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# Songs, Storytellers, and Science: An Examination of Long-Distance Interaction in the Cook Islands

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# Songs, Storytellers, and Science

An Examination of Long-Distance Interaction in the Cook Islands

by

Cyrus Hulen

A Thesis Submitted in Fulfillment of the  
Requirements of Independent Study  
in Archaeology at  
The College of Wooster

Archaeology 451-452

Dr. Olivia Navarro-Farr

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## **Abstract**

It is widely accepted in Polynesian archaeology that contact between island groups persisted after first peopling but declined over time. However, there is not a clear sense of how the dynamics and directionality of interaction change over time. Archaeological discussions of interaction in the Cook Islands often focus on quantitative materialist data. While this is certainly valuable and critical to archaeology as a scientific discipline, I see this discussion as an opportunity to incorporate more fully more qualitative or ontologically driven data from other fields of anthropology. I intend to explore the geography, chronology, and ontology of long-distance interaction between the Cook Islands and the rest of Polynesia through materialist and ontological perspectives.

One of the key factors in discussing interaction between these island groups is to examine anthropological, ethnohistoric, and oral accounts of past interactions. Incorporating the social dynamics of trade and interaction through anthropological records may provide some unique perspectives that may not be apparent in materialist data. I will use these sources to provide context and discussion about an emic understanding of interaction over space in tandem with documented material evidence that serve as proxies for these ancient interactions. The synthesis of archaeological models and traditional understanding of voyaging over space and time is the ultimate focus of this thesis. As such, the anthropologic, archaeological, and predictive sides will each provide a narrative that may contradict narratives from other perspectives. However, this should not be understood as an attempt to test the truthfulness of oral traditions with archaeological evidence but rather an examination of the interaction between these different spheres providing an aggregate narrative.

## Acknowledgements

We want to take a moment to acknowledge that we gather as members of the College of Wooster community on indigenous land. The name “Ohio” is an Iroquoian word derived from the Iroquois/Mohawk language. It came from the Seneca name for the Ohio River, Ohiyo, which means “great river” or “beautiful river.” What is now known as the state of Ohio has been populated by diverse indigenous communities for centuries, including the Wyandotte, Mingo, Shawnee, Delaware, Lenape, Miami, Huron, Ojibwe, Potawatomi, Odawa, and many more. These population movements, both willing and unwilling, resulted from complex social processes which unfolded for over 10,000 years. Throughout that time, native peoples, including Algonquian and Iroquoian speakers, built dynamic communities, cosmologies, economies, and innovated long-term sustainable approaches to caring for this land. The erasure of their narratives and experiences from our sense of the collective history of this land has resulted in grossly misguided perceptions about indigeneity in the Americas. These narratives must be restored and recognized as being as central to our story as those of European settler colonizers have been.

Drafted collaboratively by members of the College of Wooster working group on Indigeneity: Christa Craven, Ivonne Garcia, Olivia Navarro-Farr, Jeremy Rapport, Dale Seeds, Shelby Pykare, April Gamble

On a more personal note, I would like to thank my advisor Dr. Olivia Navarro-Farr for all of her help and guidance over the past four years and for making me get out of my own head. Additionally, without the support and guidance of Dr. P. Nick Kardulias I would not have made it to the point where this manuscript could be made. To my family, thank you for all the support and the many cups of coffee. To my friends, thanks you for always being willing to go on an adventure when I needed a break. Lastly, thanks to Dr. Julie Field for her support and help in setting this project up.

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## Introduction

Structuralist binaries are increasingly being rejected in anthropological study. On a wide archaeological lens, there appears to be a rejection of positivism not in favor of antipositivism but in favor of poststructuralism as a means of decolonizing archaeology (Atalay 2010; Harris 2010). However, archaeologists working in the Cook Islands have been slow to adopt this theoretical framework. Within Central Polynesian Archaeology, there has been a stubborn and outmoded dichotomous view of information as either empirical fact or else as a counterproductive distraction. The result of this is that many authors make no conclusions beyond narrow research questions that do little to aid in understanding culture on any reasonable scale (Collerson et al. 2007; Ditchfield et al. 2014; Weisler et al. 1994; Weisler et al. 2016).

Political atmospheres both geopolitical and within the field have disincentivized collaboration both between archaeologists and with indigenous communities. Due to the need to publish material with great regularity which is facilitated by an academic system which favors a competition culture in which those individuals with the highest number of high impact-factor peer-review data-driven publications are more likely to succeed in the academic job market. This not surprisingly results in a situation in which “unique” data sets are prioritized over efforts to take these data sets and produce syntheses of them. In turn, this leads to limited collaboration with both indigenous groups and other archaeologists as well as creating conditions in which relatively niche specializations emerge, manufacturing conflicts between archaeologists who hold the same theoretical views over minutia which further fractionalizes an already dynamic field. Recent discussion by Anderson (2008) and Weisler (2008) serve as examples of this kind of highly specialized divisiveness in a rather specific sub-field. As a result, there has been a strong emphasis on individual materialist thinking. This is especially notable in developing an



understanding of exchange and interaction across oceanic spaces. Traditionally, archaeology on the movement of people has focused on the mechanics of how groups crossed the ocean to people new islands (Irwin 1990; Irwin 1992; Di Piazza et al. 2007; Howe 2007) or is examined through a purely economic lens (Malinowski 1922; Firth 1965; Weisler et al. 1994; Walter et al. 1996). While these are undoubtedly important topics within Polynesian Archaeology, I contend that discussion of post settlement contact between island groups ought to include equally prominent examination from an archaeological perspective considering voyaging is so central to indigenous narratives (Gill 1977 [1876]; Harris 2010).

In order to facilitate these discussions, academic dialogue and data exchange need to be widely implemented both within the discipline and across disciplinary lines. It is understandable that these dialogues have been limited in the past as the aforementioned political lines and academic constraints have made these kinds of dialogue difficult as individual publication is held more important than collaboration. However, in an attempt to circumvent these problems, I will be utilizing an anti-structuralist approach that incorporates materialist and ontologically driven notions of acceptable data with the understanding that both sets have valuable information in examining the culture of precontact Polynesia. I will address this concept more in depth in my theory chapter.

Through this theoretical lens, I will be examining the geography of and ontology surrounding post-settlement interaction between the Cook Islands and other island groups ranging from Tonga to French Polynesia and Rawiki (the Phoenix Islands) to the Austral Islands. In addition to the robust archaeological record, I will examine sources that have not traditionally been tapped by practitioners of Polynesian archaeology (but see Firth 1984). These include oral histories and ethnographic records which convey information through the lens of indigenous ontology (Gill

1977 [1876]; Malinowski 1922; Firth 1936; Meggitt 1962; Vayda 1968) and are not subject to the same entropic forces as an archaeological site. As such, they can provide information on interaction and the emic understanding of voyaging in a way inaccessible from the archaeological record. Critically though, I do not intend to examine these histories with the intent to prove or disprove them but as a supplement to the archaeological record demonstrating the importance of voyaging and how it overlays culture in a significant way.

### Chronology

Chronology can be difficult to measure in East Polynesian archaeology due to the general lack of widespread tool typologies, ceramics, and other more traditional methods of relative dating. In place of this, radiometric dating is most frequently used (Walter et al. 1989; Weisler 1994; Walter et al. 1996; Niespolo et al. 2019). While radiometric dating does provide specific dates, the lack of more traditional “periods” constructed on the basis of technological or aesthetic modes has made tracking cultural change on a wide scale difficult.

Radiometric dating does have an important place in understanding the history of this region. Although chronology of trade at individual sites is difficult, there are regional trends that point to periods of time with more trade (Walter et al. 1989; Weisler 1994; Walter et al. 1996; Weisler et al. 2016). I specify trade as this is the easiest form of interaction to identify in the archaeological record. As such, the chronology of trade is a proxy identifying the intensity of interaction over time. I will discuss the specific chronology of different sites on an individual basis later in this chapter as well as in my analysis.

## Quantitative Data

Archaeology on the Cook Islands has been largely focused on materialist data. In this context, this data is quantifiable and usually numerical data derived from western scientific ontologies. This focus has led to an extensive and finely detailed record of exchange based on X-Ray Florescence (XRF). The main principle behind XRF has to do with how elements absorb and reemit distinct wavelengths of light when exposed to X-Rays. With these wavelengths known, it is possible to determine the specific ratio of elements contained within an artifact and compare these to known geologic samples. Often this technique is refined enough to assign not only a specific island, but a specific quarry site to a tool.

I conducted a preliminary analysis (Hulen 2019) of data produced from XRF analysis of a number of sites in the Cook Islands and Samoa (Best et al. 1992; Weisler 1994; Walter et al. 1996). In isolation, these datasets point to a strong connection between the Cook Islands and Samoa with tangential connections to the Austral, Society, and Marquesas Islands. Of the limited chronology available, much of the data points to the majority of exotic materials being quarried from Western Polynesia and entering the archaeological record between 1200 – 1500 CE (Walter 1996; Weisler et al. 1994). Materials from island groups east of the Cook Islands show a similar chronological range (Weisler 2016).

While traditional stone tools do not have standardized morphological typologies, fishhooks have been typified in a systematic and widespread manner. Specifically, within the Cook Islands applications of these fishhook morphologies have demonstrated significant technological exchange between the Cook Islands and the Society and Austral Islands (O’Conner et al. 2017).

Although rare in Eastern Polynesia, several pot sherds have been excavated in the Cook Islands. Petrographic analysis of these sherds points to sand temper from Tonga (Walter et al. 1996). As it is unlikely that the sand itself was transported due to the difficulty in doing so and the general lack of pottery in the Cook Islands, this albeit scant evidence, demonstrates contact between these two island groups. Radiometric dates from the site where these sherds were recovered point to a window of roughly 1300 to 1430 CE for this material to have entered the record.

Many predictive models over the years have attempted to demonstrate techniques and routes by which Polynesia could have been peopled. Among the strongest and most consistent assertions in these models is the importance of frequent and intense El Niño events to the sailing strategies employed (Finney 1985; Irwin et al. 1990; Di Piazza et al. 2007). If this assertion is true, then retrodictive palaeoclimatological models should show a period of high El Niño activity during this period of intense trade. These proxies for El Niño are recorded very strongly in the geologic records of the Galapagos Islands. Utilizing lake sediment records to reconstruct the record of El Niños over the past 6500 years, Thompson (2017) demonstrates a noticeably high frequency and intensity of El Niños from 1200 - 1400 CE.

While these models are useful proxies for predicting frequencies of voyaging and likeliest trekked pathways, they rarely directly engage with the people producing the archaeological materials whose movements they represent. Authors such as Finney (1977; 1985) have had ample opportunity to compare this data with modern voyaging canoes, the oral traditions, and modern Polynesian conceptions of voyaging. However, comparisons of these datasets are woefully thin on the ground. Just as quantitative data needs qualitative data to tell the full story,

these models require integration with more inclusive theoretical frameworks about human migration to apply to real world archaeology.

Polynesian chiefdoms operated on a top down distribution system that relied on the production of surplus to give power to the chiefly class (Kirch 1984). Thus, with increased economic power, the separation between chiefly and common people grows. Because this economic system is built on reciprocity, a chief's ability to amass economic power correlates to the ability to amass and critically, centralize political power. It has been proposed that due to the general latitudinal layout of Tonga that amassing political power through economic power was easier as these islands would be less reliant on seasonal weather patterns compared to the more longitudinally arranged Samoa (Kipp 1989). If this socio-economic model holds true, then there is a clear case for the Samoan material examined above to at least partially have been routed through Tongan trade networks. While the discussion centered around reconstructions of climatological and economic models provide hypotheses as to the mechanics of movement, they do not address the cultural motives or understanding of why someone might voyage. I contend these models would benefit from comparison with and incorporation of qualitative data addressing how emic understandings of voyaging affect exchange and how exchange is tied to other forms of interaction derived from ethnographies and oral traditions.

#### Qualitative Data

While quantitative data is critical in understanding the archaeological past, ignoring other sources of information limits the agency and ownership of indigenous people in discussions of their past. The lack of indigenous archaeologists in much of the Pacific limits dialogue on the ramifications of archaeology for modern people and limits cultural understanding of the past by restricting archaeologists to ways of thinking that may conflict with indigenous ontologies and

by extension the spaces they occupy (Pyburn 2007). These conflicts between ways of thinking coupled with an inherently colonialist rejection of indigenous ontologies limit access to indigenous philosophies of space and by extension throttle anthropological research (Harris 2010). It is important here to distinguish between collaboration and consultation in archaeological research. Consultation is an important step in archaeology's inclusion of indigenous people, but it does not fully include active indigenous participation (Atalay 2010). Collaboration involves indigenous voices in the entire research process in an integral and active way (Allen et al. 2010; Smith et al. 2010; Wilson 2010). While some sources in the oral history do point to specific places that people from the Cook Islands visit such as Samoa or Tahiti, the more important aspect is understanding from as close to an emic perspective as possible the importance of wayfinding in a Cook Islander context.

Starting from a geographically distant examination of trade in Samoa and Tonga and approaching the Cook Islands, I utilize oral histories to examine the Polynesian understanding of interaction. Samoa is described in an ethnohistorical account as comparatively reliant on seasonal winds for internal trade as opposed to Tonga (Oliver 1989). This is also noted in a discussion on the development of the Tongan trade system by Kipp (1989) and may point to underlying factors in not only the development of this trade network but also its recognition regionally. On the Cook Islands, Oliver only says that "Similar omissions ... [of trade information] characterize the standard reconstructed ethnographies of Futuna, Uvea, Niue, Australs, and the southern Cooks" (1989:1:565). As trade is often used as the metric for interaction, few authors look past these vague and unhelpful ethnohistoric accounts in examining interaction (Malinowski 1922; Firth 1965; Weisler et al. 1994; Walter et al. 1996). The larger and more traditional Western Polynesian trade network is described as including Fiji, Samoa,

Tonga, and a wide array of other West Polynesian islands (Cambridge 1997). This understanding categorizes the traditional division of West and East Polynesia. Oral traditions point to little preference for interaction with either West or East (Gill 1977 [1876]). Closer to the epicenter of this study, “The Cook Islands and French Polynesia formed community similar to that of their cousins to the west...” (Hau’ofa 1993). From the perspective of oral history, the Cook Islands are a hub of interconnectivity. References in myth point to at the very least geographical knowledge spanning from Pacific Rim Islands as far east as the Austral and Marquesas Islands (Gil 1977 [1876]; see also Figure 1.1 below). The centrality and association of high-ranking members of society with voyaging in the oral traditions clearly demonstrates the importance of voyaging to people in the Cook Islands. Even when the destinations in these stories are not material, they demonstrate an essential understanding that the ocean is not a barrier but a liminal highway for the living, the dead, and the gods. I will examine this more in my data chapter.

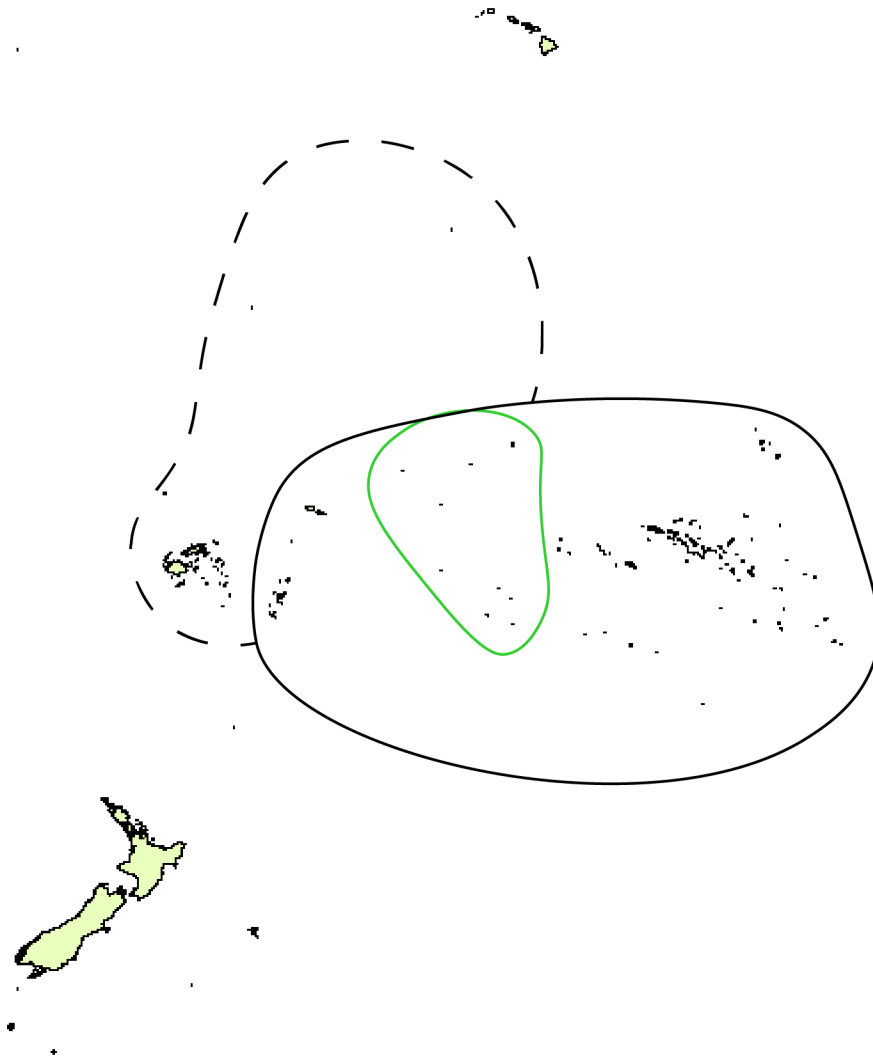


Figure 1.1: Map depicting Cook Island geographic contact on the basis of oral histories and archaeological materials. Solid green line highlights the Cook Islands, solid black line represents strongly connected island groups while dashed lines represent weaker connections.

Due to the differing relationships between individual islands, I will take neither an isolationist nor interactionist viewpoint. Dichotomous views placing cultures into these boxes ignore cultural and chronological nuances (Anderson 2002). Within the context of this discussion, the changes in intensity of interaction that exist chronologically render any



categorization pointless. Furthermore, constructing these categories ignores the cultural nuances of systemic reciprocal exchange as the understood basis for interaction (Firth 1965). Although not precisely the same, the Kula ring serves as an analogous form of exchange. Materials are exchanged on a system of reciprocity and carry the understanding that something will be given in return at some future date (Malinowski 1922; Firth 1965). With this understanding of exchange, there is not necessarily a one to one exchange either in value or in chronology. Attempting to apply a standard isolationist/interactionist dichotomy ignores this ontology of exchange.

In order to examine the relationship between the normal quantitative chronologies and qualitative data, I will employ ethnohistoric records of genealogies (Nicholas 1892). Aside from information on interactions between chiefs, these records can be put to an approximate timeline and by extension the names that appear in the oral histories can be placed chronologically. I will discuss this at greater length in my methods chapter.

In my data chapter, I will examine both the disparate sets of data differently. For the materialist data, I will primarily be examining these datasets through their author's theoretical grounding while for the ethnographies and oral traditions, I will examine individual examples of interaction over long distance and reconstruct the ontology of voyaging as the facilitator in long distance interaction. Once all of this data has been laid out, I will synthesize it in my analysis chapter in a way that accesses emic understandings of these interactions.

## Theory

Early attempts in archaeology to move beyond culture historical trait lists were focused on more structuralist-functionalist assessments of culture change and process (Trigger 2006). Anthropologists began to reject evolutionary arguments (Malinowski 1922) in favor of viewing culture as a system of interdependent pieces that change over time in response to human behavior. As a result of this change in thinking, anthropologists began to assess how cultures influenced each other as a driving force behind cultural change (Childe 1936). Marxist approaches to this problem focused on technologic innovation being influenced by political and social settings which were in turn influenced by the very technological innovations they inspired (Marx 1906; Marx and Engels 1962). This led to a focus in Soviet archaeology on understanding how people lived in the past as a way to understand the social and political driving forces in societies. Childe's synthesis of his own theoretical groundings with Soviet theoretical approaches lead to a more unilinear view of cultural change with an understanding that culture change is not inevitable (1936). These European concepts of archaeology differed fundamentally from Americanist archaeology.

As is still largely the case, European archaeologists focus on archaeology as history while American archaeologists view archaeology as anthropology. This is both a function of the colonialist sense that anthropology is the study of the other while history is of the self. With the rise of true site documentation through the conjunctive approach, Americanist archaeology could turn to examining ancient lifeways in an in-depth manner that accessed relationships within that culture (Taylor 1948). The conjunctive approach utilized quantitative data and spatial distribution to attempt to move beyond culture history by utilizing archaeological material to examine the past. In order to accomplish this, excavation techniques under Taylor changed to be

far more detailed set of information and attempted to set archaeology as an interdisciplinary field.

In the 1950s and 60s, archaeology again returned to cultural evolution. Authors differed on what elements of culture were significant with many authors focusing on a single “trunk” line of cultural change whereby external influences on culture were ignored (White 1949). Others took a more ecological approach to examining cultural evolution which accepted both other cultures and environment as critical to culture change (Steward 1955). However, anthropological theory of the time was focused on technology as a primary driver of cultural change (Trigger 1989). In archaeology, this examination of technology was driven by materialist examinations of technology that dominated the period. The main differentiating factor between this period and earlier cultural evolution perspectives was the focus on causality.

In 1959, Joseph Caldwell published a paper examining trends in American archaeology. Trigger (1989) credits this publication as the root of New Archaeology. Caldwell points to increased interest in ecology and settlement patterns in the literature of the day as a shift to studying culture process under the aegis of cultural evolutionism. In short, the rise of systemic cultural analysis as opposed to simply classifying extant artifacts. Binford (1962; 1965) essentially says the same thing with the inclusion that archaeology as anthropology examining culture behavior through culture systems.

As a system under Binfordian theory culture is inherently interlinked and changes in any aspect of culture affects all other aspects. Additionally, as a part of the ecosystem, Binford argues that humans decisions could be understood through an ecological basis and as a result, tradition and ritual are simply epiphenomenal byproducts that themselves do not drive change. As an extension of this view, Binford proposed that technology in the form of artifacts

represented solutions to ecological problems and as such “Technomic aspects of artifacts reflect how they were used to cope with the environment; sociotechnic ones had their primary context in social system; and ideotechnic ones related to the ideological realm.” (Trigger 1989:398) In order to access these various technologies, processualism supports a wide array of methods. The fundamentally important aspect is not these methods but the data they value. As previously mentioned, many forms of qualitative data were considered inaccessible to anthropologists through this theoretical grounding. As such, analysis focused on more materialist datasets.

Flannery began his theoretical career closely aligned with Binfordian archaeology. Through systems analysis Flannery (1968) focused instead on the types of change rather than just the explanations of change. In addition, Flannery began to include tradition and belief systems as important factors in examining adaptation. This began to lead to a rift within archaeology as individuals grappled with the question of if archaeology should be studying culture systems or social behavior.

As a reaction to Processualism and a revival of Marxist forms of archaeology, Post-Processualism began to arise in the 1970s. As opposed to the external forces proposed by Binford, Marxist archaeologists of the time saw social behavior as constructed by ontology. As such, these researchers acknowledge the subjective nature of social science and rejected the objectivity of positivism (Trigger 1993). As a postmodern construction, Post-Processualism focuses not just on the subjective and compromised nature of anthropology but recognizes multiple histories as true (Hegmon 2003).

It is within this postmodern theoretical grounding that I situate this study. Narrowing in on specific theoretical subsets, I will address in turn anti-structuralist, materialist and ontological

theory not in opposition but in synthesis before moving on to examine Indigenous Archaeology as the other major theoretical grounding of this paper.

Structuralist approaches to archaeology often position various theories, methodologies, and datasets as thesis and antithesis unable to be unified (Johnson 2010). I contend that developing such binary structures in archaeological theory is reductive and lacks nuance. Utilizing anti-structuralism as a framework in which to situate data and theory allows for information that could be construed as fundamentally opposed to instead exist on a continuum and allows for shades of gray in examining material in an anthropological setting. Specifically, I place materialist and ontological thinking at the extreme ends of this spectrum, and I position myself in the center between them. This means that I do not favor either approach but utilize this position to examine materialist and ontological thinking as tools that can work together to achieve a more holistic result through synthesis. In order to understand this synthesis, I will examine the strengths and weaknesses of each way of thinking to demonstrate how these approaches could work together.

Ontologically driven thinking in anthropology is grounded in the assumption that culture does not follow strict formulaic rules and that research on humans by humans cannot be objective. Therefore, meaning has to be constructed based on subjective social interactions. This opens archaeology to different kinds of non-empirical data like oral history, which allows in turn access to portions of culture such as ontology, inaccessible through materialist theory. Although ontology is a difficult cultural phenomenon to address, Bruno David (2006) examines how to access these hard questions by pointing to ontology being a construction of place, ritual, and symbolism. Although place is a clearly quantifiable variable, ritual and symbolism are inaccessible without a willingness to look beyond objectivism.

Place not only refers to the physical location of an artifact or site but also its relation to the world around it. This is probably the most traditionally accessible of these concepts to archaeology. Just as context is important for individual artifacts within a site, individual sites need context in a wider symbolic landscape. Therefore, examinations of place need to not only include physical location but other factors such as orientation and relation to other important geographic and spiritual markers on the landscape.

Ritual is a complex topic that is contentious and almost cliché in anthropological theory. Fundamentally, the conflict rises from the question of how ritual arises. Geertz (1966) essentially defines ritual as a social function of religion composed of symbols and a mix of motivation and moods. David (2006) expands on this by combining motivation and mood into positionality and filing these under place. Ritual is also implicit of action (Bell 1992). As such through a processual lens, it is epiphenomenal and inaccessible. However, through these ontologically driven datasets, we can access ritual as a living process with attached significance as opposed to trying to piece together meaning from the inherently incomplete material record. This is because “... we celebrate our own existence as ontological beings through rituals, we celebrate the social construction of meaning” (David 2006, 56). Ritual is intricately tied to place; this is especially true through the lens of Polynesian cosmology, where places have such power that the unprepared or uninitiated can literally die from contact with ritual locations (Gill 1977 [1876]; Kamakau 1961).

Symbolism is defined by David (2006) not as motif or material object but as “material behavior.” This concept points to how symbolism is socially constructed on the basis of positionality of the individual and human interaction with something not by inherent properties. For example, in a modern context, logos are not a symbol inherently understood by people but

carry a learned association. As a result of its socially constructed nature, symbolism is intertwined with ritual. However, for this same reason, symbol systems cannot be interpreted without cultural context difficult to reconstruct through materialist approaches. A ritual informs the symbolic landscape that makes both an object and a location meaningful, and as these three processes interact many times over in different circumstances, they produce ontology (See Figure 2.1). I will discuss the methods I employ to access these three components in my methods chapter.

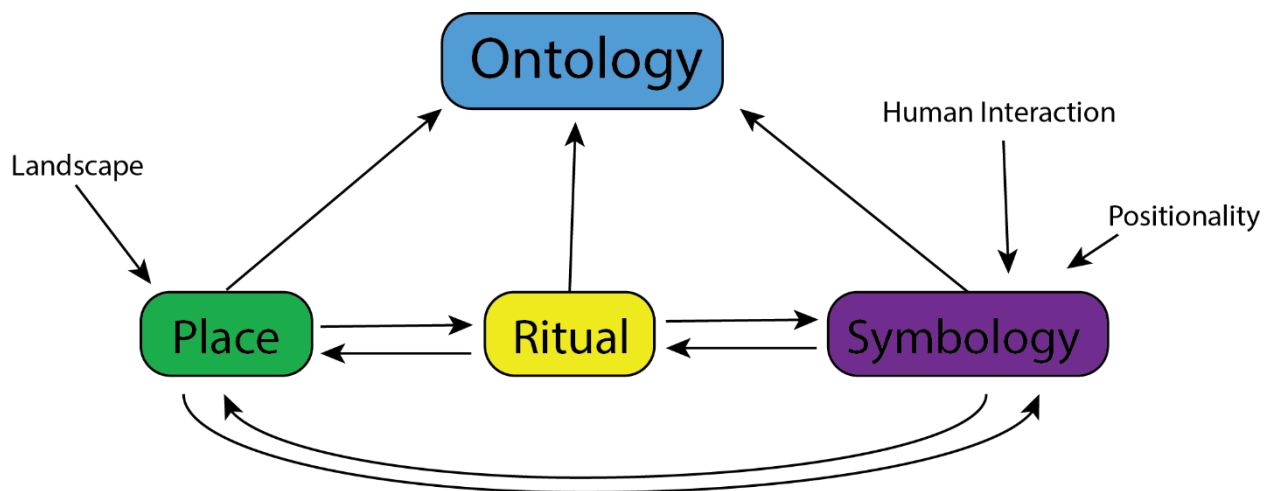


Figure 2.1: Theoretical construction of ontology (after David 2006)

The liminality of ontology is something that I will largely deal with in largely in my analysis chapter, but I want to mention it here as liminality as described by Turner (1969) is central to Cook Islander conceptions of oceanic spaces between islands (Gill 1977 [1876]). Since liminality frames the majority of space then risk also frames the same space. This is why ritual and symbolism must be tied to place (David 2006). Rituals and the symbolism that helps to construct them can assuage the risks associated with this liminal space (Turner 1969).

Because ontological thinking often falls short in constructing or demonstrating models for how to apply these approaches to archaeological problems, I argue that materialist thinking must form a crucial portion of the archaeological discussion. My concerns with materialism in

Cook Islands archaeology do not pertain to methods but with their tendency to value empirical data over cultural insights deriving from what they would deem as epiphenomenal social domains (e.g. ritual, symbolism, and ideology).

materialism allows for ontological data to be anchored to the physical world and archaeological record. For example, in my own research, materialist data from lake cores (Thompson 2017) coupled with models of voyaging (Irwin 1992; DiPiazzi 2006) and canoe capabilities (Finney 1977) support establishment of a chronology measurable against both radiometric analysis (Walter et al. 1994; Weisler et al. 1996) as well as oral history accounts (Gill 1977 [1876]). Additionally, just as the archaeological record is incomplete due to natural forces, the oral traditions of the region are also incomplete as a result of colonization. Thus, materialist data derived from archaeological excavation coupled with the available cultural memory creates a more comprehensive picture of the past. The fundamental theory driving this examination is a synthesis of related theoretical approaches, resulting in a stronger approach than either materialist or ontologically driven thinking could produce independently.

The other crucial aspect of this approach, especially in the Cook Islands, is how this model functions in association with principles of an Indigenous-informed archaeology. Incorporating and centralizing indigenous narratives and voices in archaeology is a means of decolonizing the field. Due to the scope of this project and my own lack of connections and access to field research, this will be achieved through the inclusion of oral history. Due constraints on money and time coupled with my own limited experience and by extension networking within fieldwork in Polynesia, I will not be able to fully integrate collaborative methodologies. As such, I feel that my own discussion is lacking in perspectives of Cook Islanders, especially in a modern context.



To clarify what I mean by Indigenous archaeology and how it plays into this theoretical approach, I will first discuss decolonization in archaeology before moving on to a discussion on the importance centering indigenous narratives and perspectives on archaeology both in general and specifically in the Cook Islands. Finally, I will examine the distinction between collaboration and consultation.

Decolonization in anthropology and by extension archaeology is a complex process of examining who our research benefits and how we go about that research. One of the most important aspects to this is recognizing that “Western” concepts about knowledge and the past are not necessarily better, more nuanced, or otherwise superior to indigenous concepts about knowledge. While this bias may be easy to ignore, it is exactly at the root of why our discipline needs to be decolonized so desperately. This work needs to be central in examining how anthropological research is carried out (Smith 2010). Western scientific thought and Polynesian ways of knowing are often at odds because of fundamental differences in worldview. This is why indigenous narratives and perspectives are so critical to developing an archaeology of, by, and for indigenous communities (Harris 2010).

Extending this examination of the importance of indigenous perspectives, the conclusion is that indigenous people need to be deeply involved in the entirety of anthropological work in a collaborative format. The key difference between collaboration and less involved processes such as consultation is this deep continuous involvement of indigenous communities and people with a stake in the research with respect to the former approach. This means that indigenous people should be involved in and credited for every aspect from planning to publication and beyond (Atalay 2010). In some areas of Polynesia this is actively being done. As a result of NAGPRA, projects on land under the control of the United States are more inclined to collaborate. This is

similarly true for regions with robust indigenous activist groups such as Samoa or New Zealand. In my study of archaeological literature on trade in East Polynesia (Hulen 2019), I found no papers with indigenous authors or co-authors relating to the island groups of that region.

It is this collection of theories that ground my methodology. As a field, it is important for archaeologists working in Polynesia to examine our relationships with Pacific Islanders to create an archaeology that is focused on developing an understanding of culture that serves practitioners in a modern context through all channels from the past. As I turn to discussion of my methods for accessing Cook Island cultures, I wish to emphasize that archaeology, like any other academic discipline, either adapts to improve the world or else dies in irrelevance.

## Methods

For the first portion of my discussion on methodology, I will largely be focusing on the work of other authors. As I have discussed at length previously in this thesis, there is a wide array of materialist methods employed across the Central Polynesian region. Instead of re-inventing the wheel, I largely acknowledge previous authors' methodological authority especially in areas surrounding fishhook morphology (O'Conner et al. 2017) and chemical and elemental compositional analyses including petrographic analysis of pottery (Walter et al. 1989) before turning to my own methodology for synthesizing the vast sets of XRF data (Hulen 2019). I will then examine how Paleoclimatological analyses based of lakebed sediments in the Galapagos Islands (Thompson 2017) in tandem with sailing strategies (Finney 1985; Irwin et al. 1990; Di Piazzai et al. 2007) are examined together as the former informs the latter. As an added component to this research and in keeping with the regional nature of this project, I will explore the relationship between a culturally informed or emic understanding of voyaging and ancient climatic forces. My focus on emic understandings includes examination of oral histories in an attempt to access Indigenous Polynesian ontologies.

### Morphological Analyses

Fishhooks make an ideal artifact type for examining morphological change across space and time. Distinctive forms coupled with frequent appearance in archaeological excavations demonstrated that fishhook morphology in Polynesia is comparable to point morphology in North America in terms of assessing cultural connection. O'Conner et al. (2017) examine this relationship in depth in one of the most recent attempts to develop a wide scale classificatory system demonstrating the technological exchange and relationship between island groups in East Polynesia. O'Connor et al. focus on line attachment devices (LADs) in examining technological

change and identifies three areas of interest on each artifact; proximal, inner, and outer. Within each of these they identify several modes. Seven modes for the proximal region, five for the outer region, and seven for the inner region. This classificatory system identified 110 unique combinations of these modes across 18 assemblages spanning East Polynesia. Similarity was then calculated on the basis of form correlated with island group and compared with other mode groups.

Petrographic analysis focuses on examining individual microscopic grains of minerals within a sample. Analysis of pottery excavated from Ma'uke was focused on the sand temper contained within sherds recovered (Walter 1989) and determined that the sand derived from a volcanic context based on the minerals present in the temper. This suggests that the formation site of the sand temper is not in the Cook Islands as these sands there are primarily celeritous detritus from the offshore reefs. Based on the chemical composition of the minerals from the materials recovered, the author concludes that the sherds likely derive from Tongan sources. In East Polynesia, pottery is so limited that most archaeologists agree that this material is transported to East Polynesia from West Polynesia as finished pottery (Walter et al. 1989; Marshal Weisler, personal communication 2018).

Other forms of geochemical analysis focus on far more prevalent stone tool geochemistry to develop a view of exchange. Typically, this kind of analysis takes the form of X-Ray Florescence (XRF) or Neutron Activation (INAA), XRF is the more widely utilized technique in Polynesia and as such I chose to focus on this geochemical technique. Thanks to the wide array of data, there are many different methods to approach XRF. As a preliminary investigation of the process (Hulen 2019), I examined four large scale studies of adzes and flakes (Best et al. 1992; Walter et al. 1994; Weisler et al. 1995; Sheppard et al. 2017). Each author chose slightly

different methods to access their data and as such I will not discuss the specifics of each author's approach. Instead I will provide an overview of the technique before discussing my own methodology in unifying these datasets.

As a concept, X-Ray Florescence is fairly straightforward. XRF functions by using x-rays to remove electrons from low orbits (orbits close to the nuclei of atoms). This causes electrons farther away from the nucleus to move closer releasing energy in the form of light. Each element in a sample produces a unique wavelength of light. By examining the wavelengths present after bombarding a sample, a ratio of elements within the sample can be developed.

This data is compiled into a type of scatter plot known as a Harker Diagram. Within these diagrams, the ratio of two different elements within the sample are compared and based on these pairings relationships between the various artifacts can be determined. This relationship usually takes the form of clustered data points that represent the unique geochemistry of each source.

In my own analysis of XRF data from other authors (Hulen 2019) I developed two sets of Harker Diagrams. This was necessary because, in spite of the widespread usage of this technique, there is not a standard shared set of elements used for analysis in an archaeological geochemistry application. Specifically, Walter et al. (1994) and Walter et al. (1996) utilize Niobium, Strontium, and Zirconium in their analysis while Best (1992) prefers to examine oxidized metals ( $\text{SiO}_2$ ,  $\text{TiO}_2$ ,  $\text{Al}_2\text{O}_3$ , etc.). Luckily, Sheppard et al. (2017) had significant enough data that examined both types of data to facilitate cross examination of the data.

Thinking about how cultural bodies and/or systems change over time is a pervasive anthropological question. In archaeology this key question is anchored in material-based chronologies. Building a comprehensive chronology has therefore been an important aspect in the development of this research and across Polynesia more broadly. In order to anchor this

research chronologically, I intend to utilize several means of developing chronology. First, radiometric dating both in terms of  $^{14}\text{C}$  and  $^{230}\text{Th}$  has provided a chronology of archaeological sites in the Cook Islands (Walter et al. 1989; Weisler et al. 1994; Walter 1996; Niespolo et al. 2019). Beyond this, I intend to examine chronology based on climatologically ideal voyaging conditions then compare that with existing paleoclimatological records and oral tradition.

Through extensive modeling of winds and currents across the Pacific coupled with understandings of the performance of oceangoing canoes (Finney 1977), many authors have compiled models predicting the order various islands were first peopled (Irwin 1990; Di Piazza et al. 2007). However, more critical to this discussion is the identification of sailing strategies reliant on weather patterns. Operating under the assumption that the same conditions that were favorable for settlement are favorable for exchange paleoclimatological reconstructions coupled with these strategies allow for an examination of when not only first peopling of islands was likely but also when widespread exchange was likely.

One of the most consistent variables in discussions surrounding ideal voyaging conditions is the presence of El Niño conditions in the Pacific (Irwin 1990; Di Piazza et al. 2007). This is due to the disruption of wind and current patterns allowing for direct sailing to the east. Two separate authors working in the Galapagos Islands determined that there was a period of increased El Niño frequency and intensity during the chronological period of interest to this discussion (Conroy et al. 2008; Thompson 2017). These analyses were conducted on the basis of grain size and diatom presence in lake sediments in the Galapagos. This location was chosen because of the high impact of El Niño on these islands and due to their position relative to the Andes Mountains which block much of the effects of El Niño from moving farther east.

The other method employed for examining chronology is through genealogies. Thanks to the fairly robust written record of oral histories in the Cook Islands (Gill 1977 [1876]) and genealogies (Nicholas 1892) the oral tradition can be roughly cross referenced with the aforementioned empiricist chronologies. Nevertheless, the chronology of these genealogies is made difficult by colonialist legacies which impact and reduce modern life expectancies when compared with those of pre-colonial periods and therefore may not provide the best proxy for life expectancy in the past. The genealogies themselves suggest the time between chiefly succession is roughly 20 years (Nicholas 1892) and as such I will be using this measure in my own analysis.

In addition, I will examine the oral histories in their own right. As previously discussed, I will utilize David's (2006) construction of ontology looking to the text for place, ritual, and symbology in relation to voyaging or long-distance interaction. Additionally, I will examine the text for specific mentions of movement, especially as tied to names present in genealogies, and locations traveled to including places only referenced in myth or folklore. Aside from the obvious connection to David's construction of ontology, the other selections were chosen to tie this data to the other datasets present in this examination and to demonstrate both the status and importance of voyaging and by extension long-distance interaction.

Utilizing these methods, I will attempt to access an emic understanding of voyaging and interaction and ground more materialist data in a cultural understanding of interaction. My own research to this point lacks direct input from Cook Islanders but I hope to expand on this analysis in the future to provide a more expansive examination of this usage of the landscape.

## Data

In my previous analysis of XRF data (Hulen 2019) I chose four papers (Best et al. 1992; Weisler et al. 1994; Walter et al. 1996; Sheppard et al. 2017) that represented XRF analysis of over 200 individual artifacts from the Cook Islands. Unfortunately, due to the non-standardized nature of archaeological field and lab work, these papers do not often employ the same analytical techniques. In this case, Weisler preferred to only examine Rubidium, Strontium, Ytterbium, and Zirconium content while Best preferred mineral analysis of the artifacts. This necessitated the production of two parallel datasets utilizing the more comprehensive dataset from Sheppard et al. (2017) to make comparisons between these authors' work.

The geochemical data provided by the aforementioned authors is composed of geologic samples, completed adzes, flakes, and preforms. The geologic samples provide a baseline to compare the compositions of artifacts allowing the specific source to be identified. The adzes, flakes, and preforms comprise the portion of the data that has direct merit in discussing trade.

This data does present an interesting issue in that there are only two examples of stone traded from either within or from outside the Cook Islands to the northern group. This could be due to either a lack of material excavated in the northern group or a real lack of exchange.

All the artifacts come from excavated proveniences. Some (all of Walter et al. 1994 and Walter et al. 1996) were excavated by the authors specifically for this discussion while some include data from museum artifacts with known proveniences or other archaeological excavations. In the case of Walter et al. (1994) and Walter et al. (1996), all the artifacts were excavated at Tangatatau, Mangaia, Cook Islands. Sheppard et al. (2017) take a more comprehensive view and incorporate data from a wider array of excavations spanning the Cook Islands. While I will not provide an exhaustive list of every excavation, notable in the data are



artifacts from Mata'are, Ma'uke, and Rarotonga. Best et al. (1992) provide artifacts and geologic samples from across and even outside Polynesia to contextualize the data as a whole. Most of the material excavated from Fijian or Samoan contexts in this paper were excavated by the authors for the paper. The rest of the artifacts examined by Best were 'donated' by museums or other archaeologists.

The information on the chemical signatures of sources was provided by Best et al. 1992, Weisler et al. (1994), and Sheppard et al. 2017. This data was only available in trace element form and thus Sheppard's data must be used as a bridge for the other source data by comparing across the two datasets.

In addition, for this project, I decided to expand data sets to include other less archaeologically investigated island groups such as the Line and Rawiki (the Phoenix Islands). Modeling of prominent trade winds in and around these two island groups coupled with geochemical analyses demonstrate that material from the Cook Islands is utilized in adze production in both island groups (Di Piazza et al. 2001).

The scarcity of pottery within the Cook Islands make large scale conclusions about pottery in the island group difficult. Walter (1989) had only two sherds, both excavated at Ma'uke to utilize in his discussion on Cook Islander pottery. Walter's (1989) analysis relies on petrographic analysis of thin sections of the sherds examined with a polarized backlight. Due to the disturbed nature of the site where the second sherd, identified as AN 700, was recovered the only concrete date associated with this material "...place[s] the AN 501 sherd within a 14<sup>th</sup> century A.D. occupation period." (1989: 465). The only other sherd reported in the Cook Islands derives from an excavation on Aitu. This latter sherd has not been examined in proper petrographic analysis but has been suggested to be Melanesian in origin (Altonn 1988).

It apparent that the sherds do not derive from an oceanic basalt island east of the andesite line (see Figure 4.1) due to the unique structure of the crystals within the rock and the presence of quartzose materials. This structure points to the pottery deriving from the Pacific Rim as opposed to the interoceanic island groups which places the closest possible source for these sherds in Tonga.

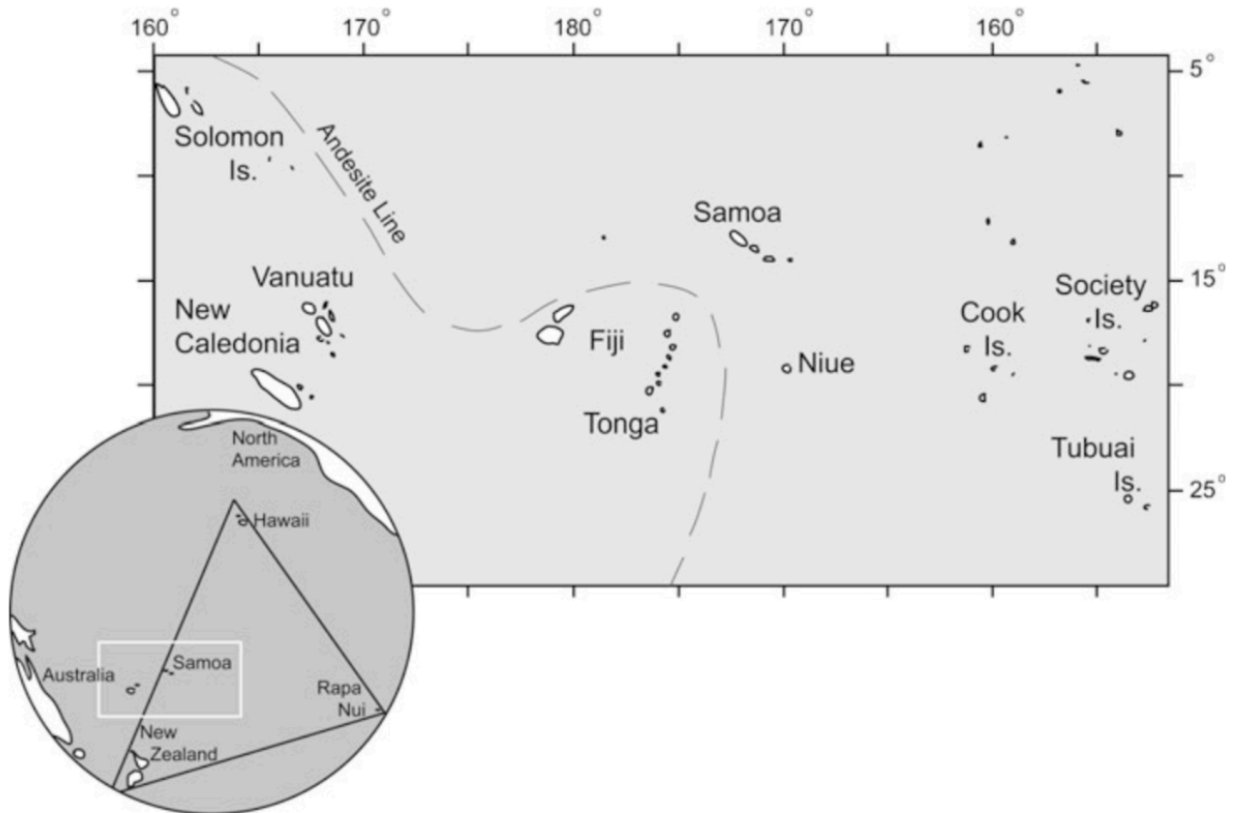


Figure 4.1 Western Polynesia/Eastern Melanesian region. Note dashed line representing geochemical shift from felsic Continental Plates to the highly mafic Pacific Plate (after Johnson 2010).

Fishhooks represent a morphologically diverse and densely omnipresent artifact in the archaeological record of the Pacific. Due to the quick chronology of peopling and the sustained contact between island groups, fishhooks represent an excellent metric for examining cultural transmission across these large inter-archipelagic distances (see Emory & Sinoto 1969; O’Conner et al. 2017). O’Conner et al. argue that any modification to a physical technology that

does not improve the function of the technology is culturally driven. Specifically within fishhook morphology, The authors points to the line attachment device near the proximal end of the hook as a critical component in securing fish but that the various morphological forms provide no functional advantage (Allen 1996; Pfeffer 2001a, 2001b) and as such have been “have been explained in terms of *in situ* cultural transition as well as evidence for cultural sharing” (O’Conner et al. 2017: 33 following Allen 1992; Allen & Schubel 1990).

Under this model, O’Conner et al. (2017) identified 110 unique modes across 18 assemblages spanning Polynesia including Aitutaki in the southern Cook Islands and Pukapuka in the northern group. Among these modes, 53 were represented in multiple assemblages suggesting cultural transmission of line attachment aesthetics. Similarity between modes was calculated on the basis of the similarity of assemblages. This produced a similarity coefficient with a higher number indicating more similar modes.

O’Conner et al. (2017) point to both islands in the Cook Islands as have moderately interrelated modes with every other island group examined except Hawaii and suggest that this may have been due to the Cook Island’s position in the peopling of Polynesia as a distributive hub through which populations had to pass on their way east with strong correlations being noted between the Cook Islands and the Society and Austral Islands. More generally, O’Conner et al. found that distance was not a factor in similarity. Assemblages located within 500km of each other were not significantly more similar than more distant pairings.

Direct geographical references in the oral histories point to a wide array of contacted island groups. Samoa (Gill 1977 [1876]: 25, 114, 121, 149, 236), Tonga (80, 195, 197, 216), and islands in the Marquesas (87, 189), and Society Islands (24) are included in the locations explicitly discussed outside of the Cook Islands that delineate the immediate cultural sphere of

influence. Additionally, Gill references two separate ancestral homelands of Cook Islanders. The first is Avaiki which Gill ties to Savai'i, Samoa (131). The second is a location referred to in the original Rarotonga as "Iti" which he identifies as Tahiti on the basis of the Rarotongan word "iti" which he explains as "Tahiti simply means "east," or "sun rising," from *hiti* (our *iti*) to "rise." *ta* being causative" (Gill 1977 [1876]:2). However, Nicolas (1892) contests this translation offering Fiji as an alternative on the basis of "Iti-Fiji" as the name of one of the major islands of the Fijian group (25).

While these data are excellent in establishing the geography of interaction, it does little to address a Cook Islander understanding of these kinds of long-distance interactions. As I discussed in my theory chapter, I will access this ontology through David's (2006) construction of ontology as a combination of ritual, symbol, and place-based on oral histories (Gill 1977 [1876]).

Gill (1876) demonstrates Mangian, Rarotongan, and Aitutakian construction of the world as oriented with east/west as up/down and north/south as left/right respectively (Gill 129, see Figure 4.2). This helps to align the geography of the region within a wider inter-archipelagic sense of place. In addition, this east/west axis is important in understanding the process of life and death as mapped out on the landscape. Throughout Gill's transcription, the west is consistently associated with death, night, and the underworld (Gill 181, 193, 197, 208). On a more general note, Gill points to Avaiki as both the ancestral home of Cook Islanders and as the place spirits go after death throughout the account and suggests that Avaiki is a modification of Savai'i, Samoa through similar terms for Polynesian homelands and afterlives (Gill 152) and through the connection between the setting sun and departure of the spirits of the dead (Gill 159).

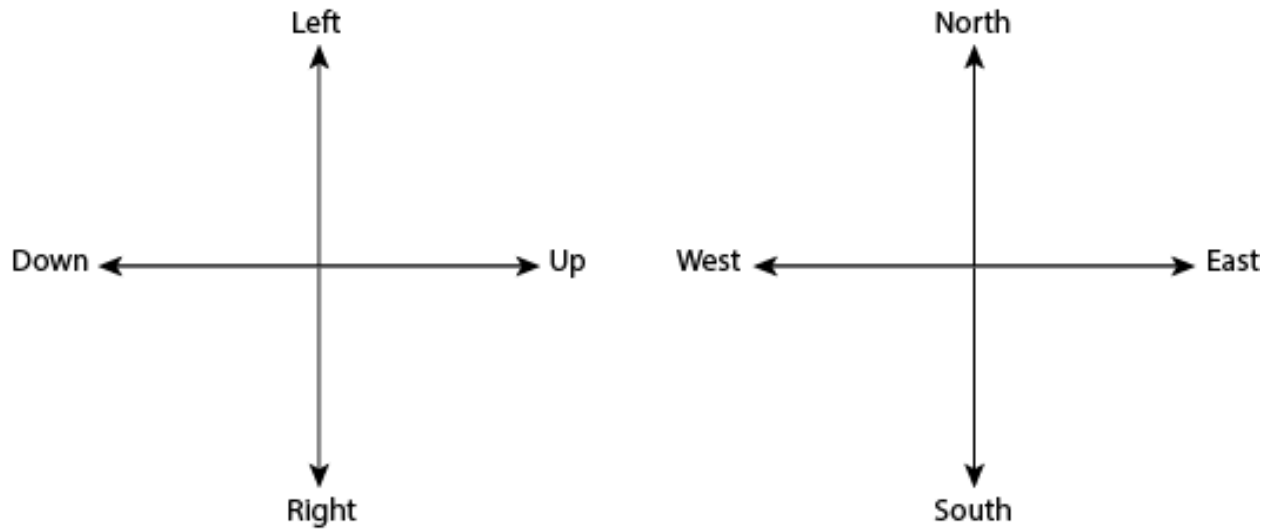


Figure 4.2. Cook Islander construction of directionality (left) compared with Western construction of directionality (right) in the same orientation.

Under this construction of directionality, Gill reports the west/down direction as being a place of both heritage and afterlife and as such are liminal in their construction. I will discuss this more in depth in my analysis chapter.

In terms of specific mentions of voyaging there are few mentions. Aside from references to Cook Islanders pointing to Samoa as a place from which their ancestors came, Gill reports Tutapu's pursuit of Tangiia through the Society Islands (Gill 1977 [1876]:24), the voyage of Rata to Samoa (141), to an as yet unclear location known as Iva, and in a similar vein voyages to Avaiki which Gill suggests is Savai'i, Samoa (158).

Finally, to place all of this chronologically, I utilize a combination of radiometric and relative dating techniques. Radiometric dates place the initial peopling of the Cook Islands between 1000 and 1100 CalCE (Niespolo et al. 2017). This nicely matches the genealogical record which shows that under the rule of Tai-te-Ariki in the latter half of the 11<sup>th</sup> century (rule begins approximately 1055-1081 CE) the Cook Islands were already reasonably well established (Nicholas 1892).

A period of extremely intense El Niño events follow the peopling of the Cook Islands lasting from 1200 – 1500 CE (Thompson 2017). This coincides with Walter's (1996)

demonstration that most exotic stone on in the Southern Cook Islands entered the archaeological record between 1200 and 1500 CE. Similarly, radiometric dates associated with the scant pottery demonstrate these artifacts entered the record between 1300 and 1400 CE (Walter 1989). After this period of intense trade, evidence for contact between island group tapers off coinciding with the general reduction in voyaging (Howe 2006).

## Analysis

Before jumping into the main portion of my analysis, I would like to return for a moment to the theoretical grounding discussed previously and reiterate the theoretical basis for this discussion. Although many see a disconnect between the kinds of materialist, empirically driven materialist data so common in Polynesian Archaeology (Weisler et al. 1996; Collerson et al. 2007; Ditchfield et al. 2014; Weisler et al. 2016) and more subjective ontological datasets such as oral histories, I argue that these two approaches to data and analysis in synthesis can produce a clearer picture of cultural conceptions of interaction in the Cook Islands. Within this anti-structuralist framework, I utilize the landscape itself as the bridge between the two “types” of data.

Exchange is one of the best proxies for examining both geographical and chronological understandings of interaction from a materialist lens as these are strongly preserved in the archaeological record. Across Polynesia, basalt tools represent one of the most common ways of tracking exchange. In my previous analysis (Hulen 2019) of XRF data from the Cook Islands, I focused on exchange both within and outside the Cook Islands. For this discussion, I reanalyzed the same data with a focus on specifically external exchange entering the Cook Islands to demonstrate especially this geographic aspect of my research question. With this in mind, I excluded Weisler et al. (1994) as this dataset contained no archaeological materials derived from outside the Cook Islands. However, Weisler et al. (1995), Sheppard et al. (1997), and Best et al. (1992) report a total of 17 artifacts that fall into this exotic category with the vast majority (N=14) pointing to a source in Samoa, a small number (N=3) derived from the Society Islands, and a single artifact from the Marquesas Islands. This last artifact (referred to as R68-1) is somewhat contentious. Sheppard et al. (1997) suggest a source in Samoa but the more recent and

widely accepted interpretation by McAlister et al. (2013) is that R68-1 derives from Eiao in the Marquesas Islands. Additionally, R68-1 does not plot with the main body of Samoan stone materials in traditional comparisons (see Figure 5.1) and in less common pairings will plot well clear of the Samoan cluster (see Figure 5.2)

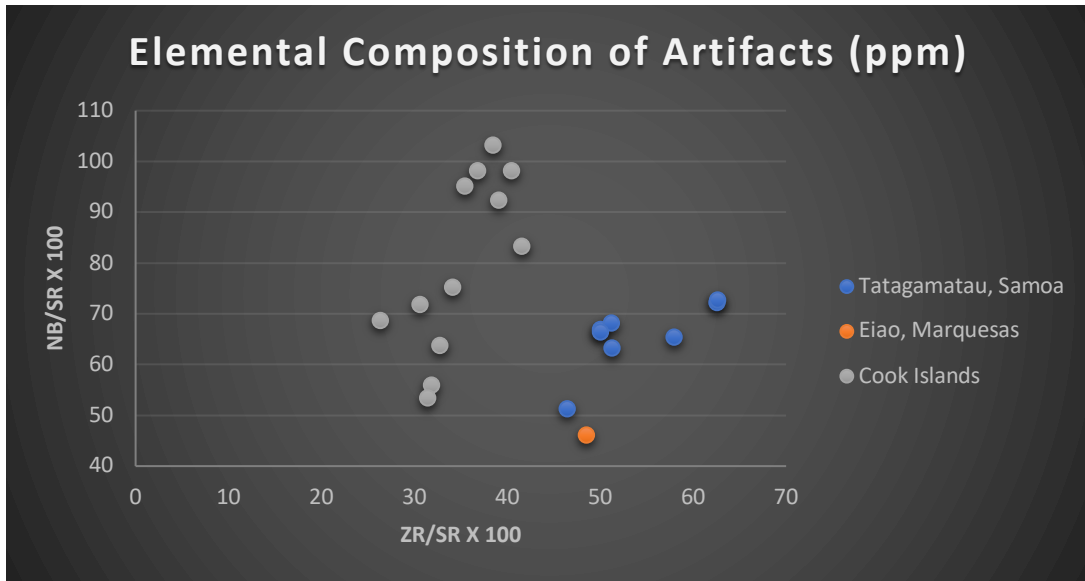


Figure 5.1 Elemental composition of artifacts brought to the Cook Islands compared with artifacts from the Cook Islands in parts per million. Note single Eiao, Marquesas sample is R68-1. (Data from Weisler et al. 1995; Sheppard et al. 2017).

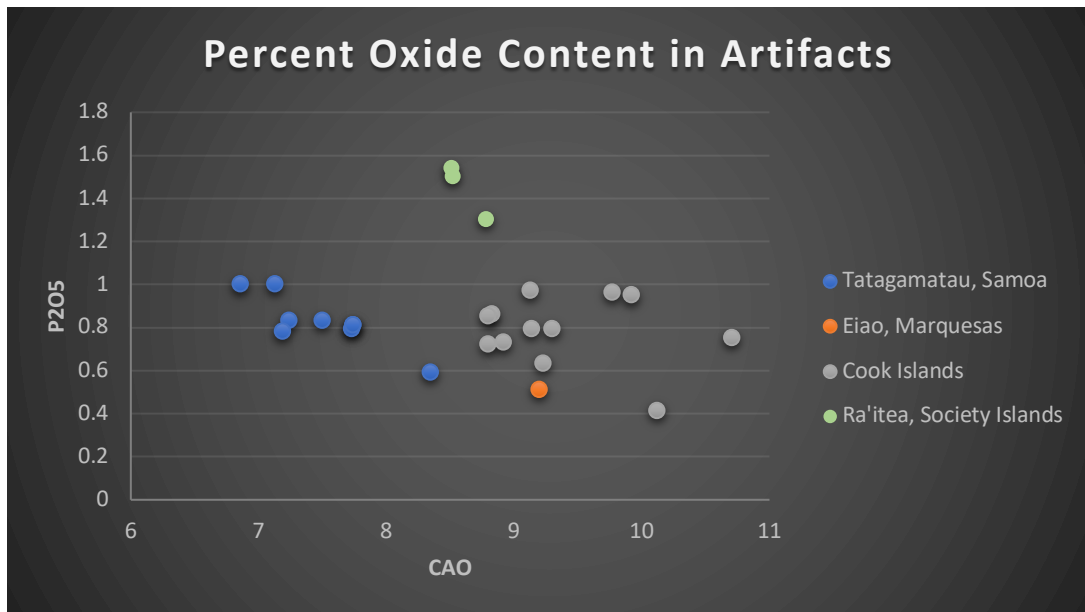


Figure 5.2 Percent composition of metal oxides present in artifacts brought to the Cook Islands compared with artifacts from the Cook Islands in parts per million. (Data from Walter et al. 1996; Sheppard et al. 2017).



On their own, these data demonstrate that the interaction sphere of the Cook Islands extended from at least Samoa to the Marquesas and included the Society Islands although not necessarily at the same point in time. There is also a clear preference for Samoan basalt in the archaeological record with more than 75% of all basalt from outside the Cook Islands originally quarried in Samoa.

In addition, Di Piazzai et al. (2001) point to more tangential connections between the Line Islands and Rawiki and the Cook Islands based on similarities in composition of stone artifacts from an as yet unidentified source. Although this connection is tangential at best, with more research into the archaeology of the Line Islands and Rawiki, a clearer picture may emerge. If we assume that further research affirms Di Piazzai et al., inclusion of this data in the spread of stone material in the region, the geography of contact extends over much of Polynesian.

In a similar vein exploring trade, Walter et al. (1989) suggest that the few pot sherds recovered in the Cook Islands derive from west of the Andesite Line. Walter suggests that the closest possible source is Tonga but could be anywhere farther west. This has interesting implication considering Nicholas's (1892) conclusion that the ancestral homeland 'Iti is located in the Fijian archipelago as opposed to Gill's (1997 [1876]) conclusion that the same island lies in Tahiti. However, I agree with the author's assertion that Tonga is the most likely source considering some interesting political implications I will discuss later suggesting frequent contact.

On the other end of the region geographically, O'Conner et al. (2017) point to the Society and Austral Islands as having morphologically similar fishhooks and, by extension, cultural exchange. In addition, the authors propose that both islands examined in the Cook Islands as have moderately interrelated modes with every other island group examined except Hawaii and

suggest that this may have been due to the Cook Island's geographic position in relation the peopling of Polynesia as a distributive hub through which populations had to pass on their way east. More generally, O'Conner et al. (2017) found that distance was not a factor in similarity. Assemblages located within 500km of each other were not significantly more similar than more distant pairings. This is especially interesting as Pukapuka and Aitutaki are less interrelated than with many farther flung island groups.

From a chronological standpoint, these studies point to three distinct periods of human occupation before European colonization. I suggest this represents the basis for a general model of the changes in interaction over time for the Cook Islands. First, there is a period of initial peopling which, in the case of the Cook Islands, takes place beginning sometime between 900 CE (Neispolo 2019) and 1055 CE (Nicholas 1892). Next, there is a period of high mobility and exchange categorized by extensive geographical connections and exchange of exotic materials. Based on radiometric dates associated with imported basalt, this period in the Cook Islands lasted from 1200-1500 CE (Walter et al. 1996; Weisler et al. 1994; Sheppard et al. 1997). Finally, coinciding with a fall in the frequency and intensity of El Niño events (Thompson et al. 2018), is a period of comparative isolation with no new exotic inclusions in the material record.

While these studies provide some excellent groundwork in establishing how and when material moved through Polynesia, they are limited in their ability to capture all of both chronology and geography simply due to the incomplete nature of the archaeological record. In addition, these sorts of records struggle to reflect an emic representation of Polynesian ontology behind voyaging and interaction that do not necessarily bear material traces in the archaeological record. As such, I will now pivot to an analysis of oral tradition in the Cook Islands to supplement the previously discussed analyses.

As I discussed in my theory chapter, combining multiple seemingly opposed theoretical viewpoints can instead of generating chaos, create a synthesis that is stronger than what either approach could produce alone. In order to address historically underrepresented ontological data in Cook Islands archaeology, I will utilize this framework to combine materialist and ontologically driven data to help address shortcomings in each type of data.

Geography and chronology are fairly easy to access archaeologically, but ontology is a much more ephemeral construction. I chose to utilize David's (2006) model of ontology which argues that ontology is a construction of ritual, place, and symbol. As such, I focused my analytical efforts on examining how examples of these appear in the Cook Islands' oral histories. As an example, in his accounts of the oral histories of the Cook Islands, Gill reports that Ironwood (*C. equisetifolia*) was brought to the Cook Islands from Tonga (Gill 81). This is particularly interesting as Gill also reports Ironwood is a symbol of warfare as it is the preferred source material for weapons (pp. 85; 154; 272; 296). Other authors (Aswani et al. 1998 following Loeb 1926; Goldman 1970) have suggested that the expansion of Tongan influence in West Polynesia may have extended as far as the Cook Islands. From this source, this is the strongest demonstration of political influence from outside of the Cook Islands.

Under David's (2006) ontological model, the geography of the region is important but in order to examine this model to ritual and symbol datasets such as oral histories help to fill in the gaps in the ontological landscape of the Cook Islands. Ontology represents an understanding of the mechanisms by which the world operates. In this discussion I focus on landscape constructed from physical place under David's model as the only component visible from a materialist view of the region. As such, place is the unifying component tying the two types of data together.

However, as all three components are interrelated under this model, I will analyze each instance of place in the context of ritual and/or symbology.

Examining place in Polynesia begins with the omnipresent and highly liminal ocean. In many ways, Gill reports the ocean as a near perfect example of liminality under Turner's (1969) approach. Essentially, Turner dictates that liminality is a process beginning with separation from "normal" society, then the truly liminality begins characterized by danger potentially both physically and socially, finally there is a period of reintegration removing the liminality and rejoining "normal" society. The ocean serves as a space that both physically and metaphysically separated individuals from society exposes them to danger and then reintegrates them at the end provided the voyage was a success. This is a departure in construction from Turner as his construction of liminality is aimed at rituals while my usage is focused on place. Aside from serving as a conduit for the ancestors and the dead, it conveys chiefly members of society and commoners alike on the same level. However, for all involved, there is risk. This suggests that rituals surrounding utilization of the ocean are focused on mitigating the risk of voyaging. Gill points to the risks associated with dying in the wrong way or falling into the clutches of a vindictive deity along the journey to Avaiki (152-180). Additionally, in the 'Voyage of Rata,' the only account focused entirely on the voyage of a living individual, emphasizes the need for protection from threats both physical and metaphysical on the ocean (146). As a result, there are important rituals associated with oceanic travel for either the living or the dead. First, the dead have certain implements buried with them to ensure safe passage to Avaiki. Gill points to this in Tekauae's escape from Miru through the use of a coconut kernel he was buried with (Gill 173-174). While in another similar account, Tekauae is buried with both a coconut and a piece of sugar cane in order to thwart Miru (Gill 175).

Before dealing with Miru, the spirits of the dead have to begin their journey. Gill shows that “There are three [points of departure for spirits] on Mangaia all facing the *setting sun*.” (emphasis Gill:159) This is part of the construction of Avaiki as both described as down and west of the Cook Islands and represents the points that any spirit who died would journey across the southern (right) side of the island to gather at and set out for Avaiki (Gill 196-198). Additionally, Gill points to two separate winds from the southwest and northwest (specifically Iku Parapu and Tokerau respectively (Gill 320)) as being “spirit winds” that allow ancestors and the dead to return to the Cook Islands to deliver messages (Gill 190, 195). This seems to suggest that the “west” was considered deeply symbolic both in terms of history as the direction associated with ancestors, both in the sense of an ancestral homeland and an afterlife. This added layer of oral history demonstrates that the physical and metaphysical worlds overlay each other and interact in everyday life for Cook Islanders. Additionally, I suggest on the basis of the general drop in voyaging over time that the role of wayfinder becomes more mystified over time which obfuscates much of the chronologically emic understanding of voyaging.

In terms of the requirements on the living, everything from felling trees with the proper guidance for canoes (Gill 142-144) to furnishing protection from the dangers of the ocean (Gill 146-147) has to be prepared in advance or the voyage will fail. In the case of Rata, without guidance in his use of wood he was unable to even fell the trees for his canoe (Gill 141) and had it not been for the stowaway Nganaoa, Rata would have had his canoe destroyed three times over (147).

In the context of this space, these rituals are less of a guarantee of success and more of creating the possibility of success. This reflectance of the oceanic landscape as a stage, not an actor, that is dominated by risk coupled with the humans to mitigation of that risk suggests that

long distance interaction however routine it may have been was still significantly important and represented a commitment to voyaging in spite of the risk that in turn suggests some benefit from a successful voyage.

The inclusion of oral history and ontological frameworks for how Polynesians considered their landscape and worldview with more traditionally materialist data on Eastern Polynesian trade and interaction, provides a more holistic view of such patterns. With a geographic span stretching from Tonga to the Line Islands to the Austral Islands and a worldview anchored in the ancestral homeland in Samoa, the Cook Islands represent a central nexus as both the gateway between East and West Polynesia and a trade hub allowing the flow of materials between different island groups.

## Conclusion

The history of the Pacific Ocean is a deeply nuanced and repeatedly colonized narrative with many stakeholders and overlapping claims. In examining this tangled network of interconnected information, I have tried to offer a framework that includes Pacific Islanders and their worldviews into the archaeological discussion. In my own theory I have framed ontologically driven, non-materialist data as a way to understand information gaps in the materialist datasets. However, I contend that increasingly, this understanding of how research is grounded will be reversed with ontologically driven data forming the basis of archaeological research with materialist data filling in gaps. This is increasingly the case in both North American and Mesoamerican archaeology (Bruchac 2010; Oland et al. 2012). As Taika Waititi said recently, “We [Indigenous People] are the original storytellers...” and if archaeology is supposed to serve indigenous interests, then it ought to also deeply and systemically incorporate indigenous voices and narratives.

Although my thesis is obviously the focus, more important in the grand scheme of things is the methods and theory that lead to the conclusion discussed previously. Fundamentally, anthropological archaeology is a field constructed around the study of culture and, as such, it must incorporate the cultures and people who make the field possible deeply into research in substantive ways. Throughout this discussion I have demonstrated not only the utility and practicability but the importance of emic perspectives on archaeological research. To unpack that for a moment, it is important to distinguish between utility and practicability. Utility describes the usefulness of a given theory or methodology in anthropological research while practicability is how easy it is to utilize that theory or methodology in the real world.

In order to provide a more emic and inclusive perspective on archaeological work, I decided to incorporate non-materialist or ontologically driven data in the form of analysis of oral histories (Gill 1977 [1876]) and examinations of cultural transmission through fishhook morphology (O’Conner et al. 2017). Although my research was limited to textual sources both due to time and cost constraints, I hope to expand upon this research in the future through collaborative ethnoarchaeological research.

On the other side of the theoretical spectrum, materialist data represents an important way of supplying more data on mundane kinds of living. While the oral histories do point to some specific voyages, they more often focus on the cultural surroundings of voyaging. Through data such as XRF data from adzes patterns in more frequently accessed quarry sites. This helps to provide context on day to day utilization of the voyaging landscape as opposed to the more mythical or metaphysical utilization of the ocean in oral histories.

Without the inclusion and synthesis of these data, my examination of interaction would not have been possible as the materialist data is unable to supply information on ontological constructions of voyaging and the landscape of interaction. However, because of an inclusion of oral history to these materialist data sets, I have been able to demonstrate a wider geographic extent of Cook Islander contact throughout Polynesia and a deeper understanding of the ontological forces associated with long distance interaction in this region. This will hopefully inform other archaeologists of the possibilities of examining similar lines of research and expand on these methods with clearer ethnoarchaeological research and more in-depth inclusion of Pacific Islanders in Pacific archaeology.

In addressing my thesis directly, I have demonstrated that the Cook Islands’ sphere of influence is much wider than previously thought spanning at least from Tonga to the Austral



Islands to the Marquesas Islands with possible connections to Fiji, the Line Islands, and Rawiki (the Phoenix Islands). Additionally, my research into this topic has suggested that Tongan political influence reached and impacted the Cook Islands as suggested by other authors (Aswani et al. 1998 following Loeb 1926; Goldman 1970). This is substantiated through Oral Histories in the Cook Islands (Gill 1977 [1876]; Nicholas 1892). As a more in-depth project, understanding this relationship between Tonga and the Cook Islands could help not only solidify the political situation during the rapid expansion of peopling in East Polynesia, but also could help demonstrate the positionality of the Cook Islands in a wider Polynesian lens during this time. Another important potential follow-up study would include the examination of whether the general chronological periods outlined in my analysis section could be applied to other East Polynesian island groups though not necessarily concurrently. This would help to resolve issues mentioned earlier in this paper surrounding the lack of generalized chronological periods which in turn could more easily allow discussion of inter-island and inter-archipelagic interaction and comparison that allows for a quick understanding of the rough, generalized understanding of the political and social structures in place at a given time.

Structural change in any academic discipline is inherently difficult. Although many fields and authors are moving towards inclusion of indigenous voices there is still a long way to go including in my own work, but I am hopeful that archaeology can move to be more inclusive both in the way we research and how we encourage the archaeologists of the future across the globe. Archaeology as the study of culture has to be flexible to remain relevant in a modern setting and that process begins now with every archaeologist currently working in our field.

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