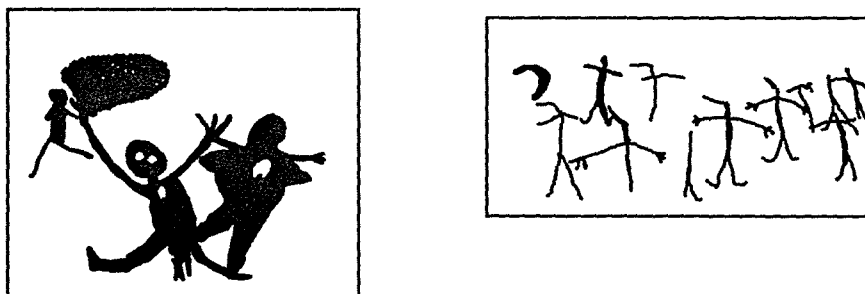


Figure 9.1 Figures that were generally found under ledges or off to the side of major panels, and not included in previously published reports.

Table 9.1 is a summary of all the anthropomorphic data that I collected from the six sites that number 219 individual figures. Although it is a small sample, I believe it is sufficiently large enough to demonstrate the variety of body styles and gestural depictions that suggest purposeful organization and meaning.

For this study I have grouped the individual localities into 6 sites totalling 219 samples:

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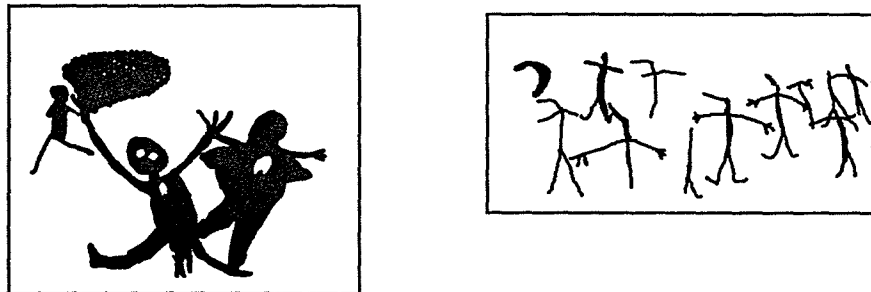


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Table 9.1 Summary Table

Site		SR 1-3		SR 4-6		GY 1-3		GY 4-6		GH 1-3		GW 1, 2		GW 3		BC 1		BC 2		BC 3		Total
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Body Form	Stick	5	18	1	5	0	0	0	0	2	8	17	53	0	0	1	4	9	35	2	11	37
	Fbstick	12	43	3	16	10	42	8	62	1	4	14	44	11	100	17	74	4	15	12	63	82
	F Body	11	39	15	79	14	58	5	38	21	88	1	3	0	0	5	22	13	50	5	26	90
Color and Design	L solid	7	25	5	26	9	38	3	23	4	17	0	0	0	0	1	4	1	4	5	26	35
	D solid	6	21	6	32	15	63	9	69	8	33	15	47	11	100	15	65	11	42	11	58	107
	Line	5	18	1	5	0	0	0	0	2	8	17	53	0	0	1	4	9	35	2	9	37
	L/D OL	7	25	7	37	0	0	0	0	7	29	0	0	0	0	2	9	0	0	1	5	24
	D/L OL	0	0	2	11	1	4	0	0	5	21	0	0	0	0	0	0	5	19	0	0	13
	D/L INTL	0	0	2	11	0	0			3	13	0	0	0	0	5	22	6	23	1	5	17
	L/D INTL	3	11	4	21	0	0	1	8	3	13	0	0	0	0	0	0	0	0	0	1	5
Head	H DR	1	4	5	26	0	0	0	0	1	4	0	0	0	0	3	13	5	19	1	5	25
	Hair	1	4	4	21	2	8	2	15	5	21	0	0	0	0	0	0	0	0	1	5	15
	Eyes	4	14	6	32	2	8	0	0	4	17	0	0	0	0	4	17	6	23	0	0	26
L Arm	vtup	7	25	0	0	1	4	0	0	1	4	2	6	0	0	1	4	0	0	0	0	12
	dgup	10	36	2	11	9	38	4	31	4	17	13	41	0	0	7	30	4	15	4	21	57
	hz.	3	11	9	47	9	38	6	46	6	25	13	41	11	100	7	30	15	58	7	37	86
	dgdown	9	32	8	42	5	21	2	15	12	50	3	9	0	0	7	30	6	23	7	37	59
	vtown	0	0	0	0	0	0	0	0	0	1	3	0	0	1	4	1	4	1	4	1	5
R Arm	vtup	3	11	0	0	0	0	0	0	2	8	0	0	0	0	2	9	0	0	1	5	8
	dgup	12	43	2	11	9	38	4	31	3	12	15	47	0	0	6	26	4	15	3	16	58
	hz.	4	14	9	47	10	42	5	38	6	25	16	50	11	100	7	30	16	62	8	42	92
	dgdown	9	32	7	37	4	17	2	15	10	42	0	0	0	0	8	35	6	23	7	37	53
	vtown	0	0	1	5	1	4	1	8	2	8	1	3	0	0	0	0	0	0	0	0	0
L lower arm	vtup	5	18	3	16	1	4		0	3	12	11	34	0	0	2	9	0	0	0	0	20
	dgup	10	36	0	0	9	38	4	31	3	12	4	12	0	0	7	30	5	19	4	21	46
	hz	5	18	7	37	8	33	4	31	4	17	14	44	10	91	6	26	13	50	6	32	77
	dgdown	6	21	7	37	4	17	4	31	12	50	2	6	0	0	7	30	7	27	6	32	55
	vtown	1	4	2	11	1	4	0	0	2	8	1	3	1	9	1	4	1	4	2	11	12
R lower arm	vtup	7	25	3	16	0	0	0	0	3	12	12	38	0	0	4	17	0	0	1	5	30
	dgup	7	25	0	0	9	38	4	31	2	8	4	12	0	0	4	17	4	15	3	16	37
	hz	4	14	7	37	8	33	5	38	5	21	15	47	10	91	6	26	15	58	6	32	81
	vtown	1	4	1	5	1	4	1	8	4	17	1	3	1	9	1	4	1	4	1	5	13

		SR 1-3		SR 4-6		GY 1-3		GY 4-6		GH 1-3		GW 1, 2		GW 3		BC 1		BC 2		BC 3		Total
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Hands	digits	13	46	15	79	19	79	12	92	15	62	7	22	0	0	16	70	19	73	11	58	127
	digits	17	61	13	68	17	71	12	92	15	62	6	19	0	0	15	65	19	73	10	53	124
	none	10	36	4	21	4	17	1	8	8	33	25	78	11	100	7	30	8	31	7	37	85
	none	12	43	6	32	6	25	1	8	8	33	26	81	11	100	8	35	6	23	8	42	92
Torso	vt	24	86	17	89	15	63	9	69	12	50	31	97	11	100	19	83	26	100	17	94	181
	hz	2	7	0	0	4	17	3	23	9	38	0	0	0	0	0	0	0	0	1	5	19
	dcl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1
	incl	2	7	0	0	0	0	0	0	2	8	0	0	0	0	4	17	0	0	1	5	9
Gender	inv	0	0	2	11	5	21	1	8	1	4	1	3	0	0	0	0	0	0	0	0	11
	Male	11	39	6	32	13	54	7	54	7	29	1	3	8	73	9	39	5	19	1	5	68
	Female	6	21	4	21	5	21	4	31	10	42	1	3	0	0	5	22	4	15	7	37	46
	None	11	39	9	47	6	25	2	15	7	29	30	94	3	27	8	35	17	65	11	58	104
L Leg	vtown	20	71	13	68	14	58	5	38	13	54	4	12	5	45	6	26	7	27	12	63	99
	dgdown	5	18	6	32	9	38	8	62	11	46	27	84	6	55	13	57	18	69	4	21	107
	hz	1	4	0	0	0	0	0	0	0	0	1	3	0	0	3	13	0	0	2	11	7
	dgup	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
R Leg	vtup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	vtown	18	64	13	68	9	38	4	31	10	42	9	28	4	36	8	35	4	15	14	74	93
	dgdown	6	21	6	32	14	54	9	69	14	58	23	72	7	64	13	57	22	85	3	16	117
	hz	1	4	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	1	5	3
L Lleg	dgup	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	vtup	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1
	vtown	20	71	14	74	14	58	7	54	16	67	8	25	5	45	9	39	9	35	11	58	113
	dgdown	6	21	4	21	8	33	6	46	8	33	24	75	6	55	10	43	17	65	5	26	94
R Lleg	hz	0	0	0	0	0	0	0	0	0	0	0	0	0	3	13	0	0	1	5	4	
	dgup	0	0	1	5	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	vtup	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	2
	vtown	19	68	15	79	16	67	6	46	13	54	10	31	2	18	10	43	4	15	14	74	109
L Foot	dgdown	9	32	3	16	7	28	7	54	11	46	22	69	9	82	11	48	22	85	3	16	104
	hz	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	1
	dgup	0	0	1	5	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	vtup	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	2
R Foot	up	1	4	1	5	3	13	2	15	1	4	17	53	0	0	5	22	5	19	3	16	35
	hz	13	46	10	53	18	75	11	85	22	92	14	44	3	27	10	43	11	42	10	53	122
	dn	0	0	0	0	0	0	0	0	0	0	1	3	0	0	3	13	0	0	0	0	4
R Foot	up	1	4	2	11	3	13	1	8	2	8	17	53	0	0	3	13	6	23	4	21	39
	hz	13	46	10	53	18	75	12	92	21	88	15	47	1	9	12	52	10	38	9	47	121
	dn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	13	0	0	0	0	3

9.2.1 Body Types

The anthropomorphic figures for this study area were divided into three basic categories; Stick, Full Body Stick and Full Body. Although “Stubbies”¹ do exist in Cape York Peninsula, I did not record any in my data base. Therefore, they are not included as one of the categories I use. The system for dividing up the body types into categories follows the model for Hawaii but was modified to fit the observed differences at the Laura and Jowalbinna sites. For example, there are no triangular body shapes in the Laura area. ‘Stick Figures’ are characterised by simple line drawn figures. ‘Full Body’ figures are those with full legs and arms as well as full or rounded torsos. Full Body figures are often outlined with a contrasting colour and occasionally have interior lines of contrasting colour. ‘Full Body Stick’ figure is a new category that is a hybrid of ‘Stick’ and ‘Full Bodied’, characterized by full torsos but having stick arms and legs. Figure 9.2, Body Types, is a composite drawing of three body types.



Figure 9.2 Body Types in the Laura region. The figure on the left is a Full Body type. The four middle figures are Full Body Stick figures, and the six figures on the right are Stick figures.

The division of these categories is not always clearly defined. In several panels it is difficult to determine if the figures are Full Body Stick or Full Body types. In a case where the legs were full and the arms were stick, I classified the figure in the ‘Full Body’ category.

¹Stubbies are stick figures with stubby arms and legs lacking digits (hands or feet).

The major sites of Split Rock, Gugu Yalanji and Brady Creek have been analysed according to single panels that reflect patterns in body types, that are found in higher numbers at certain sites and more are of a more homogenous mixture at others. Giant Wallaroo 1 is exceptional with Panel 2 being composed entirely of Stick figures. A portion of that panel appears in Figure 9.2. Figure 9.3 shows the variation of body types found at the six sample sites.

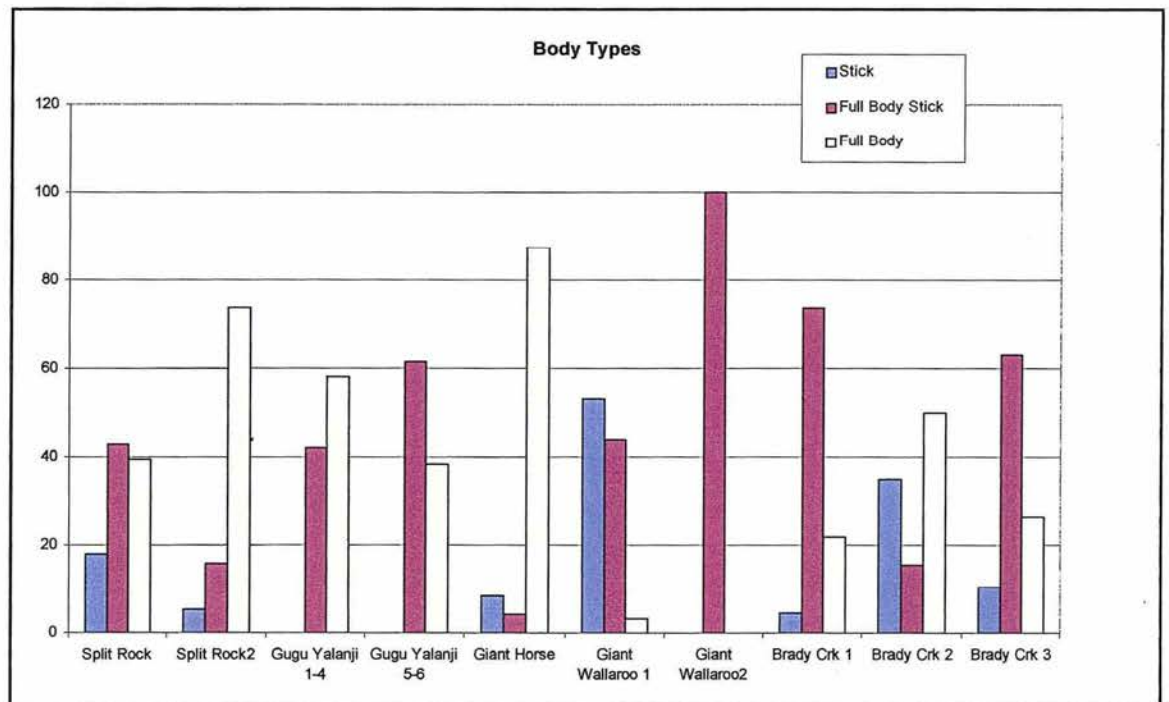


Figure 9.3 Percentages of body types in the Laura area.

The percentages of specific body types shown here may demonstrate a preference for certain sites. For example, Giant Wallaroo 2 is dominated exclusively by Full Body Stick figures. Overall, Full Body figures dominate four of the ten grouped panel sites.

9.2.2 Colour

The sites have many categories of colour that have been well documented by Cole (1998)

and Trezise (1971). Cole (1998) studied the total range of form (variable use of in-fill, linear, outline, or interior marks) listing 34 different categories for human forms alone. For my study, I organized the colours into simple light and dark value categories similar to the modified model of Trezise (1971) that was used by Cole (Cole and Watchman in press). I have only six categories shown in Table 9.2 below. The first two categories are for solid colour (light or dark in value) monochrome forms, having no outline or interior lines (L solid, D solid). The next two categories are for solid in-fill colours with a contrasting outline, i.e., a light in-fill with a dark contrasting outline = L/D OL, whilst a dark in-fill with a contrasting lighter outline = D/L OL. The last two categories are for dark or light in-fill colour with light or dark interior lines (D/L INTL; L/D INTL). These simple divisions suit the purpose of this study, which is not about colour and superimposition sequences, which are discussed in detail by Cole (1998). What is interesting are the results in the data that correlate certain gestures with light or dark body colour, discussed in Chapter 10.

Value	Outside line	Inside in-fill	Interior line
Light (L. Solid)		solid colour	
Dark (D. Solid)			
Light (L/D OL)	contrasting outline	solid colour	
Dark (D/L OL)	contrasting outline		
Light (L/D INTL)	contrasting outline	solid colour	lines, dashes, circles, dots
Dark (D/L INTL)	contrasting outline	solid colour	lines, dashes, circles, dots

Table 9.2 Six categories (two for each value) for body colour and form

9.2.3 Body Types and Colour

The body types for Split Rock panels 1, 2 and 3 show a high percentage of Full Bodied anthropomorphs (39%), either of solid light colour (25%) or dark colour (21%).

Split Rock 4, 5, and 6 have 74% Full Bodies of which 26% are light coloured and 32% dark. At Split Rock 1, 2, and 3, 25% of the light solid colour figures have dark outlines but there are no dark colour figures having white outlines. This contrasts with the Split Rock sites 4, 5 and 6 which are 11% dark colour with light outline. Split Rock 1, 2, and 3 have 18% Stick figures whereas Split Rock 4, 5, and 6 have only 5% with 16% Full Bodied Stick. Figure 9.4 shows the variation in body colour from site to site.

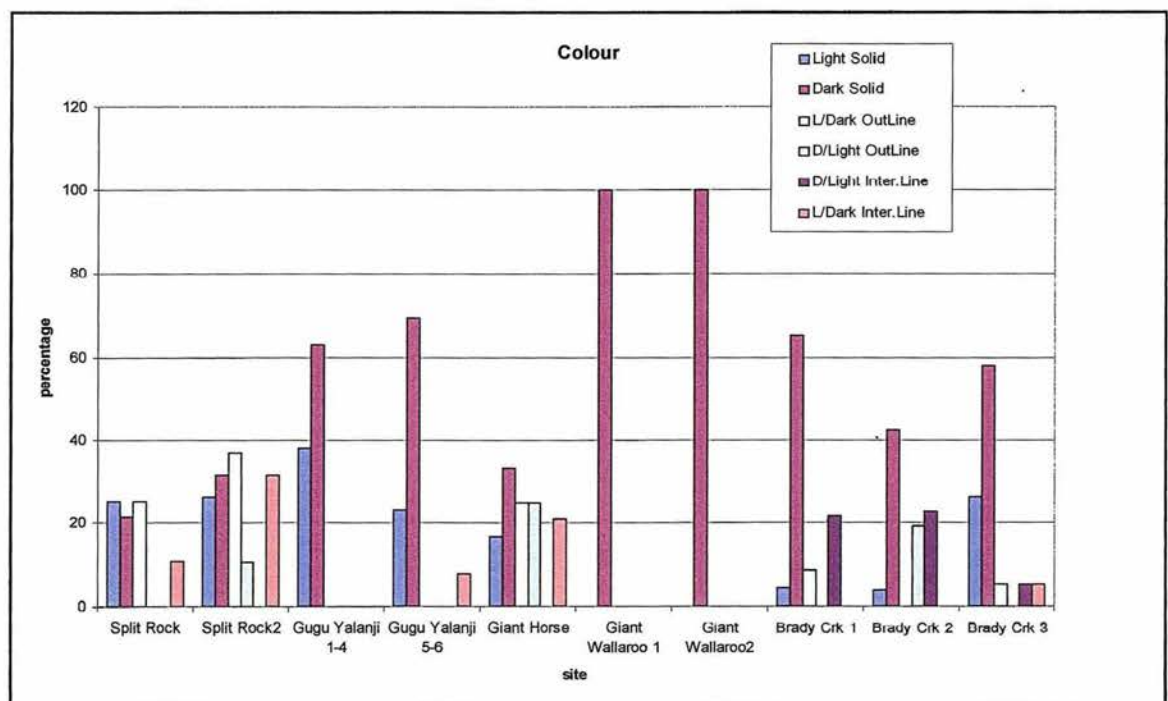


Figure 9.4 Variations in light and dark colour with contrasting outlines and interior lines.

Gugu Yalanji is also divided into two study areas, sites 1-4 and sites 5, 6. Body types at Gugu Yalanji site 1-4 are mostly Full Bodied Stick (42%), and Full Body (58%), with no Stick figures. Gugu Yalanji 5, 6 are also mostly Full Bodied Stick (62%) with no Stick figures. Colour preference is for dark solid figures (63% and 69% for Full Bodied Stick

figures. Colour preference is for dark solid figures (63% and 69% for Full Bodied Stick and Stick respectively). No figures at either site have white or dark outlines.

The Giant Horse site is considered one large contiguous panel of paintings. Full Bodied figures account for 88% of the body types. Stick figures are low (8%) as are Full Bodied Stick (4%). Thirty-three percent of the figures have dark solid bodies and only 17% have light solid colour. An equal proportion (25%) of figures consist of dark with light outline and light with dark outlines.

The three Giant Wallaroo panels are exceptional because of the occurrence of a single body type in each panel. Giant Wallaroo panel 1 is composed of 14 (out of 15) Full Bodied Stick figures. (See Figure 9.5 below.)

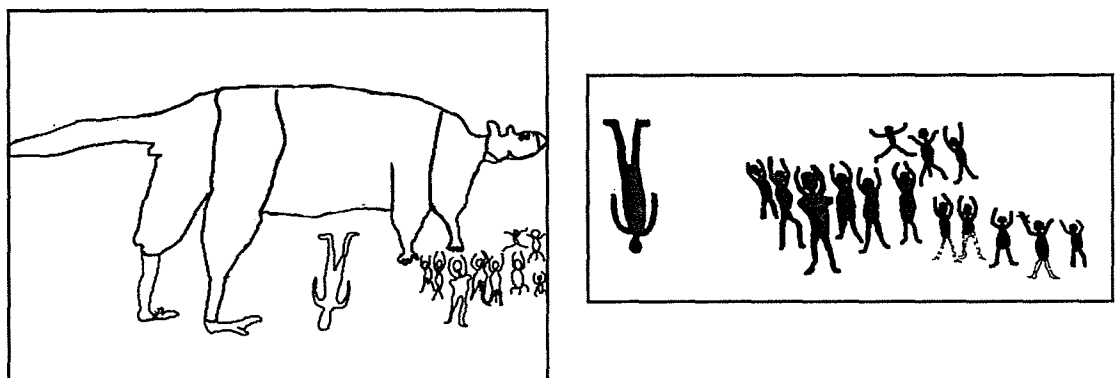


Figure 9.5. Giant Wallaroo panel 1 with Full Bodied Stick and one Full Body inverted figure. The drawing on the left shows the Giant Wallaroo in relation to the anthropomorphic figures in this panel. The drawing on the right shows the Full Bodied inverted figure along with the 14 Full Bodied Stick figures.

The second panel at Giant Wallaroo has 17 Stick figures. Together they have 53% Stick figures and 44% Full Bodied Stick figures from the total of 32 figures. There is only 1 (3%) Full Bodied figure. All of the figures are dark solid (red) colour. Panel 3 consists of 11 figures, all of which are Full Bodied Stick figures with a dark solid colour. See

Figure 9.6 Giant Wallaroo panel 2 and panel 3.

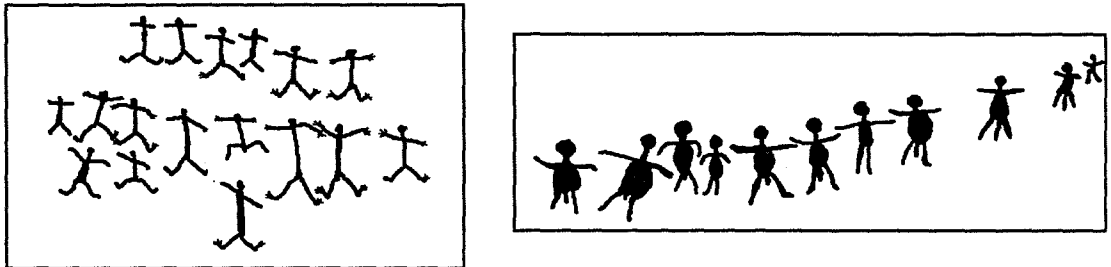


Figure 9.6. Giant Wallaroo panel 2 on the left is composed entirely of Stick figures. Giant Wallaroo panel 3 on the right, is composed entirely of Full Bodied Stick figures.

Many different sites are found in the Brady Creek valley forming a concentration of rock art unequalled in the Laura region. The entire area of 17 panels will be analysed in three parts: Brady Creek 1 (sites 1- 8), Brady Creek 2 (sites 9 - 15) and Brady Creek 3 (site 16 - plus the Amphitheatre site on the escarpment above Shepard Creek). (See Appendix B for individual site details). Though there are many engraved figures at the Amphitheatre site, I am restricting myself to painted forms for this study.

Brady Creek 1 is characterised by a high percentage of Full Bodied Stick figures (74%), while Brady Creek 2 has a high percentage of Stick figures (35%), and only 15% Full Bodied Stick. Brady Creek 3 is similar to Brady Creek 1 with 63% Full Bodied Stick figures. Full Bodied figures occur for 13% of Brady Creek 1, and 50% of Brady Creek 2 and only 26% for Brady Creek 3. All three divisions have a higher percentage of solid dark colour figures, 65%, 42% and 58% respectively. Brady Creek 1 and 2 are noted for the dark solid colour figures with light outlines and interior lines, (22% and 23% respectively). See Figure 9.7 dark colour with light interior lines.

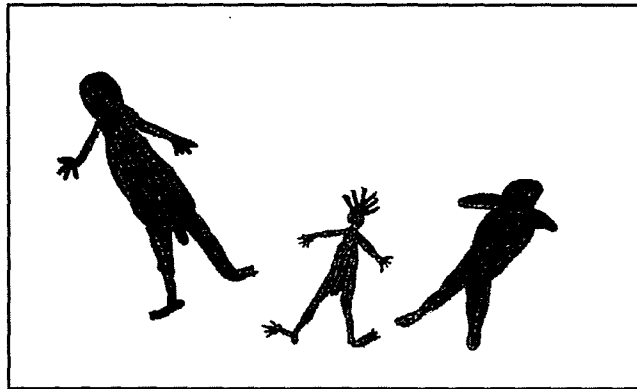


Figure 9.7. Dark colour with light interior lines and dashes from Brady Creek.

9.2.4 *Heads*

The anthropomorphic figures show a relatively consistent pattern of featureless heads. There are very few heads with headdresses (possibly feathers), hair or ears, and eyes. These features are noted in Table 9.1. At Split Rock 2 there are 5 figures (26%) with 'headdresses' in one panel. Split Rock 1 and 2 have a total of 10 figures with eyes (23%) as compared to Giant Horse with only 4 figures (17%), having eyes and at Brady Creek 2, there are 23% (6 figures). There were no depictions of eyes at the other sites.

9.2.5 *Upper Arms*

In the Laura region, the upper arms of the anthropomorphic figures are not clearly distinguished from the lower arms, in contrast with the Hawaiian sample, because the elbow joint is not illustrated. Most arms are continuous from the upper to the lower part, but there are some exceptions that appear to mark a clear statement of a specific gesture. There seems to be three major arm positions: diagonally up, horizontal and diagonally down. In a few cases the arms are vertically up or down, and in rare cases, the arms oppose each other, one up with the other down. See Figure 9.9 for upper left and right arm positions.

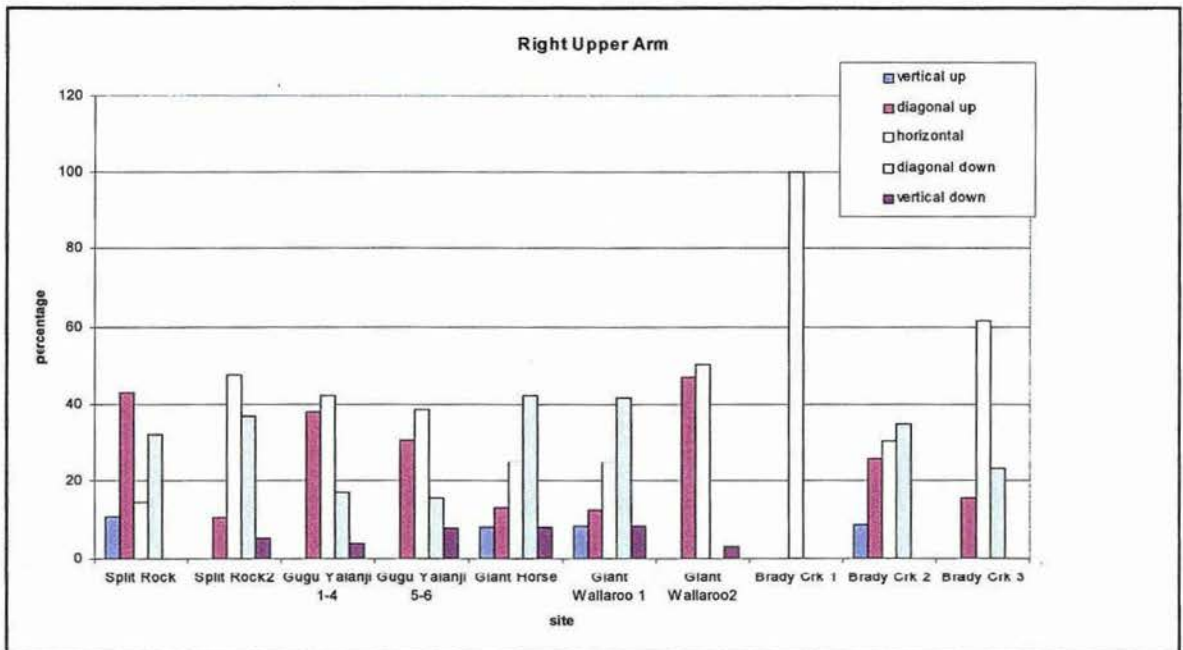
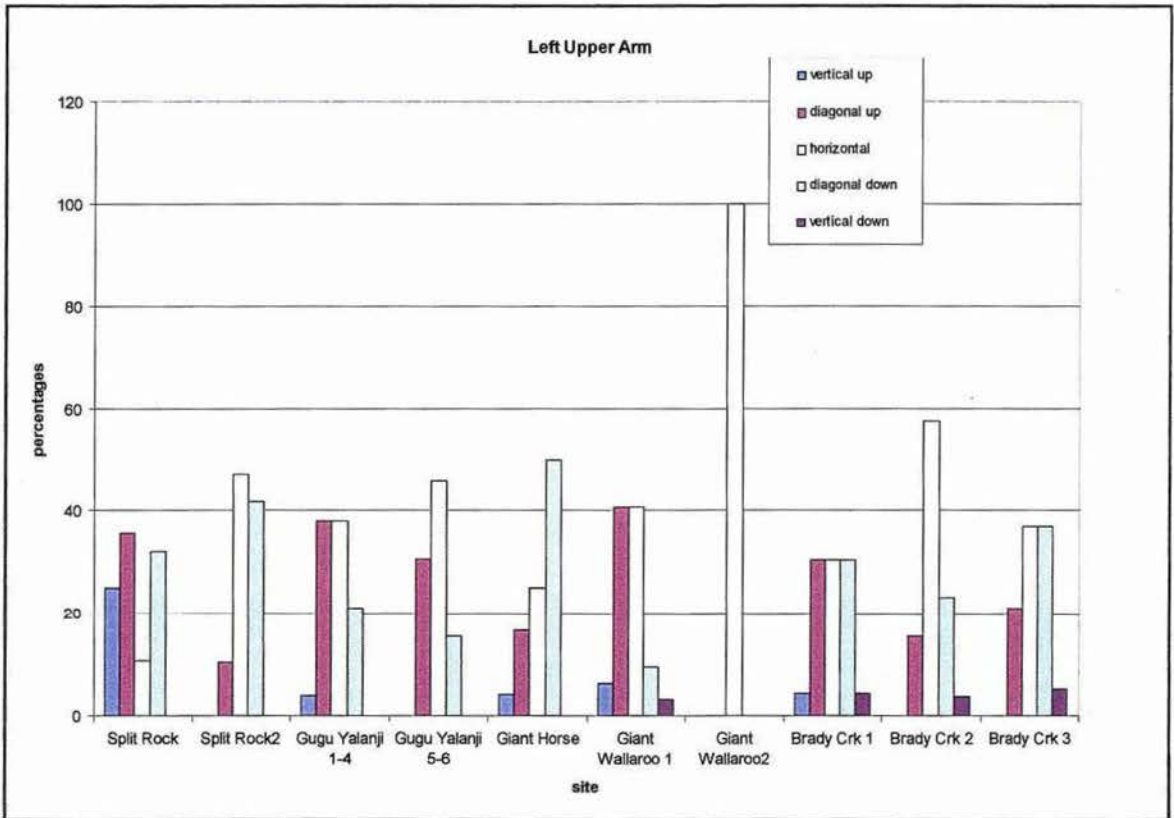


Figure 9.8. Percentages of left and right upper arm positions.

For this study, the arm positions were categorised by Left and Right arms, both upper and lower, following the Hawaiian model. Split Rock 1 has nearly equal percentages, L36% and R43%, of diagonal up contrasting with Split Rock 2 (SR2) with L&R11%. Split Rock2 has a high percentage of horizontal upper arm positions, L&R47%. The exceptions are the 'Quinkan' figures, with their curvy arms, which clearly indicate that this gesture is used to portray what is *not* human. In the depiction of distorted limbs and disjointed manoeuvres, the Quinkans display un-natural and unhealthy states of being. Therefore, they were entered in the data base as 'curvy limbs' under the "comments" section and not considered a formal gestural arm or leg position.

While Split Rock 2 has a high percentage of horizontal and diagonally down arm positions, 47% and 42% respectively, Gugu Yalanji 1 and 2 have higher percentages for horizontal, L38%, R42% and L46%, R38% respectively. Giant Horse, in contrast shows the highest percentages in the diagonally down position, L50%, R42%. Giant Wallaroo 1 shows a preference for horizontal arms, L41%, R50%, although these figures are from two panels. A closer look at Giant Wallaroo panel 1 shows nearly all the figures with upper arms are diagonally up, and the second panel with upper arms nearly all horizontal. At Giant Wallaroo 3, the upper arms are 100% horizontal for both left and right. These panels are discussed in Chapter 10 concerning ceremonial themes that are depicted by repetition of gestural displays. Brady Creek 1, 2 and 3 have an even mix across the categories in upper arm positions. Brady Creek 2 shows a higher percentage of horizontal arm positions, L58% and R62%, that may be significant according to Trezise (1971), and is discussed in more detail in Chapter 10.

9.2.6 Lower Arms

The lower arms at most sites follow the gestural position and orientation from the upper arm. Contrasting alignments rarely occur in the Laura area, but they are a feature of the Hawaiian sample. Split Rock shows a preference for diagonally up, Split Rock 2 for horizontal and diagonally down, while Gugu Yalanji 1-4 has a similar preference for diagonally up and horizontal. Gugu Yalanji 5-6 shows a stronger preference for the horizontal position (38%). Giant Horse is similar, but with a preference for diagonally down (L50%, R38%). At Giant Wallaroo 1, the first panel has nearly all the figures with lower arms vertically up, and the second panel has nearly all the figures with horizontal lower arms. These follow the pattern from the upper arm position discussed previously.

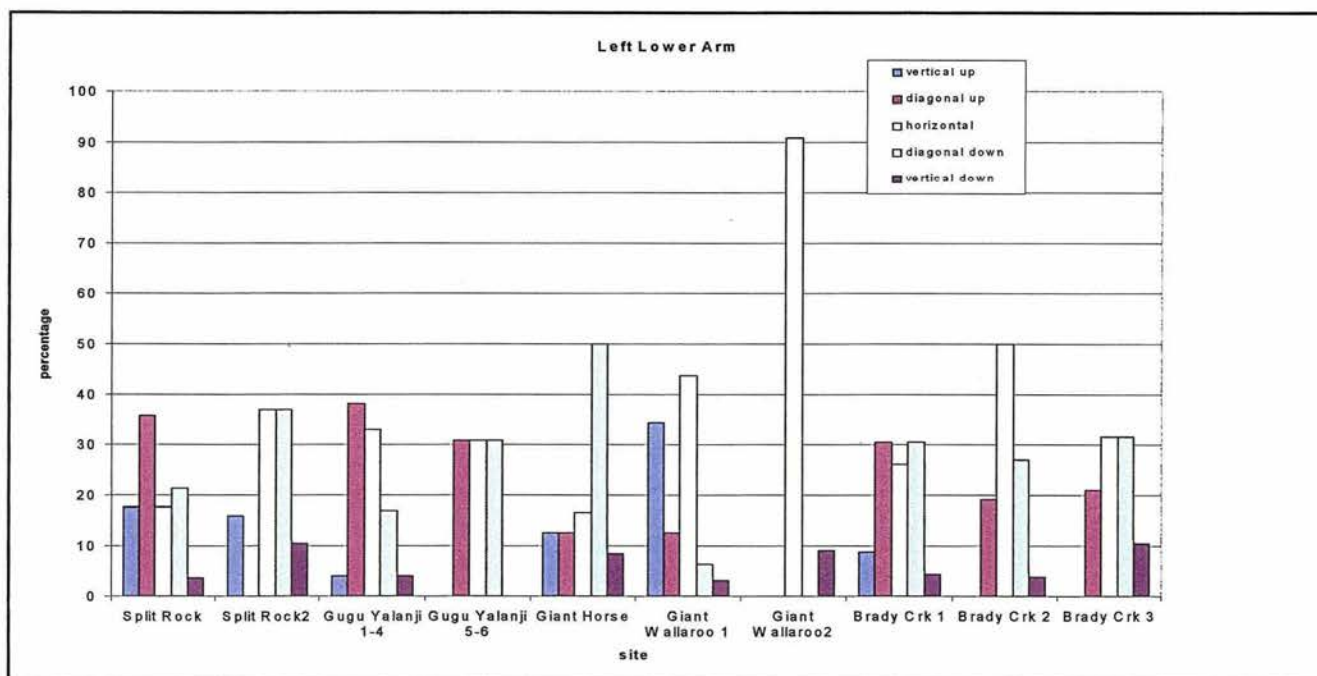


Figure 9.9 Percentages of left lower arm positions.

Brady Creek 1, 2 and 3 follow a similar pattern with the upper arm position. Brady Creek 2 shows a preference for the horizontal position (L50%, R58%) as discussed above. The right lower arm positions (not shown here) are very similar.

9.2.7 Hands

The sites of Split Rock, Gugu Yalanji and Giant Horse show a higher percentage for hands with digits, than without. Giant Wallaroo 1 and 2 in contrast, have 81% to 100% for depicting arms without hands. These sites are dominated by Stick figures and this may account for the lack of hands. Brady Creek 1, 2 and 3 are mixed with higher percentages showing hands rather than not. See Figure 9.10, Hands.

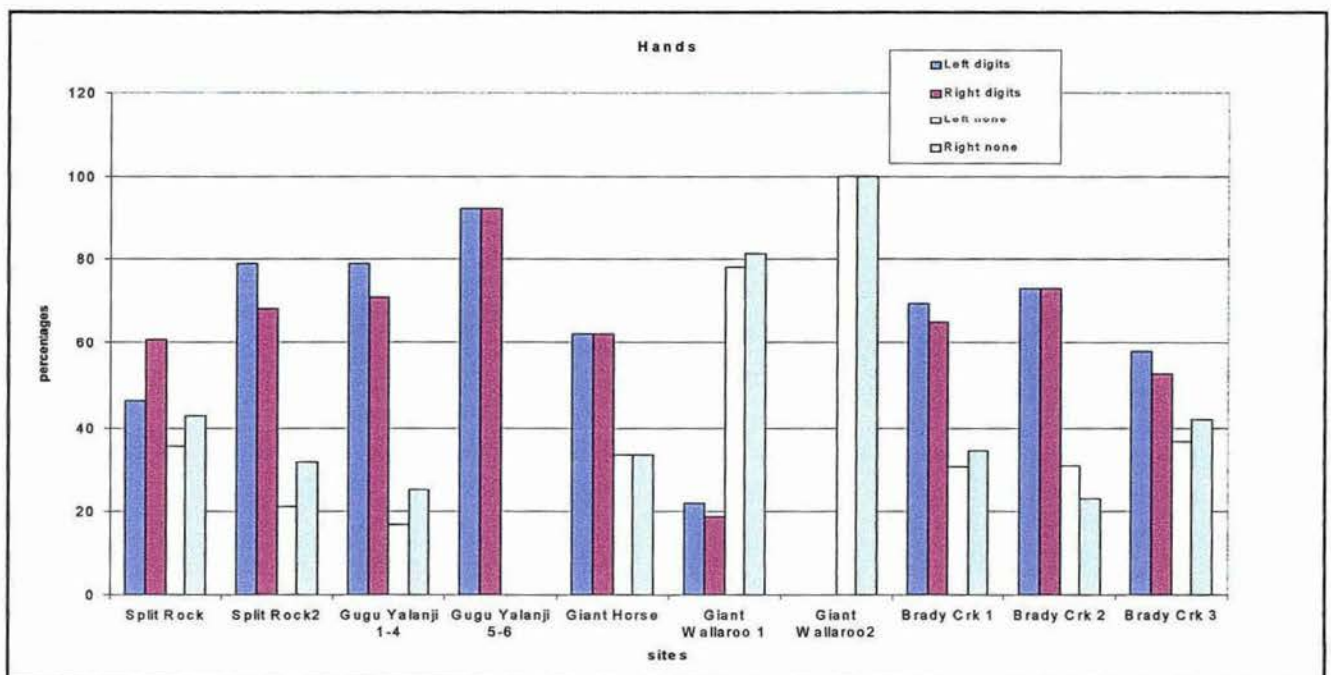


Figure 9.10. Percentage of hands both left and right, with and without digits.

9.2.8 Torso

The highest percentages, between 50 and 100%, of torsos of anthropomorphic figures at these sites are in a vertical orientation. Of the inclined orientations, I found 7% at Split Rock1, 8% at Giant Horse, 17% at Brady Creek 1, and 5% at Brady Creek 3. Horizontal positions were rather rare, but I found a few at Split Rock 1 (7%), Gugu Yalanji, (16%)

and at Giant Horse (38%). Brady Creek 3 had only one example (5%) of a horizontal position. Inverted positions occurred at Split Rock 2 (10%) and Gugu Yalanji 1-4 (20%) and (8%) at Gugu Yalanji 5-6. Giant Horse and Giant Wallaroo had only one figure inverted and none were found at the other sites. See Figure 9.11, Torso Orientation.

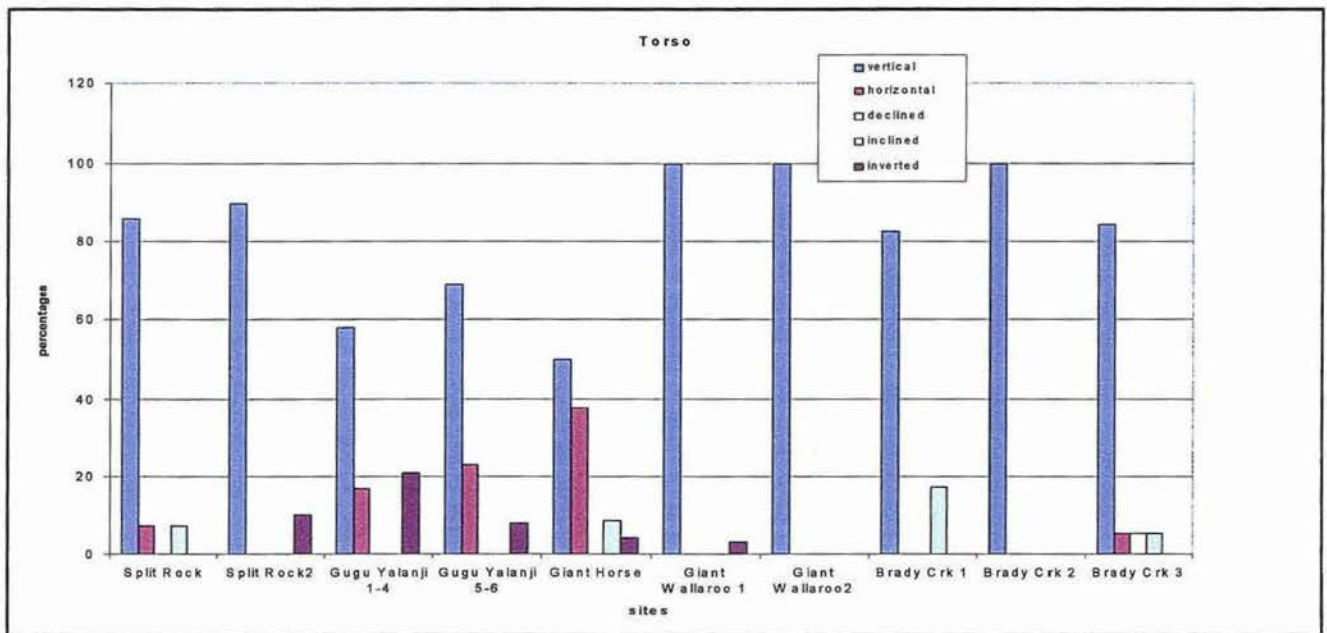


Figure 9.11 Percentages of torso orientation

9.2.9 Gender

Gender was determined by 'breasts' for females and 'penises' for males. Figures with neither of these gender identifiers were categorised as 'none'. Gender seemed to favour male or 'none' across the sites. The highest percentages with no gender occur at Brady Creek 2 and 3 with 65% and 58% respectively. Giant Wallaroo 2 shows the highest percentages of male figures (73%). Females (42%) dominate over males (29%) at Giant Horse while there were 37% males over 5% females at Brady Creek 3 with 58% gender non specific. See Figure 9.12 Gender.

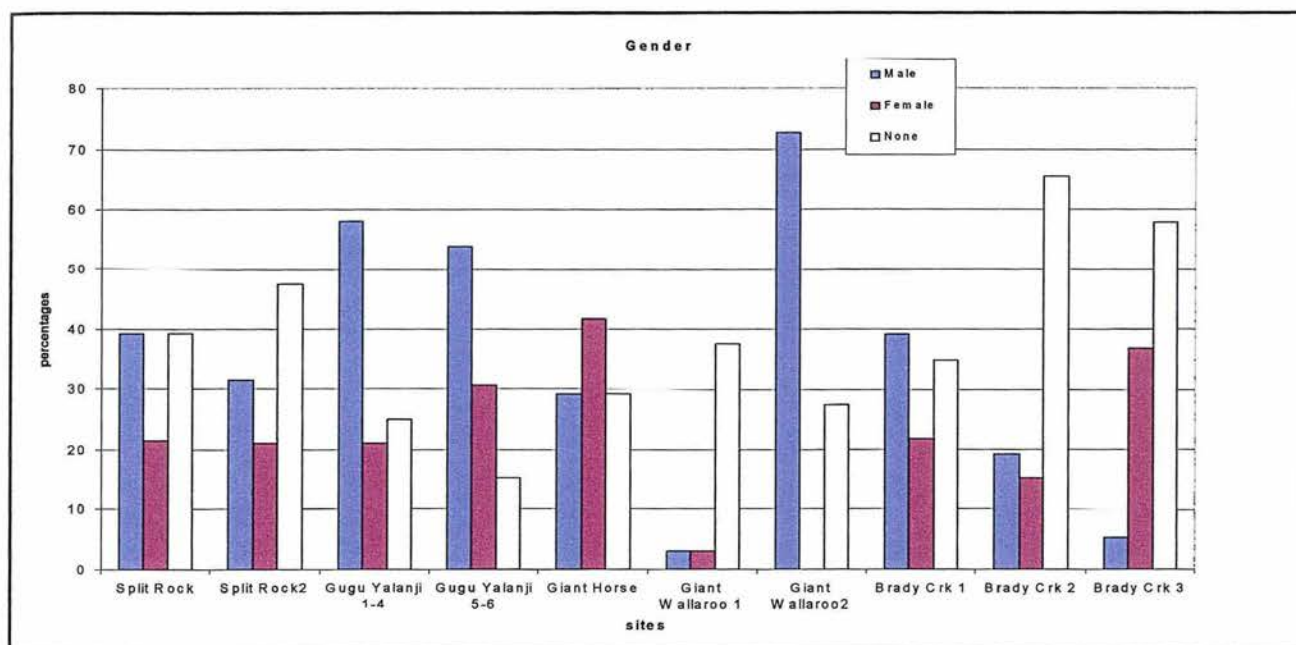


Figure 9.12 Percentages of gender depicted by breasts or a penis for male and female categories. All others were categorised as 'none'.

9.2.10 Upper Legs

As with the arm positions previously discussed, there is very little distinction between upper and lower leg positions. The orientation of the upper leg usually continues through the lower leg. But there are exceptions where the knee joint is used to divide the upper orientation from the lower position; this is especially in the case of the 'Quinkan' figures.

Across all the sites, the upper legs follow a preference for vertically down. In some cases the left leg was vertically down while the right leg extended slightly outwards (diagonally down). At Gugu Yalanji (1-4) there seemed to be a preference for the left leg vertically down while the right leg is diagonally down. Figure 9.13 shows the upper leg positions for both right and left legs.

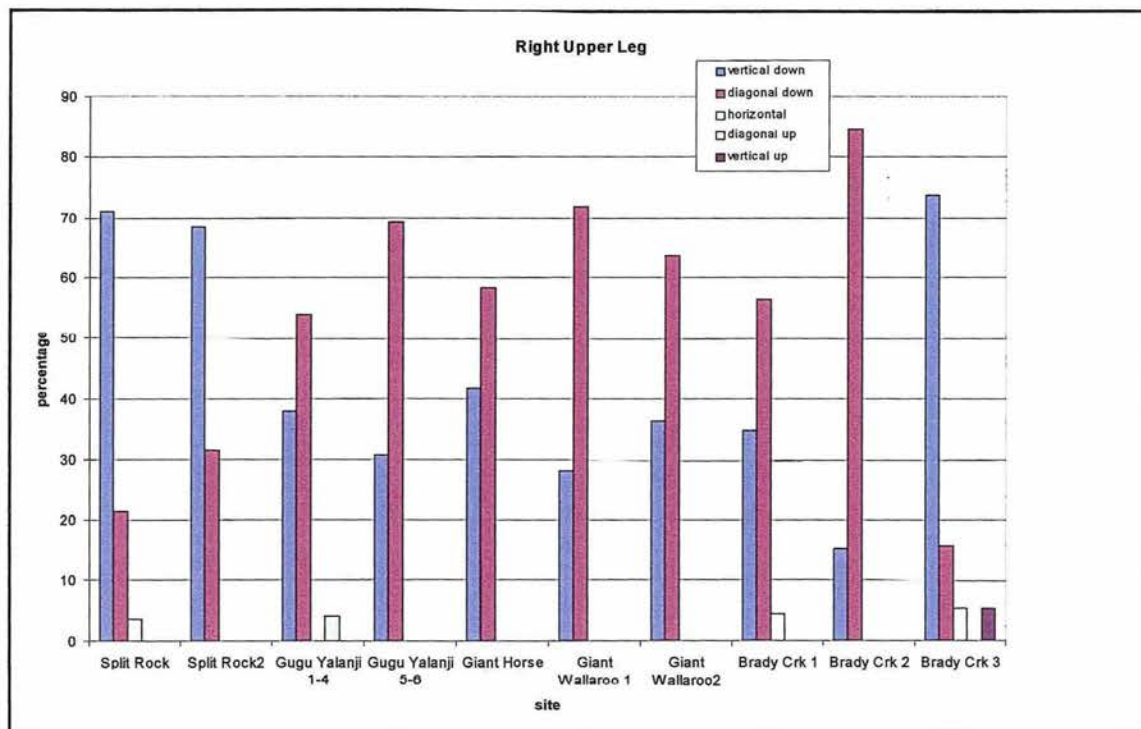
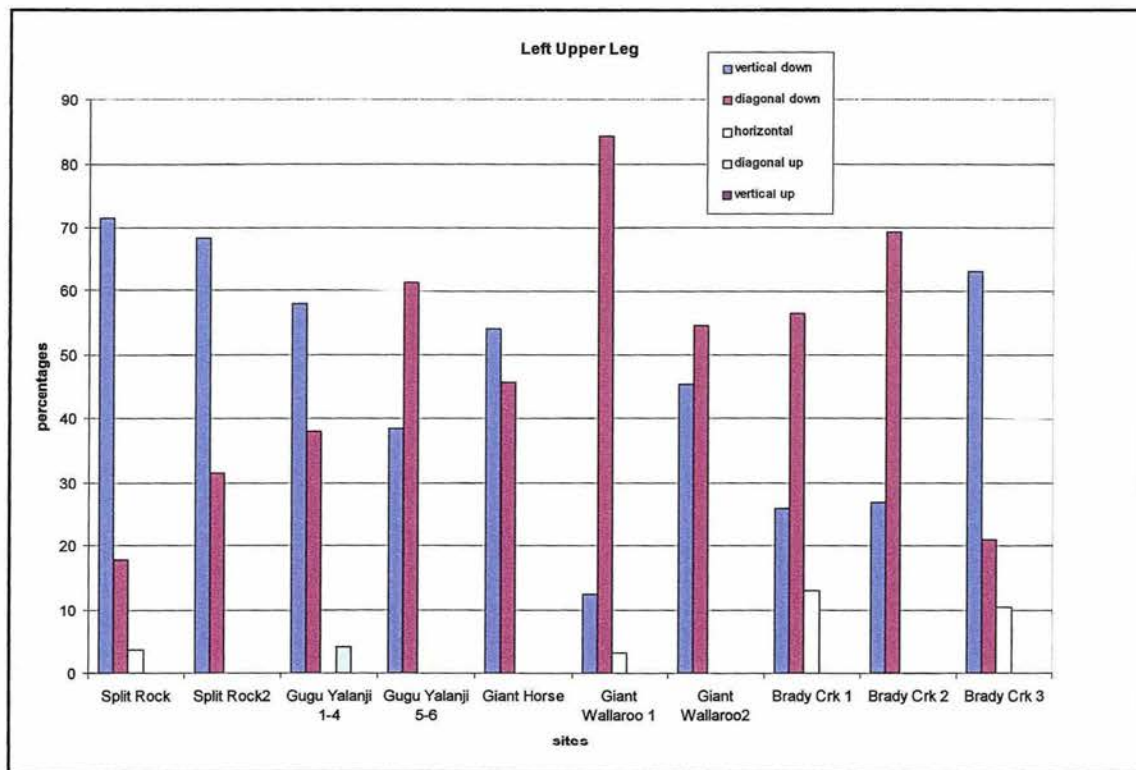


Figure 9.13 Percentages of left and right upper leg positions.

9.2.11 Lower Legs

The lower leg positions generally follow the orientation of the upper leg. It is interesting that there are some preferences for one leg to be vertically down (both upper and lower) while the other leg is diagonally out. This is discussed in more detail in Chapter 10. The Quinkan figures, however, differ considerably. These figures characteristically have the lower leg diagonally up, defying the ability of the human body to bend at the knee joint in this radical direction. Gugu Yalanji 1-4 has several Quinkan figures with a high percentage of lower legs vertically up and diagonally up. See Figure 9.14 Quinkan Figure.



Figure 9.14 Quinkan figure from Amphitheatre site.

Figure 9.15 shows the percentages of left and right lower leg positions.

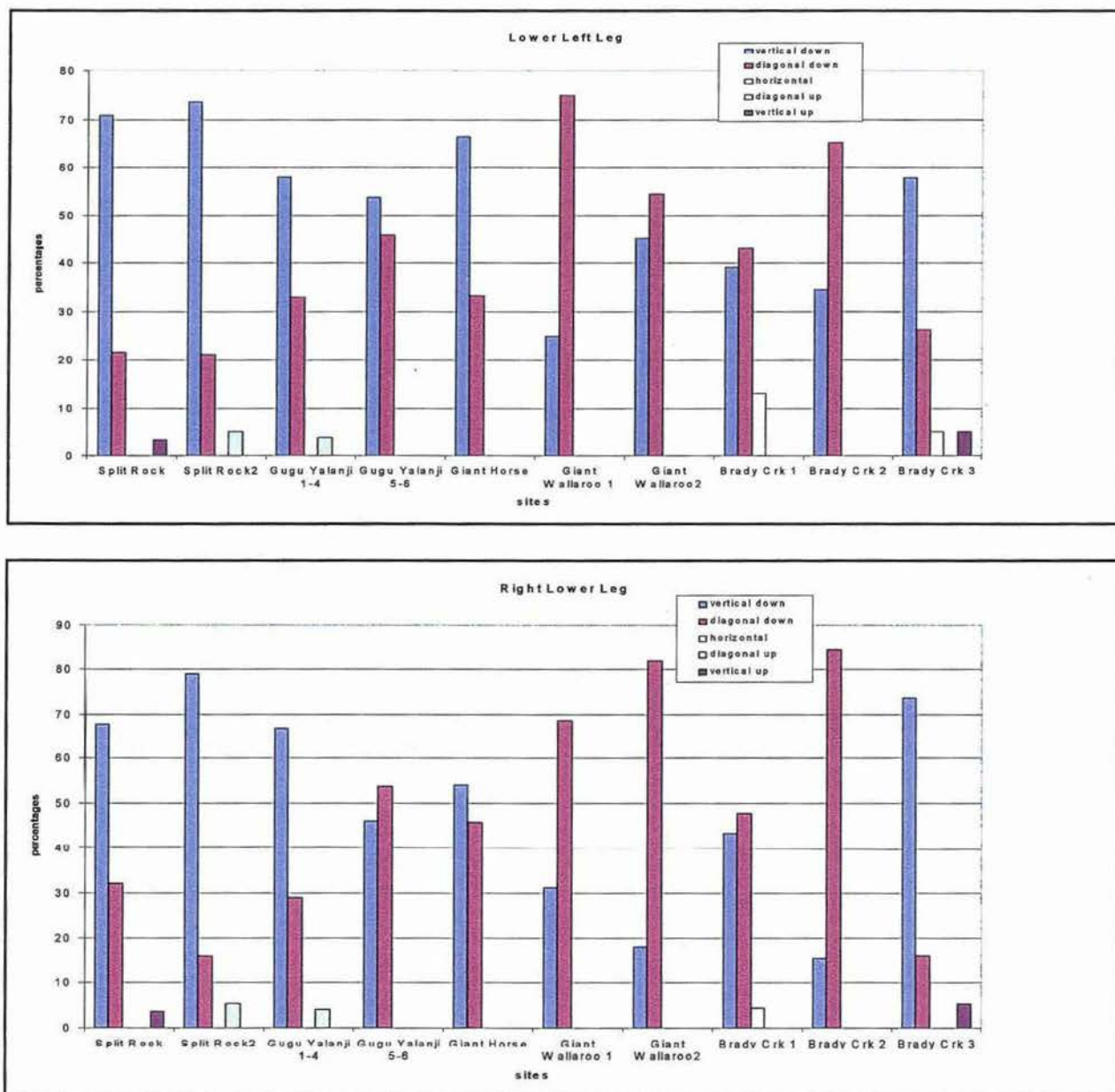


Figure 9.15 Percentages of left and right lower leg positions.

9.2.12 Feet

Feet are almost always horizontal and perpendicular to the angle of the lower leg. In some sites, there is a preference for ‘toes up’ and the feet seem to be purposely portrayed at 45 degree angles to the lower leg. The following figure (9.16) found at Giant Wallaroo shows stick figures with toes up.

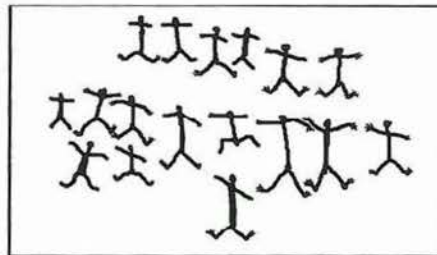


Figure 9.16 Stick figures with toes up, from Giant Wallaroo site.

Figure 9.17 shows the alignments for both the right and left feet.

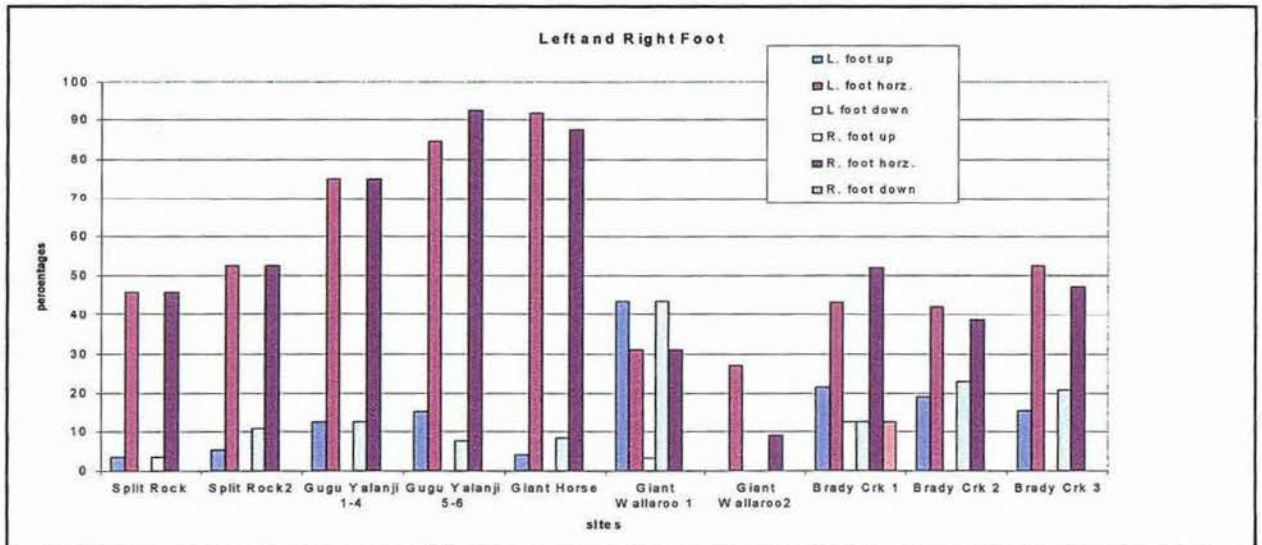


Figure 9.17 Positions for both left and right feet.

9.3 Summary

The Summary Table (9.1) shows the selections of body types that vary from site to site. The preference for Stick figures or Full Body Stick figures at specific sites, eg., Full Body Stick figures at Giant Wallaroo 2, and Full Body figures at Giant Horse and Split Rock 2, demonstrates that these different body types are not used in a random manner. Instead, there appear to be patterns of frequency in the selection of certain body types for sites that have different cultural significance. The repetition of figures with arms horizontal or vertical clearly indicates purposeful intention by the painter. They may depict a ceremony or ritual involving these gestural cues. Inverted and horizontal figures can also be associated with cultural meaning. There is a preference for lower leg asymmetry that favours the left leg diagonal and the right leg vertically down. The colours and contrasting outlines and interior lines may be culturally significant in ways of understanding that are beyond my current knowledge. This sample is a preliminary attempt to reveal patterns and frequency counts of specific arm and leg positions. A more extensive data base including site specific cultural information is needed so that a better statistical analysis can be made.

Chapter 10 Laura Rock Art

10.1 Background

10.1.1 Introduction

During the early years of European contact, there were very few reports of rock paintings in the south-eastern part of Cape York Peninsula, due in part to its extreme remoteness. Roth, in his 1902 report, claims to have known of sites in districts of North Queensland, including Clack Island, Cooktown, the Bloomfield, on the Palmer River, at Hughenden, Mackinlay, and Cloncurry (Roth 1902). Ethnographic accounts of rock art production recorded that the Walmbaria people (of Princess Charlotte Bay) believed that, in certain circumstances, the death of a man may be brought about by the painting of magical figures. If a man stole a woman, and escaped with her to the mainland, the old men visited Clack Island and painted the figure of a man on the rocks; the seducer soon sickened and eventually died. In making the images, the native people purposely exaggerated certain features in the human portraits, particularly those of a phallic nature (Hale and Tindale 1933, 91).

The anthropomorphs reported by both Hale and Tindale, and Roth are the earliest accounts of painted anthropomorph in SE Cape York Peninsula. They appear in the top row (b,c,m,n) of Figure 10.1 and are from the Walacimini Shelter painted by the

Walmbiria people of Princess Charlotte Bay. The second row of figures (a, b, g, h) of Figure 10.1, are found at the Wakarma shelter painted by the same people. Hale and Tindale write, “The pictographs in this small retreat are chiefly depicted in red, and the artists seem to have had a predilection for ‘double-

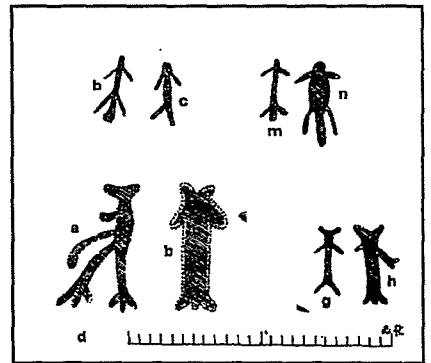


Figure 10.1 Walaeimini and Wakarma shelters (from Hale and Tindale 1933).

headed’ human figures, described to us simply as ‘men’, their double heads may possibly be intended to represent ceremonial head-dresses; there are about ten of these figures in different parts of the shelter” (Hale and Tindale 1933, 150). Logan Jack (1895) reported cave drawings near Mossman and the Palmer Rivers.

The early European and Chinese who settled along the coast and the Hells Gate and Maytown cattle tracks did not venture far into the hinterland for fear of attack by Aborigines. The rough terrain, steep canyons and high escarpment kept the paintings from European discovery until well into the 20th century. Chambers (1940) and Longman (1940) are the first to report paintings in the Laura area, at Red Bluff and on Shepherd Creek on the Olive Vale Station. Road crews working in the 1960s near Laura brought attention to the paintings at Split Rock. It was during this time that Percy Trezise began investigating the paintings around Laura, describing Giant Horse and other impressive sites. Trezise studied the geology and topography of Cape York Peninsula from the air and in the sandstone escarpments he observed great galleries of paintings. He noted that many of these were 500 to 1500 feet above the valley floors but in most cases were close to fairly permanent water supplies (Trezise 1971).

Trezise is credited with the earliest and most thorough documentation of the Laura paintings over a 30 year period. His detailed recordings of all the anthropomorphic figures at selected sites are used in this study (Trezise 1971; Woolston and Trezise 1969). His analysis of form, colour, superimposition, 'motivation' and 'topic' are brought into consideration in my analysis, along with the ethnographic information he was able to record from his Aboriginal guides (Trezise 1969; 1993). Much of the information on tribal laws, superstition, burial rites, totemic figures and mythological narratives can be substantiated by other ethnographic records in the area (Sharp 1939, Thomson 1933 and McConnel 1936; 1937). Trezise (1971) adopted the spellings from the tribal group he worked with in the Laura area, such as the Gugu-Yalanji, Gugu-Imudji, Gugu-Warra, Gugu-Bullangi, and Gugu-Minni (see Chapter 8, Table 8.1 on linguistic terms). According to informants of the above mentioned tribes, the area along the Laura River, and the Shepherd and Kennedy Creeks were occupied by the Gugu-Minni people. The following map shows the linguistic affiliations according to Trezise's informants (Figure 10.2).

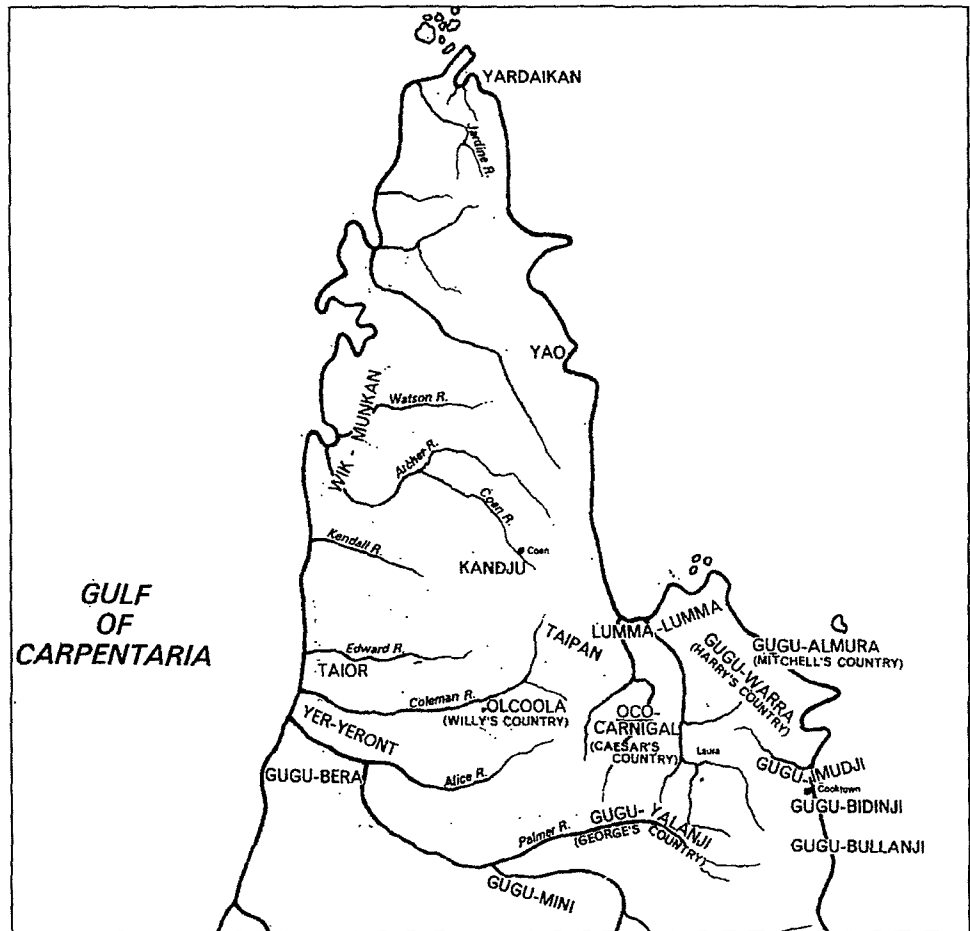


Figure 10.2 Linguistic affiliations with the rock art sites according to Trezise 1971.

Trezise visited the sites with many Aboriginal men of the Laura region, among them Willy Long of the Olcoola country, Caesar LeChu of Oco-Carnigal, (a sub tribe of the Gugu-Warra who lived north west of Laura), George Pegus of the Gugu-Yalanji and Mitchell McGreen of the Gugu Almura people. His long time friend Dick Roughsey, of the Lardil people, accompanied him over several decades to document many of the sites.

The 1980s brought Rosenfeld's archaeological survey of Cape York (Rosenfeld 1981) and a formal analysis of its rock art style (Rosenfeld 1982). The most recent research in

this area has been carried out by Cole in her 1978-1998 study of the entire Laura Sandstone region, which has resulted in an encyclopaedic doctoral dissertation (Cole 1998). Collaborating with Morwood and Watchman (1995) and Watchman (1992), she has contributed to the knowledge of the stratigraphic sequences and age of the paintings for Cape York Peninsula.

10.1.2 Antiquity of Laura Art

Cole *et al.* (1995) believe the paintings in rock shelters of Cape York are of great antiquity, some being as old as 32,000 years. The oldest dated visible paintings are from 3,000 years ago, but older ones, buried in the rock surface crusts, are not visible on the surface. Watchman (Cole *et al.* 1995) has examined remnant pigment layers in the rock crusts that required 'micro-excavation' to study the paints and mineral deposits that are crucial in establishing the time depth of the Laura art sequence. The time span of the sampled sites is a discussion not included in this thesis. Chronologies establishing 'styles' within specific time periods are problematical and require more discussion than is offered here. This thesis is focussed on 'systems of meaning through form' regardless of time. So, whether anthropomorphic figures appear contemporaneous or were rendered at different times spanning thousands of years, it is the visual display of gestures that is of concern.

10.1.3 Geographical Distribution

Cole (1998) provides a detailed geographic distribution of the rock art sites in the Laura area. For the most part the painted sites occur in rock shelters on hill slopes and steep escarpments. Cole indicates there are over 5000 recorded sites in the Laura region

(1992c). Major locations include areas near the Laura, Deighton, Little Laura, Mossman, Little Kennedy, Kennedy, St. George, Hann and Normanby Rivers. Figure 10.3 shows the site locations sampled in this survey. They are found near the town of Laura (1, 2, and 3) on the property called Jowalbinna (4, 5, 6, and 7).

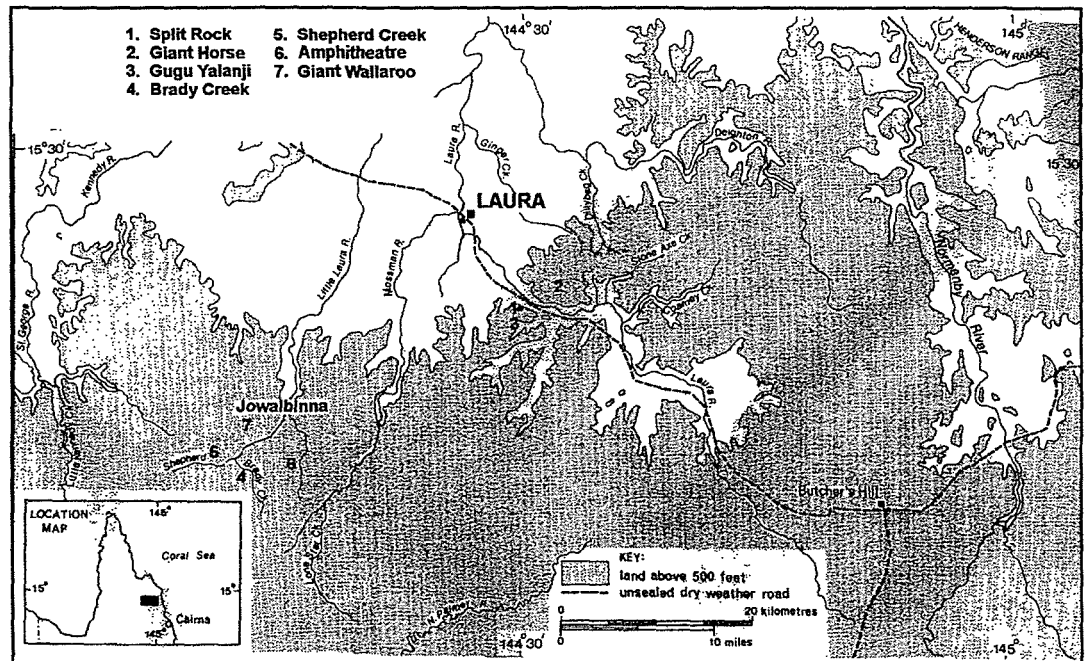


Figure 10.3 Site locations in the Laura Region.

10.1.4 Archaeological Features

Previous studies by Cole and David (1992), and Morwood (1995b) discuss the archaeological features of the Laura area. Excavations at the Early Man site by Rosenfeld *et al.* (1981) provide a chronological framework of the late Pleistocene occupation in association with the paintings found there. Flood and Horsfall (1986) excavated two rock shelters on the Koolburra Plateau that placed the occupation and paintings in the Early Holocene. The excavations by Morwood and Hobbs (1995) in the Sandy Creek area gave dates from greater than 30,000 BP up to the late Holocene.

Further attempts to locate the art in a temporal sequence involve looking at the technique, subject, colour and form. Relative chronologies based on stylistic change were carried out by Woolston and Trezise (1969), Maynard (1977), and Rosenfeld *et al.* (1981) with the most recent studies by Cole (1988;1998). For discussions on paint composition and analysis, see Cole and Watchman (1992). A collaborative effort for direct dating and sequencing the painted layers is discussed by Cole, Watchman and Morwood (1995).

10.2 Typology

10.2.1 Style

Laura paintings have been categorised as typical of the Australian Simple Figurative Style (Maynard 1979). Rosenfeld characterizes the art in Laura as figurative but static and lacking dynamic or active figures (Rosenfeld 1982). However, Cole notes that the simple figurative classification does not do justice to the complexities and variations in motif and form which are evident in Quinkan rock art (Cole 1995). Rosenfeld (1982) describes the schema whereby humans are depicted frontally, large animals and birds are shown in profile, and small animals are shown in plan view. Large animals including macropods, dingos, possums, pigs and horses, birds and flying foxes, reptiles (crocodiles, goannas and/or lizards) and most fish are depicted in profile, while echidna, tortoise, catfish/eel and stingray are depicted in plan view. Aboriginal terms for these views are 'front on' and 'side on'. Table 8.1 illustrates the schema labelled in the terms used by the Aboriginal guides in Laura (George *et al.* 1995).

View	Front on	Side on	Top on
Object	humans, plants, tubers (could be side-on)	large animals, flying fox, emu, large birds. plants, tubers	ground or water dwelling animals, reptiles, fish, bees. tracks
Material object	bark coffin, yams, digging sticks, weapons	mummified corpse, boomerangs, spears, bark coffins, sugar bag.	fish nets, boomerangs, spears.
Activity	dancing, mourning, sick, dead	pornographic	birthing copulation

Table 10.1 Schema of the subject and object portrayed in Laura rock art (George *et al.*, 1995).

10.2.2 Classification

The classification I have used for anthropomorphic figures in this thesis divides the body types into 3 categories: Stick figures, Full Body Stick figures, and Full Body Figures. Originally I had a 4th category for 'Stubby' that Cole (1988) and Flood (1987) called 'stocky' or lizard men'. These are illustrated in Hale and Tindale's drawing, Figure 10.1. The category for 'stubby' described human figures with shortened arms and legs. Cole found two stocky figures in her sample area and Flood several more on the Koolburra plateau (Cole 1998). Trezise (1993) shows 'stubby' anthropomorphs found on the Palmer river (see Figure 10.4). Previous studies by Cole and Trezise classify the anthropomorphic figures by 'style' and list 34 categories, defined by colour, form and technique. They did not account for differences in gestures, arm or leg positions or body orientation. Stick figures are identified as 'line drawings' or 'dry paintings' (Trezise 1971 and Cole 1988).



Figure 10.4 Anthropomorphic figures of the 'stubby' body type found on the Palmer River, also known as 'stocky' or 'lizard men' style.

Cole's studies focus on full bodied figures. Of her large sample of 2,565 anthropomorphic figures in the Laura region, Cole counts only 9 'stick-like' forms 'almost dynamic in style and less rudimentary than the 'stocky' figures at other sites in the general region' (Cole 1992, see also chart 5.6 in Cole 1995). Of the 641 human figures at Jowalbinna, she counts 4 stick figures at Sheperd Creek and 2 at the Le Chu cluster (Cole 1998, 76). In contrast to her work, my focus on gestures resulted in a higher number of stick figures. The total number of Stick figures I observed is 37 with a total of 92 Full Body Stick figures. My count of Full Body Stick was probably observed and counted by Cole and Trezise as 'solid infill figures', but it does not explain why large numbers of stick figures were ignored in their surveys. Giant Wallaroo alone has one panel with 17 Stick figures, and one of the Brady Creek sites has a similar panel with 9 simple line Stick figures. Split Rock has 5 Stick figures in the main panel. Table 10.2 Body Types, illustrates the 3 categories of body types considered in this survey. The examples of Stick figures are from the Split Rock panel and the Giant Wallaroo site.

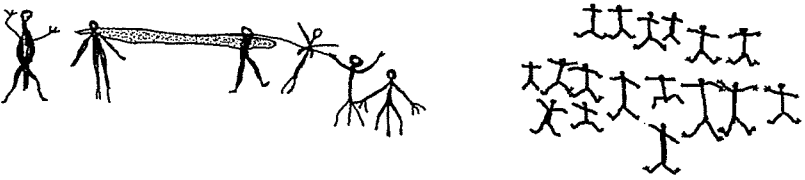

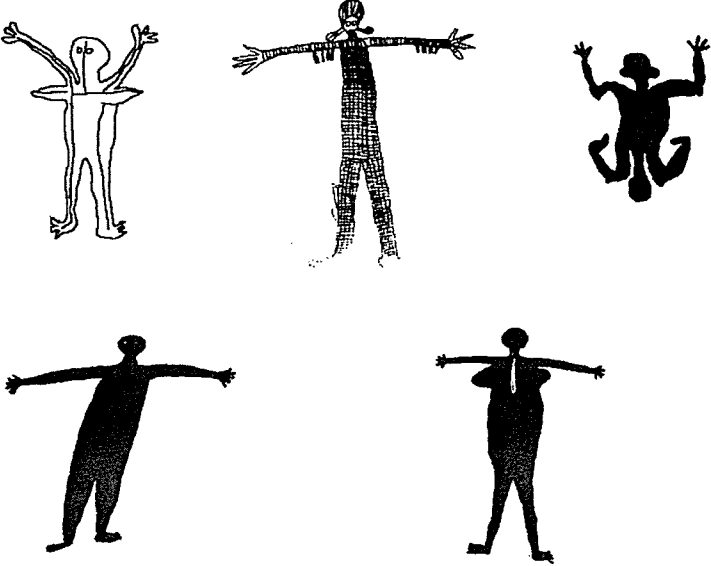
Body Type	
<p>Stick 5 Stick figures from Split Rock and 17 Stick figures from Giant Wallaroo</p>	
<p>Full Body Stick 10 Full Bodied Stick figures from Giant Wallaroo and 1 Full Bodied Stick from Split Rock</p>	
<p>Full Body 3 Full Body figures from Split Rock</p> <p>2 Full Body figures from Brady Creek</p>	

Table 10.2 Body Types of the Laura area.

10.2.3 Hybrids

Cole (1995) and Flood (1987) acknowledge 'therianthropes', (part animal and part human figures) that also occur in the Laura region. Flood (1987) records what she calls 'echidna people' for the Koolburra Plateau and Cole uses the term 'yam man' for phytomorphic figures (part plant, part human) (Cole 1995; 1998). I prefer to call all human/plant or human/animal composites *hybrids*, a term taken from the graphic artists who draw cartoons and have created similar forms in western culture. This is discussed in more

detail in Chapter 11. Figure 10.5 illustrates the plant and animal hybrids found in the Laura region. This thesis is not considering ‘hybrids’ as a special category of body type. Instead they are typed as ‘Full Body’ figures and their colour is categorised as ‘Line’. Depictions of the different arm positions are important in this study.

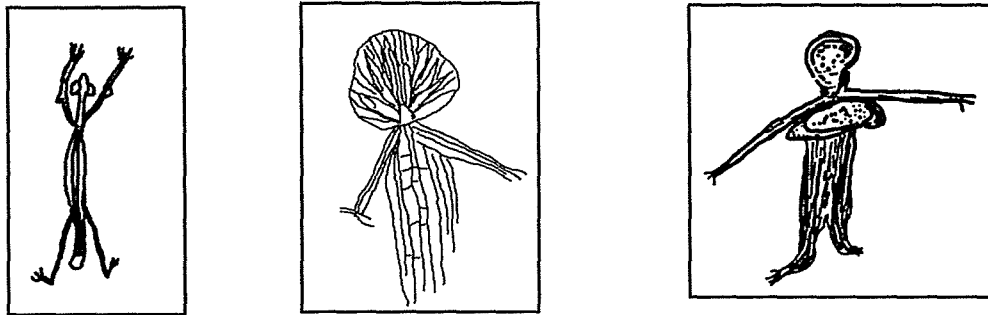


Figure 10.5 Two hybrid yam/man figures from Brady Creek and yam/woman from Amphitheatre site.

10.2.4 Schematization and Visual Realism

Lorblanchet writes that it was H. Breuil (1905) who first wrote about multiple views as “twisted perspective”, animals often not drawn as seen from one single view point, but shown in profile, with horns and legs seen from the front. But it was G.H. Luquet, a lesser known writer who suggested: ‘a civilised adult will consider an image to be a likeness when it reproduces what the eye perceives; for a “primitive” it is a likeness when it reproduces what his mind *knows*. These two approaches may be compared and contrasted by calling them *visual realism* and *intellectual realism*’ (Luquet 1930, 36 in Lorblanchet 1977, 50).

Lorblanchet also explains the two distinct ways in which intellectual realism differs from visual realism. First, the rock image may contain elements of the model which are not visible but which the artist considers necessary. The second way the artist exhibits a contrast to realism is by leaving out certain aspects of anatomy that the artist believes are

devoid of interest (Lorblanchet 1977, 37).¹ Cole also observes that “Selection of the conventional aspect appears to involve the desire to achieve the most favourable and economical portrayal of key features” (Cole 1995, 56). These are the ‘typifications’ that are used elsewhere in the world by cultures that paint or engrave on rocks. Typification allows the painter or engraver to convey the important information by exaggeration or elaboration. Extraneous information is not recorded, such as facial or other body detail. Only the necessary elements of the narration that convey meaning are depicted. The following (Figure 10.6) from the Giant Horse site, illustrates how body parts of the horse are depicted to ‘typify’ the animal’s biological characteristics.

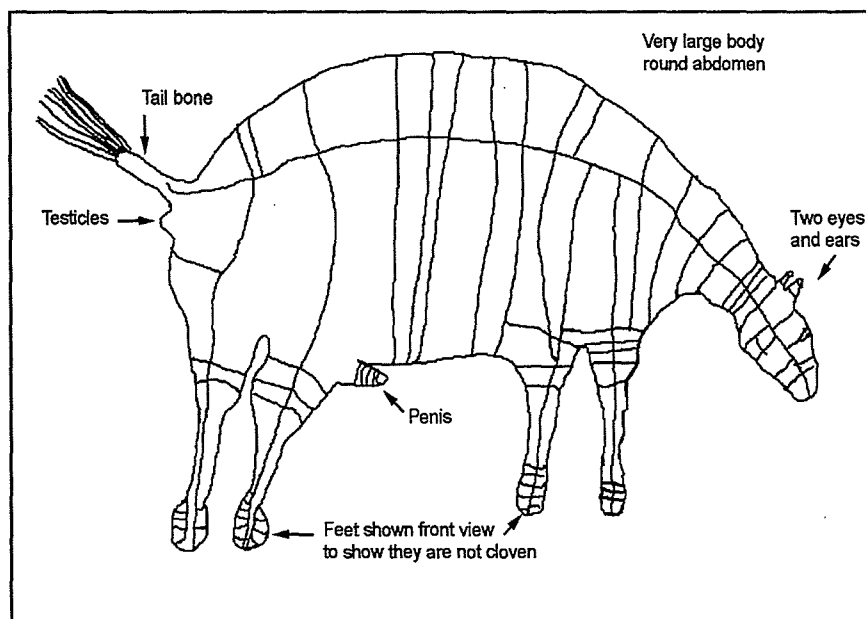


Figure 10.6 Giant Horse schematic painting.

This *intellectual realism* is a diagrammatic schema that is derived from intellectual constructs that are contingent upon the conventions of the period and dictates of the society.

1

Luquet defines the various processes of intellectual realism: the displacement of certain parts; a mixture of aspects; a mixture of plan and elevation; flattening of the figure, transparency; selectivity, (Luquet in Lorblanchet 1977, 50). This diminishes the value of Breuil’s concept of ‘twisted perspective’ as a chronological marker. It is a fundamental and continuous trait of primitive psychology. This is also criticised by Leroi-Gourhan (1968, 109) in that “twisted perspective occurs in every period of art, down to our own day.”

Schematisation is also defined by Clegg (1977), as a mode of representation that departs from correctness on purpose.² The example of Giant Horse shows how figures are schematised for maximum information transmission. The important information is exaggerated or described schematically so the viewer will gain a deeper understanding. The intent is 'intellectual' representation rather than figurative or realistic representation. (See discussion by Rosenfeld 1982.)

The painting of Giant Horse typifies what features of the horse *do not* show up in a naturalistic silhouette. This schematic illustration shows what the people 'know' about the horse that is not visible to the eye from one vantage point or perspective. The testicles and penis are normally hidden from view behind the hind flank. Only an observer looking from under the horse can see these details. The structure of the tail is shown in detail but this cannot be observed without carefully pulling the tail hair back to reveal what part is the bone and what part is just long hair. The feet are rendered as round in contrast to cloven or multi-toed. They are presented "front on" to emphasize their roundness. The body has been depicted as exceptionally large - larger than life with emphasis on the round belly. It is just what one sees of a horse when viewing from a sitting position on the ground. The belly is very round and obtuse from a near-the-ground viewpoint.

2

Clegg (1977, 23) writes on the meanings of schematisation. "Schema is a mode of representation in visible form. Any drawing could be called a schema, or symbol of a real object. Schematization as a reduction of a complex motif to a simple one. It may not be a departure from 'correctness' because of lack of skill, but may be purposeful." Clegg suggests that terms such as 'schematic, stylistic, symbolic and abstract were euphemism for bad drawing that contrasted 'good drawing' where terms such as 'realistic, photographic, naturalistic were applied. He argues that one could even create a scale with naturalistic on the good end, and graduating through 'realistic, representational, schematic, stylised, abstract and abbreviated at the low end.

Note that in the example of a horse from 'clip art' (Figure 10.7) one cannot tell if the hooves are round or pointed. One cannot see the sex organs or the bone structure of the tail, and there is no emphasis of the roundness of the belly. Horses rarely hold their head perpendicular to their shoulders, or strike a

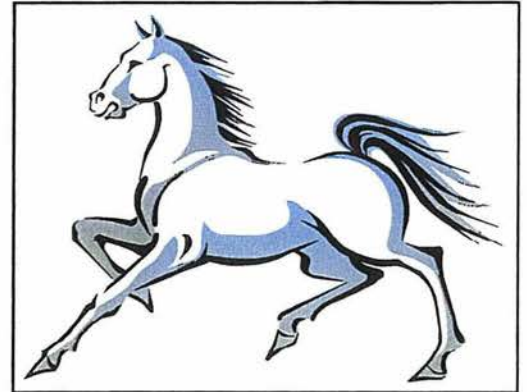


Figure 10.7 Clip art 'horse' (CorelWP 2000).

gait such as this. More information about the anatomy of the horse is portrayed by the Aboriginal artist at Giant Horse than can be found in the 'clip art'.

Instead of using stylistic categories, the new methodology that I am proposing considers body types as 'sign vehicles' that are used to carry various types of information. This follows the discussion by Rosenfeld (1982) and Morphy (1987) that narrative depends upon 'two systems', one figurative (iconic) and the other, non-figurative (abstract) that operate jointly. I would argue that they are not separate systems but are two modes within one system that is characteristic of Aboriginal rock art. Each mode is employed for different reasons but they operate from within the same system. For example, the Stick figures convey information of an active or dynamic nature. The Stick figure emphasises the gesture or body posture that conveys a specific action. Full Bodied figures in a static pose express specific cultural information that is iconic in nature and not action oriented. Full Bodied figures in static poses (void of gesture or active posture) have a purpose that contrast with that of (line) stick figures in active poses.

A third mode of symbolic expression involves 'plasticity', which is a term I use to address the colour, form and application techniques that appear to be symbolic. Studies of this symbolic system have been made by Trezise (1971) and Cole (1998). In considering the modes of symbolic expression, or 'systems' (Rosenfeld 1982), no previous studies have been done on gestures as a means of communication in the rock art. I propose that gesture should be considered as a fourth mode of communication that needs to be included within this symbolic system for the reasons described above.

10.2.5 Superimpositions

Superimpositions have been studied extensively by Cole (1998) in trying to discover patterns in the colour, form and technique of the painting sequences. She warns that the 'underlays, although indicating realised time, do not indicate intervals of time between art episodes (Cole and Watchman in press). Cole found it difficult to unravel the 'sequence' of superimposition across the region and hard to devise a method for quantitative analysis of the 'styles' observed. Only 30% of all the paintings in her extensive data base from the Laura region involved superimposition.

Cole (1988) compared the colours in paintings at top and lower levels of the superimposition sequences and determined relationships between paint layers in superimpositions for 1,300 paintings from 50 painting sites at Jowalbinna (see Table 10.3 Relationships between paint colour sequences).

Colour	Number on top	% on top	Number at the bottom	% at the bottom
Red	79	44	103	66
White	92	51	51	33
Yellow	9	5	1	1
Total	180	100	155	100

Table 10.3 Relationships between paint colour in Laura superimposition sequences (from Cole *et al.*, 1995).

Cole (1998) discusses her analysis of colour and form superimposition, in order to identify 'sequences' or relative chronology of the rock art in terms of style. She believes superimposition may also be interpreted in terms of function and conscious associations rather than of absolute time (Cole and Watchman in press). Table 10.3 shows that most of the paintings are red or white, with yellow not generally preferred. Red paintings dominate at the bottom of the superimposition sequence and both red and slightly more white are used at the top. These figures may represent a taphonomic process or they could be culturally determined over time. What was not considered in any of the previous studies of superimposition was the repetition of specific gestures in anthropomorphic figures.

10.2.6 Gestures in Superimposing Sequences

The gestures found in the superimposition of anthropomorphic figures tend to suggest a weak pattern of repetition of gestures, regardless of colour and form. Figure 10.8 illustrates repetition of gesture in some superimposition constructs at three rock art sites in the Laura area.

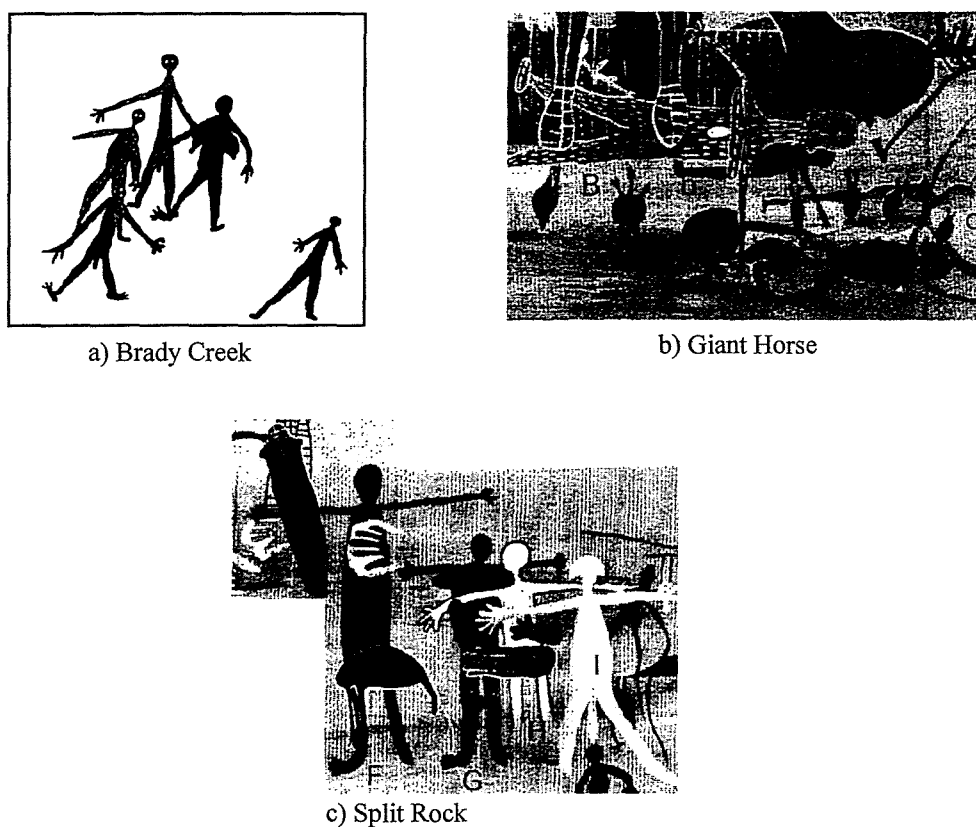


Figure 10.8 Superimposition sequences of a) Brady Creek, b) Giant Horse and c) Split Rock Gallery site. (b and c are from Trezise 1971). Note the arm positions in sequence from dark to light.

Perhaps finding gestural patterns within the colour sequences of superimposition may lead to the identification of certain narrations that involve the same cultural hero or 'subject' that transforms through time and events in the story, symbolised by the colour shifts and form changes. Patterns that emerge in this series of superimpositions resemble the life cycle pattern of the totemic complex described by Sharp (1939), in Chapter 8. In Figure 10.9, it could be argued, a similar transformation is shown from F (dark 'red' and 'alive') to H (light associated with 'ghost' and 'finished') to I (associated with Ghost clan, ancestor or totem). Figure G, also with arms outstretched and under the arm of F may represent a 'wife' of F. Figure F also has a stencilled hand print, an emu and an eel superimposed over it. All of these motifs have cultural associations of totemic ancestors

(emu), and of protection against sorcery (eel) (Trezise 1971; Cole 1988). There are other totem figures superimposed over H (Trezise 1971). Figure I, has no other figures superimposed over it. The pattern of superimposed colour sequence, placing red at the bottom layer and placing white at the top, fits the dominant pattern found by Cole (1995).

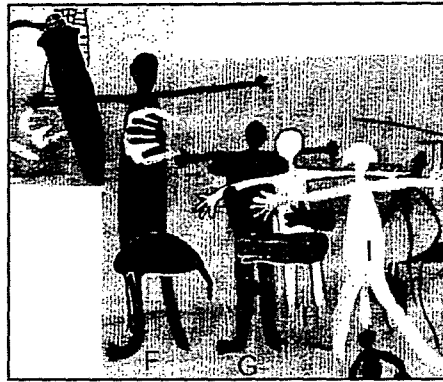


Figure 10.9 Gestures in superimposition.

10.3 Summary

This chapter has introduced the complexity that colour adds to the visual communication system used at Laura. The frequency of specific arm and leg positions, body postures and torso orientations can be argued as meaningful and not randomly produced. Colour and superimposition sequences add a new dimension that may find its motivation in the context of the ethnography presented in the previous chapter. Patterns emerge that show a preference of a specific gesture that may identify an individual or clan or totemic entity. Colour symbolism, red to white, in the superimposition sequence may also parallel the totemic cycle of life, death and spirit return to the landscape, as discussed in the ethnography earlier.

10.4 Gestures in Laura rock art

10.4.1 Sign Language Gestures

The sign language used by Aboriginal groups in Cape York Peninsula is discussed in Chapter 8, from which I identified some sign language gestures in the paintings. In contrast to studies of sign language gestures depicted in North American rock art by Mallery (1881; 1886; 1893), and Martineau (1973), only a few examples of actual depictions of sign language gestures occur in the Laura region. There may be more examples at sites that I have not examined. A more intense investigation is required, with the assistance of Aboriginal people who still use the sign language and who could identify gestures in the rock art.

The first known example of a representation of Aboriginal sign language gesture was recorded by Trezise (1971) at the Crocodile Gallery site. (See Figure 10.10 from Trezise (1971).

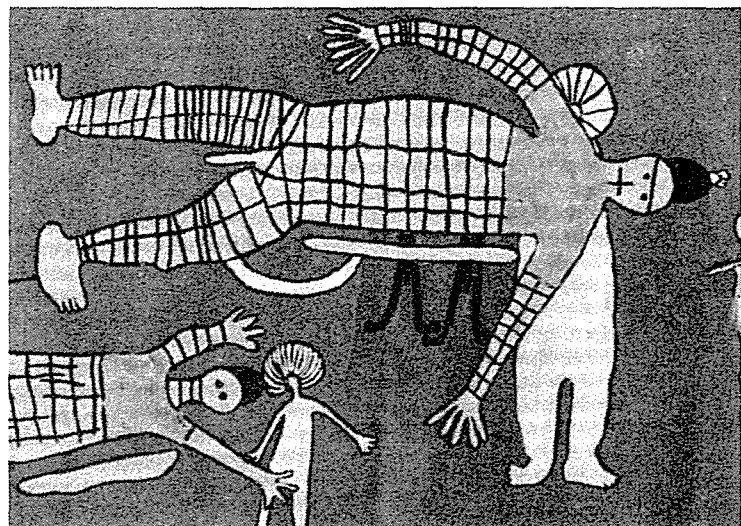


Figure 10.10 Native policeman is depicted with the sign language gesture for “police” represented by the line drawn across the forehead of the large horizontal figure. The gesture is made by placing the hand cupped and horizontal across the forehead in a ‘salute’. Police also wear a peaked hat.

Trezise writes:

At the Crocodile Gallery Site there are painted two large European men, with hats on top of their heads. Their upper chests and arms have been painted with a charcoal-clay mix to represent shirts. Caesar Le Chu identified these two figures as native policemen, the half oval on top of the head represents the peaked cap of the early police uniform. Willy Long made the sign language gesture for policeman, as slightly cupped hand above the eyes, followed by a gesture meaning to run away quickly (Trezise 1971, 19).

Roth (1908b) records that the gesture for ‘Government Tracker’, or ‘Policeman’, is made of two ‘idea-grams’; the peaked cap and the military salute. The ‘salute’ is the hand above the eyes which is drawn in the painting as a straight line across the forehead of the horizontal figure’s face.

10.4.2 Extended Arm Positions

During the 1998 and 1999 field sessions, I asked repeatedly if any known sign language gestures were still in use and might be represented in the art. Victor Stephenson, Aboriginal ranger, along with the elders, Tommy George and George Musgrave of the Ang-Gnarra Aboriginal Corporation, believe that ‘arms straight up’ are likely to do with something positive, joyful or creative (George and Musgrave 1995). In general, they call attention to the figures in the paintings. The examples they referred to include sites along Brady Creek, (Death Adder Site and Yam Camp) (see Figure 10.11 Death Adder site).



Figure 10.11 Death Adder site with arms up and large round torsos.

The Death Adder site depicts two fat people, that Victor explained means ‘lots of food’ or times of abundance. The ‘arms up’ gesture indicates dance or corroboree. A large penis may indicate fertility (Stephenson 1999, pers. comm). Similarly, Figure 10.12 from Yam Camp with arms up and one foot raised indicates ‘dance’, according to Musgrave, George and Stephenson (George and Musgrave 1995).



Figure 10.12 White female figure from Yam Camp (Brady Creek) showing gestures of raised arms and left leg.

10.4.3 Horizontal Arm Positions

Arms straight across are found in most cases with Creator Beings and have a protective association. The first examples come from Split Rock. They represent Timara Quinkan, the “big boss of everyone. White man too. He is an ancestral hero. He gave us bush tucker and honey” (George and Musgrave 1995, 25). Tommy George pointed out that there are four

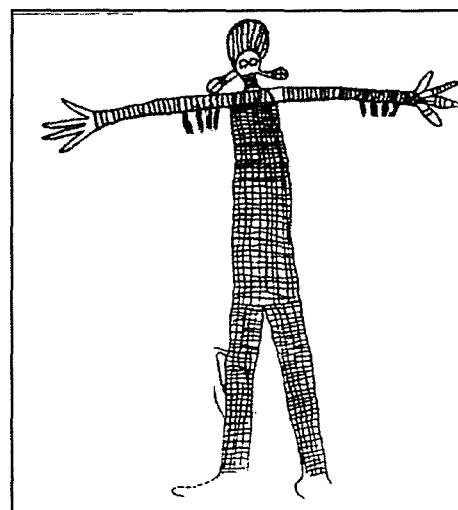


Figure 10.13 Timara Quinkan, ancestor spirit from Split Rock (after Trezise 71).

ancestral hero people, three men and one woman. The Timara are very tall, “you can see how tall he is by the small man behind his left leg” (George and Musgrave 1995, 27).

A full picture of this panel appears in the Appendix B, Site Samples, and to the left of this figure is a small Full Bodied red figure, the small man, that Tommy is referring to. George and Musgrave (1995) identify these figures as ancestral heroes by the rayed head dress and the claw-like hands (George and Musgrave 1995, 27).

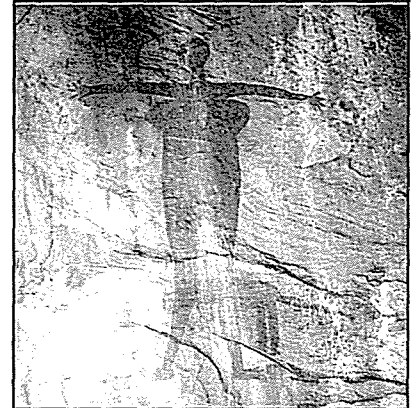


Figure 10.14 Red Lady from Brady Creek.

Figure 10.14 shows a panel titled “Red Lady” from the Red Lady Walk site at Brady Creek. She is in the characteristic horizontal arm position of a guardian ancestor.

More examples of the guardian gesture are found at Red Bluff. The figures are solid red with straight arms out stretched. The ‘Red Guardian’ at Shepherd Creek, is interpreted by Tommy George (figure 10.15):

“You can see that big red guardian at that Shepherd Creek too. Look on one hand he’s got six fingers. On the other he’s got seven That’s a very big guardian” (George 1996, 23).



Figure 10.15 Red Guardian at Shepherd Creek.

Another site along Brady Creek at the ‘Tent Camp’ shows a large painted figure with arms outstretched (see figure 10.16):

“That big guardian painting with red in fill and white outline looks out for that place.” (George 1996, 23).

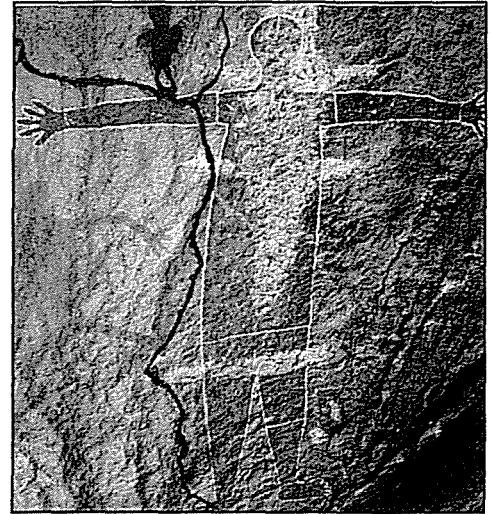


Figure 10.16 Protector figure from Brady Creek site called ‘Tent Camp’.

Examples of protection are shown in panels with children portrayed as well. In this panel from Gugu-Yalanji camp (Figure 10.17), a male ‘protector’ figure is holding his arms horizontal over a ‘child’ figure. A second male figure is depicted upside down. Victor Stephenson, Ranger from the

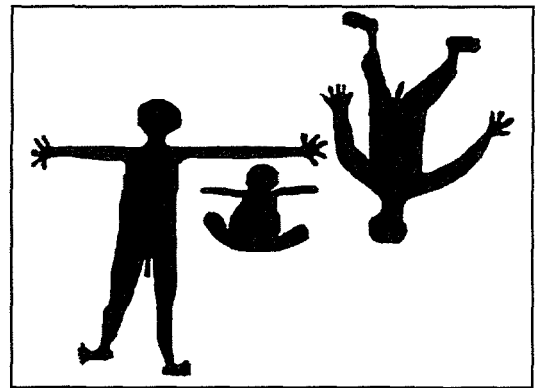


Figure 10.17 Male protector and ‘child’ from Gugu-Yalanji camp.

Ang-Gnarra Aboriginal Corporation, interprets this panel as a story about a man who was fighting with another man over the custody of a child. “He is protecting the child (horizontal arm over the head of a smaller figure), and the other man was killed (inverted position of the second male figure)” (Stephenson 1999 pers. comm.).

Another panel that shows this arm position in context with a child is found along Brady Creek at the ‘Long Tom’ site (Figure 10.18). Here the arms are generally horizontal above a smaller figure that has one hand on the breast of the larger figure.

This is interpreted as a child who is still nursing (Stephenson and George 1999 pers. comm.). The child is protected by the horizontal gesture of the female 'mother' figure.

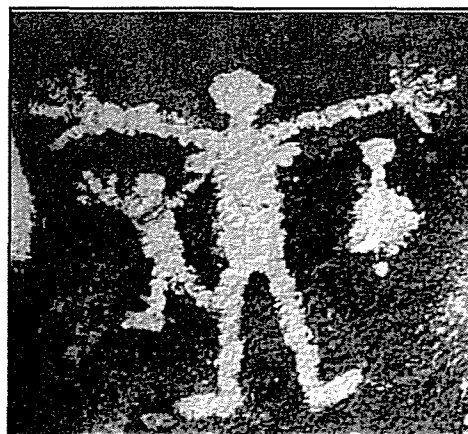


Figure 10.18 Female protector with 'child' from Brady Creek.

10.4.4 Arms Down Position

The arms positioned diagonally down is common and it is repeated by all the figures in this panel at Red Lady Walk on Brady Creek (Figure 10.19). One can see the female figure also has her arms down, regardless of her breasts being in the way. This gesture is regarded in the Victoria River District as being static because the figures are standing still, 'ready to be painted up for ceremony' (Harney 1999 pers. comm.) The elders in Laura did not comment on this arm position.

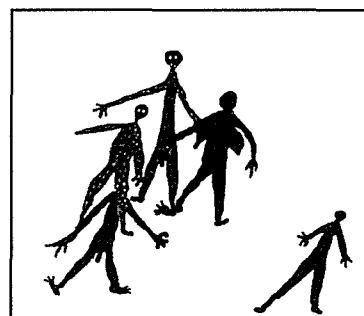


Figure 10.19 Figures with arms down, from Brady Creek.

10.4.5 Arms Vertically Down

The arms placed vertically down close to the side is associated with the 'corpse' pose in the sign language used in this area. Roth draws this gesture in his notes (1898) (Figure 10.20 corpse position).

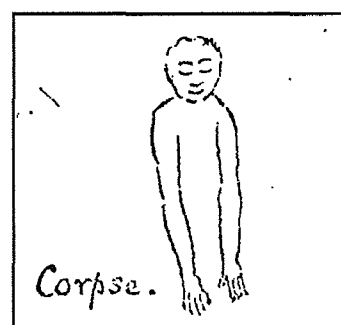


Figure 10.20 Sign language gestures for a corpse.(Roth 1898).

In Laura, there seems to be very little correspondence with this pose and inverted figures that are found at the six sites. There are two inverted figures at Split Rock, two at Gugu Yalanji, one at Giant Horse, one at Giant Wallaroo and three at the Brady Creek sites. They are interpreted as representing dead people by the Aboriginal guides.

10.4.6 *Anti-gesture*

The ‘Quinkan Art’ is characterised by ‘spirit’ figures, of which there are good Quinkans such as the Timara Quinkan discussed previously, and malevolent ones called “Imjim Quinkan” (George 1996) that exhibit strange and unnatural gestures. Their legs bend at impossible angles and their curving arms seem jointless. Typical Quinkans have knobs on their knees and elbows that represent knives. Their genitals are exaggerated and their heads are of a specific shape (Figure 10.21).



Figure 10.21 Imjim Quinkan from Split Rock.

Evil and mischievous Quinkans have a variety of arm positions (Figure 10.22). They are called *Anurra*, spirit figures who bounced about like kangaroos at night on their long knobbed penis; they can bounce half a mile in one hop and live like frogs. The female

Anurra use their breasts to bounce around in the same way. (George and Musgrave 1995).



Figure 10.22 Imjim Quinkans from Quinkan Mountain

Quinkans steal and seduce women. Female Quinkans can seduce and steal men as well. According to Tommy George, the colour yellow or cream colour signifies illness and sometimes death. In the case of Quinkans, a light colour represents evil or mischief. It is the colour used to depict evil female Quinkans using love magic, or humans who have been caught under the Quinkan's spell (George and Musgrave 1995).

10.4.7 *Horizontal and Inverted Positions (Sorcery)*

Sorcery is associated with sickness and death. In the Laura area there are many painted sites identified as having sorcery (*purri purri*) elements (Trezise 1971; George 1996).

Horizontal body positions are usually associated with illness, sickness or dying.

George writes:

People painted sorcery pictures. That purri purri. That strong magic. You have to be careful, many people still know about purri purri but they don't talk about it much. Pictures of inverted people or people on their side are purri purri paintings. (George and Musgrave 1995, 33).

Bodies inverted are referred to as 'dead'. Death scenes usually include mortuary scenes and small panels with private stories (Musgrave 1996). The sorcery paintings associated with 'death' usually depict a man or woman lying horizontal or inverted, but sometimes upright. They are usually a plain solid colour and seldom have any decoration and are sometimes outlined in another colour. A few of the sorcery paintings are elaborately decorated with spots or stripes and many of the male figures have distorted limbs and genitals. Some paintings of snakes, eels and catfish were also regarded by several informants to be sorcery in nature (Trezise 1971). This painting at Mushroom Rock, Figure 10.23, exhibits the anti-gestures, where there is no articulation of the joints and the arms and legs are sinuous rather than normal.

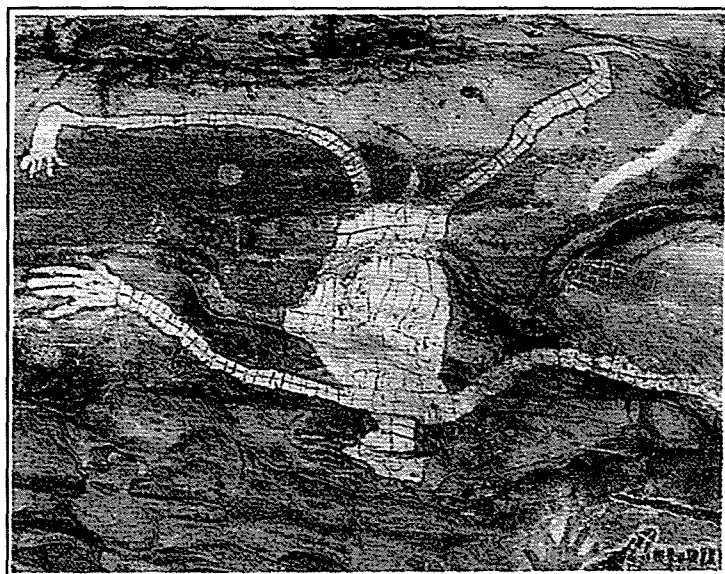


Figure 10.23 Inverted 'sorcery' figure at Mushroom Rock site.

10.4.8 Eyes

Victor Stephenson pointed out that spirits have eyes, but no mouth. Humans have eyes and a mouth (Stephenson 1999 per. comm.). The occurrence of 'eyes' is very infrequent and I could not find examples with eyes and mouths (see Figure 10.24 from Brady Creek).

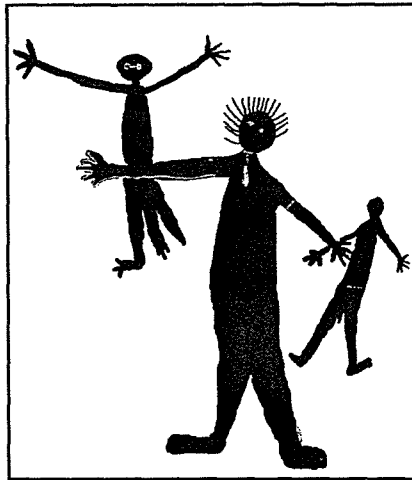


Figure 10.24 Figures from Brady Creek with eyes, but no mouths.

10.5 Conclusions

The data in this study indicates that gesture, combined with colour and form as symbolic modes of expression, create a multi-faceted communication system. Selective sampling that ignores Stick figures cannot lead to a full understanding of the symbolic system, no matter how large the data base is. Selective dating of the Laura paintings must include Stick figures in the future so as to determine where they fit in the chronological sequence.

The elaborate Full Body (painted in fill with contrasting outline or interior lines) and schematic Stick figures do not represent two separate styles. They exist as part of the same schematic system. As Morphy observed with the rock art of Arnhem Land, “Not only do figures exist that represent all states on a schematic elaborated continuum, from extremely elaborated to highly schematized, but both principles may be employed in different figures in the same paintings or even on different sections of the same figure” (Morphy 1987, 30). The obvious use of multiple body types within the same

compositions, and for specific themes or topics, demonstrates a purposeful utilization of schematisation.

The body types have not 'evolved' but have been employed as the circumstances call for them. Stick figures not only in Laura, but throughout the continent of Australia are known for their 'dynamic' and 'active' forms (Chaloupka 1993, Layton 1992). Full Bodied figures, in contrast, are characterized by their 'static' poses. Both serve a purpose in visual narrations. What little is known of the cultural content for the Laura region still suggests specific themes that are associated with known material objects identified in the art by contemporary informants. The frequency of bone cylinders, combined with white colour and inverted postures, all associated with mortuary themes correlate with the high importance placed on mortuary practices that have been documented in the ethnographic record. The totemic cycles expressed in social behaviour and beliefs are also reflected in the frequency of totemic animals, plants and material objects portrayed in the art. Topics concerning sorcery, love magic and sickness played an important role in the daily lives of people in these cultures and they also appear as subject material. These findings support Trezise (1971) who nominated the rock art categories of 'totemic', 'spirit', 'mortuary', 'love magic' and 'sorcery', etc.

The analysis of the anthropomorphic figures in the Laura rock art has demonstrated a system that involves four modes of symbolic communication.

- The first mode utilizes the figurative element (full bodied figures).
- The second mode uses schematic (stick figures) body types to convey meaning.

- The third mode involves colour, that classifies figures into different categories, such as human, spirit, ancestor, totem, etc. It may also signal the stage upon the life cycle from birth to death and afterlife that is associated with colour.
- The fourth mode employs gesture to augment the classification of figures in the second mode. From the Aboriginal point of view, arms elevated indicate a positive attitude. Arms horizontal characterize protective gestures. Arms downward may indicate a neutral position that is not active. The orientation of the torso vertically indicates a normal healthy stance, in contrast to a torso in a horizontal (sick) or inverted (dead) position. In view of the ‘intellectual realism’ employed by Aboriginal artists, gesture is not used in a random manner but represents meaning.

Chapter 11 Structural Analysis of the ‘Snake Bite’ Panel

11.1 Introduction

The site picked for applying a structural analysis appears to be of just one painting episode rather than many over time. Only one figure slightly overlaps another and does not affect the structure of the composition in this panel. I argue that the information in this panel concerns a single event or story because it does not involve many episodes of painting and superimposed figures in a chronologic sequence. I consider the placement of each figure as purposeful and the relationship of these figures as containing meaning. From this assumption the following analysis describes, in a systematic way, the relationships of each figure to each other and draws out similar patterns and relationships found in the social structure and beliefs of the culture in this area.

11.1.1 Site Description

The ‘Snake Bite’ panel is located near Brady Creek on the Jowalbinna property. It is found on the ceiling of a low overhang. It is not visible unless one climbs under the ledge and observes the ceiling by lying on one’s back. There are no previous publications of this panel to my knowledge. The paintings depict a female human figure with a long “snake-like” form extending from her foot. According to Cole and Trezise (1998 pers.

comms.) it may depict a person being bitten by a snake and for this reason, the painting has been given the name 'Snake Bite' panel.

This panel is about three metres in length and one metre wide. The images are painted in red with white outline, and white with red outline and interior lines. They consist of; two Full Body forms, a male and a female, lying horizontal and painted red with white outline; two animal motifs, a 'dingo' and an 'eel' painted in white with red outline and interior lines. A third figure, a 'snake' appears as a long red line continuing from the heel of the female figure and ending near a round area composed of red dots and slashes. Above the termination point of the 'snake' is a large white disk with red outline and red dashed interior lines, identified as a bark 'bone cylinder'. See composite photograph (Figure 11.1).

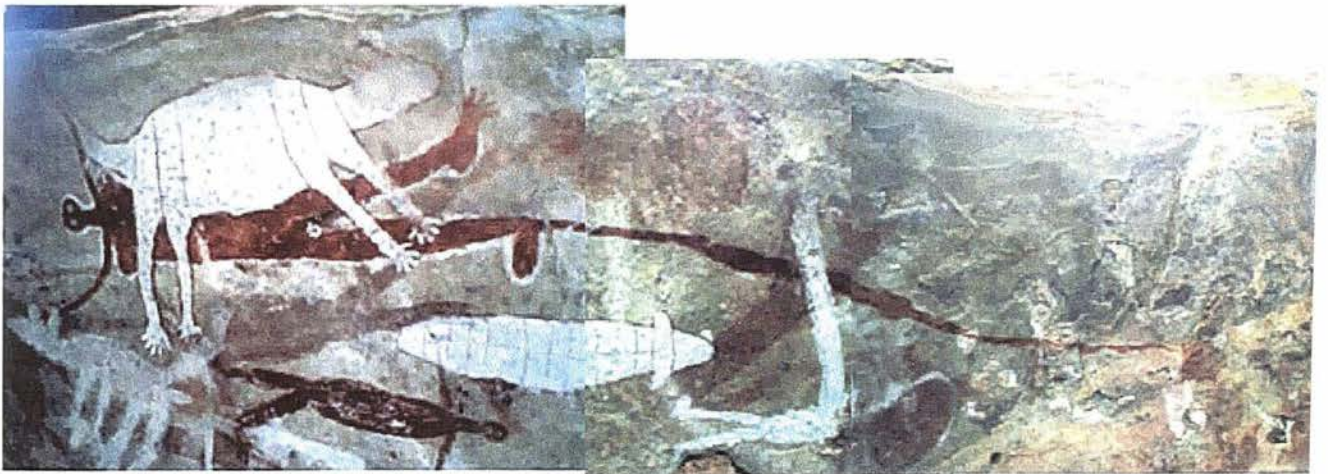


Figure 11.1 Composite photograph entitled 'snake bite scene' from Brady Creek. From left to right, a horizontal female figure in red with white outline and a white dingo outlined in red superimposed over the top. The female figure has a red line that extends from her foot. To the far right is a round bone cylinder in white with red dashed lines. Left centre is another red figure superimposed by a white 'eel' figure with red lines.

11.1.2 Superimposition

The superimposition sequence appears to have the red figures on the bottom, overlain by the white 'dingo' on the female, and the white 'eel' over the arm of the red figure. Another white 'dingo' figure, without red outlines, has been partially superimposed over the hand of the female figure. The proxemic arrangements found in this panel seem to suggest contiguous elements worthy of analysis as one syntagm. Figure 11.2 is computer generated from a digital scan for the purposes of this analysis.

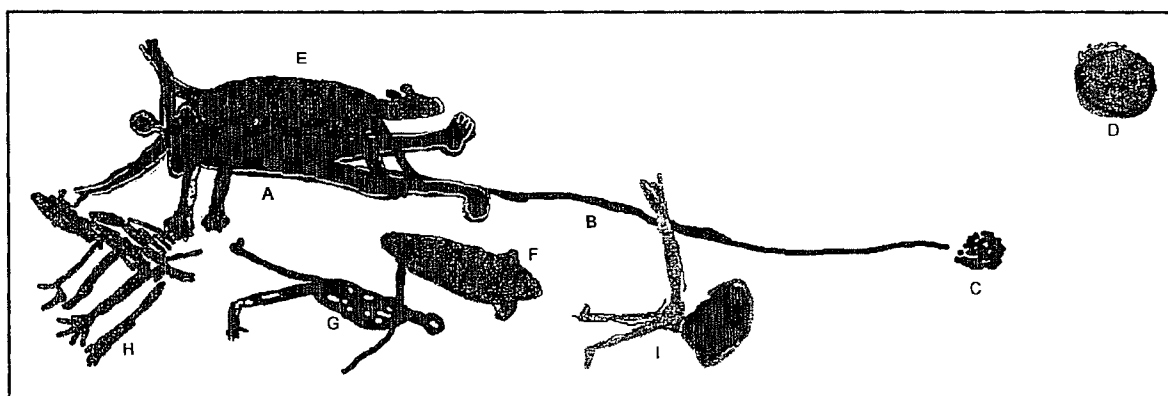
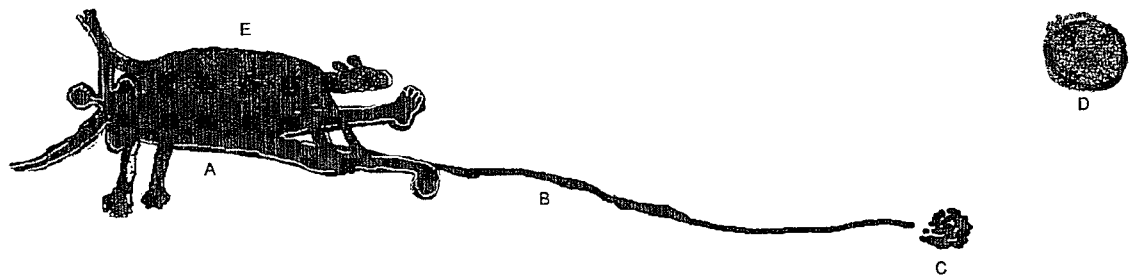


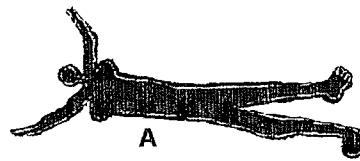
Figure 11.2 Graphic illustration of 'snake bite' panel, from Brady Creek.

This panel is composed of overlapping motifs (syntagms) that require a systematic deconstruction in order to analyse the individual components. They have been identified with letters to make the discussion easier. The sequence of lettering shown in Fig. 11.2 is simply for convenience.

11.2 Syntagm A, B, C, D and E



11.2.1 Grapheme A



Kinetography

Grapho-kineme upper and lower arms; diagonally up

Grapho-kineme upper and lower legs; vertically down

Literal Meaning - female figure (red with white outline)

Combined Meaning - The female figure in red with white outline, with arms raised, lying horizontally, combines form, plasticity, gesture and spatial position to convey meaning. The figure is connected to a long red line identified as a 'snake'. The combined meaning suggests a snake biting the heel of a woman.

11.2.2 Grapheme B



Literal Meaning - long red thick line extending from Grapheme (A) identified as a 'snake'.

Extended Meaning, A and B combined - Snake biting a woman on the heel.

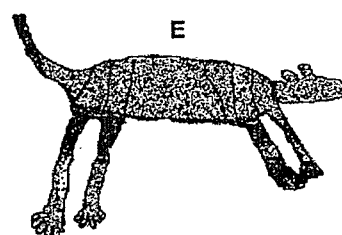
Symbol Affinity - Both the female figure, 'snake' and other human figure are painted red. The red circular dotted area (C) at the end of the long red line (B) is indicative of a circular 'hole' at the end of a 'tail' of a 'snake'. The white disk (D), with red outline

and dotted interior lines is identified as a 'bark bone cylinder' by Cole (1998 pers. comm.), similar to those published by Trezise (1971). Grapheme (D) has an affinity to grapheme (B) in the context of 'death from a snake bite'. The superimposition of grapheme (E), an animal, over the female anthropomorph, grapheme (A), is in context with the 'totem complex' described by Sharp (1937). Totemic animals (white with outline and interior lines) identified by Trezise (1971) are associated with the spirit of a deceased person in this belief system.

Comparative Affinity - The depiction of a human figure (A) associated with a snake (B) drawn in this manner is found elsewhere in the Laura area, according to the documentation of Trezise (1971) and Cole (1988, 1998). The actual depiction of a snake biting the heel of a human figure was not found elsewhere in my sample. The depiction of (D) bark bone cylinder occurs 9 times in the data collected by Trezise (1971). The superimposition of an animal over an anthropomorph occurs four times in the superimposition sequences found in my sample.

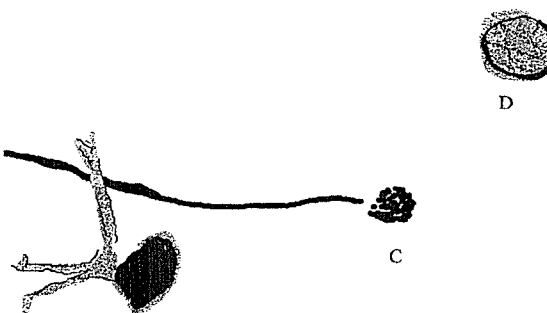
Spatial Syntax - Grapheme (A) and (B) are connected and therefore have a direct relationship, ie. 'Snake biting woman'. The head of the snake is connected to the heel of the woman. Grapheme (C) is positioned very close (but not touching) grapheme (B). The spatial positioning associates (B) with (C) but clarifies the fact that (C) is not a body part of (B). The relationship of (C) to (B), is similar to that of a hole to a snake. Grapheme (E), (animal) is placed on top of grapheme (A) also creating a relationship. The relationship of Grapheme (E) to Grapheme (A) is similar to that of the 'self' to one's ancestral totem (dingo) as described in Sharp's (1937) totem complex (discussed in Chapter 8).

Gestureme - Graphemes (A), (B) and (E) are in horizontal positions. The arms are up for the female figure that ‘call attention’ concerning this gesture in the art as discussed in Chapter 10. Grapheme (B) is horizontal which is a natural position for a snake on the ground surface and the gesture taken by a snake in the act of striking its victim. Grapheme (E) is centred over the human figure (A) with front and back paws and toes schematically illustrated to ‘typify’ a dingo, not a macropod or other animal.



11.2.3 Graphemes C and D

Grapheme (C) and (D) are discussed previously and identified through symbol affinity and spatial syntax.



11.2.4 Grapheme E

Grapheme (E) is previously discussed and identified as a ‘dingo’ and possibly an ancestral totem associated with grapheme (A).

Ethnography - There is a high proportion of sorcery related motives in the Laura area, that are represented by ‘eels’, ‘snakes’ and ‘boomerangs’ according to Trezise (1971) and Cole (1988, 1998). Stories of sorcery-inflicted deaths are common, if not the norm, as discussed in Chapter 8. The following story describes a sorcery-inflicted death, related by Percy Trezise as told to him from Aboriginal elder, Harry Mole:

Many years before Harry’s uncle, a man called Dingo, had been camping along Ginger Creek with his first wife, Maggie. When Maggie ran off with another man, Dingo decided to kill her by sorcery. In a small shelter near the main gallery

he used white clay to paint the figure of a woman with a snake at her heel, and he “sang” Maggie to death as he painted. After Maggie had died from this sorcery, Maggie’s relatives in turn killed Dingo by sorcery. This occurred about the time of the last Bora, which was probably held just before the First World War.” (Trezise 1969, 75; 1993, 38).

Mortuary motifs include round and elongated bark cylinders for bones, elongated ovals representing mummified bodies wrapped in a net or bark, and the gestures depicting the ‘mourning dance’ characteristics, and inverted figures representing ‘death’. The following (Table 11.1) shows the number of mortuary motifs Trezise (1971) has identified. The first column is for bark cylinders and the second column is for bark coffins. The third column is ‘unidentified white round things’ and elongated ‘things’. The fourth column lists the number of horizontal and inverted figures.

Site	Bone cylinders, baskets	Long bark containers	Total Inverted and horizontal figures
Split Rock			2 inverted 2 horizontal
Gugu Yalanji	2 bone cylinders	1 long bark container	6 inverted 7 horizontal
Giant Horse		1 long bark container	1 inverted 9 horizontal
Quinkan Group	2 bichrome elongated ovals 1 mortuary basket		1 inverted 7 horizontal 2 inclined
Ginger Creek	1 mortuary basket	3 long bark containers	1 inverted 4 horizontal
Brady Creek	1 bone cylinder		0 inverted 1 horizontal
Giant Wallaroo	(mortuary ceremony)		1 inverted 0 horizontal

Table 11.1 Mortuary images from selected sites and the total number of horizontal and inverted figures found there.

Bark mortuary cylinders are portrayed in many panels, as reproduced here by Trezise (1971). See figure 11.3, and 11.4, bone cylinders and mortuary containers.

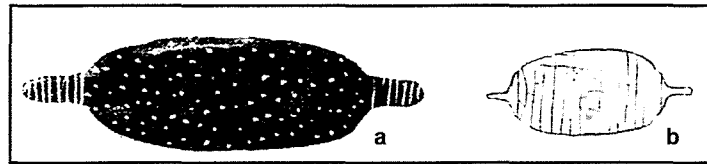


Figure 11.3 Bone cylinders from a) Quinkan Gallery site, b) Gugu Yalanji site.

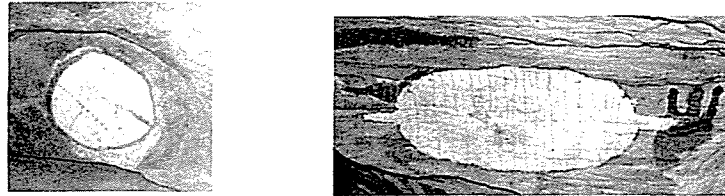
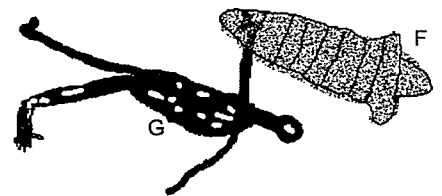


Figure 11.4. Two photographs of painted bone cylinders, a) from Brady Creek and b) from Gugu Yalanji.

11.3 Syntagm F and G



11.3.1 Grapheme F

Literal meaning - identified as an ‘eel or catfish’ by Cole (1998) and Trezise (1971).

11.3.2 Grapheme G

Kinetography



Grapho-kineme upper and lower arms; horizontal.

Grapho-kineme upper and lower legs; right leg is vertically down and the left leg is diagonally down. The feet are also perpendicular to the legs.

Literal Meaning - anthropomorphic figure, gender not indicated.

Combined Meaning F and G - ‘eel/catfish’ and human figures are touching and somehow associated with each other.

Extended Meaning - The eel/catfish superimposed over a human figure or in close proximity is associated with sorcery (Trezise 1971).

Symbol Affinity - Grapheme G is positioned horizontally in the same manner as grapheme A. It lies parallel to A but facing in the opposite direction. Grapheme G is superimposed (arm and hand) by figure F, eel/catfish, in the same manner as grapheme A is superimposed by grapheme E 'dingo'. The light-coloured animal and fish motifs are painted on top of the red human motifs.

Comparative Affinity - The eel/catfish motif occurs at Gugu-Yalanji, Split Rock and Giant Horse a total of 7 times.

Spatial Syntax - The proxemic arrangement of grapheme G and F indicate a direct relationship. The 'eel/catfish' (F), is placed in a similar orientation and parallel to the anthropomorph G. The space between grapheme G and A indicate an indirect relationship in contrast to G and F.

Gestureme -. Grapheme G is positioned relatively horizontal with arms perpendicular to the body. The torso orientation and the arm and leg gestures occur elsewhere in Laura.

Ethnography - Sorcery

Trezise (1971) identifies sorcery themes associated with horizontal and inverted body positions. Examples of depictions of Native Police in horizontal and inverted positions are believed (by Aboriginal elders) to inflict death and sickness upon the hated enemy, through the power of sorcery. Trezise stresses the importance of sorcery in the lives of Aborigines, especially in the past. Death is seldom attributed to natural causes and the most common conclusion sorcery was the agent responsible. As his close friend Dick Roughsey of the Lardil tribe put it, "White people just do not understand how, even

today, our people live in awful fear of *puri-puri*" [sorcery], (Trezise 1971, 124). Trezise (1971; 1992) and Cole (1998) have identified sorcery themes associated with 'eel' and 'boomerang' motifs and stencils found superimposed over human figures. "The old men lamented the fact that the only living part of their culture remaining was the practice of sorcery, and that men still die from it. . . . they pointed out in the galleries many of these sorcery paintings, some of which were in human form and others in the form of snakes and catfish" (Trezise 1969, 77).

Trezise (1971) found sorcery-type motifs the most numerous (291 of 1208 total).¹

Trezise's studies are subject to some personal interpretation, and it is impossible to know the exact number of motifs associated with sorcery. It would be of interest in further studies to examine the frequency of *gestural positions* associated with sorcery motifs in this area. The published data of horizontal and/or inverted figures found with other sorcery associated motifs in my data base is inconclusive. For studies done on the frequency of sorcery motifs, including eel/catfish and boomerang found with other fauna and anthropomorphic figures, see Cole (1998).

Colour is another mode of symbolic communication used in the Laura region. The colour red, according to Thomson (1933), Sharp (1939) and Roth (1904), signifies life, increase

1

Trezise's frequency of motivation table reveals that sorcery-type paintings are the most numerous, 291 (of 1208 total), with 223 of hunting-magic purposes. He identifies totemic themes of plants, animals, birds, reptiles and other creatures totalling 206; 'totemic' weapons and implements, 46; 'ancestral beings' in human form, 126; 'spirit' figures 66; and 'love magic' themes, 81; 'fertility and increase ritual, 27; 'mortuary', 9; unidentified motifs, 333 that probably fit into the categories above and do not alter the ratio of frequency of these motifs (Trezise 1971, 124).

and fertility, while white is associated with death and the Ghost clan. Roth (1904), explains the symbolic content of colour in Cape York Peninsula.

Whereas white symbolized mourning and sorrow, being met with during the ceremonies connected with burials, at certain initiations, etc. red symbolized a range of forceful qualities or emotions such as masculinity, envy, hatred, energy, things visible (fire) and things invisible (spirits) as well as different moieties; yellow was said to be a woman's colour rather than a man's colour (Roth 1904, 7).

11.4 Discussion

This panel is associated with sorcery themes in many ways; the location under a ledge, the eel/catfish motif and the death by snake-bite implication by association. Besides sorcery, this panel mirrors the cultural patterns associated with the belief system within the 'totem complex' described by Sharp (1937). The colour red, associated with life and blood, being superimposed by 'totemic' and sorcery figures in white, symbolic of ghosts and spirits are patterns consistent with the totemic system.

11.5 Summary

This structural analysis identifies binary relationships between the anthropomorphic figures and other motifs superimposed or in close proxemic association. The ethnographic information and testaments from elders of the Aboriginal community help to identify certain themes found in the iconography. The restricted access to information about this panel and the density of content within it is a problem, as it is with a majority of Aboriginal rock paintings. But some understanding of the patterns can be achieved by applying a systematic analysis of the forms, gestures, plasticity (colour) and spatial arrangements of motifs found.

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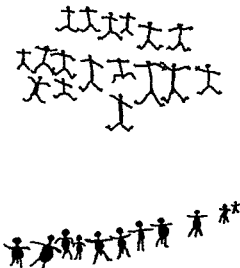
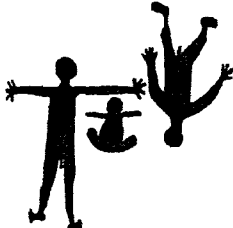
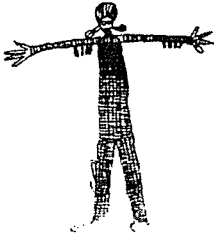
This panel reflects two aspects of Aboriginal belief systems. Primary is the cyclical pattern stemming from the totemic cycle involving the interrelationship of human/totem/ancestor through life, death and return in totemic form. I interpret the superimposition of figures starting with the horizontal female figure (dying) overlain by the white dingo figure (totem) as analogous to the sequence found in the totemic system. The second belief system pertains to sorcery represented by the 'snake' striking the foot of the female figure causing her death. Sorcery is associated with the 'eel' motif overlaying the second horizontal figure (Cole 1998). Sorcery is usually a personal response to wife stealing or illness caused by another individual. This interpretation is derived from the structure found within the panel and by drawing upon similar patterns and structures found in the totemic systems and sorcery beliefs.

The following Table 11.2 is a comparative summary of the patterns and relationships found in the paintings and those found in the limited ethnographies. The summary of Laura paintings has different parameters to those used in the Hawaiian examples because Aboriginal culture is different. Where Hawai'i reflects patterns of a sedentary, agricultural, highly stratified society, the paintings in Laura reflect patterns of a mobile, hunter/gatherer, loosely organized society. This and other contrasts are addressed in Chapter 12.

The first column in Table 11.2, gives the graphic description of the selected rock painting. The medium of paint versus pecking or engraving may influence the information that is presented. In Laura, it is difficult to determine if a painted composition is synchronic or diachronic without directly dating each paint layer. I am

assuming that contiguous figures are represented by uniform gestures, and that separate sequences are defined by non-uniform gestures. A group is related (regardless of gesture) when they are grouped in isolation and are of the same colour. Figures that I label as iconic are single, unrelated figures that are highly decorated or outlined with contrasting colour.

The second column describes the visual patterns and relationships. The third column describe parallels in the personal and social relationships. The fourth column address patterns in the religious and political relationships. The ethnographic literature is very limited for the Laura region, and much information is inferred from the studies done in adjacent areas. General attributes of the social systems and beliefs are given here with full acknowledgement of the problems associated with reliable sources and information pertaining specifically to the Laura area. In most cases, it is the gesture that carries the information. The monochrome panels in my sample are 'low context' due to the lack of complex colour symbolism. In contrast, the iconic figures present more difficulty with multi-colours and symbolism that has restricted access to outsiders.

Graphic Description	Visual Patterns and Relationships	Parallels in Personal and Social Relationships	Parallels in Religious and Political Relationships
<p>Horizontal Group</p> 	<p>Repetition of the same body form, gesture, posture and proxemics. Orientation is vertical and horizontal. Highly structured with uniform repetition of gestures and postures. Figures relate to each other as part of a repetitive action. <i>Monochrome</i> implies a lack of complex colour symbolism</p>	<p>Traditional ceremonies and rituals are structured, formalized and diachronic.</p> <p>Gestures in dance and a formal sign language encode meaning.</p> <p>Outside access to information at a basic level is possible.</p>	<p>The ‘Law’ dictates formal rules for ceremonies and rituals that affect social and political status. Mortuary ceremonies and dance are characteristic of ‘horizontal arms’ and ‘toe flicking’ postures and gestures.</p>
<p>Related Group</p> 	<p>Gesture, posture, size, gender, and orientation define meaning. Relationship of each to the other is important. Age and gender are indicated. Left male gesture indicates ‘protector’ in proxemic to smaller figure. Inverted male figure may indicate ‘death’. <i>Monochrome</i> implies lack of complex colour symbolism</p>	<p>Patrilineal society in which the relationship of male (father) to child (son) is important for claims to land and resources. The small figure within ‘personal’ space analogous to a child. The second inverted ‘male’, may indicate ‘death’ from conflict in this relationship. Outside access to information is possible with knowledge of gestures/postures.</p>	<p>Political structure is loosely defined but kinship is very important. Patrilineal relationships give access to resources and named ‘country’. Issues over patrilineage are patterns found in the ethnography.</p>
<p>Iconic Individuals</p> 	<p>Iconic type individual implied by highly decorated appearance and formalized gesture. <i>Bichrome</i> and <i>polychrome</i> indicate more complex information and iconicity.</p>	<p>Conventionalized ‘ancestor’ figures and the gesture for “protector” are specific to the Laura area. This figure is identified as “Timat”, ancestor protector figure.</p>	<p>Named Ancestral Figures of traditional stories.</p> <p>Spirits and ancestors play important roles in social and political structures. Traditional knowledge is encoded in elaborate paint decorations and colour schema.</p>


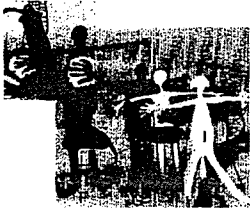
<p>Oriented Disparate Group</p> 	<p>Disparate figures in horizontal orientation. Human and non human elements in relationship with each other. Gesture, posture and proxemics and overall composition are unique.</p>	<p>Pattern of superimposition resembles the totemic cycle of life, death and transformation of totemic non-human elements. Outside access to information is restricted.</p>	<p>Complex rules for painting and superimposing motifs to conform to 'law' and beliefs in totemic system. Personal relationships and narrations may be depicted here.</p>
<p>Oriented Uniform Superimposed Group</p> 	<p>Uniform gestures, postures and orientation. Figures are superimposed but offset in a lateral direction. The colours range from solid red on the bottom, white with red outline, to solid white. Three are possibly male, and one is female. Two 'eels' and an 'emu' are superimposed over the figures.</p>	<p>'Protection' gesture within personal and private space. Superimposition may represent different people, or life/death of a single individual. Body form, colour variation and position in the sequence is significant. Red at the bottom and white at the top, parallels cultural preferences. Outside access to information is restricted.</p>	<p>Uniform gestures repeated over time suggests a chronology. The gesture for 'protection' coupled with the 'eel' motif suggests a concern for protection against a threat. Religious power lies in the application of 'sorcery' motifs to enhance or nullify power of 'protector' gestures.</p>

Table 11.2 Comparative Summary of Laura Patterns and Relationships.

11.6 Conclusion

The social structure of the cultures in Laura can generally be characterised by a non-stratified lateral society. It favours kinship relations that go beyond human entities, known collectively as the 'totemic system'. In a hunting and gathering society, resources are distributed among members of a small family group and rights to territories and 'country' are generally passed on patrilineally. Relationships of individuals to others are very complex. An outsider is restricted from forming a relationship until his proper kinship relation has been established. The proxemic arrangements of figures in the paintings are likely to conform to these complex kinship relationships. Magic and sorcery

iconography may reflect issues concerning death and revenge. Themes of 'family', 'mortuary ceremonies' and ancestral icons are just a few topics that appear in Laura.

Laura presents a new set of parameters in terms of space and medium. Here the cultural group is mobile and information is painted at sites across a vast geographical area. There are repetitions of certain iconic figures in a series of sites but absent at other sites. This suggests that certain areas are specific to cultural icons. The information is organized with a preference for space rather than time. There is a need for more research as to the significance of geographical locations and the relationship of painted images to the sites. The paintings may be secondary to the location of the site. Rather, it is the site that conveys meaning in the total landscape/story.

The Laura region is more variable than Hawai'i with the potential of attributes being very complex. In a very general manner, this table outlines the patterns found in the paintings and draws on some of the patterns from the ethnography. The structure in the paintings are keys to what can be understood, especially in cases where little ethnographic data survives.

Part IV

Conclusions

Chapter 12 Form Follows Function

12.1 Review

This thesis addresses the phenomenon of gesture including posture and proxemics, depicted in anthropomorphic figures in selected samples from Hawai'i Island and from the Laura region in Cape York Peninsula, Australia. This limited study has confirmed that constructs (gestures, postures and proxemics) depicted in the surveyed sites are not random, but are constrained and organized in similar patterns which have parallels within the culture. The gestures and related attributes operate as a semiotic system within this larger communication system which is human language. Several fundamental questions regarding gestures are addressed using systematic analysis, coupled with a new terminology to identify and describe this phenomenon. Using a rigorous approach of triangulation and three kinds of information; empirical data, ethnographic recordings and a structural analysis, this thesis demonstrates a new methodology that is useful in understanding anthropomorphic figures in rock art.

12.1.1 The Phenomena

Rock art as a visual form of communication operates as part of a multi-channelled language (Armstrong 1999) involving human speech, gesture and visual display. It might otherwise be described as a unit within a multi-media performance (Wilkins 2001). The

rock art paintings and engravings provide one mode of communication that can only be fully understood by the accompanying 'story' that supplies the context and meaning. While 'story' is produced verbally, it is also accompanied by the narrator's posture and gestures to supply subliminal information that includes 'time', 'distance', 'intensity', and 'emotion' (McNeil 1992). All three modes are integral in creating an effective communication system. Previous research of anthropomorphic figures in rock paintings and engravings has, for the most part, ignored the gestural component of this visual display as well as the proxemic arrangements of these figures.

I now answer the three questions that were posed in the Introduction (Chapter 1).

12.2 Aim Number One - Are Gestures Random or Purposeful?

The first aim of this thesis was to discover if there is purpose and meaning to the gestures portrayed in the rock art, or if they are simply random depictions of human gestures. This involves studying the proxemic arrangements that form patterns and define relationships with other figures. The investigation is carried out systematically, through triangulation of the empirical data (the detailed documentation of the component parts of anthropomorphic figures that I have recorded), the ethnographic documentation (obtained from literature searches), and the structural analysis of two selected panels (focussing on binary relationships and ethnographic associations).

12.2.1 Empirical Recordings

The empirical data reveals a high percentage preference for certain gestures within the Hawaiian and the Australian samples that rule out random display of gesture. For

example, certain gestures are specific to certain sites and absent at other sites. The Hawaiian site of Paniau is an example of a site where 100% of the lower arms are down and the figures are repetitive, forming long sinuous lines deplete of any variant gestures. This contradicts the views of Lee and Stasack (1999), who state that there is no preference for a specific arm position in Hawaiian petroglyphs. Similarly, Cole (1998) and Trezise (1971) believe the arm positions of the anthropomorphic figures in the Laura area are random and painted in positions that are most convenient in terms of the composition and rock face limitations. This thesis has shown that body positioning preferences occur not only at specific sites (Giant Wallaroo, for example), but also over time in superimposition sequences found at Split Rock, Shepherd Creek and Giant Horse.

12.2.2. Ethnographic Data

The ethnographic data provides evidence for the use of a formal gesture system that conveys meaning within a cultural context. For example, the “birthing” posture of the Hawaiian sample reflects the cultural emphasis of line of descent, discussed in Chapter 6, that determines land ownership based on rank and status that is passed down through patrilineal descent. Each generation is memorised from a continuum of ancestors that originates from a single source and is recited in song chants or mele. The petroglyphs depicting human Stick figures in long sinuous lines, reminiscent of vertebrae of a spine, are metaphors expressed in the Hawaiian culture. For the Laura Aborigines, the gesture of outstretched arms is identified as a “protection” gesture associated with ‘ancestral’ figures as well as parental figures protecting children.

Another aspect showing the consistency of gesture depicting ritual can be found in the Australian ethnography concerning the mourning ceremonies and relationship of death within the totemic system. The ethnography suggests an undefined boundary between life and death for an individual and his totemic spirits and country. All are different phases within a life cycle. The painted compositions of human and animal/plant/object forms possibly reflect these phases of one person's life. The repetition of a single gesture may be the key to identifying one subject or person within the sequence of superimpositions. The Stick figures are much less complex in their patterns of organization and specific postures, gestures and proxemics. Similar patterns can be seen in the gestures found in the literature, for example, the mourning dances.

12.2.3 Structural Analysis

The structural analysis identifies patterns found in the preference for specific gestures. These preferences are supported by the ethnographic context along with the symbol affinity with cultural themes and the frequency of use at other sites. For example, the 'flexed wrists' of the Hawaiians is a gesture illustrated in drawings of *hula* dancers and boxing matches. The Australian sample uses specific gestures, along with colours, to encode meaning that needs further research to understand what parallel structures exist in the culture.

12.3 Aim Number Two - Analysing the Gestures, Postures and Proxemics

The second aim of this thesis was to design a process for analysing the graphic images. This involved direct observation from the sampling carried out in the two cultural areas. A matrix chart was developed to divide the observed gestures into categories for data

entry and frequency counts. The data analyses revealed patterns in the depictions of gestural poses and spatial positioning of related forms that mirror structures found in the social and cultural beliefs of each respective area. For example, it can be demonstrated that specific gestures are used in a repetitive nature to convey information in the same manner as ritualized gestures are used in the sacred Hawaiian *hula*, or the mourning dances in Cape York Peninsula.

The horizontal arm position portrayed in the figures at Laura is consistently identified by Aboriginal elders as “protective” figures, and when outlines of contrasting colour are added, they are identified as “ancestral” figures. Arms up are generally positive, associated with ceremony or dancing while arms down are neutral or non-specific in meaning. Anti-gestures exhibited by the Quinkan figures are associated with evil or sorcery.

In the Hawaiian sample a great deal of information conveyed by the arm and leg positions is specific to rituals and ceremonies found in the Hawaiian social structure. The polysemous nature of the Hawaiian language and the Hawaiian love for metaphors presents problems in trying to understand representative images. But the importance of gestures in Hawaiian culture allow for the identification of analogous depictions of the dominant themes within Hawaiian society. The men’s traditional *hula*, for example, can be identified as a possible theme, by the depiction of angular gestures and bombastic movements appearing in the petroglyphs. The formalised gesture communication system works both in the graphic displays and the cultural dances.

12.4 Aim Number Three - Are There Constraints to the Gestures?

In addition to the frequency counts of the empirical data, I have identified five categories in which the anthropomorphic figures encode meaning. These categories are: *form* (body types), phenomena (*gesture, posture, proxemics*), and plasticity (*texture and colour*), and each of these categories is constrained by cultural values (see Table 12.1).

Graphic Description		Hawai'i	Laura	Comments on similarities and differences
F o r m	Stick	Stick	Stick	Both are found single or in groups and alignments. Hawai'i has both vertical and horizontal alignments. Laura has lateral alignment
		not found	Full body stick	These are found in single or horizontal alignments for Laura.
		T shape	not found	These are single or adjunct to other body forms.
	Full Body	Triangle Empty	Full body outline	Both are found single or with other figures.
		Triangles solid	Full body solid	Both are found single or with other figures. In Hawai'i, Triangle solid appear to be iconic.
			Full body solid outline	They are usually single and appear to be iconic.
		Triangle open		Found with other body forms.
P h e n o m e n a	Gesture	Restricted range	Variable range	Hawai'i exhibits restricted number of arm and leg gestures. Laura is unrestricted with many hard to distinguish positions of arms and legs. Anti-gesture is used to contrast normal gestures.
	Posture	Restricted use	Variable use	Both areas have restricted use of vertical and horizontal orientation. Laura has cultural associations with horizontal and inverted posture. Hawai'i has ambiguity due to the horizontal surface of the panels.
	Proxemics	Highly Structured	Less Structured	Hawai'i has highly structured proxemic arrangements. Figures arranged in close vertical and horizontal alignments. Complex spatial arrangements occur with disparate figures. Laura has few examples of repetitive figures in organized patterns and more examples of loosely defined spatial compositions.

P l a s t i c i t y	Engraving	Conventions, restricted forms	Engravings exist but were not sampled	Engravings are permanent, labour intensive and have very little variation in their form. They are restricted in variation and conform to traditions. Product is what is important, not the process.
	Painting	Exist but were not sampled	Less restricted forms	Paintings are more ethereal, less time consuming, have more variation within the cultural constraints. Production may be more important than the product.
	Superimposition	Some exist but were not sampled	Frequent	Superimposition of paintings in Laura implies a chronologic sequence comparable to use of vertical sequencing in Hawaiian engravings.
E t h n o g r a p h i c P a r a l l e l s	Subsistence strategy	Agriculture	Hunter /Gatherer	Laura's subsistence foods such as 'yams' are found depicted as hybrid anthropomorphic figures. Food hybrids do not appear in Hawai'i.
	Lifestyle	Sedentary	Mobile	Hawai'i has some depictions of physical structures and Laura does not.
	Family and kinship	Patrilineal with endogamous marriage in restricted class system	Patrilineal with complex kinship relations. Exogamous marriage and patrilocal residence	Kinship structures are mirrored in proxemic arrangements. Structures of both are not portrayed in the same way. Ancestors are important in determining social rank and status in Hawai'i, but not in Laura. Stratified class system imposes strict rules for marriage in Hawai'i. Kinship rules apply for marriage in Laura.
	Religion	Formalized religion with priests.	Personal religion, 'Law'.	Ancestor figures are identified in Laura by the heavily stylized body forms. Hawai'i has very simple figures identified as Ancestors or Gods.
	Political structure	Chiefdoms with stratified class system and restricted upward mobility	Band societies of family units.	Structure is very different in both areas. Hawai'i is highly organized. Figures are mirrored by its highly stratified society and political hierarchy. Laura has loosely organized political structure that is reflected in variable organization of figures in many panels.

Table 12.1 Summary of the forms, phenomena, plasticity and ethnographic parallels in Hawai'i and Laura.

12.4.1 Form:

I have identified five body types found on Hawai'i Island and four in the Laura region of Australia (although only 3 were sampled in the sites). They follow rules of convention that are consistent across their own cultural area. Specific body types appear to be utilized for

visual narration as part of a multi-faceted communication system. I argue that body form is not the result of an evolution of style through time, but that different forms are used simultaneously in accordance with their ability to encode information. It has been demonstrated through observation and dating statistics that Stick bodied figures do not always pre-date full bodied figures, and that in many cases Stick bodied figures are found superimposed on top of older Full bodied figures. Form depends upon the information that is to be communicated, and it is often reduced to stick form in order to convey that message in terms of action and gesture language.

12.4.2 Phenomena

The consistent frequencies of gestures in each cultural area indicate deliberate preferences by that culture for conveying information. The use of those gestures therefore seems to involve semantic content. Graphically depicted gestures communicate non-verbally in the same manner as gestures used in contemporary societies. They make up a major portion of human communication (85% according to Hall, pers. comm. 1998), supplementing speech in every human culture. Graphically portrayed gestures become the sign-vehicles for transmitting information in a visual narration. The gestural information is identified and interpreted by people of the community in much the same way as contemporary people of any culture interpret gestures accompanying speech. Gestures are extremely important to both Hawaiian and Aboriginal cultures in ways that denote social status, power, religious affinities and ancestor relationships. In both societies they are carefully choreographed and applied to narrative performances that require traditional correctness without misuse or random display. I argue that visual displays of gestures in the rock art follow strict rules of convention from each culture.

The proxemic analysis has demonstrated that rules dictate the spatial arrangements that follow the social and cultural models. Hawai'i has several examples that demonstrate purposeful proxemic arrangements analogous to cultural metaphors. At Kalaoa Cave the specific proxemic arrangement with horizontally aligned figures possibly indicates a group activity with some variation in individual figures that convey a sense of strength and militaristic organization. Iconic motifs identified as 'paddles' or 'clubs' held over the figure's head identify them as 'warrior like' by the culture. In contrast, the vertical alignments of figures at Paniau are analogous to genealogy and the concern for connecting back in time to the original ancestor. The use of proxemic arrangements reflects the Hawaiian concern for rank and social structure that is based in part on genealogical records. At this site, the anthropomorphic figures are spatially positioned in vertical succession repeating a 'birthing' gesture that is interpreted as 'generations' by the culture. The proxemic arrangement of collateral conjoined figures found at Kāeo 1 are analogous to cultural metaphors that characterise kinship and family relations.

Family relationships seem to be represented similarly in both the Laura and Hawaiian samples where adult and child figures are portrayed within the "personal space" dimensions as defined by Hall (1966). The Laura sample employs proxemic arrangements that includes repetition to convey ceremony and ritual activities, as shown at the Giant Wallaroo site. Superimposition may also be a proxemic device to indicate episodes within a totemic cycle of an individual.

12.4.3 Plasticity

Information is also encoded by the physical texture found in Hawaiian engravings and the combined uses of colour and outline in Laura paintings. The variations in surface techniques

are not random but appear to be used in examples where the contrast and juxtaposition between techniques indicates a specific meaning. Examples are found with the Hawaiian samples of outline figures juxtaposed with pecked-in figures. At Laura the use of red in-fill with white outline and interior line figures juxtaposed with plain white or plain red figures demonstrates a purposeful intent.

12.4.4 Ethnographic Parallels

The different patterns and structures displayed in the petroglyphs and paintings reflect the contrasting structures of their respective societies. Where the engravings on Hawai'i are associated with a sedentary, agricultural, and highly stratified society, the paintings in Laura reflect a mobile, hunter/gatherer, loosely organized society. Political hierarchies of an evolved chiefdomship in Hawai'i contrast with band structure and family units of Laura. The religion of Hawai'i exhibits formalized practices of rituals and employs specialized priests (Kahunas), while the complex totemic system at Laura is not as transparent. Here, personal relationships with ancestors, country, clans and spirit are by comparison, far more varied and complex.

Cultural constraints upon the depictions of gestures are found in the Hawaiian culture that associate gestures with *mana* and *tapu*. According to Hawaiian beliefs, gestures can enhance or diminish *mana* and are carefully choreographed in *mele* performances for special individuals. One must assume a prostrate position in the presence of an *ali'i* of higher rank.

The Australian sample at Laura reveals attention to gesture that follows cultural constraints analogous to totemic beliefs. The proxemic arrangements use the superimposition of colour-coded anthropomorphic figures and reflect the spiritual belief systems of the Aboriginal

cultures in the region. Constraints are exhibited in the body orientations that convey health (vertical), or sickness (horizontal), and death (inverted) as the result of sorcery.

The structural analysis of the “Grouped Anthropomorphs’ at Paniau, Hawai’i, demonstrates the constrained use of different body types, (stick, triangle-solid, triangle-empty, triangle-open), to convey particular meanings. When combined, they create a visual narration. This semiotic system relies on specialized sign vehicles to convey different information. The structural analysis applied to the ‘Snake Bite Scene’ at Laura enlists the use of colour symbolism and totemic icons in a pattern that parallels the life and death cycles in that culture. The use of constrained body types and colours together with a very limited gestural variance conforms to the social and spiritual models found there.

12.4.5 Geographical Constraints

Evidence for geographical constraints on petroglyph locations is found in the Hawaiian sample where preferences for making petroglyphs occur at specific site locations, such as a fishing bay, major inland trail, and village site (Lee and Stasack 1999). Ho indicates that specific functions dictated the use of a site for petroglyphs. “Features of the land dictate where they put the petroglyphs. Images will change depending on the country” (Ho 1999 pers. comms.). For example, rock art sites located near fishing villages have a higher percentage of sails and anthropomorphic figures in iconic gestures related to ‘fishing’ than do the inland sites.

In the Laura region, I observed specific panels where only Stick figures were used to depict ritualised activities. In contrast some panels have only Full Bodied figures that, according

to Aboriginal elders, depict totemic beings and protective ancestors. At other sites, such as Mushroom Rock, figures are specifically associated with sorcery and identified as such by the gestures and inverted body positions. Sites such as Quinkan Mountain have almost exclusively non-human figures (Quinkans) that are characteristic of non-human gestures. This indicates a preference for locating specific forms and gestures at certain sites; a subject that has led to the full scale investigation by Cole (1998).

12.5 Conclusion

This thesis demonstrates that gesture is an integral part of a multi-faceted communication system, and not randomly displayed in the rock art. The empirical data and frequency counts supported by the structural analysis of selected rock art panels reveal patterns and relationships that reflect the cultural organization.

The new methodology that I have developed for analysing anthropomorphic figures in rock art looks specifically at gestures as a semiotic system encoding information that should be considered in any formal analysis of rock art. The 'form' of anthropomorphic figures in paintings and engravings follows the 'function' in the broad sense that body 'styles' are selected in accordance to which form is best suited to convey the information requiring visual expression. Like the relevance analogy by Lewis-Williams using the neurological model, I argue that the human body itself is the model used to communicate information. Form follows function in the most basic sense. Gestural communication is found in every society and imprinted on the brain as an innate key to understanding other people. The structured triangulation approach enables revelation of the function that dictates the form displayed in the rock art.

12.6 Future Research Questions

Closer examination of the apparent gestural and proxemic arrangements found in rock art in other parts of the world could provide new insights as to the motive of the cultures that created them. Universal aspects of a neurological type may be demonstrated by observing and recording gestural variances in a larger data base.

Direct dating of painted figures in the Laura region has focussed exclusively on Full Bodied figures, but future research on the age of Stick figures might provide a temporal sequence that would contribute to discussions about the 'evolution of style'.

This dissertation focussed only on human gestures but there is a need for further research on the animal gestures depicted as well. Animals are often metaphoric extensions of human beings, both natural and supernatural, and they might also be interpreted using another set of gestural codes and body language. It is hoped that future researchers can apply this method and expand upon the knowledge of how gesture communicates information in prehistoric art.

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Appendix A

Hawaiian Samples

The Hawaiian samples consist of anthropomorphic figures entered as data that I photographed and redrew digitally. Some of the samples are represented by drawings found in previous publications in which case, the author's name is cited. Each sample has a number (in bold) followed by the name of the site. If the illustration source is other than my own, it follows next. For the Hawaiian samples, this would be G. Lee and M. Ho.

Anthrodata Samples 1-45



1, 2 (Puako MT4)



3 (Puako 02a)



4 (Puako 02b)



5 (Puako 03a)



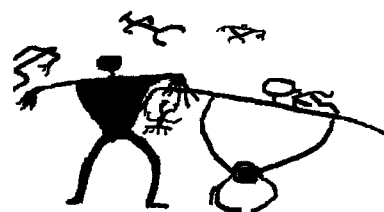
6 (Puako 04a)



7 (Puako04b)



8 (Puako 05a)



9, 10, 11,12
(Puako04)



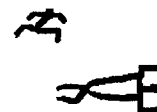
13 (Puako 10a)



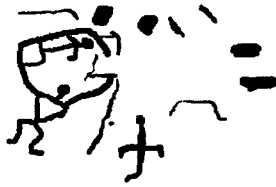
14, 15, 16, 17, (Puako 11a,)



18 (Puako11)



19, 20, 21, 22, 23, 24 (Puako 12)



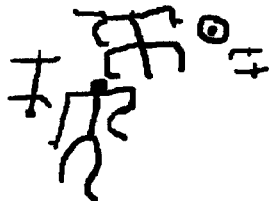
25, 26 (Puako 13a)



27, (Puako 13)



28, 29 (Puako14a)



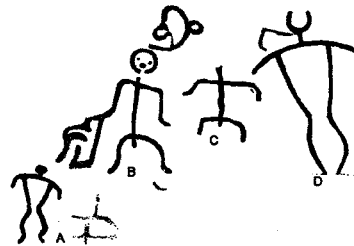
30, 31, 32 (Puako 14)



33, 34 (Puako 15a,)



35, 36, 37. (Puako, Kaeo1, JHRr5, Lee/Ho illus.)



38, 39, 40, 41. (Kaeo1 sec9, Lee/Ho illus.)



42. (Puako14, Kaeo 1, Lee/Ho illus.)



43, 44. (Puako22a, Kaeo18).

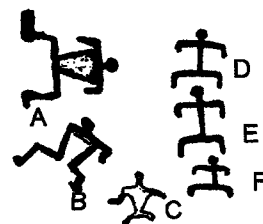


45. (Puako020, Kaeo 18)

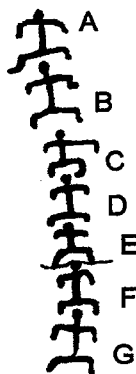
Anthrodata Samples 46-105



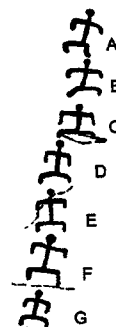
46. (Puako021, Kaeo 18)



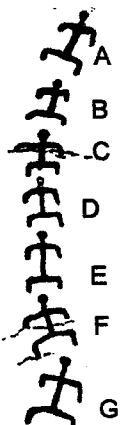
67, 68, 69, 70, 71, 72. (Paniau 1-4)



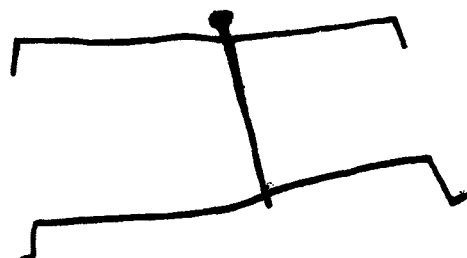
47, 48, 49, 50, 51, 52, 53. (Paniau 1-1)



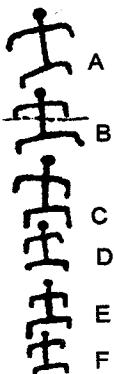
73, 74, 75, 76, 77, 78, 79. (Paniau 1-5)



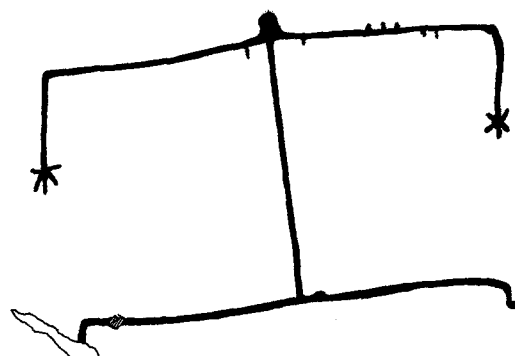
54, 55, 56, 57, 58, 59, 60. (Paniau 1-2)



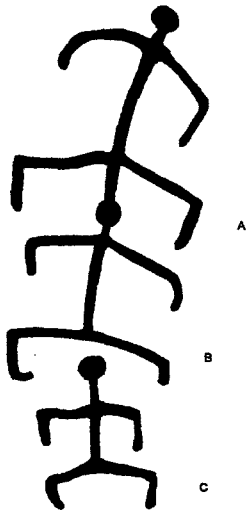
80. (Paniau 4)



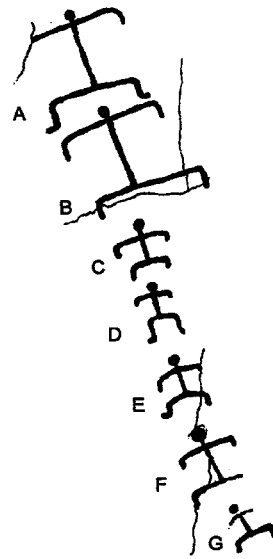
61, 62, 63, 64, 65, 66. (Paniau 1-3)



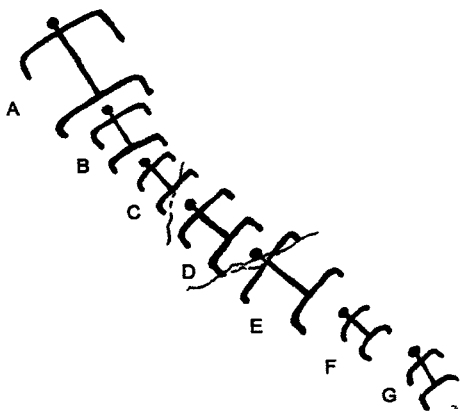
81. (Paniau 5)



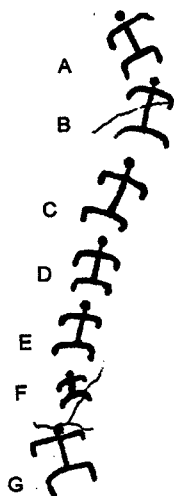
82, 83, 84. (Paniau 6)



99, 100, 101, 102, 103, 104, 105. Paniau (2-3)

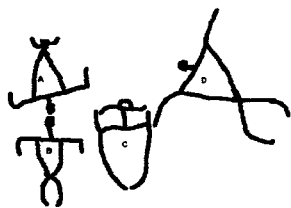


85, 86, 87 88, 89,90, 91. Paniau (2-1)



92, 93, 94, 95, 96, 97, 98. Paniau (2-2)

Anthrodata 106-156 Kaupulehu



106, 107, 108, 109. (Kaupulehu1, Kona 1)



117 (Kaupulehu15, Lee/Ho illus.).



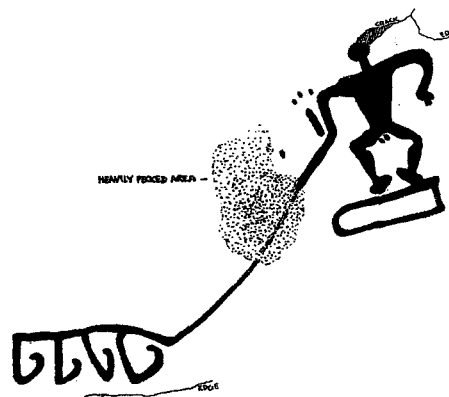
110, 111, (Kaupulehu Paddler2)



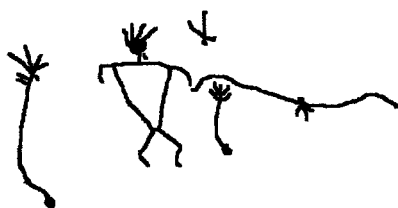
118, 119. (Kaupulehu Paddler 1)



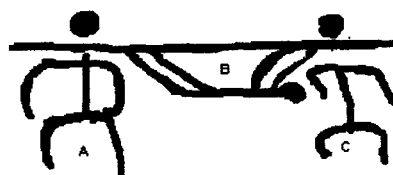
112, 113, 114. (Kaupulehu5b)



120 (Kaupulehu2) Lee/Ho illus.).



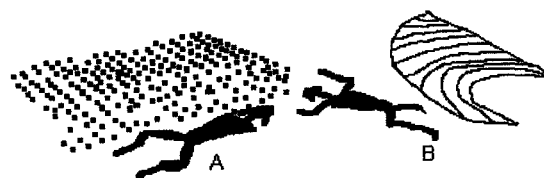
115. (Kaupulehu4).



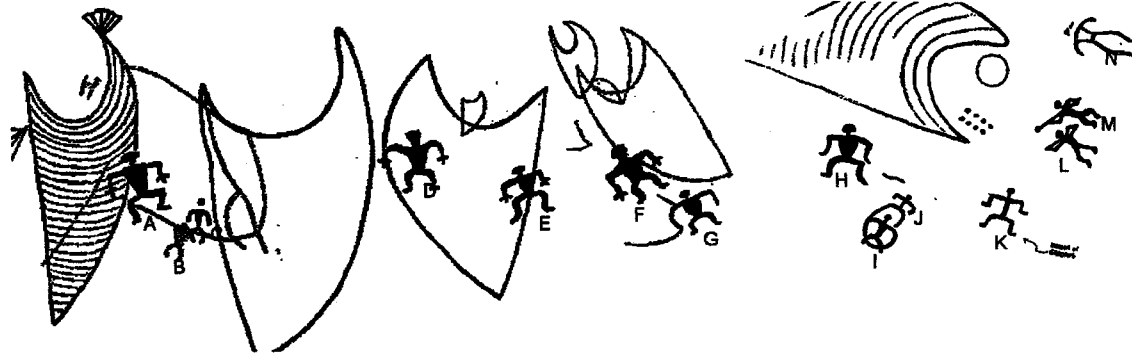
121, 122, 123. (Kaupulehu3)



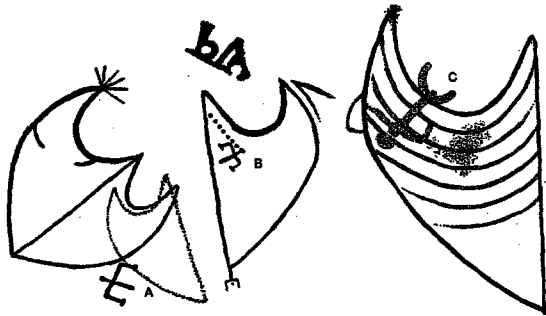
116 (Kaupulehu7)



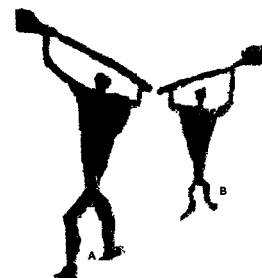
124, 124. (Kaupulehu6)



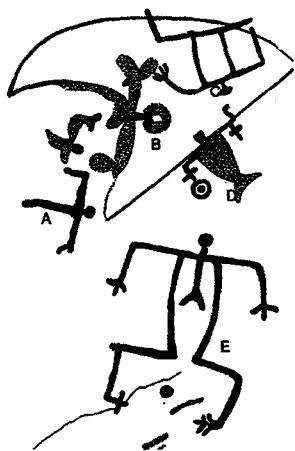
126, 127 128, 129, 130, 131, 132, 133, 134, 135, 136, 138 (Kaupulehu9 Lee/Ho illus.),



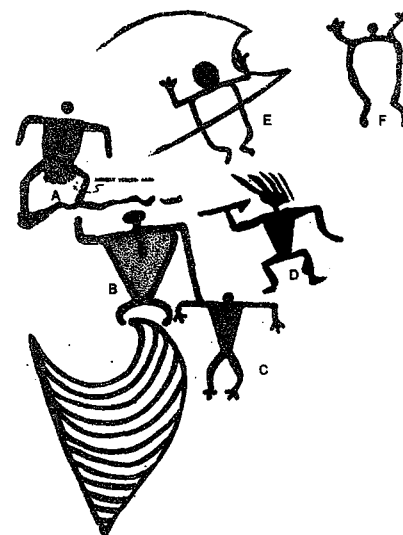
139, 140, 141. (Kaupulehu8, Lee/Ho illus.)



147, 148. (Kaupulehu12)



142, 143, 144, 145, 146 (Kaupulehu10, Lee)



149, 150, 151, 152, 153, 154. (Kaupulehu13, Lee/Ho illus.)

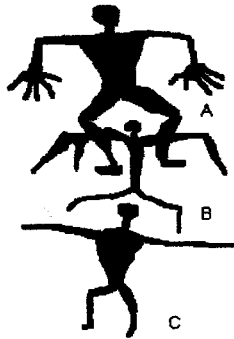


155, 156 (Kaupulehu 14, Lee/Ho illus.)

Anthrodata 157 - 167 Kapalaoa



157 (Kapalaoa 29)



158, 159, 160 (Kapalaoa 31).



161, 162. (Kapalaoa 32)



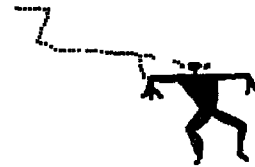
163. (Kapalaoa 33)



164. (Kapalaoa 34).



165. (Kapalaoa 36)



166. (Kapalaoa 37)



167. (Kapalaoa 38)

Kalaoa Cave



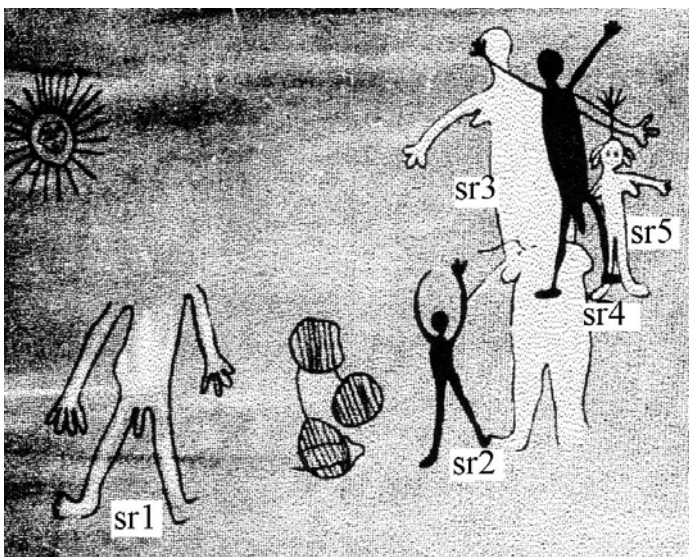
168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201. (Kalaoa Cave)

Appendix B

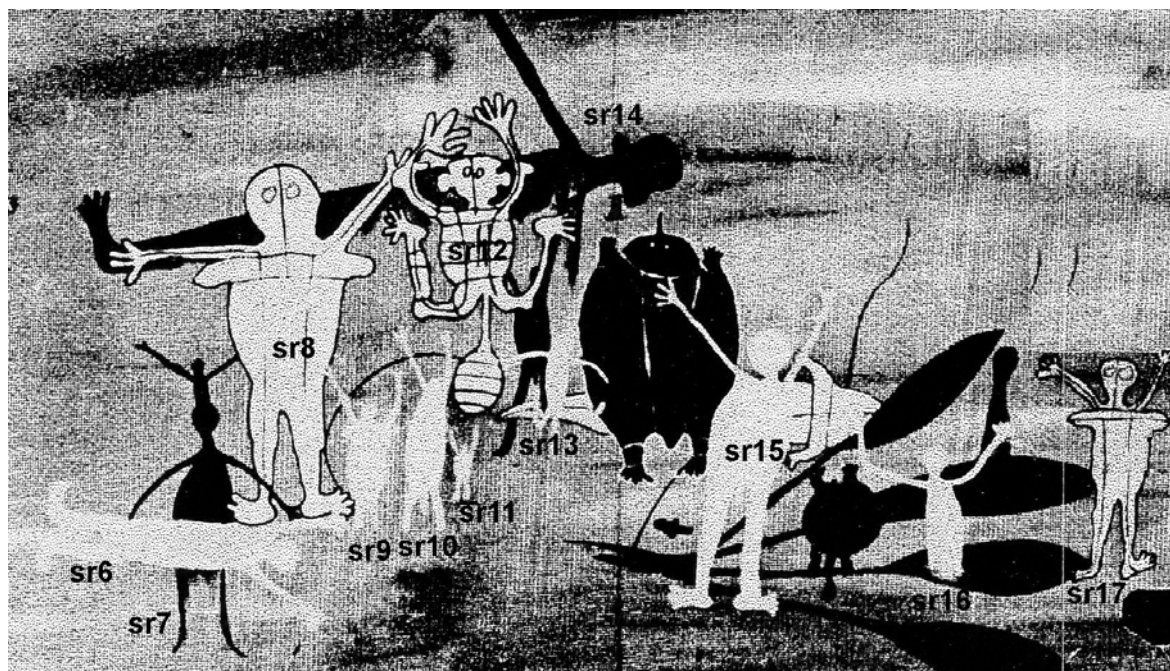
Laura Samples

All of the anthropomorphic figures entered as data were photographed and redrawn digitally. For the more complex panels I used the paintings of each site by Percy Trezise.

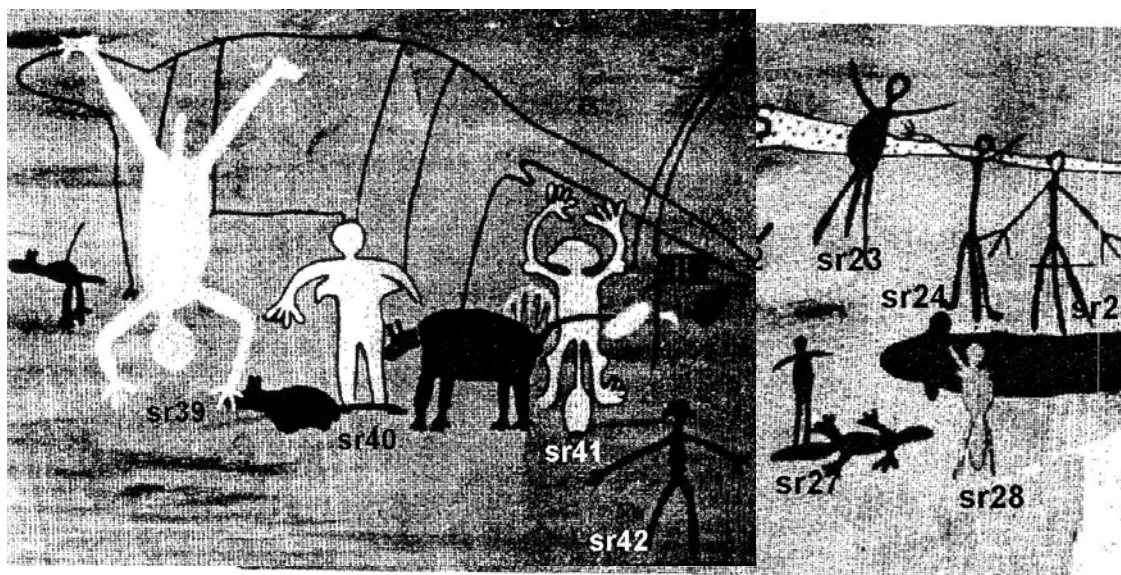
Anthrodata 1 - 47 Split Rock



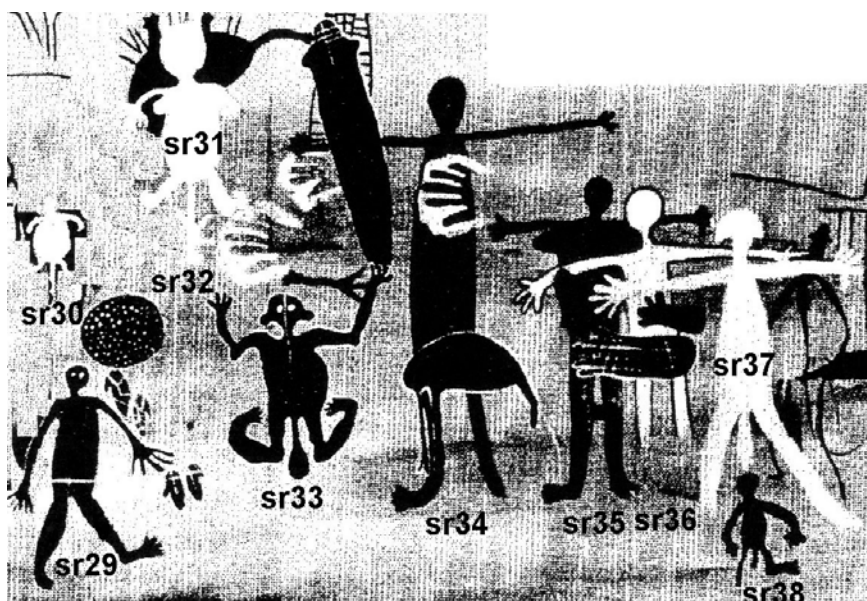
1, 2, 3, 4, 5 (Split Rock, P. Trezise)



6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17. (Split Rock, P. Trezise)

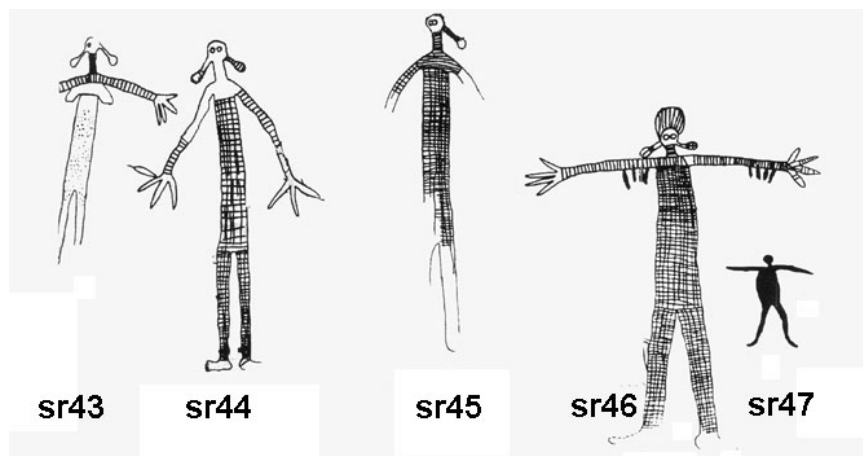


18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28. (Split Rock, P. Trezise)



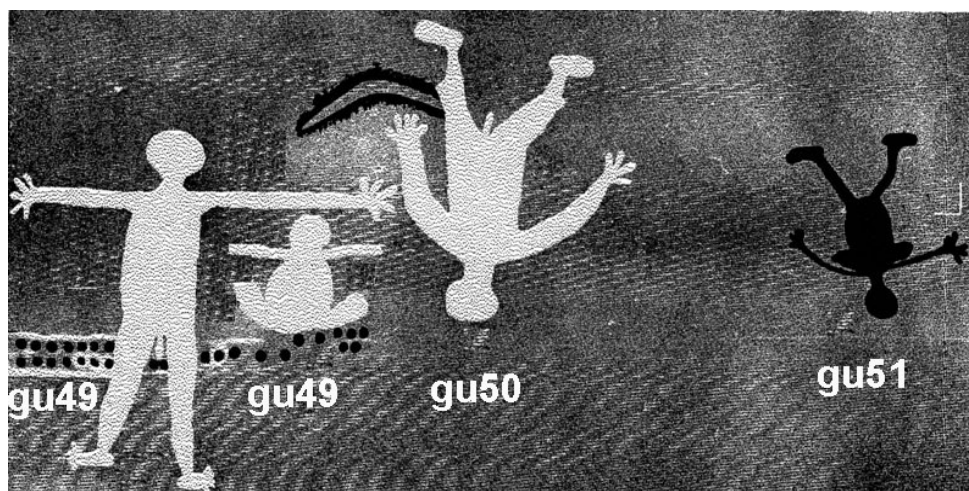
29, 30, 31, 32, 33, 34, 35, 36, 37, 38. (Split Rock, P. Trezise)

39, 40, 41, 42. (Split Rock P. Trezise)

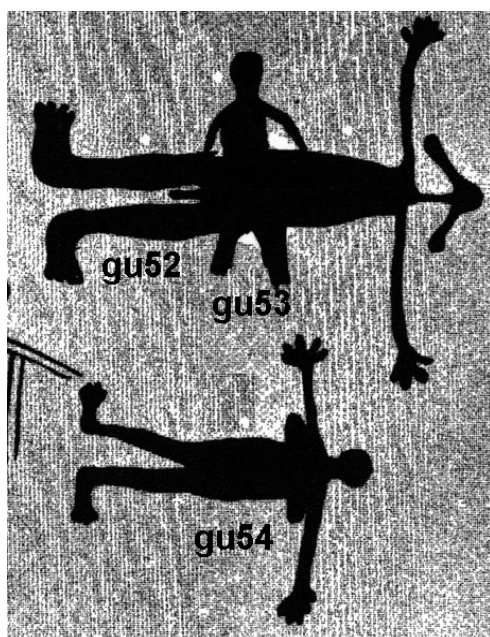


43, 44, 45, 46, 47. (Split Rock, P. Trezise)

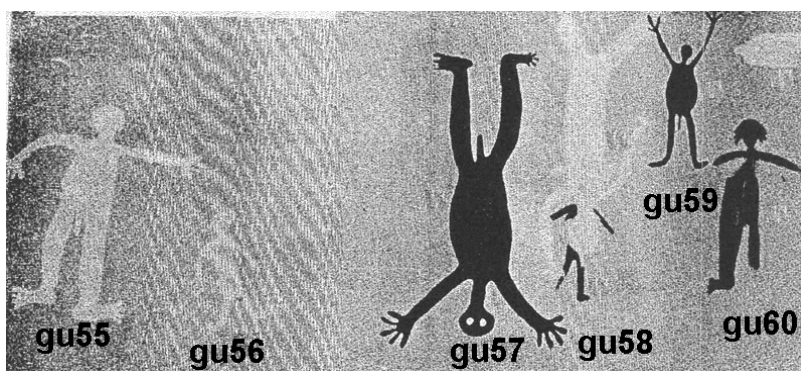
Anthrodactyl, Gugu-Yalangi 48-84



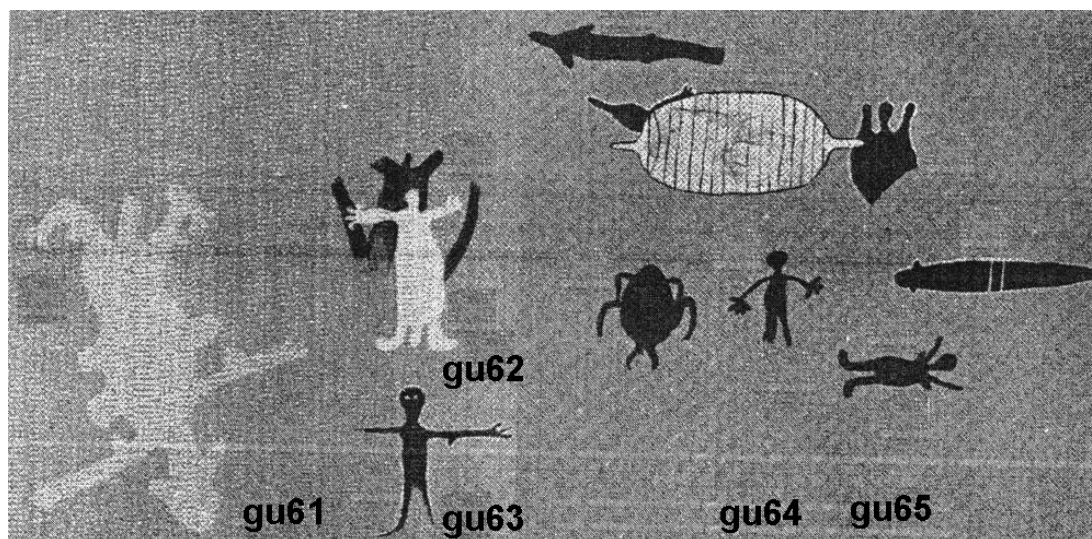
48, 49, 50, 51. (Gugu-Yalangi. P. Trezise)



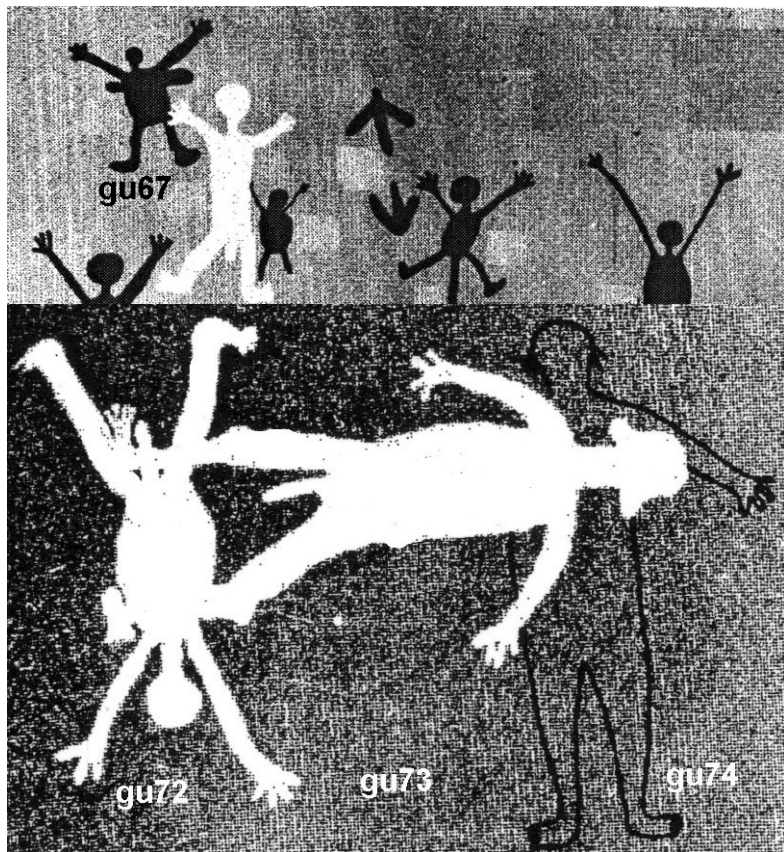
52, 53, 54. (Gugu-Yalangi. P. Trezise)



55, 56, 57, 58, 59, 60. (Gugu-Yalangi. P. Trezise)

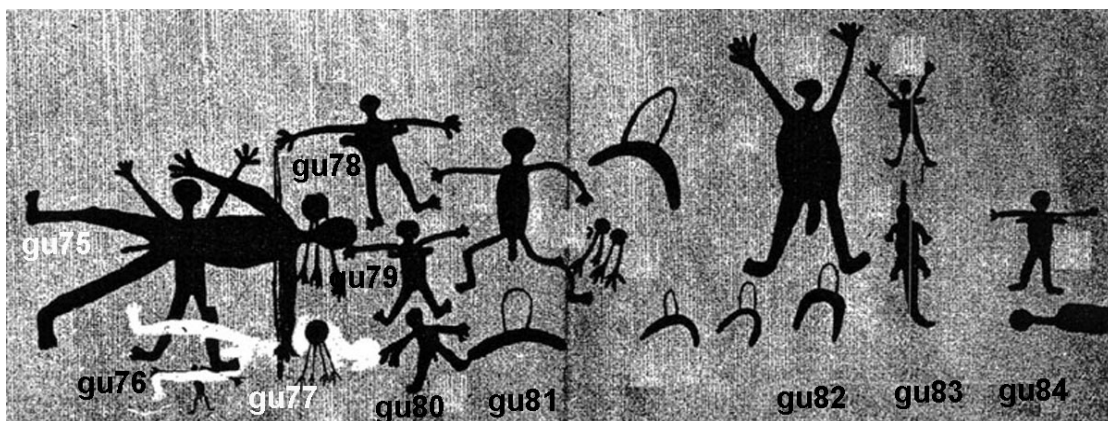


61, 62, 63, 64, 65. (Gugu-Yalangi. P. Trezise)

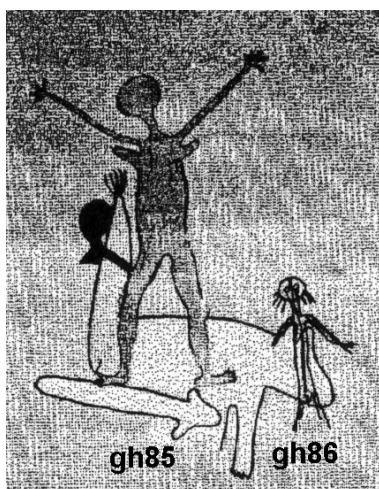


66, 67, 68, 69, 70, 71. (Gugu-Yalangi. P. Trezise)

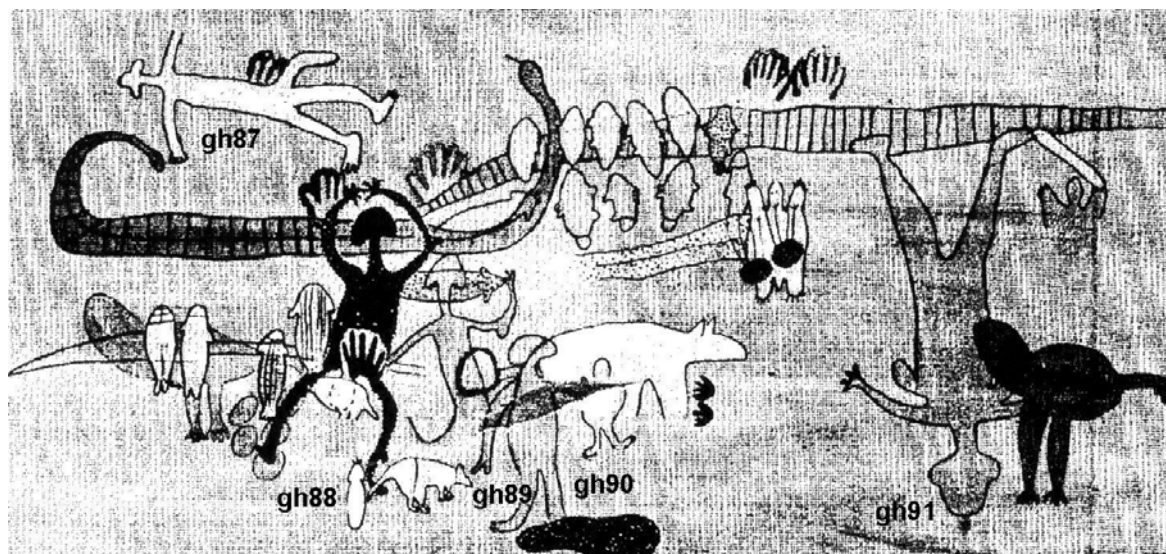
72, 73, 74. (Gugu-Yalangi. P. Trezise)



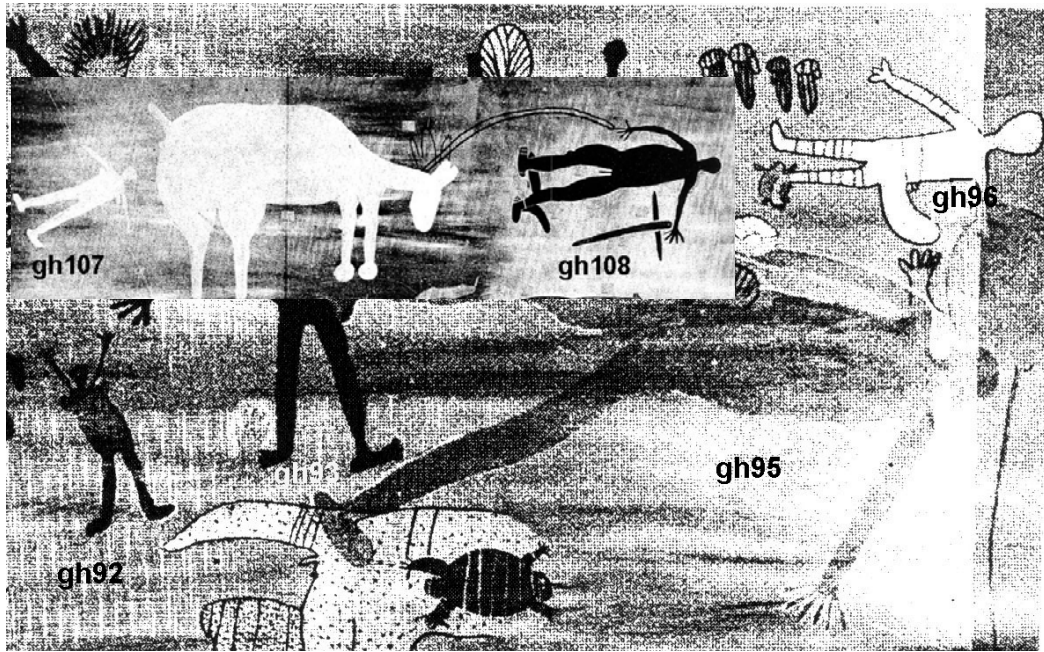
75, 76, 77, 78, 79, 80, 81, 82, 83, 84. (Gugu-Yalangi. P. Trezise)

Anthrodata 85 - 108 Giant Horse

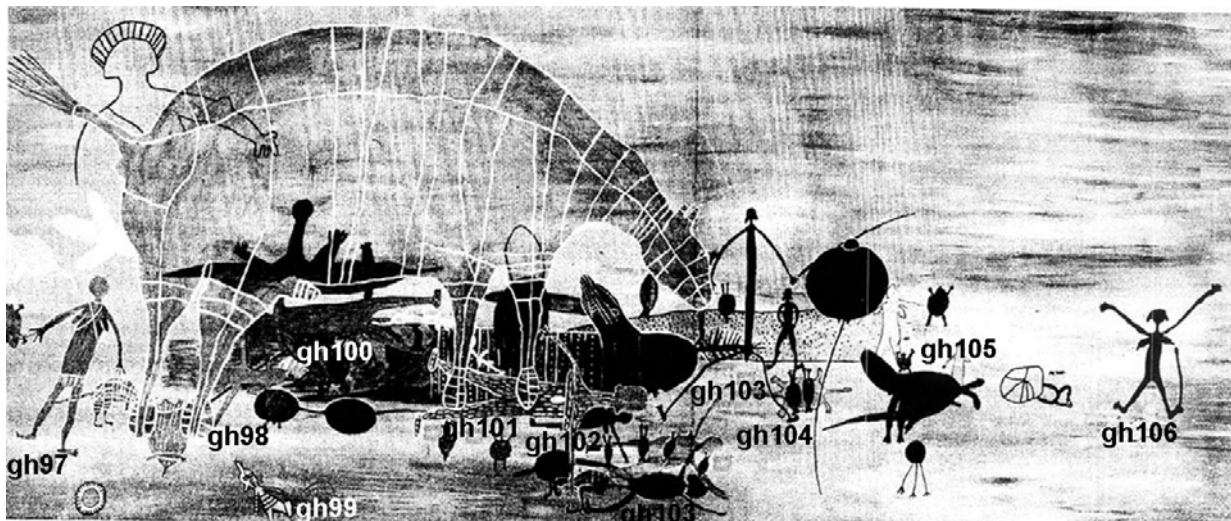
85, 86. (Giant Horse. P. Trezise)



87, 88, 89, 90, 91. (Giant Horse. P. Trezise)



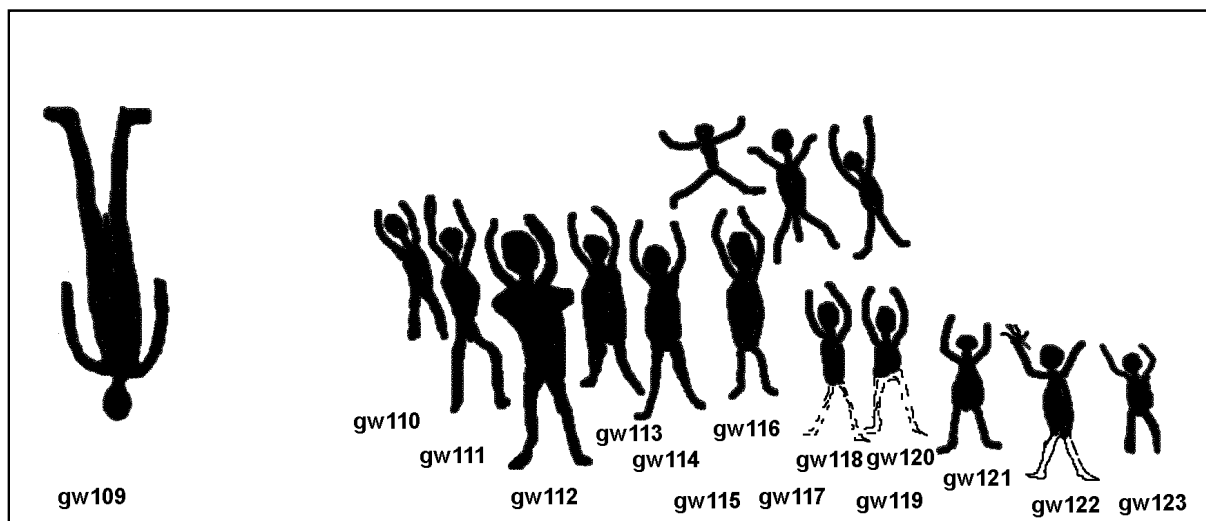
92, 93, 94, 95, 96. (Giant Horse. P. Trezise)



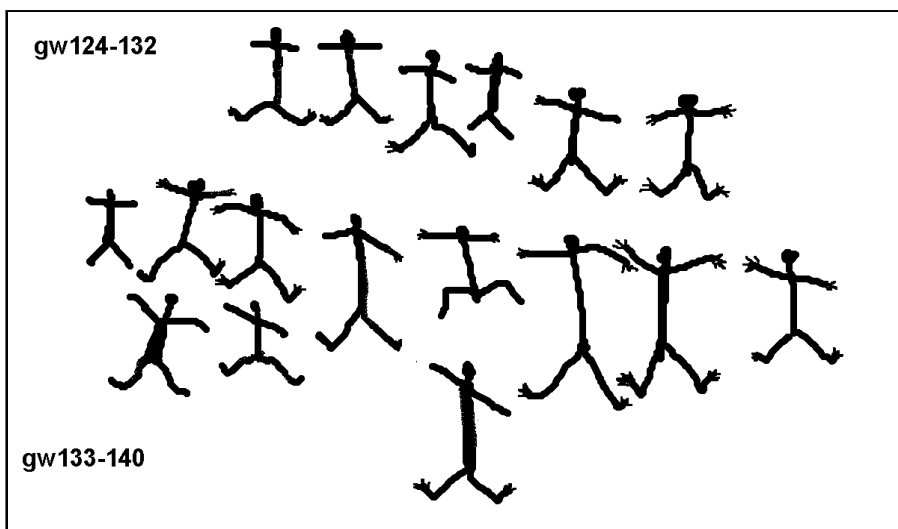
97, 98, 99, 100, 101, 102, 103, 104, 105, 106. (Giant Horse. P. Trezise)

107, 108. (Giant Horse. P. Trezise)

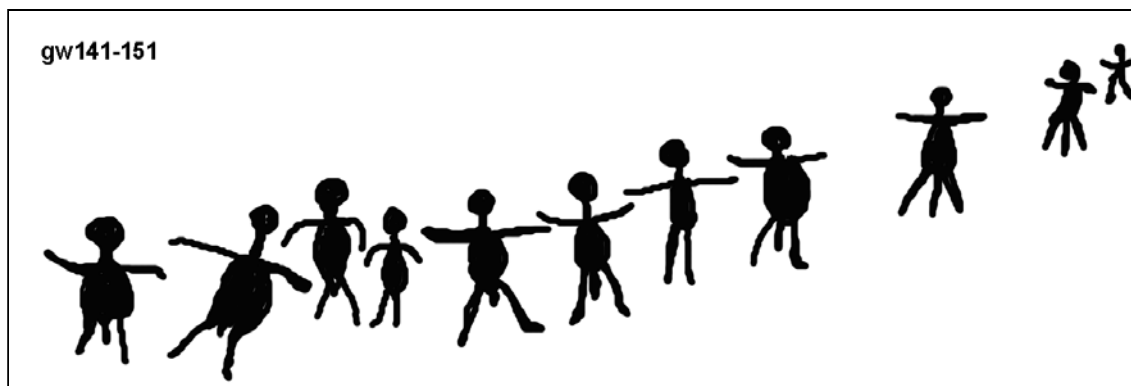
Anthrodata Giant Walaroo 109 - 151



109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123. (Giant Walaroo)

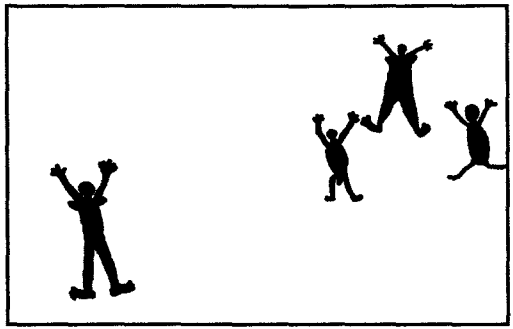


124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140. (Giant Walaroo).



141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151. (Giant Walaroo)

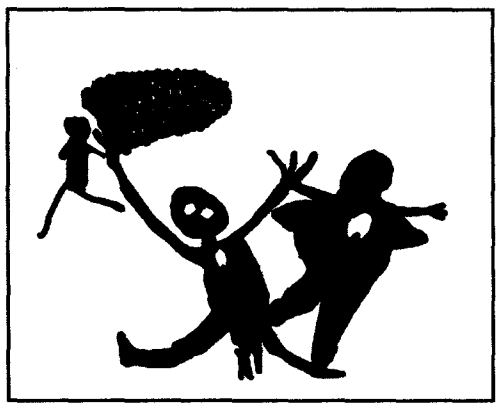
**Anthropomorphic Data, Brady Creek
152 - 212**



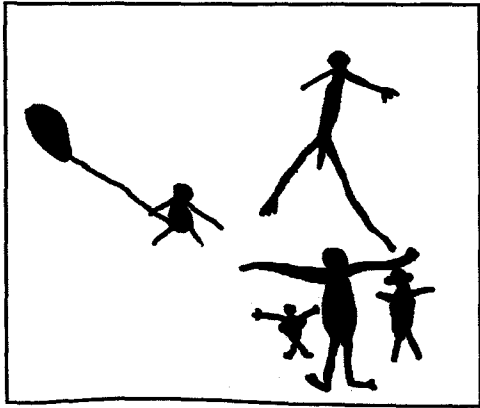
152,153,154,155 (Red Lady Walk)



156, (RLW)



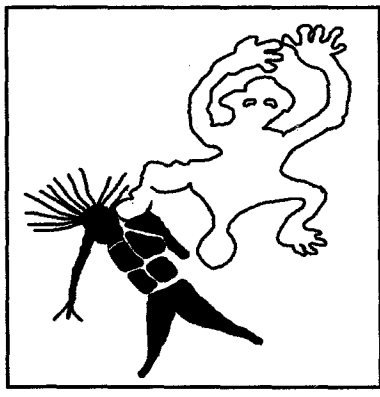
157, 158,159 (RLW)



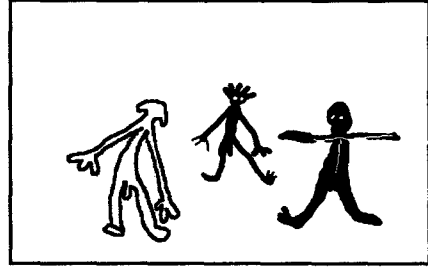
160, 161,162,163, 164 (RLW)



165, 166, (RLW)



167, 168 (RLW)



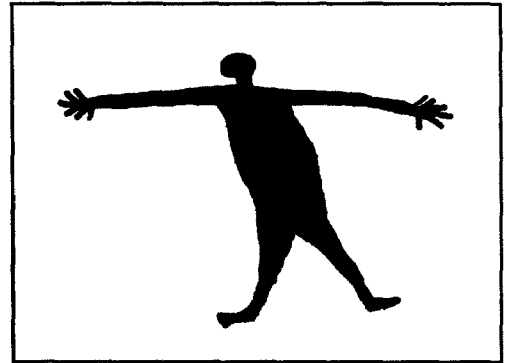
169, 170, 171. (RLW)



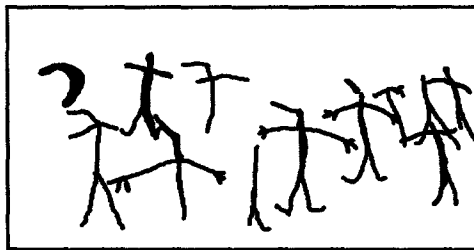
172,173, 174 (RLW)



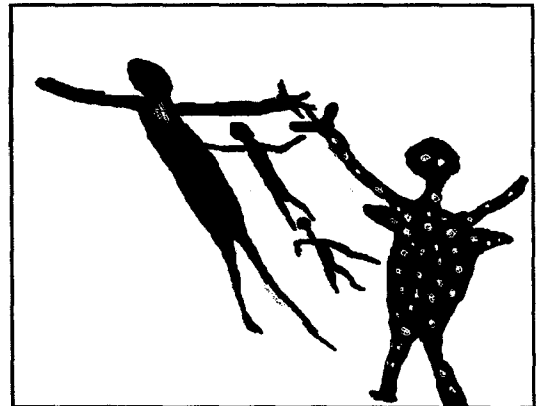
175, 176, 177, 178, 179. (RLW)



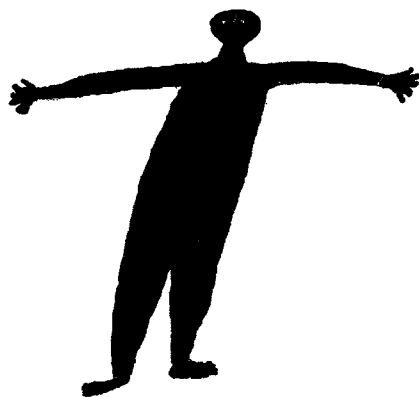
190 RLW



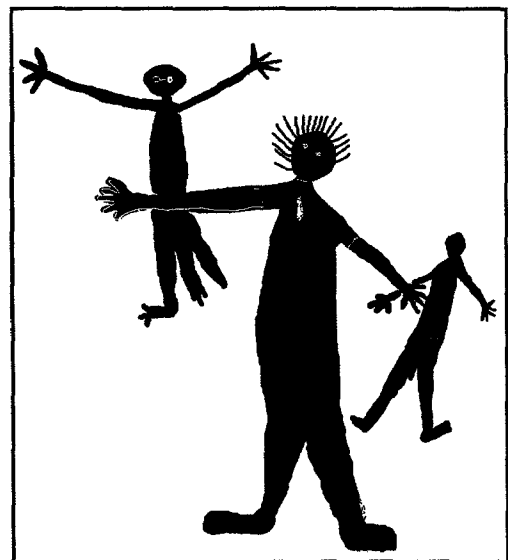
180, 181, 182, 183, 184, 185, 186, 187, 188 (RLW)



194, 195, 196, 197 (RLW)



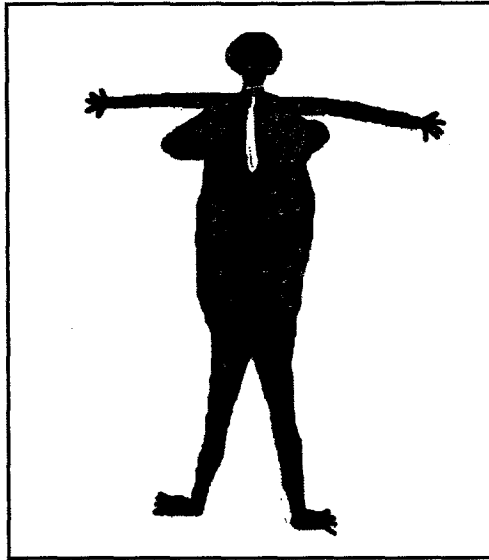
189 RLW



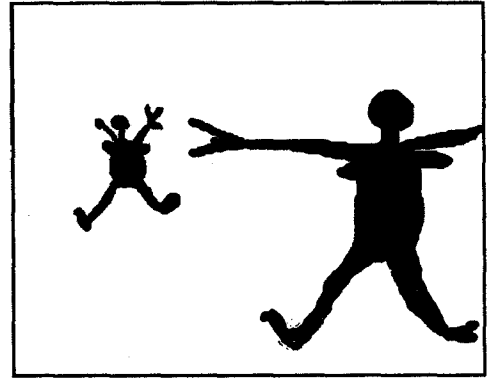
198, 199, 200 RLW



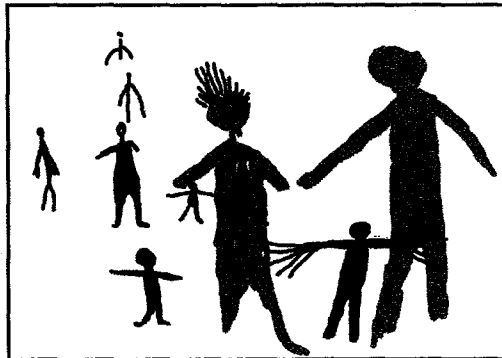
190RLW



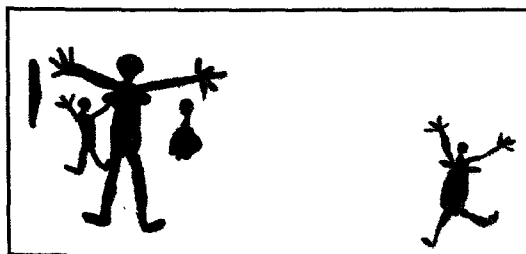
201, (RLW)



192,193 (RLW)

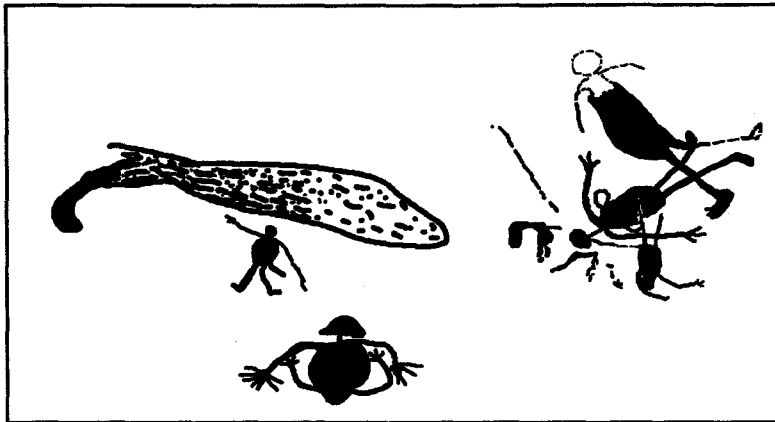


202, 203,204,205,206,207,208,209
(RLW)

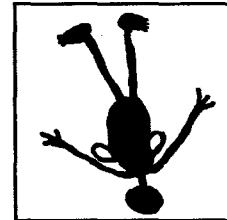


210,211,212 (RLW, Longton)

Brady Creek (Amphitheatre) 213-219



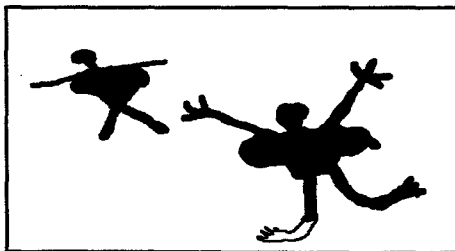
C



213,214,215, 216 (Amphitheatre)



217, (Amp)



218,219 (Amp)