



Integral Archaeology: Process Methodologies for Exploring Prehistoric Rock Art on Ometepe Island, Nicaragua

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ABSTRACT

A process-based approach to archaeology combines traditional third-person data collection methods with first- and second-person inquiries. Drawing from the traditions of cognitive archaeology, transpersonal psychology, and ecopsychology, this mixed-methods approach can be thought of as a movement toward a more holistic or “integral” archaeology. By way of example, a prehistoric rock art site on Ometepe Island, Nicaragua is explored from the inside (through the researcher’s lucid dreaming incubations) as well as in relationship with the researcher’s embodied presence (an exploration of environmental hermeneutics). These multiple perspectives can be seen to situate the researcher’s worldview and biases within the context of the study as well as perhaps lead to new questions about the significance of these cognitive artifacts. [cognitive archaeology, rock art, lucid dreaming, ecopsychology, ometepe island]



INTRODUCTION

This project was born out of my interest to explore the perceptual qualities of a prehistoric rock art site on Ometepe Island, Nicaragua. The rock art of Ometepe is as mysterious as the images found in the great Paleolithic caves in Europe. Mostly comprised of abstract designs, meandering lines, and whorls, the distinctive petroglyphs are carved onto volcanic basaltic boulders that pepper the

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FIGURE 1. MAP OF OMETEPE ISLAND, NICARAGUA.

slopes, and the reason why Ometepe has been called “the island of spirals” (Baker 2002:4). Archaeologists may never know what these images mean, and in fact, do not know with certainty who made them and when. Certainly several cultural groups were involved over many centuries, but due to the funneling of interest toward the Mayan, Aztec, and Incan territories to the north and south of Nicaragua, archaeologists have not found the funding even to adequately survey the cultural resources that lay at their feet (Figure 1).

The Ometepe Petroglyph Project, founded by archaeologist Suzanne Baker, has sought to remedy this oversight through the organization of volunteer archaeologists from around the world. Since 1995, Baker and company have surveyed and recorded over 80 petroglyphs sites totaling more than 1,700 boulders (Baker 2002). Baker’s (2009) dissertation is to date the most comprehensive analysis of rock art on Ometepe Island. The *Ometepe Petroglyph Project* conducted its seventh field season in January 2006, led by archaeologists Michael Smith and Jerry Doty, during which we recorded new petroglyphs and reanalyzed previous fieldwork recordation that needed additional information. During this month-long field session, I engaged in my own investigations of a rock art site after the day’s fieldwork was over. The methods and research presented here are not associated with the *Ometepe Petroglyph Project* or my field supervisors on the island, and chiefly reflect my personal experience while on the island. In essence, these methods during these private sessions utilized multiple cognitive frameworks besides standard archaeological observation to

expose my perception of the cultural features of one petroglyph boulder site on Ometepe Island.



THE PROBLEM OF ROCK ART

This project begins with the revolution of cognitive anthropology, which suggests that our minds shape the world as we perceive it, constructing a psychological reality (D'Andrade 1995:51). Cognitive archaeology goes a step further, assuming that these cognitive structures have material correlates (Pearson 2002:27). In other words, meaning is fundamental to the material record. Still, cognitive archaeology concentrates on only the exteriors (or products) of these mental processes. While we cannot blame archaeology for reifying material culture—as material culture is what the field knows best—there is also room for non-material, or phenomenological, explorations of the archaeological record.

Prehistoric rock art is a special case in archaeology because it resists contemporary archaeological methods. Dating petroglyphs and pictographs is difficult and sometimes destructive, although comparative ethnography, absolute dating and other relative dating techniques have had some successes (see Fagan 1998; Callahan 2003). When these kinds of analysis are appropriate, they are often too expensive to process. The most treacherous aspect of rock art analysis, however, is the tendency for researchers to project meaning onto the artifacts without realizing that these meanings may be tied to unstated assumptions about symbols and images. Historically, researchers have not tended to their own projections before embarking on this quest for meaning that is at the heart of all the social sciences.

Even the concept of “art” itself has its own historical biases, with many assumptions about why people might draw anything in the first place. For example, initially 19th century researchers could not believe that the fantastic Paleolithic art in the caves of Europe was thousands of years old. When most accepted this most unsavory premise, which flew in the face of social Darwinism, another stereotype emerged: that the only reason why such primitive people could make art was due to the abundance of game, in effect arguing for a mirror of contemporary society: that only leisured peoples can make art (Lewis-Williams 2002:42).

The problem of interpreting the significance of rock art sites becomes even trickier when there is no direct ethnography upon which to draw. Such is the case on Ometepe, one of several volcanic islands in the middle of Lake Nicaragua. While the island, with a surface area of 276 square kilometers, has been occupied almost continuously for at least the last two thousand years, the only remnants of these cultures lie scratched into the volcanic tuft boulders, or buried under successive layers of volcanic ash (Haberland 1992; Niemel 2002). Contemporary inhabitants on Ometepe have little cultural memory of pre-

Columbian times due to the history of ruthless colonization in Nicaragua, and the more recent population changes from the Nicaraguan Revolution in 1979. Some residual indigenous practices persist on the island, mostly in holiday processions and seasonal fiestas. Baker (2009:105) reports that the last tribal patriarch who claimed to know how to interpret Ometepe's rock art refused to explain to his source when asked in 1940. If anyone knows today, it is a closely guarded secret. The sparse ethnography of the region comes from a few 16th century Spanish documents, which described the Nicarao people of the Rivas region, which is directly West of Ometepe Island, as being sandwiched between Chorotega people to the north and south (Baker 2009:63). Ometepe is derived from the Nahuatl phrase "two hills"; however, the cultural make-up of the island in colonial times, as well as deep prehistoric times, is still contested and is largely a matter of conjecture.



TOWARD AN INTEGRAL ARCHAEOLOGY

The next step toward a more inclusive study of rock art sites involves not only incorporating new dating techniques, but also re-evaluating our status as "observers." If, indeed, we are limited in our observations by the projection of our lifeworld (or psychological reality) onto cognitive artifacts from another lifeworld, then what happens when we change our perception? We may or may not get closer to the lifeworld of the cultural creators, but a more well-rounded view of our own perspective is achieved. A more inclusive study of archaeological sites that reveal cognitive models and perhaps cosmological structures, defined as "sacred sites" by Brian Fagan (1998:6), augments the traditional objective lens of science with subjective and intersubjective analyses that account for the researcher's own states of mind and cultural biases. These considerations are most succinctly laid out by John Creswell's (2003) call for mixed method approaches in the social sciences. Also, this work is inspired by the work of transpersonal psychologist Ken Wilber (2003) and specifically his *Integral Methodological Pluralism*, which suggests that objective, or third-person data, represents only one way of knowing. Wilber's meta-approach marries Western humanist psychology and scientific materialism with the Eastern wisdom traditions, especially the cosmology of Buddhism. Materiality is considered only one aspect of reality; other considerations are how material things are reflected in awareness (phenomenology and introspection), in culture (hermeneutics), and how they connect to other material objects (systems approach or behavioral ecology). In a nutshell, these perspectives can be described as "I, we, it, and its." Central to a more integral methodological framework is the claim that multiple perspectives on an object of inquiry can only add depth to our analysis, and no perspective can be reduced as an epi-phenomenon of another (Wilber 2000:248). While this perspective ultimately eventually runs counter to the Western scien-

tific worldview,¹ which views materiality as primary, it is useful for anthropological applications such as describing a cultural system,² comparing religious worldviews,³ or viewing cognitive artifacts like rock art sites.

An integral approach to archaeology would converge both quantitative and qualitative data through the use of a concurrent method, using first-, second-, and third-person inquiries. This pilot study is much more limited in scope, focusing on the subjective (my dreams and perceptions) as well as the intersubjective (shared themes resulting from my interaction with the immediate environment, also known as *environmental hermeneutics*). In other words, this study does not add much to the literature regarding the exteriors of rock art sites (the designs themselves and their topographical relationships), but rather explores my perception of rock art and how these perceptions have affected and informed my ecological participation, and vice versa. This pilot study can also be considered an “imaginal research method” as described by anthropologist Iain Edgar (2004:7) as:

An active process in which the person “actively imagining” lets go of the mind’s normal trail of thoughts and images and goes with a sequence of imagery that arises spontaneously from the unconscious. It is the quality of spontaneity and unexpectedness that are the hallmarks of this process.

To be clear, these phenomenological methodologies are not meant to be an alternative to traditional fieldwork, but rather are complementary ways of knowing that enhanced my intimacy with one rock art site called *La Eternidad*. I make no claims as to the “meaning” of the rock art images on Ometepe Island, such as what these images represent on a symbolic or cultural level: that would be disrespectful of the art and a waste of readers’ time. This study is not an inquiry into meaning so much as an investigation into investigation, as well as an exploration into the role of intuition during observation. Intuition, a key concept in transcendental phenomenology which can be defined as being open to all of that which presents itself (Moustakas 1994:32), can be developed in a focused and scientific way. More than anything, the purpose of this paper is to show how intuition was honored by attending to my dreams and anomalous impressions in the field. The larger question this paper hopefully addresses: is it worth the trouble?



RESEARCH DESIGN

This study began by choosing a representative rock art site on Ometepe Island, where I recorded the cultural features with standard archaeological techniques, including photography, sketchings, and topographical mapping. This analysis was augmented by multiple visits to the site, known locally as *La Eternidad*

(Eternity), for about an hour each day. In particular, sittings were conducted with emphasis on body awareness meditation and environmental hermeneutics, which I will describe in detail in the section titled “The intuitive methods.” I also kept a dream journal throughout the month of January 2006, and applied the state-specific science of *lucid dreaming inquiry* (LDI) to investigate my relationship to rock art imagery in my nighttime dreams. “Incubating dreams,” a term that means to ask for a dream on a certain subject, has been successfully applied by scientists and artists for creative solutions for hundreds of years (Barrett 1993). Dream incubation created opportunities to explore how I envisioned the concept of rock art in general and the rock art of *La Eternidad* in particular. While this work could be presented more formally—for instance, showing how I used phenomenological data analyses to code themes and create narrative syntheses—I am presenting this work here to show how intuitive methodologies added depth to my experience. Whether or not these methods will lead to testable hypotheses is unknown, but I will conclude with some new possible directions in Ometepe rock art research formulated by these personal explorations as way of example.



A BRIEF CULTURE HISTORY OF OMETEPE ISLAND

Nicaragua is one of the least studied regions in Central America (Lange 1992:259). The area is known archaeologically as the “Intermediary Zone,” because of its location between the Mayan polities to the north and the Incan to the south. The impressive monumental architecture of those regions has always attracted investigators, and the lack of comparative architecture in Nicaragua has banished the country’s ample cultural resources to relative obscurity. Debate rages on the relative influence of Mesoamerican cultures on Nicaraguan prehistory, and a general timeline for the movement of various peoples into Nicaragua, such as the Chorotega and the Nicarao, is still lacking consensus (Lange 1992:273; Baker 2009:35).

On Ometepe Island, these movements are even less understood. The earliest phase of culture on Ometepe appears to be around 1,500 B.C. (Baker 2009:255). Judging by what little archaeology has been done on the island, there appear to have been close to a dozen different culture groups on the island throughout the last three millennia (Baker 2009:52). Often, cultural layers in the soils are separated by dramatic layers of volcanic ash, up to 55 centimeter thick (Haberland 1992:70), indicating a dramatic environmental complication to prehistoric settlement patterns.

In general, the peoples of Ometepe Island were aquatic farmers and horticulturalists, with evidence of maize production extending back at least two thousands years (Haberland 1992:75). Grave goods are rare, but one cemetery, dating to 1,000 A.D., revealed burials with polychrome pottery, figurines, and in-

cense burners. One burial also contained a bone tube as well as an egg-shaped green stone, leading German archaeologist Wolfgang Haberland (1961:158) to speculate that the grave marked a shaman or medicine man. This cultural tradition, known as the San Roque Phase, represents the peak of cultural development on the island (116), and is contemporaneous with the development of permanent settlements on the shores of Lake Nicaragua (Niemel 2002:273).

The rock art on Ometepe is the island's most distinctive cultural legacy. As Baker (2009) suggests, assuming that rock art has a cosmological or religious function, "the sheer numbers and density of petroglyphs very clearly indicates that Ometepe Island and particularly Maderas [southern side of island] contained a ritual landscape of great significance to the people who lived on the island, and perhaps to others throughout Central America who came to the area for multiple purposes" (240). The largely abstract curvilinear motifs of the rock art fit in with the Central American rock art tradition to the south, but formal Mesoamerican influence is considered shallow (241). Given the general paucity of excavation on Ometepe Island, there are many unknowns concerning the association of rock art sites with domestic or burial sites. However, rock art boulder sites are sometimes found in close association to domestic features such as large mortars, grinding slicks and ceramics, as well as in association with mound sites, while many others are found in isolation of any other discernable feature (Baker 2009:117). According to Baker's (2009:127) extensive quantitative analysis, the number of petroglyphs per boulder site averages 7.9.

To reiterate, the group, or groups, responsible for making the rock art on Ometepe Island are not well understood. In the 16th century, the Spanish Conquest was responsible for a catastrophic population drop through war, disease, and the Nicaraguan slave trade. Because of this emptying of Nicaragua, there are few ethnographic parallels to prehistoric cultures on Ometepe Island, and the archaeology remains largely unexplored. The regional rock art of the Atlantic watershed of Nicaragua is also largely unknown. Mystery remains the only certainty.



SITE DESCRIPTION

Ometepe Island is the largest island in Lake Nicaragua, also known as Lake Cocibolca. The island is shaped roughly like a "figure 8," formed by two volcanoes jutting out of the largest inland body of fresh water in Central America. The site I investigated is a boulder cluster with petroglyphs *La Eternidad* (Eternity), recorded formally as N-RIO-58, located on the Southeast half of the island, on the slopes above a small village (Figure 2).

The dense boulder cluster consists of over 20 basalt stones on a 10 percent north sloping gradient. Sitting on the lower slopes of the volcano Maderas, 152 meters above sea level, the site is in a young stand of mixed deciduous trees with



FIGURE 2. LA ETERNIDAD IS A TYPICAL ROCK ART SITE ON OMETEPE ISLAND, FEATURING NUMEROUS PETROGLYPHS AS WELL AS SOME CUPULES OR SMALL MORTARS.

a moderately dense under-story of saplings, low brush, and vines. The boulder cluster is roughly 10 meters square, its north edge located three meters from the interpretive trail. The site is also located 53 meters away from another large petroglyph site on a boulder cluster.

The majority of petroglyphs at *La Eternidad* are curvilinear designs and meanders. Spiral designs are also numerous. The other main categories are represented by one or two designs, including zoomorphic, rectilinear, anthropomorphic, and some which are too eroded to discern. The site also has a dozen or so small bedrock mortars, also known as cupules. Several boulders have four or more cupules in close proximity.

I visited the site in the late afternoons, when humidity waned and the mosquitoes were out. Insects known as cicadas began their drone during my visits, too, while green parrots and blue huaracas flew overhead. The sun glanced in from the hill, creating shadows and excellent opportunities to view the chiseled marks on the tuft boulders. Once, a pair of howler monkeys came by, munching on leaves as they walked the trees and murmured to each other. The stalks of these munched leaves accumulated in the cupules over time. I ended my sessions when I saw the first bat of the evening, about 20 minutes after the sun had set. I always walked away more peacefully than when I had arrived.

■

THE INTUITIVE METHODS

The two complementary archaeological methods described here are environmental hermeneutics and lucid dream inquiry. These methods will be briefly described and then the resulting themes resulting from these two ways of seeing

(dayworld and nightworld) will be explored. “Themes,” in the way I use the word, is a literary term derived from phenomenology (Moustakas 1994:122), referring to the resulting topics that emerge from my data analyses of both the dreams and the field journals.

Environmental Hermeneutics

On site at *La Eternidad*, I engaged in a practice of nature observation that combines contemporary naturalist practices with body awareness meditation. In *Earth Memory*, writer Paul Devereux (1992:68) suggests that observations “can only be made by the observer becoming immersed in the sites, their positioning and their ambient topography.” Devereux calls this method *Being and Seeing*, which requires prolonged visits to the site; as well, “just being present at a site and being open to the receipt of whatever information the site may be yielding” (34). Note the similarity of Devereux’s method with the phenomenological method in terms of the goal of promoting *intuition*, or remaining open to all that is present (Moustakas 1994:32).

This inspiring philosophy was paired with a rigorous method of multiple, daily observations at the petroglyph site. The method has two parts. Following Andy Fisher (2002:60), I adapted Eugene Gendlin’s (1981) *focusing* technique to first become more attuned to emotions and how they show up in the body. By asking myself, “What is going on with me right now?” I was able to consciously acknowledge the vague bodily discomforts that I usually ignore. Just a few minutes of this attention can produce a clearer frame of mind that is more “here and now,” therefore minimizing inappropriate mental projections.

In the second step of the process, I shifted my attention to include the world around me. This practice of environmental hermeneutics, or nature awareness, was popularized by naturalist Jon Young (1996), adapted from Tom Brown (1986) and the indigenous practices of Native Americans in the Iroquois Nation. In brief, this is a quiet sitting posture with alert eyes but soft gaze, also highlighting the other senses as well as bodily reactions. Thoughts are noted but attention remains on the here and now. Ecopsychologists often call this work the development of the ecological self (Naess 1985; Roszak 1995) or participating in the world unconscious (Aizenstat 1995:96). In most natural settings, it takes about 20 minutes of quiet unobtrusive sitting to arrive at what Jon Young has termed *baseline consciousness*. According to Young (1996), this is the length of time that the birds, the guardians of the peace, require before going about their everyday lives after an intrusion. During this process, I journaled my thoughts and observations in a small field notebook.

In terms of rock art perception, this work allows for subjective and intersubjective themes to arise among myself, the rock art, and the perceived environment. The focus on the body is crucial as a step away from “in your head” analyses that undercut direct, lived experience. How is this work an intersubjective, or second-

person, method? Phenomenologist Joseph Grange articulates this concept through his adoption of Merleau-Ponty's phrase "Flesh" in lieu of "body." He writes, "Flesh and place form a matrix of value" (1985: 72). In phenomenological language, the questions I am asking here are "What did my flesh learn about rock art and its relationship to the immediate environment?" and, "Which themes arose through my embodied participation at the site?"

LDI

In terms of the perception of sacred sites, this dream incubation method addressed the question "How do I experience rock art sites in my imaginal awareness?" This use of lucid dreaming is highly experimental, with foundations in Charles Tart's (1972) exposé on the necessity of state-specific sciences in the field of consciousness studies. In brief, a lucid dream is an experience in which the dreamer comes to know "this is a dream" while still firmly located within the confines of the sleep state (LaBerge 1985). Paradoxically, a lucid dream more closely resembles our waking state than the dream state, not only physiologically but, more relevant for this study, also in terms of *volition*. Lucid dreamers, to a greater or lesser degree, have the ability to consciously make choices in the dream, and sometimes to steer the dream content and even mentally manipulate dream objects and settings (LaBerge and Rheingold 1990:3).

LDI is a novel method to use in conjunction with traditional archaeological investigation. However, its relevance becomes clear when considered against the backdrop of the postmodern critique of science, which seeks to contextualize the researcher within the study (Creswell 1998:79). What are the researcher's desires, intentions, and cultural biases? Especially relevant for the study of visual imagery, contextualization can reveal the researcher's mode of seeing, or the ontological grounds upon which perception is built.

Although the significance of dreaming is widely debated in the social sciences, most researchers agree that dreaming reveals more than it conceals (Van de Castle 1994; Domhoff 1996:189). Dreaming is studied by many groups, in many contexts, precisely for its uncanny ability to reveal desires, intentions, and biases.⁴

However, lucid dreams are considered to be categorically dissimilar to regular dreams. While some researchers, such as LaBerge (1985), emphasize the similarity of lucid dreaming with the waking normative states, other researchers define lucidity as an altered state of consciousness. For example, medical anthropologist Michael Winkelman (2000:135) writes that lucid dreaming exemplifies a "shamanic state of consciousness" in that it "integrates the potentials of dreaming and waking consciousness." Also, transpersonal psychologist Harry Hunt (1985) emphasizes the similarities between lucid dreaming, out-of-body experiences and insight meditation, in that all three "involve the appearance of and gradual stabilization of a capacity for an inclusive, observational attitude (broadened sense of perspective) in the midst of ongoing

involvements” (117). Both of these categorizations of lucid dreams—as close to normative consciousness, and as a meditative state—can be true, as lucid dreaming is a wide-ranging, culturally mediated phenomenon.⁵

Another major theoretical emphasis for this work is the continuity theory of dreaming, best articulated by Domhoff (2001). This theory posits that the content of dreams largely reflects current waking concerns and emotional long-term memories. Tracey Kahan and Stephen LaBerge (2010) have extended the continuity theory to illustrate the similarity of cognition styles in waking, dreaming, and lucid dreaming. In other words, not only do we ordinarily dream about the same people, objects and events that are important in our waking lives, but also we appear to exhibit continuity in terms of the range of our thinking abilities (e.g., high-order skills of choice, planning, and focused attention). Relatedly, anthropologist Barbara Tedlock (2001) has argued in her “new anthropology of dreaming” that dreaming is a communicative event that anthropologists can investigate while in the field to help integrate their experiences. As the postmodern critique of science has revealed that objects of inquiry are pre-determined by the perspective of the observer (Wallace 2000), the application of lucid dreaming has a promising vista, providing a researcher with the chance to view objects of inquiry from different vantages, providing depth and multiplicity.

Elsewhere, I have suggested that lucid dreaming is a secure container for the practice of auto-phenomenology, and as such can be an opportunity to pay attention to the spontaneous emergence of dream content (Hurd 2008). This time, however, the protocol was viewing specific dream content, not spontaneous content. Primarily, my method called for the incubation (or intentional calling)⁶ of lucid dreams about the concept of “rock art” so that I could practice phenomenology in the dream.

By journaling or reading about the subject before bed, as well as repeating daily “I am aware” when I gazed at rock art features in my daily visits, the cognitive links between dream awareness and rock art sites were established. The intention to view a rock art site was established at the beginning of lucid dream sequences until I found myself in contact with the images or on the scene of a boulder site. I did not search specifically for a dream version of *La Eternidad*, as that could start a game of cat and mouse in my dream. Rather, I set the intention and accepted what showed up. From there, a soft stance of dream witnessing⁷ and participation was attempted, my applied interpretation of phenomenological epoché.⁸ This process is about becoming aware of one’s beliefs coupled with an attempt to suspend these beliefs in order for observable phenomena to arise. The dreams were jotted down on scrap paper after I awoke, sometimes by flashlight, and then more fully fleshed out when I had time, usually in the mornings before breakfast or other free time during the day.

While staying on Ometepe Island I encountered prehistoric rock art in the dreaming landscape on six different nights. The resulting dream entries were given titles, retyped, and then rock art passages were compiled. More of an art than a science, this method of phenomenological reduction involved looking for patterns and repetitious phrasing in the dream reports, and constructing themes based on these patterns. Again, it is beyond the scope of this paper to present all the data analyses of this method, but rather to reveal what I learned from this auto-phenomenological method.



THEMES FROM THE INTUITIVE METHODS

Exposing Biases

The most important theme that resulted from this study is that my field notes and lucid dreams contain biases—and reveal worldviews—that I carry with me about “rock art sites” as a concept. Three biases were discovered: visual, tactile, and cognitive.

Visual bias. The first bias is that rock art images are *visual art*, and as such are meant to be seen. This is a Western perspective rooted in centuries of history. Rock art is not necessarily even “art,” something to be admired as a final product, and from a distance. As Ernst Gombrich suggests, “There is really no such thing as art. There are only artists” (Lewis-Williams 2002:45).

The way we look affects what we see. In my everyday life, I tend to be focused, and use my concentrative skills to see objects and concepts in isolation. This is the Western way, the way of logic, which we can loosely define as a sense of knowing by creating isolation and distinction between parts in the whole. While my field method of nature observation included a “soft-focus” stance, my dreams taught me how to make this concept a reality. In one dream,

I see a [rock art] design [on a boulder] out of the corner of my eyes, but it disappears when I focus on it. Then I think I see another, a small spiral pecked design, but it too disappears when I look directly. I notice then what's happening, that the designs are everywhere, all over the rocks, but only at the periphery of my vision. They blip in and out of existence at the edges of my visual field as I scan the rock faces—an amazing effect. [Personal Journal: Lucid Dream Texts, January 15, 2006].

After I recorded this dream the next morning, I knew on some level it was a reflection of my nature observation method in the field. The dream showcases a realization to stop looking with “Western eyes,” or the singular gaze of precision and isolation, and instead take in all perceptions as a whole, especially those at the periphery, or boundaries, of my awareness. In other words: stop looking, and start seeing. In this way, the twin intuitive methods of nature observation and

lucid dreaming create a reflective and supportive feedback system, alerting me to bias and opportunities for growth.

The importance of touch. The second revealed bias is my preconceived notion of the role of touch in my interactions with rock art sites. In the field, touch is crucial in exploring petroglyphs. Simply put, I learned to “see” the petroglyphs more fully by touching them. The gouges of the petroglyphs at *La Eternidad* were between half a centimeter and one centimeter deep. Often, the gouges could not be seen clearly due to the quality of light; this is especially true of highly eroded images that can easily be passed over by the eyes without recognition. During my observations, I made a practice of running my finger down each grooved line, appreciating its rough, hammered-out gouge, smoothed by centuries of wind and rain erosion, and sometimes softened by a thin crust of lichen or a blanket of orange moss. I did not feel like I truly knew a petroglyph until my skin made contact. Sometimes, this kind of seeing actually corrected my interpretation of a line. In one observation, I noted, “[I] just traced the spiral with my fingers—left hand—outside in. Observed that the middle is a circle, with an island, not an ending line as I had presupposed” (Personal Journal: Rock Art Observation 1, January 14, 2006). Many of the petroglyphs at *La Eternidad* are spiral motifs; I delighted in slowly tracing my finger into the center of the designs and then back out again. The practice of touching also led me to notice how one of the spirals at *La Eternidad* extended over the lip of the flat rock surface, petering out just around the corner. It is impossible to view the “image” entirely at one time, suggesting a multidimensionality that goes beyond the usual three dimensions (Figure 3).

This discovery through touch was reflected in my lucid dreams as well. In one dream, the rock art appears only after the stone has been touched:

I look for rock art [on a boulder], none to be seen. I crouch down and put my right hand on the rock—as I touch the stone, pecked images appear. A human face appears—simple design of small eyes, mouth, with [a] circular head. The texture is real—rough and hard. [Personal Journal: Lucid Dream Texts, January 24, 2006].

The effect of this dream is subtle, speaking to me that the rock art has a greater depth than can be seen with eyes alone.

Another dream highlights a break-through in this process of relearning to how to observe rock art.

I see a pecked petroglyph—a long meander that I follow with my gaze. It’s not on a rock, just an image of a line that snakes around, coming into being as I follow it. Also, there is a strong feeling of texture, as if I am tracing it with my finger. But there is no dreambody—best I can describe it is as if I



FIGURE 3. THIS SPIRAL FEATURE AT LA ETERNIDAD EXTENDS TO THE TOP OF THE BOULDER, OUT OF VIEW FOR THE SITTER.

am “seeing” the texture, or feeling the vision. [Personal Journal: Lucid Dream Texts, January 13, 2006].

In this lucid dream, touch and sight blend in synesthesia. Here, the process of sensual reconstruction that begun with my sight (from monocular to defocalized vision) now integrates the modalities of touch as well. This encounter with synesthesia created a lasting impact, giving me what felt like a deeper or multi-dimensional way-of-knowing. The thought has since occurred that the process of making the indentions in the stone may have been as important to the creators as seeing/viewing the meander as a finished product. Or perhaps the finished product was not important at all.

Bias of art as depictions of altered states of consciousness. The third bias revealed through my dreams has to do with my waking life preoccupation with the theory that some ancient art may be the depiction of altered states of consciousness as encountered in ritual or through shamanic techniques. This cognitive perspective is championed by David Lewis-Williams in relationship to his work with San rock art in South Africa (also with Dowson 1988) as well as Paleolithic rock art (2002) and some Neolithic imagery (also with Lewis-Williams and Pearce 2005). Other notable support for this perspective includes David Whitley (1992) in regards to Native American rock art and Jeremy Dronfield (1995) in regards to Neolithic Irish passage graves. Under guest editor Geri-Ann Galanti (1998), *Anthropology of Consciousness* also dedicated an edition, volume 9(1), to the topic of rock art and states of consciousness. Simply put, the cognitive theory posited by Lewis-Williams and Dowson (1988) suggests that abstract geometric imagery, such as spirals, zig-zags, circles, and dots, could directly represent universal visual constructs that are seen during a stage of trance or drug-induced

state due to neurological constants in the mind/brain. Although tempting, this theory really requires ethnography to establish regional norms, and no one argues a one-to-one association between abstract geometric imagery, known as *entoptic imagery*, and altered states. Nonetheless, given the overwhelming percentage of rock art on Ometepe Island that is comprised of abstract geometrics, I was attracted to the idea—even before I set foot on the island—that some of the rock art resulted from mental imagery that was recorded on the stones, in either private or communal ceremony.

Here is the dream that brought the danger of this bias to my attention:

I sit down on a boulder and immediately my body slides through the rock. I enter a thick, completely dark space, falling steadily and slowly . . . I wonder what will emerge and remind myself not to expect anything. There is a texture of sound, rich deep tones or vibrations, some heavier tingling and no light whatsoever. Then, thin white filaments of light emerge in a loose cluster in the center of my vision. These lights are curl-i-que filaments that slowly shift around as if suspended in a medium. They shift about and change lengths and curl about languidly. I have the thought that this resembles the long meanders of some rock art, but made of light and three-dimensional.
[Personal Journal: Lucid Dream Texts, January 15, 2006].

The thought that the three-dimensional meander made of light resembles the rock art on Ometepe reveals two nested preconceptions, not only of the entoptic imagery theory, but also the previously explored bias that rock art is more or less visual by nature. I was forced to admit that in order to learn something from my field visits, and to be truly open to the phenomenon as it presents itself, I had to keep these biases in check. I was not sitting at *La Eternidad* to prove anything, I reminded myself, but rather to participate.

Biases, of course, can never be fully eradicated. From a phenomenological perspective they construct our lifeworld, and it is through these concepts that we have a world to perceive. In this way, biases reveal underlying paradigms, leading the way to further observations.⁹

The Field of Sound

A second theme was offered to me spontaneously. When I first sat at *La Eternidad*, trying to decide if this would be the rock art site I would investigate in-depth, I experienced something strange: a deep resonance that could be felt as well as heard as I sat on a small rock within the boulder cluster. I promptly forgot about it. Then, a week later, the night after my first official rock art observation at the site, I had the dream described above as highlighting my bias toward the entoptic theory of rock art. While I did not notice the significance of the “rich deep tones or vibrations” in this dream until months after returning home and reviewing my notes, this auditory perception in the dream clearly

echoes the first experience of the resonance I heard on site. Perhaps that dream was more than a reflection of my bias?

During my fourth rock art observation, I heard the strange sound again. This was no ordinary cicada call, the insect that dominated the soundscape at all times. Instead, this tone was low in pitch—a deep rumble—and intensely vibrational. The sound seemed to fill the air like a cloud, rather than coming from a specific source. Twenty minutes later, I finally realized this unique sound was not directly from a cicada, but actually the reverberation of the cicada, echoing off the boulder cluster in such an unusual way that it created a field of sound. My notes from that day reveal a highly resistant process of noticing and misclassifying this anomalous experience:

- 5:25 p.m. “A very loud buzzing insect in the canopy above—a persistent buzz that seems to fill the air.”
- 5:37 p.m. “Big gust of wind calmed the buzzers 5–10 seconds or so.”
- 5:42 p.m. “A persistent mosquito hovers, and the buzzing is at an all-time high.”
- 5:46 p.m. “There is a close deep hum I can’t account for—sounds like a close-by mosquito in my ear, but it doesn’t go away when I turn my head. A deep resonance I remember hearing the first night I sat at this site.”
- 5:48 p.m. “It has stopped. Ah—when the high-pitched buzzers started, it starts back again. It seems like the sound is being amplified or redirected by the stones; the space of the echo is less than a second.” [Personal Journal: Rock Art Observation 4, January 18, 2006]

I particularly enjoy how I tried to rationalize away this observation as a “persistent mosquito.” After recognition, I experienced this “reverb effect” at *La Eternidad* on four different days. Each time, the vibrational field was located in a new place, dependent upon the singing cicada’s location, as well as my own. However, these experiences occurred within the confined space of the boulder cluster, with petroglyphs located close at hand. Once, I detected the field of sound sitting on a small boulder at the outside periphery (see Figure 1), so the insect’s sound echoed by the boulders radiated outwards as well. The embodied description of this perception is that the stones “cradled” this field of sound. Within the three-dimensional soundscape, the vibrations seemed to be inside my head. The dizzying effect of this phenomenon is difficult to relate, but, in essence, the reverb produced a trance-like calm in my mind. During another session, I wrote in my notebook, “the hum continues, it is very entrancing. I feel quiet” (Personal Journal: Rock Art Observation 6, January 20, 2006).

How does this perceptual anomaly contribute to an understanding of rock art on Ometepe Island? For now, I will only suggest that “the reverb effect” was a surprising experience that occurred through the grace of the extended field visits and LDI, in which all perceptual data were considered without preconception.



DISCUSSION

The intuitive practices of nature observation and LDI greatly enhanced my level of participation with the topic of rock art perception on Ometepe Island. Besides tuning my whole emotional–intellectual–bodily perception toward the object of inquiry, the depth of my investigation also resulted in some viable archaeological questions that could lead to testable hypotheses. While my goal is not to defend these hypotheses, but reveal my intuitive processes, a brief explanation of these hypotheses is appropriate.

As I have shown, the intuitive methods enabled two important themes to emerge in terms of site characteristics of a petroglyph site on Ometepe Island: the tactile dimensions of seeing, and the phenomenon of insect reverberation.

The theme of “feeling as seeing” is a subtle revelation in regards to my perception of rock art. Not all rock art should be touched, of course. Paintings in caves and in rock shelters can easily be damaged by the oils on human skin, and highly trafficked archaeological sites can be damaged by repetitive touch of even the softest tissues (the Blarney stone, for instance). But for the roughly hammered petroglyphs on Ometepe’s basalt boulders, this is a practice well-known by archaeologists for finding eroded glyphs in the field. Becoming aware of touch made me a better field archaeologist, and naturally suggests some cultural questions, such as what was the significance of the tactile effects of the carvings for the rock art creators? Lewis-Williams and Jean Clottes (1998) write eloquently:

The surfaces were touched, pierced, marked, engraved, and painted. In some cases, features of the rock were interpreted as the partial forms of images. The context, the cave itself, was therefore clearly meaningful; it was not simply a useful place in which to make pictures. [98]

Perhaps the sensual qualities of the engravings played a role in ancient society. Were the stones meant to be touched after created? Or perhaps the hammering of the meander is a process in itself, an experience remembered in stone. With many petroglyphs, the curve of the engraved line moves beyond the edge of a rock so that the entire creation cannot be seen at one time—could this be a representation for a greater, unseen reality? In which petroglyph sites are these multidimensional features more prevalent? Do meanders occur more in higher altitude sites, in large boulder sites, or in association with other common rock art elements? These questions lead to hypotheses about the role of the petroglyphs in reflecting the cosmos of the cultural creators and their relationship to topography and distribution.

The spontaneous echo effect caused by the cicadas opens up another possibility: the inherent soundscape qualities of rock art boulder sites. The

phenomenon of reverberation has some precedence in the archaeological world. Acoustic mapping has been performed at the megalithic sites in Great Britain, most famously at Stonehenge, revealing that the placement of the large Heel stones dramatically improve human voice resonance within the monument (Watson and Keating 1999). In Central America, acoustic analyses have been applied to Mayan temple sites (Lubman 1998). In North America, a few boulder sites in California and North Dakota have been discussed in relation to their acoustic properties; American rock art expert Jack Steinbring suggests that the act of making cupules and grooves can actually be trance-inducing (Devereux 2001:139). This may be relevant on Ometepe Island as many boulder sites with petroglyphs also have cupules. Resonance testing of boulder sites on Ometepe in association with cupules could further the tentative hypothesis that some rock art sites were chosen, in part, by their acoustic properties. In particular, we can question if their function was in creating sound in a specially chosen acoustical environment.¹⁰ Given the strength of the acoustic properties of the site, the echo effect could be a promising factor in site selection. Baker (2009) has already shown that smaller sites on Ometepe tend to have simpler images and larger sites have more idiosyncratic images (236). Nicaraguan archaeologist Rafael Gonzales (personal communication, January 25, 2006) suggested that abstract imagery, such as spirals and meanders, increases in concentration (in relationship to iconic imagery) as elevation on the island increases. If sound-creation actually creates a trance-effect, as also supported by archaeologist Brian Hayden (2003:150) under the term “sonic driving,” perhaps Dronfield’s (1995) analytic method of comparing rock art elements to entoptic imagery, “endogenous visual phenomena” in his words (539), could be applied to the rock art of Ometepe Island and cross-referenced against other spatial, topographical and environmental clues. In this way, rock art studies does not involve only the interpretation of symbols—many of which will never be recovered—but also about the larger contextualization of the sacred landscape created by rock art distribution (see Bradley et al. 1994).



CONCLUSION

This paper is not meant to formally make archaeological conclusions about the rock art on Ometepe Island, but rather to reveal the subjective process I underwent while recording these amazing petroglyphs and show how these processes lead to new questions and observations. Also, I should state again that I would never suggest that dreams about archaeological sites be considered data in the traditional sense, because dreams are not verifiable and reproducible.

However, as researchers, we have untapped opportunities to honor multi-modal sources of information available to our own frames of reference. In a more integral approach to archaeology, these intuitive methods are complementary to

our usual practices, and they can be attended to simultaneously. Perhaps to the disappointment of readers, these intuitive methods did not reveal for me the cultural levels of meanings for Ometepe's rock art. I still do not know if, for example, the double spiral image represents a vortex, a pair of human breasts, or an image of the island seen from above.

Ethnography, ceramic analysis, and absolute dating are unquestionably the most rigorous tools at our disposal for the analysis of cultural materials and the question "What did this image mean?" Still, these intuitive methods greatly enhanced my ability to perceive the anomalous qualities at *La Eternidad*. While touch and hearing are not exactly the original inspirations behind William James' radical empiricism, both remain terribly overlooked in the visually dominated Western field of rock art studies.

Some may rightfully question if intuitive methods are worth the trouble. Also, what if these methods introduce bias into the study rather than account for bias, as I have argued. In other words, is there a danger that by "indulging" in our fantasies, we move further from viable observations and testable theories? I argue that we are already indulging our fantasies on an unconscious level, and the danger is greater that we do not take these hidden assumptions into account, muddying our research with axes to grind and pet theories to defend. This work merely reveals to consciousness what is already influencing our perceptions and decision-making process without our knowing.

When balanced by the usual third-person methods at our disposal in the scientific world, attending to the inner and intersubjective worlds provide opportunities to reclaim our projections and connect more authentically with the phenomena under study. Intuitive methods may also provide insight and new interpretations for the researcher to consider. The multiplicity that emerges—playfully, out of the corner of our eyes—can only enhance our understanding of the world, strengthened not by our distance but by our participation.



NOTES

1. B. Alan Wallace (2000) convincingly argues how subjectivity in Western science is alive and well, but is simply swept under the methodological rug.
2. While I subscribe to Wilber's (2000) approach of Integral Methodological Pluralism, his Integral Theory remains to be satisfactorily parsed with contemporary anthropological theory. Specifically, Wilber's evolution of conscious states denies the insights of cultural relativity by hierarchically mapping states of consciousness exhibited by Westerners and those of historic state-level societies above other cultures and placing them "higher" on a developmental ladder. This grouping includes not only the personal but the culture-at-large, and remains ethnocentric by design. Winkelman's (1993) eco-sociological critique of Wilber on this point remains unchallenged, despite Wilber's (1997) insistence to the contrary in his later writings on "Integral anthropology." By invoking the phrase "integral archaeology" I am suggesting that Integral theorists will eventually build this bridge. Also, the word "integral" harkens back to early 20th century Indian philosopher Sri Aurobindo's (1993) concept of Integral Yoga, which called for a transformation of consciousness and the ever-evolving experience of reality that includes the physical, the

emotional, and the transpersonal (or spiritual). “Integral” also stems from “integral/aperspectival consciousness,” as coined by German philosopher Jean Gebser (1949), an important influence of Wilber’s. It is this spirit of self-discovery and these modes of transformational research that *integral archaeology* aspires as a transdisciplinary methodology.

3. See Lerro (2000) for an alternative to Wilber’s “Integral Anthropology,” an excellent macrosociological extension of Gebser’s work that maps ecological frameworks with the states of consciousness that emerge in each major cultural phase from the Paleolithic to the Iron Age. Also see Hayden (2003) for an archaeological tour of the prehistory of religion and its promoted altered states of consciousness.
4. Even dream researchers Allan Hobson and McCarley (1977), Hobson (2002), who argue that dreaming is an epiphenomenon of higher mammal brain development, admitted early on that dreams have coherent structures and are not without psychological meaning and function.
5. Dream control and lucid dreaming are not the same. In most lucid dreams, true dream control is limited in scope and duration. As Robert Waggoner (2009:15) suggests, “Does the sailor control the sea?” Lucid dreaming has also been noted throughout Western history (LaBerge 1988) and in many other contemporary and historic non-Western societies (Hurd 2010).
6. See Barrett (1993) for the scientific validity of dream incubation to influence the content of a dream for the purposes of creative problem solving.
7. “Dream witnessing” is a Transcendental Meditation term that was first applied to meditation while dreaming by Alexander et al. (1987).
8. See Depraz et al. (2000) for a nuts-and-bolts approach to practicing poché. In this context, phenomenology is revealed as a Western tradition of meditation.
9. I am personally indebted to Integral Studies scholar Sean Esbjörn-Hargens for grasping this important concept and for his help in applying Integral Methodological Pluralism to cognitive archaeological theory (see Esbjörn-Hargens 2006).
10. Sounds such as “standing wave resonance focused echoes” that amplify and hold together resonance structures over large distances are so noticeable it is unlikely that people would not have noticed these acoustic effects, according to archaeologist Aaron Watson (2001).

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