

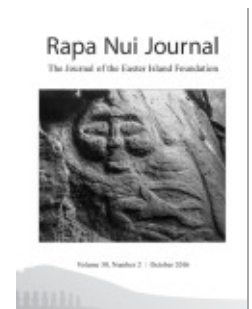


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of the inscribed landscape inside the caldera of Rano Kau
Volcano

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Rapa Nui rock art in context: Steps toward an understanding of the inscribed landscape inside the caldera of Rano Kau Volcano

Patrick C. McCoy

One of the most important and most studied rock art locales on Rapa Nui (Easter Island) is the ceremonial complex of 'Orongo, the center of a uniquely Rapanui festival of the birdman and adolescent initiation rites, located on the southwest rim of the ~1.6km wide, 200m deep caldera of Rano Kau volcano. Some of the other rock art sites on the rim and in the interior of the caldera have also been studied, but the published data on these sites is limited primarily to drawings of selected motifs. Little or no information is currently available on the geographic and topographic contexts of the motifs, the formal and functional characteristics of the sites themselves, and their place in the cultural landscape. Fifteen rock art sites located in the interior of the caldera are described and analyzed as the first step in working toward an understanding of the making of the inscribed landscape of the caldera and its relationship to 'Orongo and other places on Rano Kau. The analysis shows that some of the rock art, which includes both petroglyphs and rare pictographs, closely resembles that found at 'Orongo, hinting at the possibility of a previously unknown ceremonial center similar to 'Orongo inside the caldera.

Una de las artes rupestres locales más estudiada e importante en Rapa Nui (Isla de Pascua) es la del complejo ceremonial de 'Orongo, localizado en el borde suroeste de la caldera del volcán Rano Kau, un cráter de ~1,6km de ancho y 200m de profundidad, centro del singular festival del hombre pájaro en Rapanui y de los ritos de iniciación de los adolescentes. También se ha estudiado alguno de los otros sitios de arte rupestre ubicado en el borde y al interior de la caldera, pero los datos que han sido publicados son limitados debido principalmente al dibujo de las figuras seleccionadas. Actualmente, hay poca o casi nada de información disponible sobre los contenidos geográficos y topográficos de los motivos, de las características formales y funcionales de los sitios mismos y de su situación dentro del paisaje cultural. Como un primer paso en el trabajo hacia una comprensión de la construcción del paisaje inscrito de la caldera y su relación con 'Orongo y otros lugares en Rano Kau, se describen y analizan 15 sitios de arte rupestre localizados en el interior de la caldera. El análisis muestra que algunas de las artes rupestres, que incluyen tanto petroglifos como raros pictogramas, se asemejan bastante a los hallados en 'Orongo, insinuando la posibilidad de un centro ceremonial desconocido en el interior similar a los de la caldera de 'Orongo.

Introduction

Petroglyphs and pictographs, widely regarded as symbols or signs that communicate ideas (e.g., Lee 1992:2; Layton 2001; Whitley 2011:102), hence the reference in some rock art literature to 'signed' landscapes (Bradley 1997) and 'inscribed' landscapes (David & Wilson 2002), are notoriously difficult to read or interpret in terms of their various meanings, especially in the absence of ethnographic data (e.g., Smith & Blundell 2004; Whitley 2011). This is particularly true of the rock art on Rapa Nui (Easter Island), where little is known of the myths, legends, and worldviews that informed the making of the inscribed

landscape and the meanings of the various motifs or symbols. Fortunately, some information exists regarding the beliefs and practices associated with the rock carvings and paintings at the ceremonial complex of 'Orongo, located on the southwest rim of the caldera of Rano Kau volcano (Figures 1 & 2), where two uniquely Rapanui rituals took place: (1) an annual rite connected with the gods Makemake and Haua called the feast of the birdman (*tangata manu*), which was the title given to the leader of the victorious clan that found the first egg of the migratory sooty tern (*manutara*) on the nearby islet of Motu Nui, and (2) adolescent initiation rites for children who became known as *poki manu* ('bird children') (Routledge 1917, 1919:254-268;

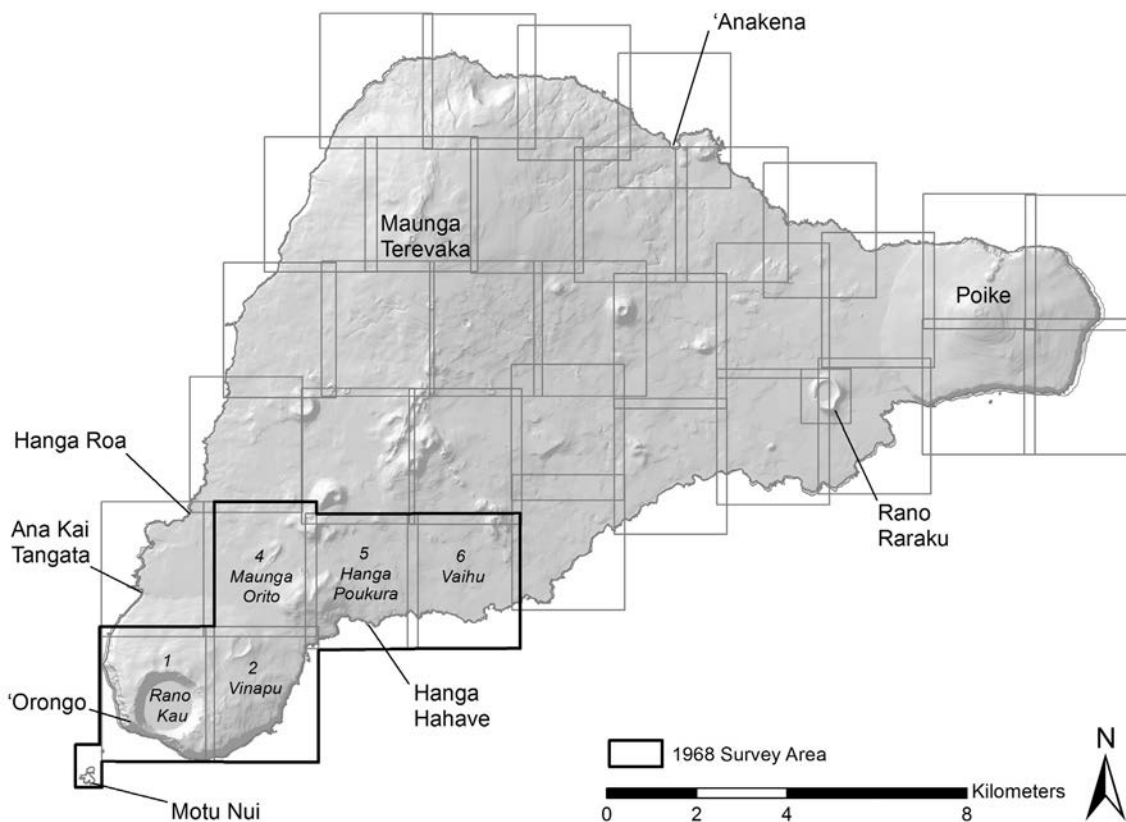


Figure 1. Map of Rapa Nui (Easter Island), showing the location of the caldera on Rano Kau volcano and a few other well-known island localities, including those mentioned in the text.

Métraux 1940:331-341; Ferdon 1961c; McCoy 1978b; Lee 1992:15-22; Van Tilburg 1994:54-62). The rock art at 'Orongo, some of it now sadly being lost to erosion, has been well documented (Lavachery 1939; Lee 1992, 1993; Horley & Lee 2008, 2009, 2012). Some of the other, lesser known rock art sites on Rano Kau (Figure 2) were also documented by the late Georgia Lee and her assistants, including two previously recorded sites located inside the caldera, named Te Poko Uri a Haumaka (the Black Pit of Haumaka), according to one legend (Englert 2001[1936]:36-37; Métraux 1940:58; Barthel 1978:37).

Unfortunately, Lee and her team were able to relocate only two of the 15 rock art sites (1-406 and 1-438; Figures 2 & 3) that had been recorded in an archaeological survey of the Rano Kau caldera in 1968 (McCoy 1968, 1976:Figure 46; Lee 1989, 1992:163-166). Lee believed that the other thirteen sites had either disappeared from view under thick vegetation, or had been covered by talus in the interim between the 1968 survey and the beginning of her work in the caldera 15 years later, in 1983 (Lee 1989, 1992:26).¹ In the process of writing up her fieldwork and preparing it for publication, Lee realized she couldn't draw any firm conclusions about the rock art in the caldera, except to

note that the "uniqueness of the design elements and unusual stylistic features" found in the carvings of sea creatures on a large boulder at Site 1-406, named Hau Koka, may have been the "work of an inspired stone carver associated with an especially sacred place" (Lee 1992:165-166).

Based simply on the number and quality of unique design elements and indications of superb skill in their execution, there is little or no reason to disagree with Lee in thinking that the Hau Koka site, which she regarded as "the most extraordinary single site on the island" (Lee 1992:163), may have been a 'sacred place' of some kind. But what is missing from her description of this site, and site 1-438 as well – something I believe is essential to a more complete understanding of their significance – is a full description of their formal and functional characteristics and place in the cultural landscape.² A more contextualized and interesting interpretation of the Hau Koka site, one that considers some of the findings from the 1968 archaeological survey but is ultimately dependent to a greater degree on ethnographic data, is that it was "the final jumping off place into the crater lake to enable the entry of souls down to the underworld of *Po*" (Croucher & Richards 2014:220). While I find this new interpretation

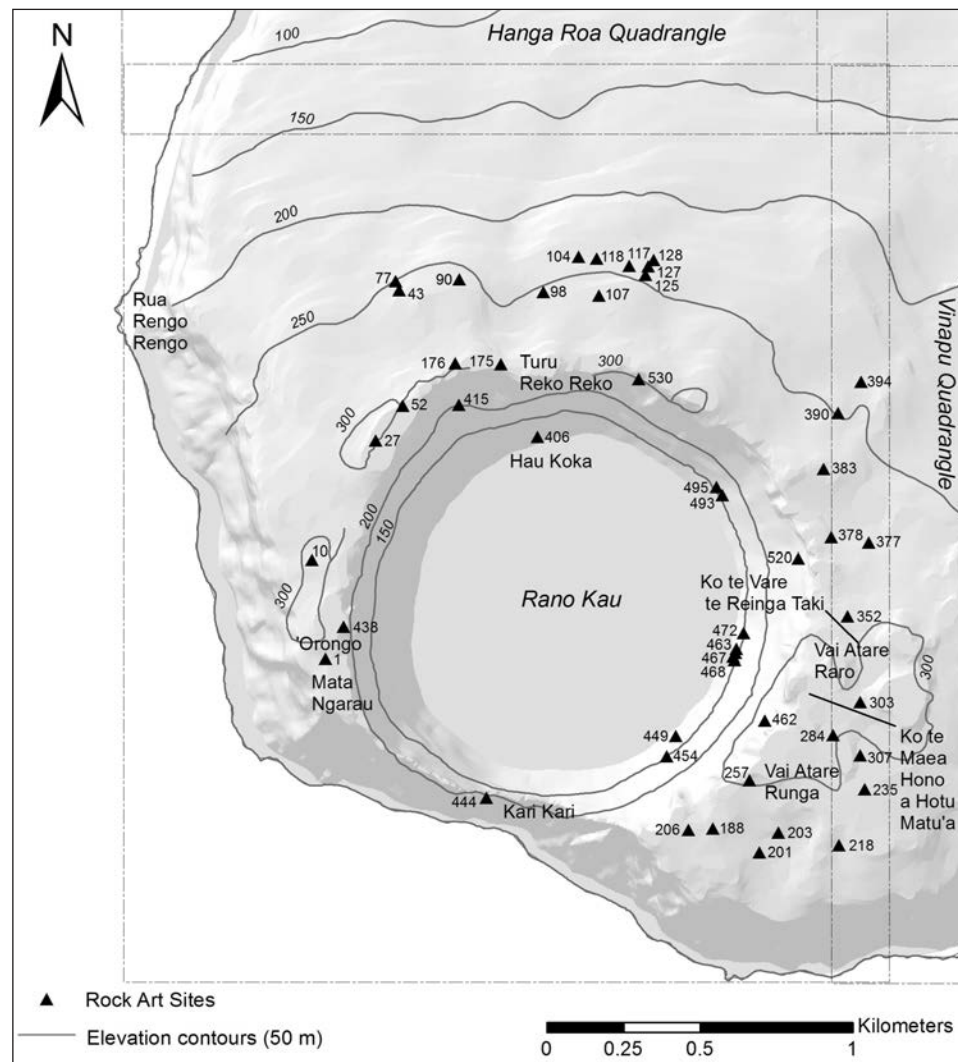


Figure 2. Locations of rock art sites and selected place names in the Rano Kau Quadrangle.

plausible, there is once again something missing from the description of the site. What Lee (1992, 2004) and the authors of this recent paper did not see or recognize is that the large boulder covered with rock carvings (see Croucher & Richards 2014:Figure 12.6 & Figures 11 & 12, this paper) is much more than a petroglyph panel; the boulder is the roof of a 'semi-subterranean' dwelling that once had a stone-lined entryway, and may have been the abode of a priest (*ivi atua*), as I will suggest later in this paper.

This paper has two general objectives. The first objective is to present locational and basic descriptive data for all 15 of the rock art sites, including one rare pictograph site, found in the 1968 survey of the Rano Kau caldera for the purpose of simply letting other researchers know what was found and recorded, with the added hope that this information might be useful in relocating the "missing" sites. The second objective is to analyze and interpret these same data for the purpose

of obtaining some understanding of the inscribed landscape of the caldera and its relationship to other places on Rano Kau, such as 'Orongo'.

The first part of the paper presents: (1) a summary of previous archaeological investigations in the Rano Kau caldera and the results of the 1968 archaeological survey, (2) a description of rock art recording methods, and (3) a brief discussion of some of the key theoretical and methodological issues in rock art research. The second part of the paper begins with a statement of specific objectives. The first part of the analysis that follows is focused on: (1) characterizing the 15 rock art sites in terms of their functional, geographic, and topographic contexts, and (2) examining the specific locations of the carvings and paintings (e.g., interior vs. exterior in the case of rockshelters), the kind of rock surfaces on which the rock art is found (bedrock vs. boulders), the number of panels, minimum number of motifs, and the number of motif categories using

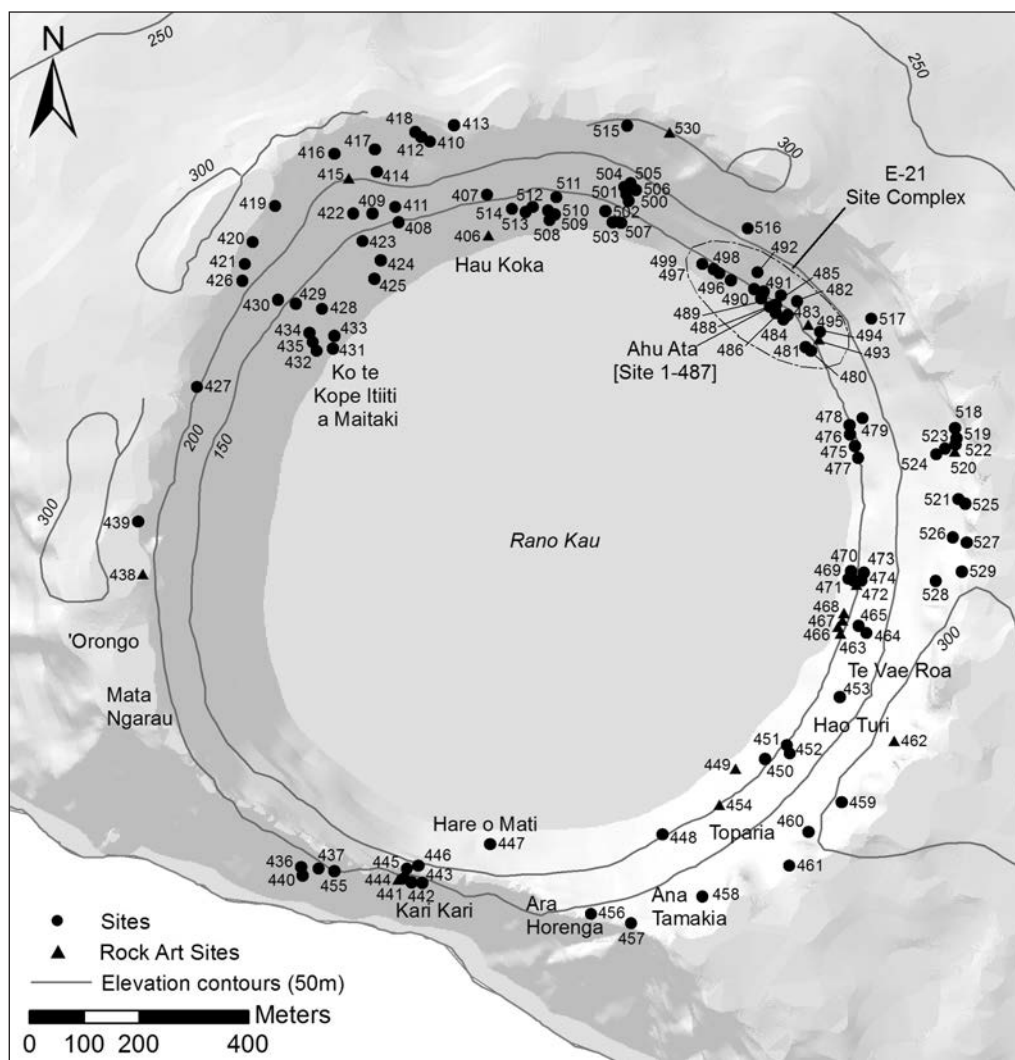


Figure 3. Plan view map of the Rano Kau caldera, showing site locations and selected place names.

Lee's (1992) classification. A more detailed motif analysis follows, starting with a description of each motif category and a listing of sites where specific types are found, and ending with a brief consideration of assemblage diversity. The paper concludes with a discussion of several major sites, including new perspectives on the two sites Lee documented, and tentative evidence for what might be a previously unknown ceremonial center similar to 'Orongo.

Previous Archaeological Investigations in Rano Kau Caldera

The first archaeological investigations in the interior of the ~1.6km wide, 200m deep caldera of Rano Kau volcano, one of three main volcanic centers on Rapa Nui (Baker 1967; Vezzoli & Acocella 2009), were undertaken by the Norwegian Archaeological Expedition (NAE) in 1955, when Thor Heyerdahl

conducted reconnaissance surveys that led to two important discoveries. First, he found an agricultural terrace complex with associated stone houses and several small rockshelters on the northeastern side of the lake that was subsequently designated Site E-21 by the NAE. Second, he found some masonry walled, slab-covered subterranean chambers below 'Orongo, which were not described or located on a map, however, and thus remain a mystery (Ferdon 1961b:321).

Ed Ferdon mapped the terrace complex and excavated four of six stone houses at the E-21 site (Figure 4; Ferdon 1961a, 1961b), which most likely include those seen by the U.S. Fish Commission Expedition in 1905 (Agassiz 1906:61, Plate 49). One of the houses was described as a 'semi-pit dwelling,' a house type that Ferdon noted was previously unknown on the island. Unfortunately, no radiocarbon dates were obtained from the excavations. Ferdon speculated that the E-21 site was likely to have been abandoned



Figure 4. View to the northeast from the lake of the E-21 habitation and agricultural site complex [center-right]; the stone houses excavated by Ferdon in 1955 are located along the perimeter of the open area, which was cleared of talus and partially terraced (photo by Herb Pownall).

between ca. AD 1680 and 1722 because of the absence of post-contact period European artifacts, but also noted that it might have been occupied later, based on an account from the La Pérouse Expedition of 1786 that described banana and paper mulberry plantations inside the caldera (La Pérouse 1799, Vol. II:332; see Horrocks et al. 2012 for microfossil evidence of other cultigens grown inside the caldera). It is possible that these gardens were part of a lakeside settlement occupied by families belonging to the Ngatimo and Miru clans, based on sketchy information gathered by Routledge (1919:221). A very late 18th century date for the abandonment of this settlement is possible, but it could have been even later. Heyerdahl (1961:79) suggested that the lakeside settlement may have been abandoned or forgotten by the time of the Geiseler Expedition in 1882, based on Gieseler's account of having not found anything of interest in his reconnaissance of the caldera (Ayres & Ayres 1995:181).

One curious omission from Ferdon's otherwise fine site report is any reference to petroglyphs. It is odd, because he included a photograph of a boulder with a carving of a large and very unusual splayed anthropomorphic figure (Ferdon 1961b:Plate 39d). The petroglyph and its possible significance is described more fully at the end of this paper in a re-assessment of the E-21 site complex.³

The 1968 Archaeological Survey of Rano Kau Caldera

The 1968 survey was the first archaeological fieldwork in the caldera since the NAE, and the first attempt to survey the entire caldera. The 1968 survey, conducted over a period of just 13 days between May 8 and June 3, was difficult, even dangerous, because of shifting boulders on steep talus slopes that exceed 30 degrees (Ferdon 1961b:314).⁴ The most precarious of all places is the narrow saddle at Kari Kari, on the south side of the caldera (Figures 2 & 3). The cliff area at the top of the crater wall and lower talus slopes bordering the lake, which is covered almost entirely with a floating mat of bulrushes (*Scirpus californicus*) called *nga'atu* (Métraux 1940:160), but more commonly known by the Peruvian name *totorá* (cf. Heyerdahl 1961:27), were easier to traverse and survey. Ground visibility was poor in many areas because of vegetation, little of which was cleared, however, because of time constraints. The one exception to poor ground visibility was a small area on the east side of the lake where some Rapanui families were tending gardens (bananas, grapes, figs), and where some of the native paper mulberry called *mahute* (*Broussonetia papyrifera*) was still growing. The E-21 site was completely overgrown and barely recognizable. While most of the stone houses on this

site were relocated, additional surface remains were found in the area, resulting in a decision to assign new site numbers. Sites 1-480 to 1-499 are located within or in close proximity to the E-21 complex (Appendix 1; Figure 3).

A total of 125 sites with 160 components, representing 10 different functional categories, were recorded in the survey (Appendix 1).⁵ Sites were found in all parts of the caldera, except for a rather large area on the western slope (Figure 3). The highest concentration is on the northern and eastern talus slopes, in a relatively narrow band along the edge of the lake. Several major site clusters were identified north and south of the E-21 site, the only previously described settlement complex inside the caldera. Fewer, more dispersed sites were found on the upper caldera wall and on the mid-elevation talus slopes (Figure 3). Unfortunately, none of the sites in the caldera have been dated, thus making it impossible to talk about either the age of specific sites, or changing land use patterns in the caldera as a whole (cf. Mulrooney 2013 for a discussion of Rapa Nui chronology).

The vast majority of sites consist of stone-banked terraces (n=88), which were classified initially as either habitation or agricultural (cf. Appendix 1), albeit with varying degrees of confidence (McCoy 1976:42-48, 78-82).⁶ The distinction between the two types was not absolutely clear in the field because of the general lack of stone house foundations and the paucity of commonly associated residential features, such as stone-lined earth ovens (*umu pae*), midden deposits and lithic scatters, which is undoubtedly due in part, however, to poor ground visibility. A small number of the habitation terraces have stone-walled houses on them, including those Ferdon excavated at the E-21 site, where the dressed curbstones of a *hare paenga* house foundation were also found (Ferdon 1961b:317, Fig. 84). The most common house form appears, however, to have been pole and thatch structures. In retrospect, it seems more likely that many terraces, particularly those along the lake margin, were used for both habitation and agricultural purposes. The site inventory presented in Appendix 1 shows a total of six sites that I believe contain both kinds of terraces; there are undoubtedly more.

Rockshelters (n=21) are the second most common type of site in the caldera. Three different categories of rockshelters are found in the caldera: (1) small niches called *karava*, used for storage and possibly other purposes; (2) natural overhang shelters called *ana*, located along the cliff face at the top of the upper caldera wall, just below the rim, and (3) a new category, unique to the caldera, which are herein called *boulder shelters* in place of the typological nomenclature I previously used (McCoy 1976:35-37). These are small, culturally modified spaces beneath large boulders. They might

be thought of as ‘opportunistic’ shelters that took advantage of the massive boulder talus deposits on the slopes of the caldera. One of these boulder shelters (Site 1-454) is named *Ana Toparia*, suggesting that all of them were probably referred to as a kind of *ana*, rather than a *karava*, although some are quite small. The use of the rockshelters appears to have varied, depending on the amount of floor space. Some were clearly inhabited, while others may have been used for storage. One of the overhang shelters (Site 1-529) located just below the rim of the caldera contained a burial, the only one found in the caldera (Appendix 1, Figure 3).

Only one, possibly two, stone chicken houses (*hare moa*) were found in the caldera, and the stone-walled garden enclosures (*manavai*), so common elsewhere on the island (McCoy 1976:23-29), were found at only three sites. A ceremonial platform named *Ahu Ata* was found at Site 1-487, which falls within the area Ferdon mapped as the E-21 site.⁷ The only previous known *ahu* was *Ahu Riki Riki*, located on the seaward side of Kari Kari before it collapsed and fell into the ocean (Englert 1948:533; also see Horley, this volume). Rock art, the subject of this paper, was found at 15 (or 12%) of the 125 sites that were recorded in the caldera (Appendix 1, Figures 2 & 3).

Rock Art Recording Methods

As Whitley notes in his *Introduction to Rock Art Research*, “Rock art recording, like all archaeological fieldwork is always selective” and “The data we choose to record when documenting a site depends on our research interests, site conditions, and other goals and agendas” (Whitley 2011:37). He goes on to make a finer point, that “All documentation involves choices, conscious or not, about what is important to record and what may reasonably be left out, given real-world constraints like time and money” (Whitley 2011:38). Time and money were major limitations that affected way the 1968 survey was conducted. The Easter Island archaeological survey, as originally conceived by Mulloy and Figueroa, was not problem-oriented (Mulloy & Figueroa 1966; Mulloy 1968; McCoy 1976:11). The goal was to simply compile a catalog of sites before more were lost to the needs of a growing population for more agricultural land and housing. Detailed plan mapping and excavation were not part of the survey, for example.

Virtually no thought was given to how the rock art found in the 1968 survey should be recorded.⁸ Motifs were sometimes sketched and measured, but the primary recording method was photographic. Some designs were covered with moss and lichen, but no effort was made to remove it, except at Site 1-406, where a small bit of moss was removed from the large

boulder in order to obtain photographs of some of the unusual petroglyphs of sea creatures (see Figures 11 & 12). Regrettably, some of the petroglyphs at a couple of sites were outlined with rocks by our Rapanui assistants prior to photography, thus giving the appearance that they had been chalked (see Figures 13 & 15). Every effort was made to stop this practice, which seemed common on the island at the time. No scale drawings of the kind commonly made by rock art specialists were prepared, and no effort was made to systematically record technique. The 1968 photographs and Lee's unpublished database (Lee 1989) indicate that the vast majority of petroglyphs in the caldera are pecked and abraded. A few are incised. The rarest technique, found only at Site 1-406, is intaglio (Lee 1992:164). Data collection in many instances was based on observations made during a single site visit. There is no question that more petroglyphs would be identified at some of the sites and that new rock art loci would be found during an intensive site survey of the caldera.

Theoretical and Methodological Issues in Rock Art Research

As noted at the outset of this paper, rock art motifs are extremely difficult to read or interpret in terms of their varied meanings, particularly when there is no ethnographic information on belief systems and worldviews (Smith & Blundell 2004). Interpretations are even more problematic when sites and motifs are viewed in isolation, rather than as part of the cultural landscape. Studies based simply on comparisons of motif designs fail to take notice of the fact that archaeological interpretations are not only theory laden; they are also heavily dependent on context, as Glassie (1975) and others (e.g., Hodder 1987, 1999; Hodder & Hutson 2003) have long insisted. In Glassie's words, "The relations that bind the object into its context endow the object with meaning. To explain the object the analyst needs to know something of its meaning, and to know its meaning he needs some understanding of its context" (Glassie 1975:116). But, as Glassie, a folklorist, also warns "loose colloquial use can trick us into employing 'context' to mean no more than situation. Then the power of the idea evaporates, and studying context we enlarge and complicate the object we describe but come little closer to understanding than we did when we folklorists recorded texts in isolation" (Glassie 1982:33). The problem is that there are many different kinds of context and meaning (Glassie 1982:33; Hodder 1992; Hodder & Hutson 2003:156-205; Barrett 2006), not all of which are observable or accessible. Glassie writes, "It is the archaeologist's frustration to be denied direct access to most contexts, for they are inward and transitory more than palpable and lasting; they are cultural more than material"

(Glassie 1999:48). Some archaeologists (e.g., Barrett 1987, 2006), including many rock art researchers, have abandoned the attempt to reconstruct or infer symbolic meanings or intentions, or to understand meaning from the indigenous point of view. But as Hodder remarked in reference to the contentious issue of getting into 'their' heads or minds, "I have never read an archaeological text in which some interpretation of what 'they' were thinking has not been a necessary part of the argument, however much it might be denied by the author" (Hodder 1992:17).

It is ironic that rock art is, by its very nature, "*landscape art*," (Whitley 2011:23), and yet, with some notable exceptions (e.g., Bradley 1997; Lee & Stasack 1999; Taçon 2002; Tilley 2004, 2010), rock art studies often do not include a discussion of landscape, either the surface on which it is carved or painted, or landscape as the "meaningful location *in* which lives are lived" (David & Thomas 2008:39). Landscape, as now widely conceptualized, is "neither exclusively natural nor totally cultural: it is a mediation between the two and an integral part of Bourdieu's *habitus*, the routine social practices within which people experience the world around them" (Knapp & Ashmore 1999:20; see also Thomas 2001:166). This is a perspective that Lee came to appreciate more fully in her later rock art research, in Hawai'i (Lee & Stasack 1999; Lee 2002), remarking in one paper "It is by understanding place marking, including rock-art, as ordered by world-views that people's relations with place can be approached" (Lee 2002:79).

How to understand the meaning of inscribed landscapes, when there is little or no knowledge of worldviews and no chronology, is a major theoretical and methodological problem or difficulty that will not be easily overcome. But I think many archaeologists today would agree with Bradley's opinion that "because rock art is such an obvious way of assigning special significance to a place that it is best studied as part of landscape archaeology" (Bradley 1997:213).

Classification, a key part of archaeological study, is particularly difficult in the case of rock art, which tends to be viewed primarily in stylistic terms (Whitley 2011:65). But there are many other ways that rock art can be classified, and as Whitley notes, "The way a corpus of rock art is classified is at least partly based on the interests, biases and concerns of the archaeologist" (Whitley 2011:66). One of Lee's primary interests was the distribution of motif types, so her study of Rapa Nui rock art began, as many studies do, with a provisional classification based on what she believed to be meaningful types from a non-native perspective (Lee 1992:30). I have adopted her typology in this paper for the sake of convenience, to maintain comparability with her motif types, and because I have no reason or basis to revise it.

Objectives

As Richard Bradley observed, “There is more than one way of studying rock art, and each affects the scale at which it is viewed,” and “If we are to understand the importance of rock art in the prehistoric landscape, our approach will have to be flexible, and the scale of analysis must be sensitive to the kinds of questions being asked” (Bradley 1997:90). The kinds of questions that can be asked and addressed are also dependent, of course, on the quality of data that are available for analysis. The 1968 survey data are woefully incomplete and, thus, inadequate for undertaking a formal analysis and addressing specific research questions aimed at understanding the structuring principles or rules that were employed. The data can only be used to begin addressing some of what Bradley sees as the necessary elements of comparative studies:

“What really matters is the relationship between three elements: the motifs that were selected for carving; the conventions by which they were incorporated into the different panels of rock art; and the placing of the carvings in relation to the local topography” (Bradley 1997:48).

The primary aim of the present analysis is to describe the functional and topographic contexts of the sites, and to present some data on motif types and distribution patterns, which I think are necessary first steps in understanding the making of the inscribed landscape inside the caldera on Rano Kau. Although it is not without its problems (cf. Hodder & Hutson 2003:112-121; Smith & Blundell 2004:241-244; Whitley 2011:177-179), I believe that a phenomenological approach (e.g., Tilley 2004, 2010) has something to offer in the interpretation of rock art sites. The paper includes a few preliminary observations on sightlines and the material properties of certain outstanding petroglyph panels.

The combination of more empirically based and phenomenological approaches is used to begin addressing the following questions:

- (1) Why are there relatively few rock art sites in the caldera, and why were the few known locations selected?
- (2) What does the diversity of motif types, or lack of it, suggest about inter-site variability in social and ritual practices?
- (3) What similarities exist between the motif types found inside the caldera and those found around the caldera rim at major rock art localities, such as ‘Orongo and Vai Atare (or Vai a Tare; lit. “the water of Tare”, the name of a god; Barthel 1978:224-225), where there are two water holes with the name (cf. Figure 2), and what does this imply?

The Rock Art Sites and Loci

The 15 sites in the caldera with rock art occur as both isolated sites and as components of habitation sites (cf. Appendix 1). The latter are referred to as loci, although I use *site* and *loci* interchangeably in this paper. The 15 sites or loci are widely dispersed. But there are also several clusters in the larger habitation/agricultural complexes on the edge of the lake (Figure 3). This pattern, and the corresponding lack of sites of any kind in much of the terrain, is important in beginning to understand a ‘sense of place’ in terms of how the Rapanui used the caldera. The paucity of rock art sites on the western side of the caldera is noteworthy. It suggests that this area was either little used, or that the sites have been covered in talus since they were abandoned. It is possible, for example, that the subterranean chambers Heyerdahl found below ‘Orongo (see above) have been buried by talus.

Site Associations, Geographic and Topographic Contexts

The rock art loci in the caldera were found in a number of different geographic and topographic locations and functional contexts. The majority of them are located within habitation sites (n=12); the other three are isolated sites (Table 1). As is always the case with surface rock art panels, indeed all surface remains, a direct association is difficult, if not impossible, to demonstrate because of the lack of suitable dating techniques to obtain so-called “absolute” dates for establishing the contemporaneity of surface remains (Whitley 2011:83). Where the rock art is located in a terrace wall, or on an architectural building stone, there is little doubt of an association. However, it is significant that of the 15 loci, only three were recorded as rock art sites rather than site components because of their apparent isolation.

Isolates

Three isolated rock art sites were identified. Two (Sites 1-415 and 1-462), which are herein termed “isolates,” are located relatively high on the caldera wall. The third site (1-449) is located on the southeast slope, ca. 20m from the edge of the lake (Figure 3).

Habitation Sites

There are two kinds or categories of habitation sites with rock art in the caldera: open sites located on terraces (n=3) and rockshelters (n=9). The rockshelters include both overhang shelters and what I have termed ‘boulder shelters’ (defined below). Table 2 summarizes the size, and presence/absence of prepared entryways, storage cists, earth ovens, midden, and artifacts in the nine rockshelters.

Table 1. Rock Art Site Associations and Locational Characteristics.

Site No.	General Location	Topographic Location	Functional Site Type	Formal Type	Place Name	Notes
406	north slope	lakefront talus deposit	habitation	boulder shelter	Hau Koka	Felipe Teao, one of the fieldworkers in the 1968 survey, claimed that this well-known site, located at the bottom of a path called Turu reko reko, is named Hare Koka ["the house of Koka"]; According to Uka Tepano Kaitoue (2015:124-127), the name refers to the kind of hat that Koka wore; Felipe and Santiago Pakarati said that Hau Koka was the "owner of the crater or lake"; the central focus of this site, a large boulder covered with petroglyphs of unusual sea creatures, is the roof of a dwelling; photographs taken in 1968 show that the main boulder panel had been defaced with carvings of initials; motifs recorded in detail in 1983 (Lee 1989, 1992:164-165)
415	north caldera wall	upper talus slope	isolate			recorded as an isolate, but it may be associated with an overhang shelter at Site 1-416 upslope
438	west caldera wall	cliff face	habitation	overhang shelter		this site is located below the 'Orongo ceremonial center; it was re-located and recorded in detail in 1986 by Keremo Ika (Lee 1989, 1992:163-164)
444	south caldera wall	saddle area on edge of sea cliffs	habitation	terrace	Kari Kari	the boulder at this site, which could be considered an isolate, is precariously close to the cliff edge and may have eroded into the sea; the petroglyphs, which are extremely weathered, appear to include the birdman motif; the site is one of several boulders with birdman motifs found around the perimeter of the caldera rim (e.g. Sites 1-175 and 1-176; cf. Figure 2)
449	southeast slope	lakefront talus deposit	isolate			this isolated site is located c. 20m from the edge of the crater lake; there are at least two boulders with unusual designs of various marine creatures
454	southeast slope	lower talus deposit	habitation	boulder shelter	Ana Toparia	Toparia is a place name for the general area of both sites 1-454 and 1-462; the rockshelter is named Ana Toparia; one source of information said the name referred to a woman "split down the center", or in other words, a woman with two bodies which might apply to the anthropomorphic image at site 1-454 that appears to be two contiguous bodies

Site No.	General Location	Topographic Location	Functional Site Type	Formal Type	Place Name	Notes
462	southeast caldera wall	cliff face	habitation	overhang shelter	Toparia	
463	east slope	lakefront talus deposit	isolate		Te Vae Roa	part of a cluster of three rock art loci on the lake edge, including 1-467 and 1-468; the place name, Te Vae Roa [lit. "large foot"], refers to the general area of this site cluster and may come from a petroglyph which resembles a large foot
467	east slope	lakefront talus deposit	habitation	boulder shelter		part of a cluster of three rock art loci on the lake including 1-463 and 1-468
468	east slope	lakefront talus deposit	habitation	boulder shelter		part of a cluster of three rock art loci on the lake including 1-463 and 1-467
472	east slope	lakefront talus deposit	habitation	boulder shelter		just north of the cluster of sites including 1-463, 1-467 and 1-468
493	northeast slope	edge of talus deposit & cleared area	habitation	terrace		the site, which is at the southern end of Ferdon's E-21 site and directly below site 1-494 [a habitation terrace], is a 28m long and 4m wide terrace; a large number of petroglyphs were found in the terrace wall and on several nearby boulders
495	northeast slope	edge of talus deposit & cleared area	habitation	terrace		this site is believed to be Structure 4 of Ferdon's E-21 site; two petroglyphs were found, one on a stone that was part of the dwelling and another on a terrace below the structure
520	east caldera wall	cliff face	habitation	overhang shelter		this site, located just below the rim of the caldera, is part of a cluster of sites, but the only one known to contain rock art
530	north caldera wall	cliff face	habitation	overhang shelter		this relatively isolated site contains the only known pictographs on Rano Kau, outside of Orongo; faint paintings of what appear to be birds, possibly the <i>manutara</i> and other unidentified motifs, were observed on the ceiling; it is likely that there are more paintings covered by lichen or moss; the floor of the rockshelter has been disturbed by livestock

Terraces

There are only three habitation terraces (Sites 1-444, 1-493, and 1-495) with associated rock art. At Site 1-444, located near the rim of the caldera at Kari Kari, the petroglyphs are on a boulder located above the terrace, near the exterior cliff edge. The site could equally well be regarded as an isolate. Sites 1-493 and 1-495 are part of Ferdon's E-21 site, located on the northeast side of the caldera, in close proximity to the lake (Figure 3).

Overhang shelters

The overhang shelters, of which there are four examples (Sites 1-438, 1-462, 1-520, and 1-530), are widely dispersed and in most cases spatially isolated (Figure 3). They are much larger than the other rockshelters (Table 2). Site 1-438 is one of the two sites that Lee relocated and mapped. Site 1-530 contains the only known pictographs in the caldera, more of which may exist, however. All four of these overhang shelters are (from my admittedly Eurocentric point of view) spectacularly located in terms of the views they offer across the lake, which may be one reason they were selected for use. They are also located in what appear today to be generally inaccessible and dangerous places. Whether the Rapanui would agree with these phenomenological observations, and the implications they have for the possible identity of those who used the rock overhangs, is unknown.

Boulder shelters

Of the 16 known examples of this localized variety of shelter, there are five with rock art (Sites 1-406, 1-454, 1-467, 1-468, and 1-472), all located in close proximity to the lake. Site 1-406, Hau Koka, is the only one on the north side of the lake. The other four are on the southeast slope of the caldera. Site 1-454 is a fairly isolated site. The other three are part of a fairly large cluster of sites in a place called Te Vae Roa (Figure 3).

All five of the boulder shelters are small, with floor areas typically less than 3-4 m², and ceiling heights 1m or less (Table 2). The entryways at all five sites have been enclosed with masonry walls, forming narrow crawlways that are sometimes difficult to access (cf. McCoy 1976:Figure 15). Several of the shelters have been disturbed by potholing. The disturbances have uncovered small quantities of midden, primarily marine shell. At Site 1-454, faunal remains were found in a stone-lined cist. The small size, presence of cists in at least one shelter, and sparse quantities of faunal remains and artifacts in most of them suggests they were used for storage. But then, they are not much smaller than some of the stone-walled houses at 'Orongo (cf. Thomson 1891:479; Routledge 1920; Ferdon 1961c; Mulloy 1975).

Motif Placement, Rock Surface Characteristics, and Panel and Motif Numbers

To fully understand an inscribed landscape requires going beyond simply describing geographic location and topographic context. Attention also needs to be given to the specific locations or placement of motifs in relation to the built environment and rock surface characteristics to determine whether any kind of selective behavior was involved in the choice of locations. The analysis and discussion that follows is aimed at examining in more detail what Glassie has called the particularistic context, which is "the phenomenal setting, the behavioral surface," as opposed to the "the abstracted context in the mind" (Glassie 1975:114-115).

To further evaluate whether there is any significant inter-site variability in the 15 assemblages, some basic quantitative data are included in the analysis. Table 3 summarizes the available data on: (1) motif placement or location for the nine rockshelter loci (interior vs. exterior), (2) rock surface characteristics (outcrop vs. boulder), (3) the number of identified panels, (4) number of motifs identified, and (5) the number of recorded motif categories at each site. Due to the limitations of the survey described above, the counts should be viewed as minimum numbers, especially in the case of the sites with multiple panels, where there is less confidence that all of the petroglyphs were found. The motif counts for Sites 1-406 and 1-438 are based on the information in Lee's unpublished database (Lee 1989). In the case of the rock surface data, there are some obvious geological factors involved in the distribution of boulder and rock outcrop panels since the lower outcrops around the lake are in many places covered in boulder talus, in contrast to the upper caldera wall, where bedrock exposures are common along the cliff face. On current evidence, it appears that the Rapanui who carved the petroglyphs in the caldera favored more rounded boulders over angular blocky slabs.

The petroglyphs at all three habitation terraces [Sites 1-444, 1-493, and 1-495] were carved on boulders. At Site 1-495, a petroglyph was also found on a building stone in one of the houses that Ferdon excavated in 1955. Site 1-493 has one of the highest numbers of identified panels (n=5+) and the highest number of individual motifs (n=10+) of all the sites in the caldera (Table 3).

The rock art identified at the nine rockshelters is evenly divided between exterior and interior locations, with only one site (1-438) containing motifs in both contexts (Table 3). The distribution of boulder and outcrop surfaces is also evenly divided (Table 3). At Site 1-468, the motifs [incised lines] were found on a stone in the walled crawlway (Table 3).

Table 2. Rockshelter types, general characteristics and associated features, midden and portable artifacts.

Site No.	Category	Floor Area (m ²)	Ceiling Ht. (m)	Walled Entryway	Cist	Earth Oven	Midden	Artifacts	Notes
406	boulder shelter	< 6	1+/-	+		+			vertically placed slabs were found lining the interior walls; the entryway has been disturbed but there is good evidence that it was at one time stone-lined and extended more than 2m beyond the natural opening; the earth oven was destroyed when the site was excavated by Rapanui residents in 1955 at the time of the Norwegian Archaeological Expedition
438	overhang shelter	< 8	1.15	+			+	+	In addition to the rich rock art, this site is of special interest because of the quantity and diversity of faunal remains, including crab, fish, marine mollusks and bird, and abundance of obsidian flakes
454	boulder shelter	< 3	1.15		+		+		the midden, consisting of bird bone and marine shell, was found inside a stone-lined cist
462	overhang shelter		3				+		there are several levels and "rooms" in this overhang shelter, portions of which have been excavated into a tuff deposit; marine shell was found in a pothole that according to Felipe Teao was excavated by Rapanui residents in 1955 at the time of the Norwegian Archaeological Expedition
467	boulder shelter	< 3	0.65	+					there is a low wall at the back of the shelter and one side of the boulder is also enclosed by a wall; the maximum ceiling height is 65cm; the opening is 50 x 50cm
468	boulder shelter	< 4	0.5	+					entryway is 50cm wide and 48cm high; the interior walls and entryway are all walled with flat basalt slabs (<i>keho</i>)
472	boulder shelter	< 3	0.5	+			+		the entryway is 40cm wide and 35cm high; there is an interior wall of horizontally stacked slabs (<i>keho</i>); some marine shell was found on the floor, together with sheep bones
520	overhang shelter	< 10	1.35			+		+	this natural shelter is roughly 5m wide at the front and 4m deep at the maximum, with a ceiling height of 1.35m; a rectangular earth oven was found on the floor of the shelter, along with some obsidian flakes
530	overhang shelter	< 10	2.5						this site, similarly situated as site 1-520, is a spacious overhang with a maximum depth of 4m, breadth of 3m and ceiling height of 2.5m; the floor has been disturbed by livestock but no midden or artifacts were observed; several faint pictographs were found on the ceiling; some are birds, possibly the tern called <i>manutara</i> ; it is possible that more paintings exist on the ceiling but may have been covered by lichen or moss.

Table 3. Motif placement, rock surface characteristics and panel and motif numbers.

Site No.	Motif Location	Rock Surface	No. Panels	No. Motifs	No. Motif Categories
406	exterior	boulder	6	23	4
415	n/a	outcrop	1	1	1
438	interior & exterior	outcrop	2	17	4-5
444	n/a	boulder	1	2+	2
449	n/a	boulder	2	4	2
454	exterior	boulder	1	1	1
462	interior	outcrop	1	1	1
463	n/a	boulder	1	1	1
467	exterior	boulder	1	2	2
468	interior	architectural element	1	3	2
472	exterior	boulder	1	3	1
493	n/a	boulders	5+	10+	5
495	n/a	boulder	1	1	1
520	interior	outcrop	1	1	1
530	interior	outcrop	1	6	2-3

Seven of the nine rockshelter sites have just one panel of motifs. The two exceptions to this general pattern are Sites 1-406, with six separate panels and possibly more, and Site 1-438, where there is a panel of petroglyphs on the rock facing outside the rockshelter and a group of cupules on the floor. The minimum number of motifs at the nine rockshelter sites ranges from one at Sites 1-454 and 1-462 to 17 at Site 1-438 and 23 at Site 1-406 (Table 3).

Motif Categories and Types and Assemblage Diversity

Lee's classification of Rapa Nui petroglyphs, based on the analysis of thousands of motifs from every part of the island, recognized 11 major categories and 61 types of motifs. A 12th category was created for unidentified carvings (Lee 1992:5). Seven and possibly eight of the 11 primary categories were found in the rock art sites in the caldera. The occurrence of each of Lee's categories and types is briefly described below and summarized in Table 4 by site. A brief consideration of assemblage diversity follows, based on Bradley's point that it is "rather unhelpful to compare motifs in isolation" (Bradley 1997:42).

Anthropomorphs [Type 1000]

Two types of anthropomorphic figures were found in the caldera: (1) frontal, full-body anthropomorphs [Type 1010] and (2) anthropomorphic features representing small statues or *moai* [Type 1020]. Métraux (1940:271) had earlier remarked on how few

human figures are represented in Rapa Nui rock art, and, indeed, when Lee published the results of her work, in 1992, there were just 23 known examples of the Type 1010 motif on the island (Lee 1992:51). Two of the examples Lee illustrated are located on Rano Kau, one at the 'Orongo ceremonial complex of Mata Ngarau, or Mata Nga Rahu, according to Tepano Kaituoe (2015:128), and the other at Vai Atare (Lee 1992:Figures 4.13 and 4.14).

A new and previously unrecorded example of a frontal, full-body anthropomorphic figure, possibly a new subtype, was found at Site 1-454 (Figure 5). This figure is of particular interest because of the place name for the locality, Toparia, which according to one oral account is the name of a woman "split down the center or middle," which might mean a woman with two bodies. And in fact the figure does appear to be split down the middle into two contiguous bodies.

Lee found carvings of small *moai*-like figures everywhere on the island, except for the Poike Peninsula (Lee 1992:54). One example of the *moai* type motif [Type 1020] was found at Site 1-493.

Anthropomorphic features, Disembodied [Type 2000]

This is one of the most commonly occurring motif categories on the island and in the caldera, where it was found at eight sites (see Table 4). The examples in the caldera include four of Lee's seven specific types (Lee 1992:34-35): (1) human heads with complete facial features [Type 2010]; (2) faces represented by a nose and eyes [Type 2020]; (3) an abstract kind of face described as an eye mask [Type 2030]; and (4) female genitalia, called *komari* [Type 2070].

Table 4. Distribution of Lee's motif categories by site.
Note: There is a second anthropomorphic figure at the E-21 site, probably located at either Site 1-493 or 1-495 (cf. Ferdon 1961b:Plate 39d).

Site No.	Anthropomorphs	Anthropomorphic Features (Disembodied)	Man-Bird Combinations	Birds	Marine Creatures	Ceremonial Objects and Ornaments	Geometric	Unidentified	Notes
406		+	+		+		+		Lee's team recorded a total of 23 motifs in 1983 (Lee 1989); exceptionally well-executed designs of various and unusual sea creatures, some with human faces; also present are motifs of more common species, such as tuna, two birdman images and a number of cupules (cf. Lee 1992:Fig. 5.41 and Lee 2004). 2 sets of parallel curved lines 1.2m and 1.4m in length; a common motif (cf. Lee 1992:119, Fig. 4.122).
415							+		
438		+	+		+		+	+	A member of Lee's team, Keremo Ika, recorded a total of 17 motifs inside and outside of the rockshelter in 1986 (Lee 1989, 1992:Fig. 5.40); the motifs include 4 or more birdman motifs, 2 different styles of the Makemake face motif, a possible octopus or crested rooster motif, circle and lines, and cupules; some of the carvings are bas-relief.
444			+					+	very weathered boulder with faint designs, including two that appear to be birdmen; there are more motifs that could not be identified.
449				+				+	the motifs include a whale or dolphin, similar to an example illustrated in Lee (1992: Fig. 3.9 no. 10), a possible turtle and what appears to be a sea creature of some kind, possibly an octopus with a human face; there are also several unidentified petroglyphs.
454	+								an unusual and probably new anthropomorphic figure of the full body, frontal view type; similar to yet different from the examples illustrated in Lee 1992:Figs. 4.12 and 4.13.
462		+							eye-nose variety of the Makemake motif; cf. Lee 1992:Fig. 3.6.
463							+		curvilinear lines that appear to converge; resembles a "foot".
467		+				+			<i>komari</i> motif and several images of a ceremonial pectoral called <i>rei miro</i> ; may be modern.
468		+						+	3 separate motifs, including 1 of three parallel lines and 2 that represent a variant of the female genitalia (<i>komari</i>) motif.
472		+							3 and possibly more motifs of female genitalia called <i>komari</i> .
493		+	+	+		+	+		a major rock art loci with a birdman, all three types of the Makemake face motif, a possible anthropomorphic figure representing a statue (<i>mout</i>), birds, an ornament called <i>tahonga</i> with a bird head, female genitalia called <i>komari</i> and cupules on a cut stone; some of the figures are very well made; others appear to have been made with a metal knife, possibly in 1955 at the time of Ferdon's work.
495			+						image of what appears to be some kind of anthropomorphic man-bird motif with head of a bird attached to a body.
520		+							image of Makemake on bedrock inside rock overhang.
530				+				+	paintings of birds, possible birdman, and several unidentified designs.



Figure 5. Site 1-454, a rare and possibly new type of anthropomorphic image on the roof of a boulder shelter named Ana Toparia; the opening to the shelter and a portion of the stone-lined entryway [left] are directly below (scale 1 meter, photo by Herb Pownall).

Lee recorded a total of 517 anthropomorphic faces [Types 2010, 2020, and 2030] on the island. The most common type ($n=260$) was the eye-nose face, which as Lee noted, sometimes has a distinctly phallic appearance, followed by the eye mask variety ($n=191$), and the fully human face ($n=66$). Lee noted that the individual types are not always easily distinguished, however, and that although all three varieties are commonly identified today as symbols of the god Makemake, the full face variety could actually be representations of human ancestors (Lee 1992:57; see also Routledge 1920:450). If all three types of faces are in fact symbols of Makemake, then what do the different stylistic variants mean and why are two or even all three styles sometimes found together on a single site, such as Site 1-438, where the eye mask style (see Figure 6 & Lee 1992:Figure 5.40) is found together with the nose and eyes style, and Site 1-493, where all three styles exist (see Figures 13-15)? There are no obvious answers to these questions, which in any case are beyond the scope of this paper. I have raised them simply to draw attention to the issue of stylistic complexity and the need for formal analysis of assemblages like those found at Sites 1-438 and 1-493.

Lee (1992:64) recorded some 564 examples of the female genitalia motif on the island, 66% of which were located on Rano Kau. Of the 564 recorded motifs,



Figure 6. Site 1-438, one of several Makemake faces [left] and a possible octopus or crested rooster motif [right] on the panel outside of the overhang shelter (scale 25 centimeters, photo by Herb Pownall).

334 were located at 'Orongo. An association with the adolescent initiation rituals performed there for girls seems clear. According to some accounts, the girls that participated in the *manu mo te poki* ("bird for the child") rites were taken to a place called Mata Ngarau at the southern end of the 'Orongo complex, where priests first examined their vulva (*komari*) and then carved a petroglyph as a symbol (Routledge 1917:353, 1919; Métraux 1940; Van Tilburg 1994:58). The *komari* motif was found at Sites 1-406, 1-467, 1-472 (Figure 7), and 1-493.



Figure 7. Site 1-472, panel with several carvings of the commonly depicted female genitalia (*komari*) motif (scale 25 centimeters, photo by Herb Pownall).

Man-Bird Combinations [Type 3000]

Unequivocal examples of the distinctive Rapa Nui birdman figure (*tangata manu*), which is generally believed to be an incarnation of the god Makemake (Métreaux 1940:309; Van Tilburg 1994:54), were found at five sites: (1) Site 1-406, where one is holding an egg (cf. Lee 1992:Figure 5.44); (2) Site 1-438, where Lee's team identified four in a panel on the outside of the overhang shelter (Lee 1992:Fig.5.40); (3) Site 1-444, where two very weathered, faint outlines were found on a boulder located precariously close to the cliff edge at Kari Kari (Figure 8); (4) Site 1-493, where there is one and possibly more on a boulder; and (5) Site 1-495, where a different kind of anthropomorphic figure with a bird head was found.

Lee (1992:36) described and illustrated two variations or styles of the birdman motif, which she referred to as Phase 1 (early) and Phase 2 (late). She found that the motif rarely occurred outside of the Rano Kau area, and that in fact 86% of the occurrences were from localities at or near 'Orongo (Lee 1992:66). So the presence of birdman images at five of the 15 sites in the caldera is perhaps not surprising, especially at Site 1-438, which is located directly below 'Orongo (Figure 3). It is possible, moreover, that the anthropomorphic faces [Type 2000] and birdman [Type 3000] motifs, which are commonly found together in parts of the 'Orongo site complex, are different representations of the god Makemake (Ferdon 1961c:252; Van Tilburg 1994:54).

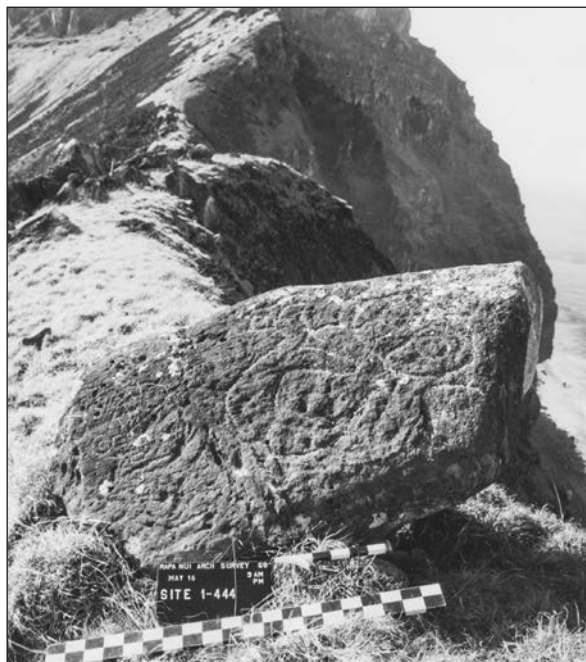


Figure 8. Site 1-444, boulder with faint carvings of what appear to be two or more birdman (*tangata manu*) motifs in the area called Kari Kari (scale 1 meter, photo by Herb Pownall).

Birds [Type 4000]

Petroglyphs depicting the tern [Type 4020] were found at Sites 1-493 and 1-520. Paintings of terns and other unidentified birds were found on the ceiling of the overhang shelter at Site 1-530. The tern motifs at all of these sites are similar to the designs found on the ceiling and walls of Ana Kai Tangata on the southwest coast (Figure 1) and on the house slabs at 'Orongo (Lee 1992:Plate 24 & Plate 26; Lee & Horley 2013).

Marine Creatures [Type 5000]

Lee included a variety of different animals in this category, such as fish, octopus, and turtle, which some rock art specialists might have called zoomorphic, and other more fanciful designs that she called "fabulous sea creatures" (Lee 1992, 2004). Three and possibly as many as five types of marine creature motifs were found in the caldera: (1) tuna [Type 5020]; (2) marine mammals [Type 5090]; (3) fabulous sea creatures [Type 5100]; (4) possibly octopus [Type 5060]; and (5) possibly turtle [Type 5080].

Site 1-406 (Hau Koka), regarded by Lee as "one of the most impressive collections of petroglyphs on the island" (Lee 1992:163-164), is the only known site in the caldera and one of just a handful on the island with the Type 5100 motif, a type characterized by a variety of hybrid forms of fish and birds, including some with human faces (Lee 1992:85, Figures 5.40-5.44). Lee described the site as consisting of six large petroglyph boulders and associated cupules and stone basins (*taheta*). The largest boulder was described as:

"covered with designs that swirl around the surface, forming an impressive work of art. There is a unity of design and style, suggesting the carving was done by, or under the direction of a single gifted individual. The designs are made in three ways: pecked and abraded, bas relief, and intaglio (fig. 5.41), the last being a rarity on the island. Petroglyph grooves are deeply carved and smoothed. The central figure in the panel appears to be a sea creature — possibly an octopus — with a human face, surrounded by strange elongated fish shapes and what seems to be a fish-bird combination" (Lee 1992:164).

Lee later identified some of the elongated fish as needlefish (Lee 2004:34). A very well made carving of a tuna [Type 5020] is also found at the Hau Koka site (McCoy 1968; Lee 1992:Figure 5.42).

Whale and dolphin designs, which are not always easy to distinguish, are another rare category [Type 5090] of petroglyphs on Rapa Nui. Lee reported only seven examples on the island (Lee 1992:85). A large petroglyph of what appears to be either a whale or dolphin was found at Site 1-449 (Figure 9). The only previously identified whale petroglyph on Rano Kau



Figure 9. Site 1-449, whale or dolphin motif [front center] and other petroglyphs on a large boulder near the edge of the lake (scale 1 meter, photo by Herb Pownall).

was found at Vai Atare. Lee interpreted it as a possible example of a whale in the process of breaching (Lee 2004:Figure 9).

Octopus petroglyphs [Type 5060] are also uncommon on Rapa Nui (Lee 1992, 2004). Lee's illustration of selected motifs from Site 1-438 shows what is either an octopus, or possibly a crested rooster (Lee 1992:Figure 5.40 & Figure 6 this paper). If the design is a rooster, as Lee suggested in her unpublished database (Lee 1989), it would indicate the existence of one additional motif category, terrestrial creatures [Type 6000], in the caldera. Another possible octopus motif was found at Vai Atare and illustrated by Lee (1992:Figure 4.60).

A possible turtle motif [Type 5080] was identified by Lee at Site 1-449 based on her examination of the photos taken during the 1968 survey (McCoy 1968). The comments in her unpublished database note the presence of distinguishing characteristics, such as a long head, internal marks, and front flippers (Lee 1989). Although more common than some other marine creature motifs, Lee's distribution map of turtle motifs on the island shows only three examples on Rano Kau (Lee 1992:Figure 4.64).

Ceremonial Objects and Ornaments [Type 7000]

Two of the four motifs that Lee classified as ceremonial objects or ornaments (Lee 1992:40, Figure 3.11) were found in the caldera: (1) a lunate-shaped breast ornament called a *rei miro* [Type 7010]; and (2) coconut-shaped neck ornaments called *tahonga* [Type 7020]. Both are rare according to Lee.

Several incised petroglyphs of the *rei miro* ornament, worn by women at dances but also men of rank, including chiefs (Métreaux 1940:230-231), were found at Site 1-467. The lines are unusually well-

defined and appear as if they might have been made with a metal tool, leading to the speculation that the motifs might be modern. Lee reported having recorded only 15 examples of the *rei miro* design, one of which was found in a cave on Motu Nui (Lee 1992:100-101).

A carving of what appears to be a *tahonga*, worn by women and men of rank (Routledge 1919; Métraux 1940:233), was found at Site 1-493. This particular example has the head of a bird. Lee (1992:Figure 3.4) recorded two examples of the *tahonga* motif at 'Orongo and one on Rano Kau. Although she did not specify the exact location in the published database (Lee 1992:Figure 3.4), the second example is almost certainly the one at Site 1-493 since she had copies of the 1968 survey photographs.^{1, 11}

Geometric Motifs [Type 10000]

Lee included a variety of different kinds of carvings in the geometric motif category, including cupules and lines of all sorts. Cupules [Type 10060] were found at four sites [1-406, 1-415, 1-438, and 1-463]. The parallel curved lines type [10020] was found at Site 1-415 (Figure 10). It is similar to one Lee illustrated from a site at Vai Atare (Lee 1992:Figure 4.123). Lee remarked that "Aside from cupules, these lines are the most difficult to detect because they closely follow the shapes in the rock and can easily be overlooked... Local informants stated that they represented a prayer for rain" (Lee 1992:119).

The data presented in Table 4 show a considerable range of variability in both the frequency of occurrence of specific motif types and the total number of motif types in the 15 sites. What does assemblage diversity, or the lack of it, tell us about the practices performed at each of the sites? There are a variety of different ways



Figure 10. Site 1-415 two sets of parallel curved lines, a common motif type on the island (scale 1 meter, photo by Herb Pownall).

of measuring diversity (Cowgill 1989), none of which are wholly appropriate to the kind of data currently available, however, because of uncertainties, especially in the case of Sites 1-406, 1-438, 1-449, 1-493, and 1-530, about the numbers of panels and/or motifs (cf. Tables 3 & 4). All that can be said at this time is that based on available data, the most diverse rock art assemblages, measured in terms of the known number of types or richness (Cowgill 1989:135), are located at three widely dispersed rockshelters (Sites 1-406, 1-438, and 1-530) and the habitation and agricultural complex at Site E-21 that includes Sites 1-493 and 1-495. The significance of these particular sites in understanding the caldera as a meaningfully constituted place is explored in the following discussion.

Discussion

As noted at the beginning of this paper, Georgia Lee naturally felt constrained in what she could say about the rock art in the interior of the Rano Kau caldera since she and her team had relocated just two of fifteen previously identified sites. In some ways, the situation has not changed much since Lee's 1992 publication, except that the meager data on all of the 15 known rock art sites have been described and analyzed for the first time in this paper. However, none of the 15 sites have been mapped and described in any detail, and there are still no dates for any of the sites in the caldera. There is, moreover, little understanding of the social, economic, and political contexts of the sites to use in interpreting the meaning of the rock art in the caldera. We are a long way from the goal of being able to show how the symbolic and other meanings of the carvings and paintings worked in practice, and thus understanding the making of the inscribed landscape.

A few general observations can be made about the rock art inside the caldera on Rano Kau. It is of interest, for example, that only 15, or 12%, of the 125 sites identified in the 1968 archaeological survey are rock art sites. Viewed solely in terms of the number of sites or loci, number of panels, and total number of motifs, the Rano Kau caldera would not rank amongst the major inscribed places in the Rapa Nui cultural landscape. Why is there so little rock art in the caldera and what does this imply in terms of how the caldera was experienced and lived in? There are clearly no easy or obvious answers to these questions, but focusing on numbers alone is unlikely to provide any further insights. What matters more in terms of understanding the caldera as a meaningfully constituted place are the functional and topographic contexts of the known loci and the specific motif types found at each loci and in the caldera as a whole.

The small number of loci suggests that rock art carving and painting was not part of the Rapanui *habitus*

of everyday social and ritual practices that took place in the caldera. The evidence points instead to a small number of widely dispersed places where a variety of ritual acts are inferred to have taken place based on specific motif types, which include a number of rare or unique types – mythological sea creatures, needlefish, whale/dolphin and possibly turtle, anthropomorphs, and ceremonial objects and ornaments, some of them symbols of rank (e.g., the *rei miro*) and/or directly associated with the rites at 'Orongo (e.g., the *tahonga*), as are the more common birdman (*tangata manu*) and female genitalia (*komari*) motifs found at a number of sites in the caldera. In addition, at least two of the caldera sites, Hau Koka and Ana Toparia, are connected with legendary figures.

While all of the sites are important for different reasons, there are five particular loci that are in my opinion key to understanding the social and ritual practices in the caldera. Two of these are located on cliff faces on opposite sides of the caldera wall (Sites 1-438 and 1-530). The other three are located on the lower talus slopes along the edge of the lake (Site 1-406, and Sites 1-493 and 1-495, which are part of the Site E-21 site complex). The relationship, if any, between these five sites is unknown. Each is distinctive in some way, but the presence of birdman petroglyphs at all of these sites, except for possibly Site 1-530, suggests a link to the seasonal ceremonies at 'Orongo.

The Pictograph Site (1-530)

Site 1-530 (Figure 3) is one of the few known pictograph sites on Rapa Nui. Unfortunately, there is no color photograph of the site, and the paintings that were seen and photographed in black and white in 1968 are not clearly visible. The six or so designs that were observed and sketched include a possible birdman figure and several different kinds of bird motifs, some of them closely resembling the painted designs at Ana Kai Tangata (Lee & Horley 2013) and 'Orongo (Lee 1992:Plates 24, 26; Horley & Lee 2009). Unlike Ana Kai Tangata and 'Orongo, there is no evidence at Site 1-530 of historic ship paintings (Lee & Horley 2013).

The paintings of birds at 'Orongo, Ana Kai Tangata, and Site 1-530 may be related to beliefs and practices concerning the departure of souls and gods of fertility as surmised by Handy (1927). He wrote:

"It is known that in Polynesia the departed souls of men and the gods were believed to reappear as birds. Is it possible that the observed departure and return, or passage, of migrating birds at certain seasons had something to do with the idea of the departure and return of ancestral deities and gods of fertility in the Fall and Spring, and in the belief in the presence or absence of the gods at certain seasons?" (Handy 1927:131).

Handy went on to outline some problems with this theory because of the normal direction of bird migrations, which do not correspond to the usual westerly direction taken by departed souls. In the case of Rapa Nui, however, we know that the birdman ritual was related to the arrival of the migratory sooty tern on Motu Nui during the austral spring (Routledge 1917; Métraux 1940).

As might be expected, Motu Nui was not the first or only habitat of migratory sea birds in the remote past. According to a legend recorded by Métraux, the gods Makemake and Haua intervened on several occasions to protect birds from overexploitation, moving them first to a place called Kauhanga, then to Vai Atare, and finally to Motu Nui, where “The birds remained in the place where no men were, therefore all was good for them” (Métraux 1940:313; see also Barthel 1978:225; McCoy 1978b:196). The location of Site 1-530 just below the north rim of the caldera, near Vai Atare, is of interest with regard to this legend, and another legend discussed in more detail below, that the first birdman ritual center was located on the opposite side of the caldera from ‘Orongo (Routledge 1917:352).

The location of Site 1-530 is of interest for yet other reasons. It is sighted directly opposite Kari Kari, the lowest point on the caldera rim (Figures 2 & 3). From the opening of the overhang, which is relatively isolated and secluded, there is an exceptional view of the vast ocean and world beyond. Site 1-530 would have provided an ideal place for priests to look and listen for messages from the gods in the cries of returning sea birds, and to possibly send off or await the return of the departed souls of men and gods (Handy 1927:129-130).

The Hau Koka Site (1-406) and Site 1-438 Revisited

In 1983 Lee and her assistants recorded 23 motifs of various types (see Table 4) on six boulders from the edge of the lake to ca. 40m upslope, and noted the presence of both cupules and larger stone basins (*taheta*) at Site 1-406, commonly known as Hau Koka or Ha’u Koka (Lee 1992:163-165; Tepano Kaitoue 2015). What Lee and the authors of a recent paper (Croucher & Richards 2014) did not realize and perhaps could not have known because of how disturbed the site is today, is that Hau Koka is a habitation rockshelter, one of several in the caldera with associated rock art, as documented in this paper.

According to a legend recorded by Uka Tepano Kaitoue, the site is named after a man, Ha’u Koka, who wore a kind of hat (*hau*) called *aringa koka* (Tepano Kaitoue 2015:124). In the legend, Ha’u Koka lived at this site with a servant named Nanai’a (Tepano Kaitoue 2015:124-127). Felipe Teao, one of the fieldworkers in the 1968 survey, claimed that site is also known as Hare Koka (“the house of Koka”).⁹ There is good archaeological evidence in support of

both the legend and Felipe’s claim that the boulder, which measures roughly 3 x 2m, was a ‘house’ or dwelling. On the lower side of the boulder, facing the lake, is a 1.1m wide opening. Here one side of the boulder is elevated above ground surface, resting on several support stones (Figure 11). It indicates that the living space has almost certainly been excavated and enlarged. The interior living area has a maximum interior breadth of ca. 3.3m and depth of 2m from the entrance to the rear wall. Three vertically placed basalt slabs were found on the rear wall of the shelter. We also found the remnants of a stone-lined entryway that extended at least 2.3m beyond the opening and that, according to Felipe, was at one time paved with flat slabs. This would have been the original entryway. There appeared to be the remnants of another pavement and old path below the opening. According to Felipe, some Rapanui people dug for artifacts to exchange with Heyerdahl during the Norwegian Archaeological Expedition in 1955, and in the process destroyed an earth oven (*umu pae*) that had formerly existed in a flat area ca. 10m below the shelter.

The evidence for an earth oven at this site, coupled with the presence of stone basins (see Croucher & Richards 2014:Figure 12.7) that might have been used for grinding or places to soak and pound paper mulberry (*mahute*) in the manufacture of tapa cloth supports the idea of a dwelling site, albeit a special one.¹⁰ I believe that this dwelling was very likely to have been the residence of a priest (*ivi atua*), who may not only have carved the petroglyphs of fabulous sea creatures that are undoubtedly associated with some myth or legend, as suggested by Lee (1992:164-165), but also performed

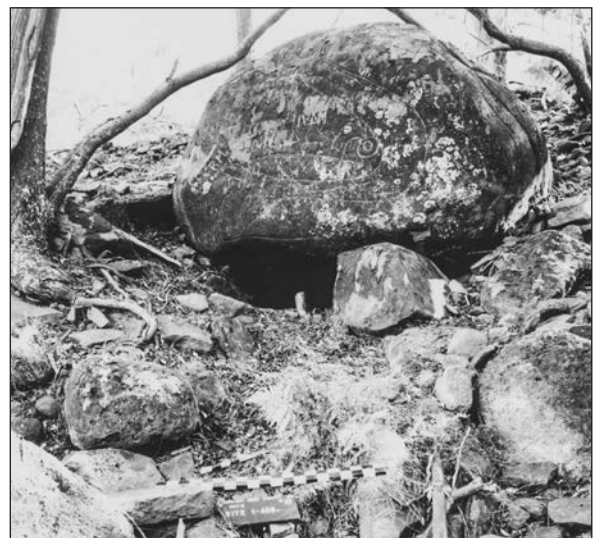


Figure 11. Site 1-406 (Hau Koka) view of the opening to the boulder shelter and some of the petroglyphs above, including motifs of sea creatures, a birdman, and modern graffiti (scale 1 meter, photo by Herb Pownall).

rituals associated with them and all of the other motifs, which include the *tangata manu* and *komari* designs also found together at 'Orongo. Lee (1992:10) noted that petroglyph carving and painting were activities undertaken by a priestly class of specialists. According to the information obtained by Routledge (1919:239), *ivi atua* included both men and women. They are said to have possessed "supernatural gifts, which included clairvoyance and the ability to prophesy and commune with *aku aku* spirits" (Lee 1992:10; also see Routledge 1919:239). Lee conjectured that they were probably *tapu* because they were the "temporary embodiments of the gods" (Lee 1992:10-11), which is similar to how Goldman described them in saying that they were "kinsmen of the gods, and according to Métraux, held a rank just below that of ariki" (Goldman 1970:113). Whether the petroglyphs at this site were carved by a priest or some other specialist is not known; in either case the person would almost certainly have possessed *mana* as clearly exemplified in the skill and knowledge evident in the quality of the executed designs (see Shore 1989:149-150).

The main boulder at the Hau Koka site deserves further comment. It is not only large, but also unusually rounded and smooth compared to many other boulders in the caldera on which petroglyphs were carved (Figures 11 & 12). The surface of this particular boulder provided a superb canvas for the carving of petroglyphs, which is probably the reason it was selected and the reason why it is covered in images, not all of which can be seen from any one angle. This has some interesting implications for how the panel was viewed and the matter of the 'audience' that Bradley has drawn attention to in his suggestion that rock art analysis could benefit from examining both the content and the intended audience (Bradley 1997:9). If the site was a sacred place, as suggested by Lee (1992:166), and if it was the temporary abode of a priest, who would have been *tapu*, it may be that there was no audience other than the gods invoked in whatever ritual practices took place here, which may have included use of the water from the lake in rites of purification and in the preparation of a special bark cloth.

Site 1-438, an overhang shelter located just below the rim of the caldera near 'Orongo (Figure 3), is the second of the two rock art sites that Lee's team recorded, but like the Hau Koka site, did not fully describe or illustrate. Lee's unpublished database (Lee 1989) indicates that she did not personally visit the site and that it was in fact recorded by Keremo Ika, probably because the site "is in a precarious location, high on the cliff walls. It is very difficult to reach because of loose talus and very steep caldera walls" (Lee 1992:163). The area behind the dripline is ca. 4.2m deep and 2.6m in maximum breadth, with a ceiling height of ca. 1.15m.

A number of small stone basins (either cupules or small *taheta*) and several petroglyphs are located inside the overhang on a bedrock exposure. The basins contained rainwater when the site was recorded in 1968. A significant quantity and diversity of faunal remains was found inside the shelter in 1968, including crab, fish, several varieties of marine mollusks, and bird, in addition to numerous obsidian flakes.

Lee (1992:Figure 5.40) illustrated nine of 17 total motifs that were recorded at Site 1-438 (Lee 1989). The petroglyphs include two different styles of the Makemake face and seven birdman (*tangata manu*) images, most of which are bas-relief carvings. They are similar to those found at 'Orongo, although not as well executed as Lee pointed out.¹¹ They appear more specifically to be examples of the early or Phase 1 style (cf. Lee 1992:36). Also present are carvings of lines and a circle and what Lee (1989) thought might be a crested rooster, although it also resembles an octopus as discussed earlier (see Figure 6).

The proximity of Site 1-438 to 'Orongo and the number of Makemake and *tangata manu* motifs found at this overhang shelter is further evidence that the activities associated with 'Orongo were not limited to the area mapped by Routledge (1920) and Ferdon (1961c). A previously unknown cluster of 33 earth ovens at Site 1-21, located ca. 500 meters north of what Ferdon identified as Complex A (Ferdon 1961c:Figure 137), was found in the 1968 survey. There is little doubt that these ovens are related to the 'Orongo festivities, since no ovens are found in front of the stone houses in Complexes B and C (McCoy 1976:22, 1978a). Assuming that the faunal remains and artifacts



Figure 12. Site 1-406 (Hau Koka) one of the sea creature motifs on the back side of the boulder shelter (scale 1 meter, photo by Herb Pownall).

at Site 1-438 are related to the petroglyph carvings, it is possible that this particular shelter may have been occupied by the servants (*hopu manu*) of chiefs who participated in the festivities at 'Orongo (Routledge 1917; Métraux 1940).

The E-21 Site Complex Revisited: A Possible New Birdman and Adolescent Initiation Rite Ceremonial Center?

The E-21 habitation and agricultural site complex investigated by Ferdon in 1955 appears to be even more significant than what he or anyone since that time has imagined. There is a variety of evidence suggesting that this complex may have been another ceremonial center, similar to, but much smaller in scale than 'Orongo. A presentation of all the evidence, which includes both archaeological and place name data, is beyond the scope of this paper. The focus here is on the rock art, which appears to have impressed Lee, although she did not see it in person.¹¹

As previously noted, Ferdon found some petroglyphs at the E-21 site complex during his work in 1955, which are not mentioned in his report, however. But he did publish one photograph of an anthropomorphic image on a boulder located below one of the agricultural terraces (Ferdon 1961b:Plate 39d). The image resembles a splayed anthropomorph with a Makemake-like eye mask and attached circular headdress. There are some similarities to the anthropomorphic figures at Ahu Naunau at 'Anakena on the north coast (Figure 1), except for the head (see Lee 1993:Figure 84). This may be a mythological creature of some kind.

The boulder that Ferdon illustrated is just one of many rock art panels that were found at Sites 1-493 and 1-495, some on boulders and others in terrace walls. The most interesting of the boulders is located at Site 1-493. One is covered with images of Makemake, a birdman, a *tahonga* ornament, and what appears to be an example of the anthropomorphic type design representing a *moai* (Figure 13). The total number and variety of motifs remains to be determined, but from all indications there are more on the sides and back of this boulder. The *tahonga* motif is of special interest because of its association with the adolescent initiation rites at 'Orongo, where Lee recorded two examples (Lee 1992:Figure 3.4). Métraux described *tahonga* as "wooden balls...apparently feminine ornaments worn around the neck, on the breast, and on the shoulders" and added that his primary informant, Tepano, "under the direction of old men, drew a figure of the *poki-manu* (initiated boy?) with *tahonga* hanging down his back. Tepano also told me that the king had the privilege of wearing six such pendants simultaneously" (Métraux 1940:233). Routledge (1919:Figure 114) published a drawing of a *poki manu* with two *tahonga* on the back. The *tahonga* design and *komari* motifs on other boulders suggest that adolescent initiation rites, similar to those at 'Orongo, might have also taken place at this locality.

Another boulder (Figure 14) has a number of motifs, mostly faces of the Makemake type from what could be seen. Several Makemake designs are also found in one of the terrace walls, together with a dressed stone (*paenga*) with cupules on at least two surfaces. One of the full-face motifs appears to be a bas-relief carving. The facial features resemble those



Figure 13. Site 1-493 boulder densely covered with petroglyphs, including a birdman, Makemake, *tahonga* ornament, and what appears to a *moai* motif (scale 25 centimeters, photo by Herb Pownall).



Figure 14. Site 1-493 boulder with faint carvings of the Makemake eye mask type motif (scale 25 centimeters, photo by Herb Pownall).

of a prominent bas-relief face painted with red and yellow pigment in a cave on Motu Nui (Lee 1992:Plate 28). Some of the petroglyphs in the terrace wall are partially hidden from view (Figure 15). Whether this was intentional or not is not known.

There are other boulders with bird motifs similar to the painted bird designs at ‘Orongo and Ana Kai Tangata (Lee 1992:Plates 24 & 26; Lee & Horley 2013). The execution of the figures on one boulder,



Figure 15. Site 1-493 section of terrace wall with multiple Makemake images, one appears to be a bas-relief carving [front center], other unidentified motifs, and a dressed stone (*paenga*) with cupules on several sides (scale 25 centimeters, photo by Herb Pownall).

which are slightly raised above the surface, is superior to most of the other rock art at this site (Figure 16). Felipe Teao and Rafael Rapu thought they may have been made with a metal knife, which would mean that they are most likely modern. Another possibility is that the petroglyphs are old but were embellished in the recent past.¹²

While Site 1-438, located in very close proximity to ‘Orongo, shows some kind of relationship to that ceremonial center and may have actually been a part of it as noted above, it is the E-21 site complex on the opposite side of the caldera that may have been even more closely related, at least conceptually, if not directly. The quantity and quality of some of the motifs and their inferred association in time with the stone houses and Ahu Ata, is a pattern reminiscent of the ‘Orongo complex, which is comprised of stone houses, an *ahu*, and outcrops covered with petroglyphs of human heads/faces of Makemake, birdmen, *komari*, and birds (Thomson 1891; Routledge 1917; Ferdon 1961c; Lee 1992; Horley & Lee 2008, 2009, 2012). The rock art assemblage at Site E-21 in fact closely resembles that found at ‘Orongo, which Van Tilburg (1994) characterized as consisting of juxtaposed symbols of both the birdman festivities and adolescent initiation rites. She observed that:

“from the standpoint of sheer repetition of symbols, the *komari*, the human head/face, the *tangata manu* and a few realistic bird images are the symbols most frequently used to give a sense of place and purpose to the ritual site of Orongo. It is these forms



Figure 16. Site 1-493 two bird motif petroglyphs, possibly modern [left] and similar examples [right] from a panel at the Mata Ngarau complex at ‘Orongo, that also includes carvings of Makemake, *komari* and a paddle (photo by Herb Pownall).

which must be regarded, therefore, as expressive of the principles and practices of Orongo ritual” (Van Tilburg 1994:58).

The question that now arises is what sense of place and purpose can be inferred from a similar constellation of symbols found outside of the ‘Orongo ceremonial center, and can ‘Orongo still be regarded as the only place where the annual birdman festivities and adolescent initiation rites were performed? Was there another ‘Orongo type ritual center on Rano Kau? According to one legend, the first festival of the birdman took place on the other side of the caldera, opposite ‘Orongo (Routledge 1917:352). Unfortunately, Routledge did not provide any details, so the specific location referred to in the legend is unknown. There are two possible locations, Site E-21 and Vai Atare on the east side of the caldera (Figure 2). Few of the sites I recorded in the Vai Atare area in 1968 have rock art motifs similar to what is found at ‘Orongo (see illustrations of selected examples in Lee 1992), and there are no stone houses similar to those at ‘Orongo and inside the caldera at the E-21 site (McCoy 1976). There are, however, several exceptionally well-made stone basins or bowls (*taheta*) at Vai Atare, including one with carved Makemake and birdman petroglyphs that must have been used for ritual purposes, in my opinion (Lee 1992:Figure 5.39; Horley & Lee 2009).

This new interpretation of the E-21 site complex leads to the further speculation that it was a chiefly complex, perhaps one belonging to the royal Miru clan, which according to some accounts was the only clan that had a chief (Routledge 1919:240-243; Métraux 1940:123). As noted earlier, the Miru reportedly had settlements in the caldera. Perhaps this elite clan, which is intimately connected to the birdman festivities and adolescent initiation rites at ‘Orongo, had a separate center of its own at some time in the past.

Final Remarks

While the collapsed caldera of Rano Kau volcano is a convenient analytical unit for archaeological analysis because of its unusually well-defined geomorphic boundaries, there is a certain danger in treating it as a place apart, as I have had to do in this paper for lack of space. It is not, of course. It should be obvious that to fully understand the archaeological record of the caldera requires a regional perspective and recognition that it is just one of innumerable places in the island landscape, which like all places “gather experiences and histories, even languages and thoughts” (Casey 1996:24). My own limited experience in surveying the landscape on Rano Kau almost 50 years ago led me to believe that the summit area, which rises to a height of ~310m above sea level and the low coastal plain to the

north, and is surrounded on three sides by high wave-cut sea cliffs (Figure 2), is a region quite unlike any other place on the island in terms of how it was used by the Rapanui (McCoy 1976:154).

Rano Kau appears to have been a region of comings and goings for primarily “special purpose” activities, for example: (1) the performance of various rituals, such as those related to fertility and rites of passage at ‘Orongo; and (2) resource procurement, such as the harvest of bulrush reeds and moss in the crater lake (Métraux 1940:160-161), and the manufacture of dressed stones (*paenga*) in the Vai Atare area (McCoy 2014). Caves in the sea cliffs on the outer edges of the caldera were used for burial, as well as places of refuge (Englert 1948:130). What is said to have been the last residence of the legendary king Hotu Matu’a, a round house called *Ko te Vare te Reinga Taki* (Site 1-332), is also located at Vai Atare, together with a monolith erected by the king (Site 1-318) called *Ko te Maea Hono a Hotu Matu’a* (Figure 2, Englert 1948:71; McCoy 1976:53; Barthel 1978:222-225; Lee 1992:156-157). The few permanent settlements on Rano Kau appear to have been localized to the water holes (Sites 1-273 and 1-310) at Vai Atare, and to the lower talus slopes at the edge of the crater lake (Routledge 1919:221; Métraux 1940:125; McCoy 1976, 1978a).

From a geological, environmental and archaeological perspective, Rano Kau stands apart from other areas of the island. It has its own ‘regional personality,’ to employ an old-fashioned term used as a metaphor by human geographers, and even some archaeologists, at a time when there was a strong but clearly oversimplified concern with environmental factors in the development of human culture (e.g., Evans 1992; Fox 1943).

Without further research and the development of a reliable chronology, little can be said about the sequence of events and making of the cultural landscape on Rano Kau. I hope this paper will encourage others to not only relocate the ‘missing’ rock art sites from the 1968 survey of the caldera, but to also conduct more intensive and systematic surveys and excavations using a landscape archaeology approach inside and outside of the caldera.

Acknowledgments

This paper is dedicated to the memory of Georgia Lee, who took up where Henri Lavachery’s pioneering work on Rapa Nui rock art in the 1930s had left off. Beginning in 1981, Lee and her assistants recorded, over a period of six years, thousands of motifs and thousands of cupules on the island. I have drawn heavily on Georgia’s work in this paper, a paper I regret not having completed decades ago, when it was initially begun and when it would have benefited most from her reading and critique.

My research on Rapa Nui in 1968 was done under the direct supervision of William Mulloy and funded by the International Fund for Monuments, Inc. [later changed to the World Monuments Fund], the National Endowment for the Humanities and the Government of Chile. Gonzalo Figueroa provided constant support during the fieldwork and afterward. The survey of the Rano Kau caldera was a team effort involving two Rapanui field assistants (Felipe Teao and Rafael Rapu); a surveyor (Mario Arevalo); a photographer and assistant (Herb Pownall and his son Paul), and myself. Going in and out of the caldera and traversing active talus slopes over a period of about two weeks was exhausting and sometimes dangerous, but exciting at the same time because of what we were finding. Mario and Herb in particular deserve the highest praise for their remarkable efforts. Felipe, who was familiar with some of the specific places in the caldera, and some of the place names and place-lore in particular, was of invaluable assistance. Felipe and Rafael not only helped with carrying the surveying and photographic equipment, but also found some of the smaller, easily overlooked sites and helped to identify many of the faint and obscure rock art designs. Margarita (Uka) Tepano Kaituoe obtained more place names and other information from several Rapanui elders, Santiago Pakarati, in particular. All who participated in the survey have my lasting gratitude for what they accomplished and for the experience of working together in one of the most remarkable and intriguing places on the island.

The paper would never have been completed without the assistance of my caring wife, Judy. She helped format the tables and read an early draft of the text. Sidsel Millerstrom and a second anonymous reviewer provided some very thoughtful and helpful comments that not only saved me from a couple of mistakes, but also offered some different perspectives on several petroglyph motifs. Special thanks goes to Mara Mulrooney, who kindly took time out of her insanely busy schedule to draft the maps, and to Antoinette Padgett for making available Georgia Lee's unpublished database for the Rano Kau sites and for her careful reading and copy-editing of the draft manuscript. Any remaining faults are mine alone, of course.

Notes

1. Dr. Lee and I started corresponding about her work in 1982, at which time I shared my field data with her, including photographs and a map showing the locations of 57 sites with rock art that I had recorded in 1968 in the Rano Kau Quadrangle, which includes 9 sites on Motu Nui. Relocation of the caldera rock art sites proved difficult and in the end Georgia and her team were able to find and document just two of 15 sites. Site 1-406

was recorded in 1983 and Site 1-438 in 1986. Georgia used the descriptions and photographs I had given her in the preparation of a motif database for all of the caldera sites, even though she and her team had not seen the sites in person and therefore could not confirm the accuracy of my motif identifications or her own additions. An abridged version of the database appears in Georgia's groundbreaking publication, *The Rock Art of Easter Island: Symbols of Power, Prayers to the Gods*. The complete, unpublished database, compiled in 1989 from Georgia's years of fieldwork on the island, contains a wealth of additional information on individual sites and is on file with the Easter Island Foundation. I have used the unpublished database in this paper to fill in some of the gaps in my own site records.

2. Apart from her meticulous documentation of 'Orongo and a few other previously identified petroglyph locales (cf. Van Tilburg & Lee 1987; ; Lee & Ika 1999; Lee & Horley 2013; Lee et al. 2016), Lee's research on Rapa Nui rock art was focused to a large extent on classification and the spatial distribution of motif types, rather than the study of contextual associations, although she did attempt to identify symbols of power and clan territory markers (Lee 1992). Her later work, in Hawai'i, was much more focused on rock art as one form of place marking.
3. In re-reading Ferdon's report on the E-21 site, I have gained new respect for the work that he accomplished, even if I don't agree with all of his conclusions or ideas about Rapa Nui house types and their cultural-historical relationships, or with his suggestion that the E-21 site complex owed its 'existence,' as he put it, to a shortage of agricultural land on the island and the consequent need for some of the less fortunate to begin living and farming on unstable talus slopes inside the caldera, where they would also have been more vulnerable to attack (Ferdon 1961b:321). Ferdon's map of the terrace complex should be extremely useful to future researchers. While site reports of this kind seem to be out of fashion today, there is no conceivable way I could have gleaned so much about this important site without it.
4. Reflecting back now, almost 50 years later, it is hard to imagine that we actually covered so much difficult terrain so fast, especially since the mapping equipment consisted of a plane table, telescopic alidade and hefty wooden tripod, while the photography was done with a 4 x 5 format camera mounted on a weighty metal tripod. Lugging all this equipment across steep, unstable talus slopes was not only tiresome, but dangerous, as large boulders would shift underfoot without warning. How great it would have been to have had small GPS units and digital cameras!
5. The 1968 survey also included the collection of place names and place-lore, little of which has been published to date. In addition to the talus slope and cliff face sites, there are places in the lake that were utilized by the Rapanui and bear names, only a few of which are now preserved (cf. Englert 1948:282; McCoy 1968; Tepano Kaituoe 1968, 2015). One particularly interesting place, which was not given a site designation, is a "find spot" near Site 1-484, where an obsidian core, flakes and a *mata'a* (the controversial artifacts commonly interpreted as 'spear points') were found on a floating mat of *nga'atu* reeds between pools of water. This is where the photograph in Figure 4 was taken. Flenley (1993:37) found an obsidian *mata'a*, (perhaps the same

- one?) on the lake years later. There are also names for two paths, one on the north side of the caldera called Turu Reko Reko, and another called Ara Horenga on the south rim, near Kari Kari. The northern path, which has been extensively altered and is probably in large part modern, leads to the Hau Koka site.
6. More intensive surveys and excavations will undoubtedly result in changes to the original functional interpretations. It is possible, for example, that some of the smaller terraces first thought to be habitation areas were instead planted in paper mulberry (*mahute*).
 7. This site was mistakenly identified as an agricultural terrace wall (McCoy 1976:Figure 35), contrary to what I had written in my field notes that included information obtained from Santiago Pakarati. According to Santiago, the primary source of place names and place-lore for the caldera, the *ahu* takes its name from a body of water in the lake called Vai Ata (Tepano Kaitoue 2015). Sonia Haoa Cardinali (pers. comm. 2016) has said she recently relocated this site and that there is no evidence of a statue (*moai*).
 8. Portable artifacts and rock art were of little concern in much of American settlement pattern archaeology in the 1960s. In 1968, I recorded 1738 sites in five survey quadrangles, some 135 of which contained rock art, including cave sites on Motu Nui. None of the rock art data were analyzed or published, however, except for one paper on the survey of Motu Nui and Motu Iti (McCoy 1968, 1976, 1978b).
 9. There is another Hare Koka at Hanga Hahave, on the south coast (Figure 1), that according to a myth collected by Métraux was the name of the house of the culture hero Tu'u-ko-ihu, who carved the first wooden figurines called *moai kavakava*. Métraux translated the name as "House-of-the-cockroaches" (Métraux 1940:260-261).
 10. Stone basins called *taheta* vary tremendously in size and form. Smaller ones are sometimes called cupules. The most common interpretation of the larger basins is that they were used to collect rainwater. This is a use that doesn't make sense in the case of Site 1-406, which is on the edge of a lake full of the sweetest and best drinking water on the island (Englert 1948:282). Felipe Teao (pers. comm. 1968) suggested that larger and deeper basins like those in the caldera were used to soak paper mulberry (*mahute*) as part of the process of making tapa cloth.
 11. Lee (1992:163) stated that the "design motifs are not finely carved but rather are close in concept and execution with the petroglyphs at Complex A [referring to an area at 'Orongo] and Ferdon's E-21." She did not record any of the petroglyphs at the E-21 site, but as noted above, she had copies of my 1968 field notes, including photographs of the petroglyphs at this site. It is interesting to note that Barthel, who also never saw the E-21 site in person but was familiar with Ferdon's work, thought that the petroglyphs on Rano Kau might hold the key to determining the function of the site (Barthel 1978:225). Why he thought this is unclear.
 12. In the course of the 1968 survey evidence of site disturbance was found at several places in the caldera, including potholes and modern petroglyphs, which are sometimes difficult to distinguish from older carvings. According to Felipe Teao, some of the excavations and additions of new carvings to old sites were done by Rapanui people in 1955, at the time of the Norwegian Archaeological Expedition.

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Appendix 1. Rano Kau Caldera Site Inventory.

Note: Sites 1-480 to 1-499 are located within or in close proximity to the E-21 site investigated by Ferdon in 1955.

Site No.	Agric. Terrace	Hab. Terrace	Rock-shelter	Earth Oven	Rock Art	Stone Basin	Chicken House	Garden Enclosure	Burial	Ahu	Unknown Function	Total Component Categories
406			x	x	x	x						4
407		x										1
408			x									1
409			x									1
410		x										1
411		x										1
412		x										1
413		x										1
414		x		x								2
415					x							1
416		x	x	x								3
417		x										1
418		x										1
419			x	x								2
420			x									1
421		x										1
422			x									1
423		x										1
424											x	1
425		x										1
426			x									1
427		x										1
428		x										1
429			x									1
430		x										1
431							x	x				2
432		x										1
433		x										1

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Site No.	Agric. Terrace	Hab. Terrace	Rock-shelter	Earth Oven	Rock Art	Stone Basin	Chicken House	Garden Enclosure	Burial	Ahu	Unknown Function	Total Component Categories
434		x										1
435		x										1
436			x									1
437			x									1
438			x		x	x						3
439		x										1
440											x	1
441		x										1
442		x		x								2
443			x									1
444		x			x							2
445		x										1
446			x									1
447		x										1
448		x										1
449					x							1
450		x										1
451		x										1
452											x	1
453			x									1
454			x		x							2
455		x										1
456		x										1
457		x										1
458			x									1
459		x										1
460			x									1
461	x											1
462			x		x							2
463					x							1
464	x											1
465			x									1
466		x										1
467			x		x							2
468			x		x							2
469		x										1
470		x										1
471		x										1
472			x		x							2
473		x										1
474	x	x										2
475	x	x										2

Site No.	Agric. Terrace	Hab. Terrace	Rock-shelter	Earth Oven	Rock Art	Stone Basin	Chicken House	Garden Enclosure	Burial	Ahu	Unknown Function	Total Component Categories
476	x											1
477		x									x	2
478	x											1
479		x										1
480	x	x										2
481	x	x										2
482			x									1
483	x											1
484		x										1
485		x										1
486		x										1
487	x									x		2
488			x									1
489			x									1
490		x										1
491		x										1
492			x									1
493	x	x			x							3
494		x										1
495		x		x	x							3
496			x									1
497	x											1
498	x	x										2
499								x				1
500	x											1
501			x									1
502		x										1
503		x										1
504	x							x				2
505		x										1
506		x										1
507	x											1
508		x										1
509							x					1
510	x											1
511			x	x								2
512		x										1
513		x										1
514	x											1
515		x										1
516		x										1

– continued over page

Site No.	Agric. Terrace	Hab. Terrace	Rock-shelter	Earth Oven	Rock Art	Stone Basin	Chicken House	Garden Enclosure	Burial	Ahu	Unknown Function	Total Component Categories
517		x										1
518		x										1
519		x										1
520			x	x	x							3
521												1
522		x										1
523		x										1
524		x										1
525			x									1
526		x										1
527			x									1
528	x	x										2
529			x						x			2
530			x		x							2
Total	19	69	21	8	15	2	2	3	1	1	4	160