

A MULTITHEORETICAL COMPARATIVE ANALYSIS OF SOCIAL ORGANIZATIONS  
AND INTERACTION IN CALIFORNIA, THE PACIFIC NORTHWEST,  
AND THE AMERICAN SOUTHWEST

By

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To the Faculty of Washington State University:

The members of the Committee appointed to examine the dissertation of ERIN MARIE SMITH find it satisfactory and recommend that it be accepted.

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A MULTITHEORETICAL COMPARATIVE ANALYSIS OF SOCIAL ORGANIZATIONS  
AND INTERACTION IN CALIFORNIA, THE PACIFIC NORTHWEST,  
AND THE AMERICAN SOUTHWEST

Abstract

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Chair: Colin Grier

Drawing from archaeological and ethnographic data from the cultural areas of California, the Pacific Northwest, and the American Southwest, this dissertation employs multiple bodies of theory, uses comparative methods, and explores multiple scales to analyze, reinterpret, and form new narratives about the complexities of past human realities. The first case study establishes sustained long-distance interactions and connections between cultural groups in southern California and the U.S. Southwest, and uses complimentary big picture approaches to demonstrate how systemic linkages between the two regions mutually influenced sociopolitical processes and historic trajectories. The second case study compares the organizational capacity of the hierarchical Chumash and heterarchical Yuman-speaking people of California through an analysis of warfare events and economic transactions, and recognizes that different forms of sociopolitical organization can organize at comparative levels of complexity. The third paper explores the multifarious relationships people in California and the Pacific Northwest had with their watercraft by operationalizing a multitheory that overcomes the limitations of singular



theoretical frameworks. It reveals watercraft as power-rendering to elites, resistance apparatuses, regional enforcers, actors in entangled networks, sentient beings and family members, relational *homologies*, as well as other complex meaningful concepts. Altogether, the holistic anthropological archaeology approach I employ allows for new conceptualizations of histories through analyses of the connections people established with their neighbors near and far, the organizational capacities of conflict and exchange, and the dynamic relationships people experienced with non-humans.

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## **Dedication**

To my parents, Richard and Catherine Smith,  
my son, Griffin, and my dog-daughter, Tilly “Worm.”

In memory of Auntie Eileen Ford, Dr. Nenad Spoljeric, Judes Card,

Sophie Smith, and Luna Smith.

## CHAPTER ONE

### INTRODUCTION: THEORETICAL PLURALISM, MULTISCALARITY, AND COMPARATIVE ANALYSES

This is not a traditional dissertation, but rather one composed of three manuscripts that share common chords. It is somewhat unorthodox in that it does not adhere to one body of theory or paradigm, it does not consist of a single regional focus, and it does not address a particular scale of analysis. That said, it also does not offer an invalidating critique or represent a “principled scholarly dissent” (Chrisomalis and Costopoulous 2013). Then what is this dissertation? Overarchingly, it follows some of the foundational concepts promoted by Bruce Trigger in demonstrating a holistic anthropological archaeology, theoretically informed pluralism, creative middle-ground approaches, and comparative studies to better understand the complexities of human realities of the past (Trigger 1984, 1989, 1991, 1995, 2003; see Chrisomalis and Costopoulous 2013; Williamson and Bisson 2006). Through macroanalysis, we have the ability to greatly enhance and expand our understanding of cultures and histories. Anthropology is unique in offering the means to such an approach.

This dissertation applies a plurality of theories and methods. Although this approach simultaneously recognizes the significance of regional archaeology, motivated by local theoretical inquiries and interests that contribute to global theory-building (Thomas 2021), it also identifies issues with some regional frameworks that have become heuristically parochial in addressing new research questions or falter to dogmatism in the face of new data. Recognizing this, I have produced a cohesive collection of research that demonstrates the effectiveness of macroanalyses, by utilizing combined bodies of theory, analyzing data at different scales, and

advancing comparativeness. Here, I provide a brief overview of the manuscripts included to emphasize the common threads that weave this collective into a cohesive whole that contributes to the discipline of anthropological archaeology. In each document, I operationalize an informed ad hoc theoretical approach, and draw from archaeological and ethnographic data to reconceptualize our modern understandings of the past.

The first paper in this dissertation originally appeared in the journal *American Anthropologist* as a co-authored piece with Mikael Fauvelle, titled “*Regional Interaction between California and the Southwest: The Western Edge of the Continental System*” (Smith and Fauvelle 2015). There is a rich and deep history of interaction between peoples on this continent, encompassing North and Central America, and traversing the Holocene Epoch. Archaeological research documents a string of 50 *Olivella biplicata* shell beads originating from the Pacific Coast of southern California have been found at Leonard Rock Shelter in Nevada, dated to 8,000 years ago (Bennyhoff and Hughes 1987). By the 18th century, ethnohistoric accounts report Hopi textile blankets worn by the Chumash and the San Joaquin Valley Yokuts (Bolton 1930; Gifford and Schenck 1926). The extent of materials being exchanged is Pan-American, most notably by the presence of 14,000 shell *Olivella* shell beads from the Gulf of Mexico found at the great Spiro site on the South Plains, a large 14th and 15th century Mississippian center 1,800 km away (Kozuch 2002; see Peregrine and Lekson 2012). The Spiro site also exhibits a Pachuca obsidian scraper with Mesoamerican origins (Barker et al. 2002). Although the influences of Mesoamerican cultures on the American Southeast have been long been discussed, the scraper was the first material item sourced to Mesoamerica—specifically Hidalgo, Mexico, over 2,000 km away.

People across the continent knew of each other, and some people traveled great distances to connect with others, to build and extend network alliances and fulfill obligations, for trade and exchange, for rituals, ceremonies, and pilgrimages, to experience places from creation stories and mythologies, and for adventure and exploration, among other motivations. Such travels, occurring over diverse geological and cultural landscapes, would have perforated ethnic, political, and linguistic boundaries, and would have served to establish and maintain connections to other people and places. With them, people carried news and knowledge, shared stories and songs, spread ideologies, and exchanged material goods and genes. Whether direct contacts or from down-the-line networks, these interactions informed on a greater knowledge of a known world.

Although archaeological and ethnographic evidence has long supported connections between California and the American Southwest (Barber 1876; Fewkes 1896; Jennings et al. 1955; Nelson 1991; Ruby 1970; Smith 2002), the far west has mostly been left out of narratives on long-distance interactions, while such research has instead been directed toward large-scale social organizations, such as major Southwest and Mississippian cultural areas and their connections to Mesoamerican centers (e.g., Erickson and Baugh 1993; Lekson 1999; Lekson and Peregrine 2004; Mathien and McGuire 1986; Peregrine and Lekson 2006, 2012). In fact, various theoretical approaches have been used to grapple with these long-distance, Southwestern-Mesoamerican connections, including world-systems theory (Ericson and Baugh 1993; Bradley 1993; Mathien and McGuire 1986; Peregrine and Feinman 1996), peer-polity interactions (Minnis 1989), and continental *oikoumene* perspectives (Lekson and Peregrine 2004; Peregrine and Lekson 2006, 2012).

We argue that interaction between peoples of California and the Southwest cannot be left out of continental discourse, and that even small-scale groups with varying configurations of sociopolitical organizations would have also been connected within a larger system, be that simply holding knowledge of other people and places, or actively engaging and negotiating long-distance relationships. In modeling large-scale perspectives on regional interaction, we draw from the world systems approach of Gills and Frank (Frank 1998; Gills and Frank 1990, 1991), Pauketat's "big history" (2007:15), and the continental perspective of Peregrine and Lekson (2006, 2012).

Briefly, Gills and Frank (Frank 1998; Gills and Frank 1990, 1991) deviate from Wallerstein's traditional model of world-systems, and instead advocate for a single world system (no hyphen) they identify as the "Asio-Afro-European *ecumene*" (Gills and Frank 1990:19), which would have come into fruition after C.E. 1500, following 5,000 years of development. The composition of their world system incorporates multiple polities that are interacting and interlinked in modes of production, creating interdependent relationships in which linked areas would mutually experience connections in historical and developmental trajectories. We incorporate this systems approach with a similar concept advanced by Pauketat (2007), a big picture view of North America in which history benefits from being explained through a wide focus that incorporates the interplay of events and processes in different areas over time. Also complimentary to these perspectives is Peregrine and Lekson's (2004) continental approach, which utilizes global histories to view the world as interconnections and linkages between peoples and cultural areas. In this continental scope, where groups operated at larger-scales, interacting polities were mutually known, landscapes were contextually understood, the world was imbued with meaning



through experiential interactions, and people knew of each other through personal accounts or via communication channels.

Evidence for long-distance connections with the far west comes from archaeological data and ethnographic accounts of the trade of goods between California and the Southwest. We mainly focus on shell and asphaltum moving eastward from California, and Southwestern textiles and ceramics moving westward, all of which were connected to, and part of a continental sphere of interaction. After establishing interactions between California and the Southwest to be sustained and regular, we argue that an interlocking system existed between the two regions, creating varying degrees of mutual influence on historical processes, observable in parallels in economic and political development. Therefore, as systems of trade and exchange intensified between the two regions, both areas experienced increasing sociopolitical complexity, which we support through regional comparisons during the periods of C.E. 900 and 1150.

The second paper, *Beyond the Periphery: Comparing Complexities in Southern California* (Smith and Fauvelle, in press), is co-authored with my colleague, Mikael Fauvelle, and appears in the edited volume, *Life on the Margins of the State: Comparative Landscapes from the Old and New Worlds* (Knabb and Boswell, in press). The paper embodies a big-picture perspective in which we argue that regional sociopolitical trajectories cannot be fully understood without considering the historical connections and broader cultural landscape. Through engagement in a continental trading system, peoples in California not only knew their world, but they also would have known more authoritarian forms of sociopolitical organization, which may have influenced the ways they would have navigated their own organizational authority. Seeking grand narratives for social change and the march toward complexity, archaeologists have mostly focused on core

regions without much consideration of the dynamic social processes taking place in peripheral areas.

We compare perceived complexity between groups in two areas of southern California, including the Chumash of Santa Barbara and Yuman-speaking people of southern California and the Lower Colorado River. Unilinear social evolutionary perspectives attached complexity to political hierarchy as a singular, vertical frameworks of structural relations (e.g., Johnson and Earle 1987). Through this framework, the Chumash have traditionally been interpreted as complex hunter-gatherers at the chiefdom level (Arnold 1992, 2001; Gamble 2008; Kennett 2005), while Yuman-speaking people, such as the Mohave and Kumeyaay, have been construed as simple egalitarian hunter-gatherers. Different configurations of social organizations cannot be evaluated within the same comparative frameworks, and have, indeed, failed in providing an operative framework for interpreting complexity among Yuman-speaking people, as well as other groups in California that are considered non-traditionally complex. This dichotomous comparison of complexity has been heavily critiqued for decades (e.g., Alt 2010; Haas 2001; McGuire 1983; Nelson 1995; Weissner 2002; Woodburn 1982), with alternative forms of complexity offered beyond the binary, such as the concept of heterarchy advanced by Crumley (1979, 1995), aside from other remedial frameworks (Blanton et al. 1996; Clark and Blake 1989, 1994; Frangipane 2007; Johnson 1982; McGuire and Siatta 1996; Rautman 1998; Renfrew 1974).

We draw from and operationalize an integrative framework of heterarchy and a theory of anarchism offered by Angelbeck and Grier (2012), who describe the key strategies anarchic societies employ to actively resist centralization and social hierarchy, as local autonomy, volunteer association, mutual aid, communal decision making, and justified authority. They

apply the framework in analyzing the decentralized Coast Salish of the Pacific Northwest Coast, a society uniquely configured as an inverted pear with a large upper social stratum outnumbering the lower stratum, and recognized as exhibiting low political complexity with no superior chiefs, but high social complexity (Suttles 1987, 1990). Among the people in the Salish Sea, Angelbeck and Grier (2012) identify an ideology of resistance to regional political centralization. We recognize this anarchist ideology among heterarchical Yuman-speaking groups in California, and compare their organizational capacity in warfare and trade with the hierarchically-organized Chumash, focusing specifically on intertribal warfare, historical revolts against the Spanish, shell bead export, and occupational merchant networks.

Following similar themes of theoretical pluralism and comparative analyses, the third paper, titled *Comparing Canoes: A Multitheoretical Approach to Watercraft in the Pacific Northwest and California*, explores the relationships people had with watercraft through a comparison of canoes used by the Chumash of California, and the Haida, Nuu-chah-nulth, and Coast Salish of the Pacific Northwest Coast. I apply inclusive theory that incorporates elements of ecological possibilism, political economy and materialism, actor-network theory and historical processualism, and phenomenology and Indigenous ontologies to investigate the dynamic aspects of *watercraft culture*. Generally, this includes the relationships between the environment and watercraft, access to watercraft building materials, watercraft ownership and availability, the entanglements between watercraft and various aspects of culture, watercraft as power-grab or resistance tools, Indigenous experiences of and views on watercraft, and the significance of watercraft in the current milieu of Indigenous movements.

This analysis reveals some key observations. First, although watercraft opened up environmental possibilities, people did not necessarily act in determined ways, such as expanding foraging radii,

as factors beyond ecology were taken into account (Ames 2002), such as those based on long-standing historical ties. Second, sociopolitical approaches to watercraft have mainly been top-down perspectives, viewed from society's elites, yet multidimensional approaches (Furholt et al. 2020) offer far more comprehensive conceptualizations of the sociopolitical and economic aspects of human-watercraft relationships, as they take into consideration non-elite actors and their bargaining power. Third, the consideration of humans and non-humans within interactive networks—to include humans, boats, and beings—creates a different understanding of interaction and influence, which can be reflected in settlement patterns, changes in technologies, and cultural practices. Fourth, experiencing life with boats creates unique relationships within the world and an awareness of meaning concerning interactions with places and beings. Some of these connections are understood as parallels between land and sea, house and boat, and *homologies* of house, boat, body, being, and the cosmos.

Collectively, the three papers demonstrate the usefulness of the overarching framework of this dissertation, which follows Trigger and his integration of Chamberlin's method through the consideration of comparative studies, the simultaneous application of multiple theories, and the manipulation of different scales of analyses (Chamberlin 1965[1890]; Trigger 1984, 1989, 1991, 2003). Furthermore, each study also uses multiple lines of evidence, in the form of archaeological, ethnographic, and historical data. The multiple theories and mixed frameworks were created ad hoc for the particular topic. This overarching method allows for a more holistic approach to research and data interpretation.

Each manuscript is prefaced with a brief introduction that provides useful background information and is followed by a conclusion that offers additional information and avenues for

future research. The final chapter of this dissertation seeks to integrate the themes explored in these works.

## CHAPTER TWO

### REGIONAL INTERACTION BETWEEN CALIFORNIA AND THE SOUTHWEST: THE WESTERN EDGE OF THE NORTH AMERICAN CONTINENTAL SYSTEM

#### **Chapter Introduction**

It has been recognized that in order to understand the histories of people, we need to take into account a bigger picture comprised of large-scale patterns and processes (Lekson and Peregrine 2004; Pauketat 2007; Peregrine and Lekson 2006, 2012). Scholars taking this perspective have drawn from Eric Wolf's *Europe and the People without History* (1982) to demonstrate the need for a wider focus. They argue we need to understand the whole history of an area and those nearby, and the totality of local and large-scale processes and events that contributed to the historical developments, instead of just taking history as the sum of hermetically sealed processes.

People were connected into an expansive continental system of interaction that would have incorporated the cultural regions of the American Southwest, California, Northwest Coast, Plateau, Great Basin, Plains, Southeast, Northeast, the American Subarctic, Mesoamerica, and the Caribbean. We see the magnitude of these connections through physical features, artifacts, ideas, and language, and in their cultural impacts. Perhaps this is most notable from Mesoamerican-Southwestern connections at Chaco Canyon, in which copper bells, marine shell and shell bracelets, distinctive ceramic vessels, macaw feathers, and cacao, were tied to both the emergence of regional sociopolitical complexity, and also the shifting representation during the reorganization of the Puebloan world (e.g., clay copies of copper bells) (Mathien and Maguire

1986; Watson et al. 2015). People were connected, the connections were strong, the impact of these connections permeated culture as a whole, and disruptions in these connections had rippling impacts.

The far-reach of Mesoamerican influence in cosmology and culture, can clearly be observed in the Mesoamerican ballgame culture. Reference to the ballgame were widely spread, in the ballcourts found in the American Southwest, the northernmost being at Wupatki Pueblo in Arizona; in I-shaped ballcourt iconography in the deserts of California; the discovery of rubber balls, the northernmost from the Sierra Mountains of Fresno, California; and versions of the Mesoamerican hero-twins' ballgame sagas told by Mississippian cultures (Abbott et al. 2007; Heizer 1946; Moratto 2009; Pauketat 2009; Wilcox 1991; Wilcox et al. 2008; see Fauvelle and Smith, in press). Objects and ideas were widespread, and as more attention is paid to these connections, the greater the dataset grows.

Major trade centers, such as Chaco Canyon, Spiro Mound, and Cahokia, were likely “multicenters,” or rather cosmopolitan, multiethnic, multicultural, multilingual, and pluralistic in histories. The characteristics of these places were created through frequent and ongoing contact with foreigners, and the trade and exchange of nonlocal materials and knowledge (see Sassaman 2005). Jargon trade languages throughout North America would widely have been understood, for instance, at contact, the Aztec trade language of Nahuatl was spoken in Kansas (Kehoe 2002).

Macroregional approaches have been utilized in connecting major Southwest, Mesoamerican, and Mississippian centers into a much larger, open system of exchange and interaction. Notably, Lekson and Peregrine (2004) have taken a continental perspective to North American archaeology, utilizing the idea of global histories in exploring Southwest-Mesoamerican

interactions. Most recently, Peregrine and Lekson (2012) have employed the Greek term *oikoumene* to North America, meaning that North America is understood as a known world to its people. With this Pan-American perspective, populations were in regular contact, forming an inhabited world where processes and events in one area might impact and influence other areas. On a larger scale, recent attempts have called for the building of a history of North America by weaving together extra-regional interactions by cultural areas into one synthesized, polyvocal, historical narrative (Smith and Fauvelle 2017).

In the following article, we focus on a subset of a continental history, where regular and sustained interactions between California and the Southwest occurred through the trade and exchange of shell and asphaltum from California, moving eastward to the interior, and textiles and ceramics from the Southwest moving westward to the coast. These exchanges were not purely epiphenomenal, but instead had profound effects on the social histories of the areas that were involved. Through the intensification of interaction and growing interdependencies, the cultural areas became interlinked to the degree that sociopolitical and economic processes in one area influenced the other area. We investigate coinciding patterns of social change during the period of C.E. 900 and 1150, in which groups in southern California and the Southwest experienced population growth, increased social stratification, specialization, and expansion. These corresponding cycles of intensification, we argue, created a positive feedback system where the demand for prestige items between the regions increased.



REGIONAL INTERACTIONS BETWEEN CALIFORNIA AND THE SOUTHWEST: THE  
WESTERN EDGE OF THE NORTH AMERICAN CONTINENTAL SYSTEM

Erin Smith and Mikael Fauvelle

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**Abstract** The first few centuries of the second millennium saw drastic changes in Coastal California and the American Southwest. In both areas, systems of internal trade intensified, and social systems sped down a path of increasing complexity. Following Peter Peregrine and Stephen Lekson (2006, 2012), we do not believe that these neighboring developments were purely coincidental. Rather, we see California and the Southwest as components in a continental-wide interaction system spanning both North and Central America. We argue that prehistoric interaction between the two regions was regular and sustained and that economic or political developments in one area are likely to have had important implications in the other. Specifically, we outline archaeological and ethnohistoric evidence for the trade of goods between the two areas, with shell beads and asphaltum moving east from coastal California in exchange for Southwestern ceramics and textiles. Rather than seeing each area as a case study in autochthonous social development, we argue that a regional synthesis of economic interactions and connectivity will build toward a better understanding of social changes in both regions.

In Mexico City in 1530, nine years after the fall of Tenochtitlan, a Huastec man named Tejo told the Spanish conquistador Nuño de Guzmán about his life before the conquest, when he and his father would travel north across the Chichimec desert to trade macaw feathers with the great pueblos that could be found there (Lekson 2009:25–26; Winship 1904:1–2). Ten years later in

what is now the state of New Mexico, after having sacked many of the same Southwestern pueblos, Francisco Vásquez de Coronado encountered a Wichita man he called “the Turk,” who in broken Nahuatl pointed his plunder-seeking captors on a path east toward the distant farming towns of the Mississippi (Kehoe 2002:165). At the same time, far to the west, Coronado’s exploits were already being discussed by groups and people encountered by Spanish explorers on the Pacific Coast of California (Flint and Flint 2012:186). Nearly everywhere they made landfall, Juan Rodríguez Cabrillo’s expedition was greeted by locals telling stories of similarly bearded and armored men in the interior (Bolton 1908:6–7, 19–20, 23–25). On at least two occasions, Cabrillo handed letters to local couriers who indicated they could carry them to the Spaniards traveling through eastern Arizona, a distance of over 500 miles (Bolton 1908:6–7).

Such stories paint a vivid picture of interaction and information flow across precontact North America. Not only were people in disparate parts of the continent aware of each other, but individuals seem to have traveled great distances, crossing ethnic and political boundaries and carrying with them news, knowledge, beliefs, and material goods. These connections have led Peter Peregrine and Stephen Lekson (2006, 2012) to call for a “Continental Approach” to North American archaeology, in which it is acknowledged that “processes or events in one region might have an impact on processes or events in another, perhaps distant, region” (Peregrine and Lekson 2012:64). In describing such an approach, Peregrine and Lekson (2012:64) draw on the Greek concept of an *oikoumene*, or known world, to represent how places and areas of interaction are known, contextually understood, and experienced by the people that visit, inhabit, or hear about them. Peregrine and Lekson’s primary thesis concerns the relationship between major centers of complex polity formation such as Mesoamerica, the Mississippian world, and Southwestern North America. Additionally they mention the possibility of parallels in political

histories between coastal California and the Southwest (Peregrine and Lekson 2012:69). This western edge of the North American continental system is the subject that we consider in the following pages.

Connections between coastal California and the American Southwest have long been acknowledged by archaeologists working in the region. Late-19th-century scholars such as Edwin Barber (1876) and Walter Fewkes (1896) both noted the presence of large numbers of shell ornaments in Southwestern burials, which they concluded had been acquired through trade from the Pacific Coast. During the mid–20th century, Jay Ruby (1970) investigated connections between California and the Southwest after recovering Southwestern ceramics during excavations in the San Fernando Valley (Ruby and Blackburn 1964). Working within the cultural ecological framework of the time, Ruby (1970:128) looked for the movement of transferable “cultural elements” to find evidence for the effect such trade may have had on local cultures. Seeing little such evidence, and pointing to the considerable technological and social differences between the two regions, Ruby argued that despite a history of interaction “which began at least 2,000 years ago and continued into historic times,” contact between California and the Southwest “produced no major cultural changes in any of the interacting societies which can be verified with existing archaeological data” (Ruby 1970:157). A similar position, also based on differences in ecological adaptations between the two regions, had previously been argued by Jesse Jennings and colleagues (1955:104). More recently, William Smith (2002) developed a comprehensive summary of the evidence for the exchange of shell artifacts from California to the Southwest, largely based on the work of Richard Nelson (1991) and Ruby (1970). For Smith, such trade was primarily driven by the importance of shell in Southwestern religious practices—

he argues that marine artifacts may have been associated with shamanic rain ceremonies (Smith 2002:208–209).

In this article, we work from the holistic assumption that systems in interaction cannot be understood in isolation. From an archaeological perspective, we suggest that systems can be understood to be in interaction if the hypothetical removal of connections between them would produce a discernible change in their material culture and sociopolitical histories. Starting from the systems-based approaches of Immanuel Wallerstein and Andre Gunder-Frank, and informed by the recent call for a “big-picture” view of North American archaeology provided by Timothy Pauketat (2007), Lekson (1999), and others (e.g., Alt 2010; Jennings 2010; Sassaman and Holly 2011), we argue that ancient California and the Southwest meet such qualifications for interacting systems. We suggest that two primary trade items (shell beads and asphaltum) were moving east from the coast to the interior, and two primary trade items (ceramics and textiles) were moving west. Items made from worked stone were moving in both directions. Rather than being purely epiphenomenal, we argue that such trade had discernible repercussions for regional sociopolitical trajectories. In the Southwest, a high demand for shell beads and asphaltum was fueled by the prestige economies of emerging centers such as Chaco Canyon and Paquimé. Such demand, we suggest, had a direct effect on coastal California, partially driving the development of the export-oriented shell bead economy, which characterized the Santa Barbara Channel Region during the first half of the second millennium. Following this logic, California and the Southwest can be seen as forming an interacting positive feedback system, with accelerating sociopolitical development in each area increasing demand for foreign trade goods supplied by the other.

## **MODELING REGIONAL SYSTEMS**

For much of the past half-century, the discourse on macroscale regional interactions has been dominated by the world-systems approach initially proposed by Wallerstein (1974). As seen by Wallerstein, the modern world-system could be explained by understanding the relationships of dependence that develop between resource-consuming core regions and resource-producing peripheral areas. For Wallerstein, these relationships applied to the exchange of bulk necessities within capitalist market economies. Jane Schneider (1977), however, opened the door for the application of world-systems theory to prehistory by arguing that that luxury items can be seen as necessities for the functioning of elite political economies. In the past several decades, Wallerstein's model has been heavily critiqued for emphasizing the role of core regions and downplaying the ability of peripheral actors to affect the dynamics of the system (Stein 1999). Continued applications of world-systems analysis in archaeology have sought to address these concerns by acknowledging the possibility of multiple interacting world-systems (Chase-Dunn and Hall 1993) and focusing on how world-systemic interactions affect social change in both core and peripheral areas (Hall et al. 2011). Numerous recent studies have applied Wallerstein's ideas to archaeological case studies from around the world (e.g., Algaze 2005; Hornborg 2014).

A very different view of systemic interactions can be found in the work of Andre Frank and Barry Gills (Frank 1998; Gills and Frank 1990, 1991). For Gills and Frank (1990, 1991), there has only been a single world system: an "Asio-Afro-European *ecumene*" (1990:19) that began developing 5,000 years ago and grew to incorporate the Western Hemisphere after C.E. 1500. This vision of a single world system characterized by a lack of a hyphen is distinguished from Wallenstein's usage by the insertion of a hyphen (Gills and Frank 1991). As seen by Gills and Frank, this world system is not characterized by clearly demarcated zones as argued by Wallenstein (1974:100–108); instead, it is comprised of multiple interacting and interlinked

polities. Gills and Frank emphasize the importance of trade in linking neighboring areas, arguing that through the sharing or transfer of surplus production between different regions, neighboring economies become “systemically inter-linked to the mode of production” in each area (1990:27). This system of surplus transfer connects not just the two regions directly interacting but also any additional areas that exchange with either partner. Gills and Frank describe this as a system of “inter-penetrating accumulation” that “creates a causal inter-dependence between structures of accumulation and between political entities” (1990:27–28). Most important for the archaeological understanding of past social change, such interlocking relationships would connect the historical and developmental trajectories of adjacent areas. Gills and Frank (1990:28) argue that the identification of such connections could be achieved through evidence for coinciding political or economic restructuring (or both) in adjacent interacting areas.

Another route to modeling regional interactions has its origins in archaeological approaches that seek to emphasize the historical and contingent nature of past social change. Pauketat (2007), for example, has shown how the rapid emergence of Cahokia as the first American city north of Mexico was both influenced by, and had important impacts on, the broader history of eastern North America. According to Pauketat, a historical understanding of the past needs to employ a wide focus to understand how events and processes in different areas interplay through time. For example, Pauketat emphasizes that one cannot explain the history of Europe without mentioning the wars, crusades, and colonization of adjacent places. Such a “big history” (Pauketat 2007:15) is precisely what Peregrine and Lekson (2006, 2012) are writing about when they discuss connections between the Mississippi, the Southwest, and Mesoamerica. Their continental system of mutually known and interacting polities, however, is also reminiscent of Frank and Gills’s concept of the world system. In this sense, Peregrine and

Lekson's North American *oikoumene* can be seen as a Western Hemisphere counterpart to the Asio-Afro-European *ecumene* proposed by Frank and Gills. As such, we might expect similar processes of interlinked modes of accumulation in the exchanges of surplus in both areas.

It is unlikely that prehistoric California and the Southwest were characterized by the sort of hierarchical divisions of labor that would classify the adjacent regions under the core–periphery terminology as used and applied by Wallenstein. However, working from the perspective of Frank and Gills, the two regions meet the qualifications of an interacting system. In both the Southwest and coastal California, surplus labor was funneled into the production of prestige goods, which were exchanged between adjacent areas. Through an interlinked system of trade relationships, surplus accumulation in the pueblos of the Southwest would be connected to the production of surplus on the Pacific Coast. Furthermore, such interactions could have effects beyond the Southwest, with down-the-line trade (Renfrew 1975) connecting places and polities throughout North America into a continental system as described by Peregrine and Lekson (2006, 2012). The question, however, is whether evidence for such interaction can be identified in the archaeological record. In the following section, we summarize archaeological and ethnohistoric evidence for the movement of trade goods between the two areas.

#### **EVIDENCE OF INTERACTIONS BETWEEN CALIFORNIA AND THE SOUTHWEST**

Long-distance trade between coastal California and the interior of western North America started early in the history of the region (see Figure 1). Richard Fitzgerald and colleagues (2005), for example, produced radiocarbon dates ranging from 11,200 to 7,860 BP from Pacific Coast *Olivella biplicata* shells from several different rock shelters in Nevada and Utah. Trade between southern California and the Southwest intensified during the late first millennium C.E. and continued at a heavy level into the colonial period. Such exchange is described by David Earle

(2005), who shows how Spanish missionaries and military commanders in 18th-century California struggled to regulate transfrontier trade across the Mojave into the Southwest. Throughout this history of interaction, coastal shell seems to have been the most intensively exchanged coastal trade good, and their trade was supplemented by lithic items and asphaltum (bitumen) in trade heading west to east. In turn, textiles and ceramics seem to have been the primary trade goods heading east to west. Current evidence for each group of trade goods is summarized in the following section.

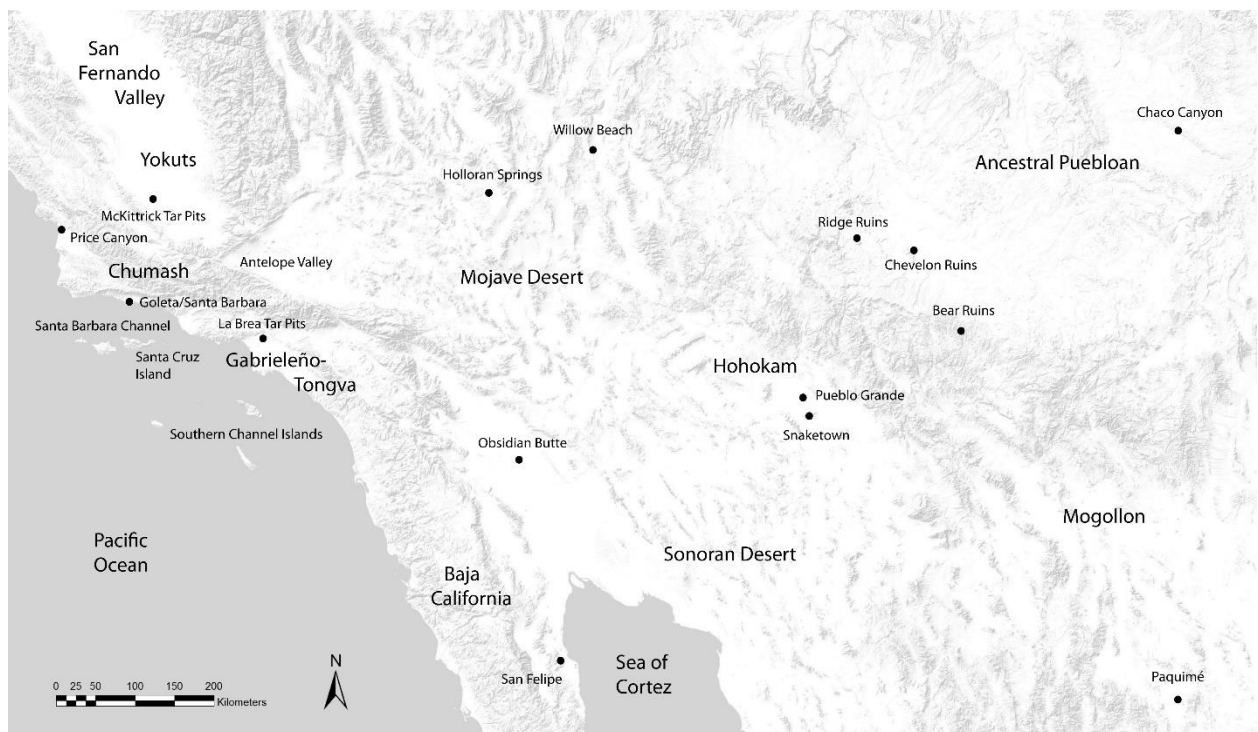


Figure 1. Map of coastal California and the Southwest showing sites and areas discussed in the text. (Courtesy of the authors)

### Items Traded from Coastal California to the Southwest



## *Shell*

Pacific shell artifacts originating in southern California were widely traded throughout prehistoric western North America (Bennyhoff and Hughes 1987; Fitzgerald et al. 2005), and these have perhaps received the most attention in the archaeological literature regarding contact between California and the Southwest (Bradley 1993; Brand 1938; Colton 1941; Ford 1983; Nelson 1991; Ruby 1970; Smith 2002; Tower 1945). An extensive study of excavation records conducted by Smith (2002), for example, identified a total of 26,317 artifacts from 139 sites in the Southwest that were identified as belonging to mollusk species, indicating an origin on the Pacific Coast. As discussed by Smith, the actual number of excavated artifacts is likely to be much higher, as many Southwestern archaeologists do not identify shell to the species level, and since many earlier excavations may not have recorded shell artifacts at all. Shell artifacts traded from coastal California to the Southwest would have been used for personal adornment, the decoration of prestige goods, and possibly as a form of trade wealth (Ford 1983; King 1976).

The most common type of Pacific shell found at sites in the Southwest comes from the sea snail, *Olivella biplicata*. These shells have a long history of use for personal adornment in southern California, and the way in which they were processed for decorative purposes is seen as time sensitive, allowing archaeologists to date sites through the use of shell-bead typologies (Bennyhoff and Hughes 1987; King 1976). Starting around C.E. 900, formalized *Olivella callus* cup shell beads began to be manufactured in large numbers in the Santa Barbara channel region of southern California. Over the following five centuries, several million such beads are estimated to have been produced, mainly on Santa Cruz Island, and exported to the adjacent mainland, the Great Basin, and the Southwest (Bennyhoff and Hughes 1987). The production and export of *Olivella* shell beads was conducted largely through the control of commoner labor

by island Chumash elites (Arnold and Munns 1994), who traded beads for asphaltum and other important items from the mainland (Fauvelle 2013; King 1976). These beads have been interpreted as a form of trade currency, driving the formation of what several scholars see as a burgeoning “market economy” in the Santa Barbara Channel region (Gamble 2008; King 1976). During the colonial period, for example, a string of *Olivella* beads wrapped twice around one hand could be exchanged for a Spanish silver coin (Gamble 2008:232). Early Spanish explorers of southern California also mentioned the mercantile skills of Chumash traders and noted how many different trade goods could be exchanged for set lengths of shell bead strings (Arnold 2001:16). Within the Southwest, California shell beads seemed to have played a similar role in facilitating trade and have been compared to the use of *wampum* in the Iroquois economy of the Northeast (Ford 1983; Frisbie 1974).

The use of California shell beads as a form of trade currency has considerable support in ethnohistoric records from the Southwest. For instance, Theodore Frisbie (1974:125) has argued that the 19th-century Zuni would use strings of *Olivella biplicata* beads called *hishi* as a form of money, citing interviews with elderly Zuni men conducted in 1973. Several 19th-century scholars also mention the use of shell bead currency in the Southwest. Adolph Bandelier (1890:149), for example, writes that ancient Puebloan people used “a conventional currency which we consider as useless, - shell beads,” while John Bourke (1884:254) recorded that “abalone, olivette shells (unpierced), [and] perforated sea-shell beads” were exchanged in such a fashion that “it would not be going far out of the way to dignify some or all of these commodities with the title of circulating media.” Additionally, Neil Judd (1967:59) quotes an unpublished letter by Frank H. Cushing, dated to 1880, which states that “ocean shells were once the staple currency of the Pueblo race, with fixed values.” On the other hand, early-20th-century scholars

such as Donald Brand (1938) and Donald Tower (1945) disagreed with these 19th-century writers, instead choosing to focus on the importance of a perceived ritual connotation of marine shells. Nonetheless, the parallels between Southwestern stringed shell hishi and the shell-bead “currency” of the Chumash seem striking. If *Olivella biplicata* shell beads were being used as a form of trade currency in the ancient Southwest, it is likely that they would have been acquired through trade with the Northern Channel Islands. As the Spanish explorer Pedro Font recorded in 1776, “the Indians of the [Santa Barbara] Channel ... have commerce with the Jamajab [Mojave] and others of the Colorado River, with their *cuentas* or beads, consisting of flat, round, and small shells ... of which they have long strings hung around the neck and on the head” (Bolton 1930:250). While the exact social meaning associated with shell beads is likely to have varied between different areas of California and the Southwest, these ethnohistoric accounts make it clear that in both areas Pacific shell beads formed an important part of local trade networks.

The intensification of island Chumash shell-bead production starting around C.E. 900 coincides with the prevalence of *Olivella* artifacts in Southwestern archaeological sites (Smith 2002). In the Ancient Puebloan area of the modern four-corners region, the number of identified *Olivella biplicata* shell beads found in archaeological deposits increases from eight during Pueblo I to 518 during Pueblo II (Smith 2002:52), indicating a drastic increase in trade with coastal southern California. It is also noteworthy that the transition from Pueblo I to Pueblo II in the Southwest coincides with the expansion of sedentary towns with stone and adobe architecture. Pueblo Bonito at Chaco Canyon, for example, was constructed during this period, where over 100 marine shell artifacts have been dated to the tenth century C.E. (Mathien 1993). Marine shell from the Pacific Coast of southern California is much less common at Hohokam sites, which seem to have primarily drawn trade in marine items and resources up the Colorado

River from the Sea of Cortez (Smith 2002). *Olivella biplicata* are also rare at the great Southwestern center of Paquimé, which primarily imported *Olivella dama* shell, also drawing on the more proximate Sea of Cortez rather than the Pacific Coast of California (Bradley 1993; Smith 2002).

Abalone shell (*Haliotis sp.*) was also an important type of shell exported from coastal southern California to the Southwest, where it was used as a container for holding corn pollen, powdered turquoise, beads, and other forms of jewelry, often in a ritual context (Brand 1938; Davis 1961; Smith 2002). Abalone was also carved into disc beads and tab pendants throughout California and the Southwest, and it was etched or carved into zoomorphic figures by the Hohokam (Smith 2002). In the Southwest, Pacific abalone shell has been found at Paquimé, Chaco Canyon, Bear Ruins, and many other sites (Judd 1954). In some cases, the natural holes of the abalone shells have been found plugged with asphaltum, incorporating two Californian trade goods into one item (Colton 1941). Within the Southwest, abalone artifacts are most common at Paquimé and in the Hohokam region; they are considerably less common at Ancestral Puebloan archaeological sites (Smith 2002). *Haliotis* shells are not found in the Sea of Cortez, which would have necessitated trade with the Pacific Coast of California (Bradley 1993:141).

It is interesting to note that some shell artifacts were traded in both directions. Several Hohokam-style *Glycymeris* bracelets, for example, have been found at coastal sites in modern Orange County (Koerper 1996; Koerper and Desautels 2002). Both plain and decorated specimens have been found in southern California and seem to date from C.E. 900 to 1100 based on Hohokam bracelet typologies (Jernigan 1978). As *Glycymeris* is native to the Sea of Cortez, the shell for these bracelets was likely procured from the coast of Sonora (e.g., Mitchell and

Foster 2000), traded north to Hohokam regions in modern-day Arizona, and then traded west across the Mojave into Alta California.

### *Asphaltum*

Asphaltum (bitumen) was an important resource used as an adhesive and waterproofing agent throughout precontact California (Fauvelle 2011; Fauvelle et al. 2012). Among other uses, asphaltum was used for hafting arrows and other tools (Fauvelle et al. 2012), waterproofing baskets (Hudson and Blackburn 1982), and repairing broken stone *ollas* (bowls; see Hudson and Blackburn 1982). Perhaps most importantly, asphaltum was a critical material in the construction of Chumash and Gabrieliño-Tongva plank canoes, as it was used to caulk the seams between wooden planks (Fauvelle 2011; Hudson et al. 1978). In the Southwest, asphaltum seems to have been primarily associated with shell objects; asphaltum was used to plug abalone shells found in Arizona (Colton 1941) and was used as an adhesive in the creation of turquoise and shell inlays (Fewkes 1896). The use of asphaltum as an adhesive for works of art could potentially have made it an important commodity for prestige economies within the Southwest.

Prehistoric trade in asphaltum within southern California is well documented. As described by Fernando Labrado, one of J. P. Harrington's Chumash informants, people in the Santa Barbara region would exchange dried cakes of high-quality asphaltum, which was obtained through trade with the interior as well as mined along the mainland coast (Hudson et al. 1978:52). High-quality asphaltum was rare and could only be obtained at five locations within southern California: coastal mines at Carpinteria, Goleta, and Price Canyon and the large tar pits at McKittrick and La Brea (Fauvelle 2011:149). Notably, no high-quality asphaltum was available on the Channel Islands, necessitating trade with the mainland to acquire the resources needed to construct and maintain canoes. Shell beads from the Channel Islands were traded north

and east to the southern San Joaquin Valley, likely in exchange for asphaltum from McKittrick (Fauvelle et al. 2012:2808). In turn, it is possible that Southern Valley Yokuts exchanged these shell beads with Mojave traders to acquire textiles and other goods from the Southwest (Koerper and Hedges 1996; Kroeber 1976:612).

Archaeologists working in the Southwest have not always recognized asphaltum as an important trade item and often recorded artifacts that are made from asphaltum under umbrella terms for mastics or glues. A notable exception is Albert Schroeder (1961), who excavated a substantial number of asphaltum cakes at the Willow Beach site in Arizona. Schroeder attributed the asphaltum he collected to the McKittrick seeps in the southern San Joaquin Valley, but Santa Barbara or La Brea seem like equally likely sources. Harold Colton (1941) also excavated Californian asphaltum associated with *Haliotis* shells at the Ridge Ruin site, near Flagstaff, Arizona. In addition, Fewkes (1896:362–363) excavated asphaltum-covered artifacts from several Southwestern sites, including Chevelon Ruins and Chavez Pass, although Fewkes himself did not recognize the material as tar. Contrary to the pattern identified with shell artifacts, where Ancestral Puebloan groups seem to have acquired shell primarily from coastal Alta California while the Hohokam interacted with groups on the Sea of Cortez, it is interesting to note that one of these sites, Willow Beach, is associated with the Hohokam. Despite their propensity to obtain shell from the nearby Sea of Cortez, it seems that the Hohokam also maintained some degree of trade relations with Alta California groups such as the Mojave, Chumash, and Southern Valley Yokuts.

## **Items Traded from the Southwest to Coastal California**

### ***Textiles***

If shell beads were the driving force of Californian trade flowing to the east, it is likely that cotton textiles played a similar role in dominating Southwestern trade to the west. Much like shell beads in coastal California, cotton trade blankets (often referred to as *mantas*) were used as a standardized form of exchange throughout much of the ancient Southwest (Ford 1983). During the historic period, many rates of exchange were recorded in terms of either blankets or buckskins. For instance, Ernest Beaglehole (1937:84) specifically lists two cotton blankets as being exchangeable for a string of shell beads among the Hopi, while Grenville Goodwin (1942:81) writes that buckskins, cotton blankets, and shell bead strings were all exchangeable on a one-to-one ratio among the Zuni and Apache. For coastal Californians, cotton textiles would have represented a much finer and potentially more colorful means of dress than clothing made from locally available materials such as skins, furs, or woven grasses. Southwestern textiles would also have been both costly and exotic, providing elites with an easy way to display their status and their connections with distant places. Unfortunately, cotton preserves poorly in the archaeological record, making its importance to prehistoric political economies difficult to verify. The only archaeological evidence for the presence of Southwestern textiles in ancient California comes from a single trade blanket excavated in the southern San Joaquin Valley (Gifford and Schenck 1926; Kroeber 1976:935). Additionally, several ethnohistoric sources mention coastal peoples wearing Southwestern textiles during the historic period (Bolton 1930; see below).

Several Spanish travelers during the 18th century recorded coastal Chumash people in the Santa Barbara Channel region wearing cotton textiles, which they concluded were acquired through trade with the distant peoples of the Southwest. José Longinós Martínez, for example, recorded in 1792 that “these Indians [coastal Chumash] are fond of trafficking and commerce.

They trade frequently with the mountain people, bringing fish and beadwork and exchanging them for seeds, tápalos of foxskin, and a kind of blanket made from the fibers of a plant resembling cotton, preferring it to their own made of otter” (Simpson 1961:54–55). Several years earlier, in 1775, Pedro Font recorded that the Santa Barbara Chumash “have had some commerce with the other tribes, so that we saw some Indians wearing blankets of cotton, and black ones of wool which come from El Moqui [Hopi], which they have been able to acquire through the Cocomaricopas and Jalchedunes [Halchedhoma]” (Bolton 1930:103). Font also recorded that at Rincon Beach, also within the Chumash region, “I saw one who wore a cotton blanket like those made by the Gila Pimas, and I inferred that he must have acquired it from that great distance by means of the commerce which they have with others” (Bolton 1930:257). At least during the early historic period, coastal Chumash groups were acquiring cotton textiles from the Southwest, likely facilitated by Mojave traders. The degree to which this represented a postcontact phenomena or a continuation of pre-Hispanic trade is difficult to ascertain. However, as indicated by Earle’s (2005) description of Spanish efforts to regulate or prohibit indigenous trade across the Mojave in the late 18th century, it seems unlikely that east–west exchange would have substantially increased after the conquest. The acquisition of Southwestern textiles by coastal Chumash evidenced by the descriptions of Font and Martínez are thus likely representative of practices that occurred during the precontact period and continued into the historic period.

The only archaeological evidence for Southwestern textiles in southern California comes from a trade blanket excavated from a Yokuts burial near Buena Vista Lake in the southern San Joaquin Valley (Gifford and Schenck 1926:104–105, plate 2; Kroeber 1976:935, plate 72). As mentioned previously, the Yokuts traded asphaltum to both the coastal Chumash and groups in the Southwest and served as middlemen in the flow of shell beads from the Pacific Coast to the



southwestern interior. Alfred Kroeber (1976:935) describes the blanket as “an unornamented cotton blanket unquestionably made among one of the settled tribes of New Mexico or Arizona.” Kroeber was unable to date the blanket but writes that he is “certain” that it is of a pre-Spanish origin. A. V. Kidder also examined the blanket and determined that it was not European, nor of modern Hopi manufacture (Gifford and Schenck 1926:104). Kidder suggested that it bore the closest resemblance to textiles found in 18th-century contexts at Pecos, New Mexico. A hole had been cut in the blanket, possibly suggesting its use as a burial shroud by the Yokuts. It is also interesting to note that two *Olivella* shell beads had been sown to the blanket using local plant fibers (Gifford and Schenck 1926:105). The Buena Vista blanket represents clear material evidence of cultural contact between southern California and the Southwest, dating at least to the early historic period. Unfortunately, any similar blankets used in the wetter environments across the coastal range are unlikely to have preserved in the archaeological record.

### *Ceramics*

Ceramics represent the most substantial material evidence for Southwestern trade with southern California in the archaeological record. Currently, there are a total of seven known coastal sites and 43 interior sites in southern California where ceramics attributed to the Southwest have been recovered (Smith 2002:143). These include sherds from the Ancestral Puebloan types of Verde Black-on-grey, Cibola White Ware, and Colorado Red-on-beige (Ruby 1970), as well as the Hohokam types of Sacaton Red-on-buff and Trincheras Purple-on-red (Smith 2002:144). The majority of these sherds come from sites around modern Los Angeles, which would have been part of Gabrieliño-Tongva territory, but three come from the Ventura Valley (Chumash) and others come from coastal Orange County (Gabrieliño-Tongva and Juaneño). One spectacular find consists of an intact Hohokam Sacaton Red-on-buff bowl that was excavated at the Big

Tujunga Wash site in the San Fernando Valley (Ruby and Blackburn 1964; Walker 1951). All of these ceramic types date to the late first millennium C.E., with the majority dating to the period spanning roughly C.E. 900 to 1100—precisely the period during which shell-bead production was being intensified in the coastal Santa Barbara region (Smith 2002:144).

A large number of Southwestern ceramics are also found at interior Californian sites, primarily in the Mojave Desert (summarized in Smith 2002:146–150). The vast majority of these are Ancestral Puebloan ceramic types, corroborating the pattern noted elsewhere in this article wherein Puebloan groups seem to have been trading via the Mojave with Chumash and Gabrieliño-Tongva groups around modern Santa Barbara and Los Angeles, whereas the Hohokam seem more likely to have traded directly across the Sonoran Desert with groups in southern Alta and northern Baja California. It is possible that some of the Southwestern ceramics found in the Mojave may have been broken in transit across the desert. Alternately, some of the Hohokam ceramics may represent the presence of small resource extraction camps, such as the possible Hohokam turquoise mine at Holloran Springs in San Bernardino County (Leonard and Drover 1980).

In addition to Southwestern pottery found at California sites, there is also evidence that suggests knowledge of the Pacific Ocean conveyed in Mimbres pottery motifs of New Mexico. Stephen Jett and Peter Moyle (1986) discuss the presence of exotic fish on Mimbres pottery dating from C.E. 1000 to 1150. Although most of the fish represented appear to originate in the Gulf of California, a few appear to be from the Pacific Coast and the Colorado River. Although they do not elaborate on the depiction of the Colorado River fish, they identify the Pacific Ocean fish as Pacific porgies, which often get confused with Gulf of California grunts. The knowledge of fish species from the Pacific Ocean indicates a degree of connectivity between the two regions

and is suggestive of travel between the two places. It is also interesting to note that there are commonly shared depictions of serranids on Mimbres pottery of New Mexico and rock art on the Gulf of California side of the Central Baja California Peninsula at Bahia Concepcion that has been attributed to the Cochimi, a Yuman-speaking group also closely related to those in the northern Baja and southern Alta California cultural area (Jett and Moyle 1986:698).

Ceramic figurines stylistically attributed to the Southwest have also been found in archaeological contexts in southern California. Southwestern figurines have been divided stylistically into a “northern style” associated with the Ancestral Puebloan culture and a “southern style” associated with the Hohokam (Morss 1954). In southern California, figurines attributed to both the northern style (Brown and Freeman 2012; Dixon 1977; McKinney and Knight 1973) and the southern style (Hedges 1976; Koerper and Hedges 1996) have been found, primarily in San Diego, Orange, and Riverside counties. As clay sourcing has not been conducted on these figurines, it is difficult to determine if they represent external trade goods or locally made imitations. Nonetheless, the stylistic similarities between these figurines and those found in both the Puebloan and Hohokam regions of the Southwest provide additional evidence for the existence of connections between the two regions.

### ***Worked Stone***

Artifacts made from stone moved in both directions across the Mojave Desert. Southwestern-style grooved stone axes have been found at several archaeological sites throughout California and have long been seen as evidence for interaction between the two regions (Heizer 1946; Rogers 1929). In the Southwest, such axes are used primarily for agricultural purposes, including the felling of trees and the clearing of brush (Mills 1993); however, their intended use in Californian forager communities is less clear. Some of the axes found in California may be local

imitations of Southwestern styles, but others are made from nonlocal materials and were likely imported over considerable distances (Leonard and Drover 1980; Rogers 1929). It is noteworthy that two grooved stone axes have been recovered from Catalina Island, where it is possible that they were used in the mining of steatite (Heizer 1946). To the authors' knowledge, these axes have never been experimentally sourced, but the presence of Southwestern grooved axes on Catalina Island would provide a rare example of Southwestern trade goods archaeologically recovered from California's Channel Islands.

Examples of lithic materials that were traded from California to the Southwest include both steatite and obsidian. Steatite artifacts manufactured on Catalina Island were highly valued export items that were traded throughout southern California. Steatite objects attributed to Catalina Island have been found at archaeological sites east of the Colorado River (e.g., Schroeder 1961). A more detailed study of the distribution of these artifacts could prove highly productive. In addition to steatite, obsidian from sources throughout Alta and Baja California has been found in archaeological contexts in the Southwest (Shackley 1995). Turquoise mined in eastern California was also readily traded to the Southwest (Leonard and Drover 1980). Moving in the other direction, lithic artifacts such as Hohokam U-shaped lunate crescents have been found in Newport Bay and in the French Flat area of Orange County (Koerper 1996).

## **DISCUSSION**

The preceding paragraphs have presented evidence that pre-Hispanic California and the Southwest can be usefully analyzed as an interacting trade system. In the model we present, Pacific shell beads were manufactured by the millions by the Chumash of the Northern Channel Islands and traded east and northeast to the Gabrieliño-Tongva of the San Fernando Valley and the Yokuts of the southern San Joaquin Valley (Bennyhoff and Hughes 1987). In these two

valleys, shell beads and asphaltum from the Mckittrick and La Brea tar seeps were then likely exchanged with Mojave traders, who carried them east across the desert to the Pueblos and the towns and villages of the Hohokam. In the Southwest, strings of shell beads from the Pacific Ocean likely formed an important part of local political economies, and in historic times they were used as a form of trade currency known as hishi (Ford 1983; Frisbie 1974). Asphaltum would also have been important to prestige economies, as it was used as a mastic for constructing elaborate turquoise and shell inlays (Fewkes 1896). Steatite and obsidian was also traded to the east, moving across the Sonoran desert from southern California. In exchange for these items, groups in the Southwest traded decorated ceramics and textiles, giving Californian elites a means through which they could display their status and connect themselves with exotic foreign places within their known world.

In both California and the Southwest, the trade goods exchanged through this system would have been produced through excess labor that would have been directly funneled into local prestige economies. In other words, the record of exchange between California and the Southwest shows how surplus labor was being readily transferred between the two regions. This fits well within Gills and Frank's (1990:27–28) definition of a system of interpenetrating accumulation. As described by Gills and Frank (1990:28), a good test for the existence of such system relationships can be found in evidence of coinciding patterns of social change. Following this logic, it is striking that the first stages of specialized shell-bead production on the Channel Islands started around C.E. 900 (Arnold 2001:17), which corresponds to the transition from Pueblo I to Pueblo II in the northern Southwest and from the Colonial to Sedentary periods among the Hohokam (Woodbury 1979:29). In the Southwest, this period saw considerable population increases, the expansion of sedentary villages, and increased social stratification. In

response to these changes, one could imagine how newly empowered actors in the Southwest might have then sought greater quantities of California shell to cement their status, fueling the intensification of specialization in the Channel Islands observable in the archaeological record (Arnold and Munns 1994). Several centuries later, the largest expansion of the Chumash bead industry began with the start of the Transitional Period, around C.E. 1150 (Arnold 2001:17). This again fits closely with transitions in the Southwest, as the Pueblo III period and the Hohokam Classic period both start around C.E. 1100 and each is associated with dramatic social transformations (Woodbury 1979:29). Once again, cycles of intensification in both areas coincide with each other, and it is likely that increasing demands for prestige goods in each area provided a degree of positive feedback that fueled further developments in the other.

In this article, we have focused on shell, asphaltum, ceramics, and textiles not because these were the only goods exchanged between California and the Southwest but because they were among the most heavily exchanged and easily identified in the archaeological record. An equally important component of interaction may have been the movement of people, which is harder to identify in the material record but which would have predicated any material system of exchange. The presence of Southwestern turquoise miners at Halloran Springs in the Californian Mojave has long been discussed in the archaeological literature (Heizer and Treganza 1972; Kellogg 2010; Leonard and Drover 1980), while numerous ethnohistoric accounts of Mojave traders in coastal California were recorded by early Spanish and Anglo-American travelers (Frémont 2001; Galvin 1967). The Mojave would also travel considerable distances across the desert to acquire salt—a practice recorded in oral narratives and songs (Earle 2005; Kroeber 1976:762). The trafficking of captured slaves across the Mojave may also have been an important component of regional trade, and it was a well-documented practice during the historic

period (Forbes 1965; Smith and Walker 1965). The degree to which the historic practice of slavery can be projected into prehistory, however, is difficult to determine.

Considering the rich ethnohistoric and considerable archaeological record of early and sustained interactions between coastal California and the Southwest, we suggest more attention should be paid to large-scale systemic models for social changes across both areas. On the one hand, while many Southwestern archaeologists have acknowledged the importance of Californian shell in the ancient political economy of their region (e.g., Bradley 1993; Frisbie 1974; Smith 2002), they rarely discuss the implications such exchange in macroregional or world-systemic language. On the other hand, California archaeologists have not emphasized the role that interregional trade might have played in the development of coastal complexity, instead focusing largely on environmental change and intraregional dynamics (Arnold 2001; Gamble 2008). We suggest that a more nuanced perspective on the ancient histories of both regions could be gained by a better understanding of these big-picture interactions and exchanges.

## **CONCLUSION**

In this article, we have presented ethnohistoric and archaeological evidence for the existence of systemic interactions between coastal southern California and the American Southwest. We have sought to show how the political economies of both areas were inter-related, so that increased demands for prestige goods in one area would work to facilitate increased production in the other. Sociopolitical developments in each area, therefore, would have been both driven by and dependent on interactions within the overarching system, though likely at varying degrees. We have not suggested that such systemic interactions were the only factors contributing to the development of complex societies in California and the Southwest. To the contrary, extensive data has shown how climate change, factional competition, population stress, migration, and

many other factors contributed to sociopolitical developments in each area (Arnold 2001; Hegmon 2000; Kennett 2005). Nonetheless, as an interacting system, the connections between California and the Southwest are likely to have affected the social history of each region, working both together with and against other complex and dynamic processes.

That neighboring areas such as southern California and the Southwest would exert influence over each other's sociopolitical trajectories should not be seen as surprising. Indeed, the study of regional interactions as a facilitating factor in social change has long been a central focus of archaeological inquiry. Here we have sought to show how localized interactions between social actors in one area can be linked to social changes in another through nested systems of interpenetrating accumulation (Gills and Frank 1990). This approach draws on economically based models such world-systems theory (Wallerstein 1974), as well as historical-processual attempts to build an integrative "big history" of North America (Pauketat 2007; Peregrine and Lekson 2012). We hope that by focusing on the history of large-scale interactions, we might be able to bridge a gap between these two different approaches to modeling regional interactions.

Through interlocked connections, California and the Southwest were part of an interaction system that spanned the North American continent. The eastern flow of Californian shell did not stop at Chaco Canyon; a total of 13,948 *Olivella dama* shells from the Gulf of California have recently been identified at Spiro mounds in Oklahoma (Kozuch 2002). Smaller numbers of Pacific Coast shell have also been identified at other Plains and Mississippian sites, with Pacific *Haliotis* and *Tridacna* found as far east as at sites along the central Tennessee River in Alabama (Claassen 1996:257; Kozuch 2002:700). Likewise, Mesoamerican traders at Southwestern sites such as Paquimé would have had access to shell, asphaltum, and obsidian



trade goods originating in California. Archaeological and ethnohistoric evidence of interactions between such distant places makes it clear that the pre-Hispanic inhabitants of North America lived in a known world that stretched, at the minimum, from Canada to Panama (Peregrine and Lekson 2006, 2012). Hopefully the discussions in this article have helped to fill in our modern understanding of the western edge of this New World *oikoumene*.

## Chapter Conclusion

The archaeological and ethnographic data to support long-distance interactions between California and the Southwest are considerable, and a full discussion is beyond the parameters of the article. In the following section I briefly address additional content, to include lithic sourcing, trails and oral narratives, and the effects of collapse or reorganization within these systems.

### *Lithic Sourcing: Obsidian*

California obsidian has also been sourced to Southwestern centers. Steven Shackley has worked extensively on obsidian sourcing throughout the greater Southwest. His research has included four obsidian sources in Alta and Baja California including the Bristol Mountains in San Bernardino County, Obsidian Butte in Imperial County, and San Felipe and Punta Mangles on the Baja California Peninsula (Shackley 1995, 2005; Sloan 2003). Obsidian hydration performed on obsidian from the Hohokam site of Pueblo Grande suggested that the Hohokam exploited distant obsidian sources in Alta and Baja California. Considering the high quality, locally available sources present near the Hohokam area, there seemed to be other or additional reasons for exploiting or trading for obsidian at the Punta Mangles source in the south-central Baja California Peninsula. Perhaps this was related to prestige objects, pilgrimage, or the maintenance of long-distance social networks.

In addition to obsidian sources, there appear to be some parallels in obsidian projectile technologies between the Southwest and California. Shackley argues that obsidian projectile points in the Colorado Desert of California, known as Peninsula Range Dos Cabeza Serrated points, are virtually indistinguishable from Sacaton Serrated points found at Hohokam Snaketown (Koerper et al. 1996; Shackley 2005). Koerper and colleagues (1996) further account

for additional co-variation of the Sacaton point type, such as the Sonora Tangled from the Hohokam Santa Cruz phase dating from A.D. 700 to 900. These point types likely function to facilitate bleeding, as they essentially explode into fragmented pieces within the intended target, and were likely used strategically beyond hunting, but also in human-to-human warfare. Other lithic materials found in Southern California and associated with the Hohokam include u-shaped lunate crescents found in Newport Bay and in the French Flat area of Orange County (Koerper 1996; Koerper et al. 1996). But, connections between these cultural regions were beyond material culture, and a part of a landscape imbued with meaning apparent in oral narratives and songs.

### *Oral Narratives and Trails*

People learned how to navigate the landscape through oral stories, and connecting people were a series of trails and waterways. Much of the work on oral narratives focuses on the construction of ethno-geographies, which seek to understand concepts of space, movement, and landscape from an emic or ontological perspective (Snead et al. 2009:16). In the Southwest, for example, Darling (2009) has investigated how O'odham songs are approached in their relation to prehistoric and historic trails, and how songs function as infrastructure that mediates social space and landscape. Such infrastructure, Darling argues, is created and maintained through the repeated performances of song, and supported and upheld through physical experience in the geographic referent. This ultimately creates a concrete reality, or built environment, of the spaces referenced, which plays back into the significance of the original song. Darling (2006) differentiates the function of travel-for-trade versus travel-for-ritual purposes, as the latter is likely more rigid in terms of the path of travel. For instance, the O'odham Oriole song is considered a part of a spiritually enriching journey to salt flats, one that functions as a roadmap

guiding to specific locations, perhaps directed by cairns, shrines, petroglyphs and landmarks, but may also function as a cleansing pilgrimage for experienced leaders to purify from hardships as a metaphoric journey of life. Darling further describes the Oriole song and experience as a means in which “cognitive maps of geographic space are generated by cross-domain mapping of experience and representation through tradition and repeated song practicing” (Darling 2006: 18). He relays versions of this song performed by Vincent Joseph reference travel directions, and the map of trails presented include paths stretching westward into California, beyond Lake Cahuilla, into the Anza Borrego Desert and Cuyamaca Mountains (Darling 2006). The use of songs to mediate travel across the landscape shows how physical landmarks were incorporated into a socially known world spanning much of the ancient Southwest. Elsewhere in the Southwest, Ferguson et al. (2009) have also emphasized the importance of incorporating Hopi stories and narratives in the retracing of northern Arizonan trails. Future work on incorporating oral narratives and traditions with archaeologically understood patterns of movement could prove productive in understanding large-scale interactions across California, the Southwest, and throughout the continent. These examples are important as they not only connect people to resources, but since they also connect people to places, spaces, and landscape features within a known world.

Trails are highly significant in the movement of people, flora and fauna, portable objects, as well as in the purpose of the travel, for trade and exchange, social alliances and marriage agreements, spiritual rites of passage ceremonies and pilgrimages, to gain knowledge about cosmology and mythology, or for pure exploration and adventure. There were local trails and major ones, some controlled and some communal, and sometimes new paths replaced the old ways. Native trails were used into historical times by Indigenous peoples and settlers, and in many cases

contemporary roads and highways paved over or mimicked the pathway of these ancient trails. They were part of a cultural landscape attached to other markers, lookout points, defense positions, camping areas, and shrines for safe-travel. There were different levels of commitment with trails, as some were fortuitously made by foot, manually carved into steps, created by animals, and some would have been upkeep while others were as-is. Trails were not just terra-based, but also included water routes, and the combination of the two.

Other major arteries of trade routes would have included three major trail systems documented in ethnographic and archaeological literature, although they do seem to vary and branch off into smaller segments. This includes the east-west Mojave Trail, the east-west San Diego-Casas Grandes route, and the north-south route leading from the northern Gulf of California up through Hohokam, Mogollon, and Ancestral Pueblo areas (Smith 2002). The Mojave Trail likely originated west of the Colorado River near Needles, California, and crossed the Mojave Desert westward towards the Antelope Valley and the San Gabriel Mountains, from which it split north towards the southern San Joaquin Valley and south into the Los Angeles Basin (Earle 2005; Jennings et al. 1955; Rogers 1945, 1966). This would have connected the Puebloan Southwest to the Gabrieliño-Tongva, Chumash, and Serranos. Johnson and Johnson (1957) followed part of the Mojave Trail in San Bernardino Valley and found broken pottery, stone cairn/shrines, and prepared sleeping circles along the path, lending a wider-significance to otherwise isolated sites from a local perspective. Another major artery of trade was located further south, and connected the area of modern-day San Diego with the Sea of Cortez and the Colorado River (Jernigan 1978). This route was likely utilized most heavily for interactions between the southern coast of California and the Hohokam region. It is noteworthy that archaeological sites along these trade routes show evidence of intensive interaction. Antelope Valley, for example, contains several

sites with extremely high densities of shell beads and Southwest ceramics (Sutton 1988).

Expanding research on Indigenous trails of the west has the potential to tell us much more about the cultural landscape, connections between people, movement, in which there are several classic publications of trade routes maps connecting the Pacific Coast, Gulf of California, and the Southwest (Brand 1938; Farmer 1935; Ford 1983; Heizer 1941; Sample 1950; Towers 1954; see Darling 2006; see Earle 2005; see Kozach 2002).

Ethnographic literature has further contributed to understanding the trail connectivity between the Southwest and California. The trail system among the Indigenous California people as “myriads of Indian trails crisscrossing each other in the valleys of California. Early travelers were often confused by the multitude of choices; they needed and used Indian guides to show the correct paths...many of the trails were wide and worn a couple of feet deep from long use” (Sample 1950:1). The function of these trails extended beyond simply exchange. There are accounts of yearly journeys by the Zuni to mine turquoise in San Bernardino, California. The Navajo were said to have regularly crossed the Mohave Desert at night, to acquire Pacific Coast Salt, even though the resource is available locally at Zuni Salt Lake in Catron County, New Mexico where people throughout the southwest made annual pilgrimages (LaDuke 2002). Similarly, the Mohave were known for their endurance, and runners would transverse the Mohave Desert, with one account describing a runner covering 21 miles in 3.5 hours—a particularly salient point of future inquiry into ontological conceptions of geographic and temporal proximities.

Considering trails and narratives within the California and Southwest as an interactive system helps create a clear image of geographic proximity, and the physical and spiritual aspects of travel. From California, people would have also been connected elsewhere. The flow of prestige

exchange items from California went beyond Southwestern and Mississippian centers (Peregrine and Lekson 2012), and were likely accessible by Mesoamerican traders, perhaps at sites such as Paquimé. California items would have also moved along north-south trade routes through trails, rivers, and coastal travel, and extended into neighboring regions, such as the Great Basin and Plateau, and then into the Plains.

### *Incorporating the Northwest*

The connections between California and the Southwest are just a subset within a continent-wide interactive system. Subsets of interaction throughout the continent could benefit from being stitched together to inform on a collective past of interaction and influence so that we can better understand the larger history of our continent. The Pacific Rim's rich shell trade would have also included interactions between California and the Pacific Northwest, featuring the exchange of *Dentalium*, *Haliotis*, *Glycimerous*, and *Olivella*, as desired wealth objects, ornamentation, and currency. Different *Dentalium* species can be found along the coast from Alaska to Baja California, and have been identified in archaeological sites in California, the western Great Basin, Idaho, Oregon, Washington, and British Columbia (e.g., Barton 1994; Erlandson et al. 2001; Sample 1950; Smith 2002). A major source of the shellfish was Vancouver Island, where *Dentalium pretiosum* grew large in size in deep waters. They required canoes and specific harvesting technologies, and were widely used in prestige exchange due to their size (Ames and Maschner 1999; Barton 1994; Clark 1963; Kroeber 1925; Moss 1993; Smith 2002). *Dentalium* can be found in archaeological sites dating as far back as 6,800 years, and found in sites as far east as Wyoming and the Great Lakes (Barton 1994; Erlandson et al. 2001, as cited in Smith 2002:356). During historical times, *Dentalium* was used as currency with European traders, where foreign sources and replicas were brought in, and it continued to be used in currency

transactions with other Indigenous people in exchange circles with canoes and slaves (Barton 1994; Swanson 1905).

*Dentalium*, *Haliotis*, and *Olivella* were comparative in value and sought-after adornment materials for trimming and other ornamentation (Gamble 2020; Kroeber 1925; Niblack 1888). Along the Pacific Coast, *Dentalium* was traded into southern California, while *Haliotis* moved northward and would have likely followed the trade routes of obsidian into British Columbia (Ames and Maschner 1999). There were four species circulating in the shell trade in California, but the green (*Haliotis fulgen*) and black abalone (*Haliotis cracherodii*) were preferred in the Northwest for having thicker shell to be worked in artistry (Blake 2007; Geiger and Poppe 2000; Sloan 2003). Most notable, California abalone has been found at the Scowlitz site in the Upper Fraser Valley of British Columbia, including three full pendants, as well as shell fragments (Blake 2007). Likewise, abalone can be found in the Fraser Canyon near the confluence of the Thompson and Fraser Rivers (Smith 1899). In the protohistoric period, the California Yurok seemed to have been the middlemen of north-south coastal exchange routes between *Dentalium* and *Haliotis*. In the historic period, Spanish traders brought abalone from Monterey Bay, California, and at in later times American traders brought them northward at the request by Indigenous people (Gibson 1988). Obviously, this is just the start of much wider and substantial connections incorporating the Northwest to the far western *oikoumene*.

### *Continental System Collapse*

So far, I have made connections between regions, and have identified interlinked historical processes of periods of mutually increasing complexity. Equally important are events of regression and decline that may lead to collapse or compelling accounts of reorganization and innovation. A classic example is that of the aggregation and depopulation of the Chacoan



regional system, the collapse of Chaco Canyon, and the reorganization of the Puebloan world. During Chaco's reorganization, the center of the Puebloan world bounced between Chaco Canyon and Sacred Ridge for nearly seven centuries before people movement to Aztec Ruins, and then debatably to Paquime (Casa Grandes) (just south of the border in Chihuahua, Mexico) (Lekson 1999, 2009). The once intense connectivity between Chaco and the greater Southwest and northern Mexico ceased to exist by the time people organized around Paquime. However, reminiscence of these long-distant connections remained in terms of ceramic "copper bells," and murals of macaws, as the actual objects originating in Mexico were no longer available through trade and exchange (e.g., Lekson and Cameron 1995; Mathien and McGuire 1986).

A second example is Merrill's (2004) analysis of the rapid collapse of Hohokam and the connections to Lake Cahuilla, once a large freshwater lake in the Salton Basin of southeastern California. Merrill argues that the Pre-Classic Hohokam reached outside of their territory for wild protein foods, which became limited due to climate change, population growth, and investments in irrigation. As such, the Hohokam would have traded shell items for dried fish. Merrill (2004) uses network and statistical models applied to the Hohokam-Lake Cahuilla transregional system to identify robust-fragility properties that would have contributed to the collapse of Hohokam. His analysis indicates that by extending reach beyond the Hohokam region to Lake Cahuilla for the purpose of stability in the form of fish and shellfish trade, this actually introduced more fragility to the system and increased the speed of collapse.

However, both of these examples do not treat periods of regression, collapse, or reorganization through world-systems. Peregrine (2016) argues world-systems analyses rarely focus on collapse. This is surprising since world-systems theory should be particularly appealing for this purpose, as crisis in one part of the system may have been the result of the interdependency of

polities within the world-system (Tainter 1988). Frank and Gill's (Gills and Frank 1990, 1991; see Smith and Fauvelle 2015) world systems model of areas that have become inter-dependent and systemically interlinked through trade, would be a particularly useful approach to use in future research.

## CHAPTER THREE

### BEYOND THE PERIPHERY: COMPARING COMPLEXITY IN SOUTHERN CALIFORNIA

#### **Chapter Overview**

This manuscript is a book chapter in *Life on the Margins of the State: Comparative Landscapes from the Old and New Worlds* (Knabb and Boswell, in press). The edited volume focuses on politically marginal environments which have predominantly been interpreted as peripheral to and influenced by a core region. While we can gain insight about the state from interactions with the peripheral and frontier lands, it is not a unidirectional relationship of influence, and although the people existing within the margins have often been considered “less than complex” in comparison to centralized polities, that is not necessarily a truth. The volume emphasizes the agency of marginal peoples who, through the creation of varying degrees of autonomy, shape and maintain their cultural landscapes in complex ways, while their historical developments are intertwined with larger political centers.

Our chapter, *Beyond the Periphery: Comparing Complexity in Southern California* (Smith and Fauvelle, in press), considers two cultural areas in California—the Chumash of Santa Barbara and the Channel Islands, and Yuman-speaking groups, such as the Kumeyaay and Mohave, of southern Alta California, northern Baja California and the Lower Colorado River. Marginality applies here in three ways. First, southern California peoples were on the periphery of a pre-Hispanic continental trading system spanning North America, located on the westernmost edge of north-south, east-west trade routes that connected Mesoamerican cultures to the Southwest and interior North America (Smith and Fauvelle 2015). People knew their worlds, and California hunter-gatherers were certainly aware of and connected to their agricultural neighbors to the east.

Second, beginning in 1769, in the later colonial period, California was located on and within the borders of the Mexican, Spanish, and American empires. Third, hunter-gatherer studies have been historically marginalized when considering social complexity, traditionally differentiated only as “simple” and “complex” varieties masking a range of organizational possibilities.

In this chapter we make comparisons between the complex Chumash chiefdom and Yuman-speaking groups that have predominantly been interpreted as simple hunter-gatherers.

Sociopolitical systems in Alta and Baja California have generally been interpreted from a unilinear approach that identifies organizations entirely from the perspective of a single type of structural relations—one that is vertically oriented. While this approach has been perceived to be useful in the examination of the hierarchical social systems of the Southern California Chumash and the Gabrieleno-Tongva, it has failed to provide an operative framework for interpreting the organizational systems of Yuman-speaking peoples in southern Alta and northern Baja California. Instead of vertically-orientated groups, the Yuman-speaking people are perhaps better conceptualized as heterarchically organized.

Hierarchies and heterarchies cannot be evaluated within the same comparative framework, which poses a challenge in studying patterns of relations that are complex but not necessarily hierarchical (Crumley 1979, 1995). Therefore, archaeologists working in California need to re-examine the concept of complexity, to “break down” (McGuire 1983) and “decouple” (Hastorf 1990) the concept from social evolutionary and processual foundations (Alt 2010; Lekson 2005; Mills 2000; Nelson 1995; Upham 1990), and explore alternative social structures and the spatial scales of group networks as they relate to complexity. As Crumley (1995) states, there is nothing intrinsically hierarchical about complexity, as forms can be complex in different ways as noted in symphonies, snowflakes, trees, and our own minds, all of which contradict westernized

notions of strict hierarchies—thus discouraging the need to force pervasive ranked concepts onto social organizations. Instead, the concept of heterarchical structures can be especially useful in a more appropriate model of complexity, as the framework is open to perspectives of power, authority, and leadership as counterpoised (Crumley 1979, 1995). As Nelson and others have suggested, we need to focus more on how people are complex instead of the loaded question of how complex were people (Alt 2010; Nelson 1995, Rautman 1998), which begins with an epistemological reexamination of vertical frameworks.

This chapter compares complexity by looking at ethnohistoric accounts of warfare and economic exchange in Southern Alta and North Baja California. In these synchronic, broad-scale events, degrees of organization, integration, cohesion, cooperation, and overall purpose are analyzed and compared through the lenses of heterarchical and hierarchical organizations. By comparing the organizational capacities of these peoples, focusing on warfare events and economic exchange, it becomes clear that hierarchical and heterarchical sociopolitical organizations cannot be compared using traditional frameworks. Drawing from Angelbeck and Grier (2012), we utilize their anarchism framework for analyzing decentralized societies and implement their “core principles” of anarchic society to assess the Yuman-speaking peoples of California. A different picture arises in which complex forms of organization in warfare and exchange are engaged by both the Chumash and Yuman-speaking groups.

## BEYOND PERIPHERY: COMPARING COMPLEXITY IN SOUTHERN CALIFORNIA

Erin Smith and Mikael Fauvelle

*In Life on the Margins of the State: Comparative Landscapes from the Old and New Worlds,*

Edited by Kyle Knabb and Alicia Boswell, in press

**Abstract** All societies are characterized by some degree of resistance to hierarchical authority. This is equally true for societies whose members toil under an entrenched state apparatus as it is for those where the state exists primarily as a mythological concept opposed to individual autonomy. Pre-Hispanic California was geographically distant from the experience of the state, yet individual Californians would have obtained knowledge of authoritarian ways of living through regular and well-documented exchange with the American Southwest and Northern Mexico. This paper explores the impact that such concepts of authority might have had on the development of societies of resistance in coastal California. We will explore the material and ethnohistoric evidence for a long history of connections between coastal California and inland areas and compare how different Californian societies chose to navigate their experience with organizational authority. We argue that coastal Californian hunter-gatherers were fully aware of the ways of living experienced by their eastern agricultural neighbors and suggest that the social and political trajectories of the region cannot be understood outside of broader known landscape.

One of the great things about this analysis that it takes many established assumptions about the study of social complexity and turns them on their head. All too often, archaeologists seek grand narratives for social change and focus their attention on core regions, building easily reproducible stories about how the consolidation of regional power led the march towards increasing social inequality. History, however, is much more complex than this; and it is often precisely in areas peripheral to traditional political and economic centers where some of the most interesting social formations and historical trajectories take form.

The present paper compares types of complexity among sedentary and semi-sedentary hunter-gatherers on the coastal and interior regions of southern California and draws comparisons specifically between the Chumash and Yuman-speaking groups, such as the Kumeyaay and the Mohave. Although evolutionary archaeologists often treat ‘complexity’ as a co-variant of political hierarchy, here we hope to show how two fairly different societies are each complex in their own ways (e.g., Hastorf 1990; McGuire 1983). The case studies we will be discussing can be cast as ‘marginal’ in three main ways; first, as recently mentioned by Peregrine and Lekson (2012) it is likely that southern California was located on the periphery of wide-ranging North American pre-Hispanic trading system. Although many Californian goods entered into this system, California was on the western edge of north-south and east-west trade routes connecting heavily populated regions of Mesoamerica with those in the interior of North America (Smith and Fauvelle 2015). The desert regions of southern California were in an especially interesting position, as they were sandwiched between more traditionally complex sedentary populations in both the Pueblo regions of the Southwest and the coast of the California Bight, along the southern California coastline from Point Conception to San Diego. Second, during the later colonial period (1769 and onward), California was also a political and geographically peripheral area, located on the fringes of the Spanish, Mexican, and American empires. Resistance to these hegemonic powers is a topic we will return to later in this paper. Finally, hunter-gatherer studies themselves are a marginal subject within the larger literature of social complexity. Consider the use of the adjective ‘complex’ to discuss certain hunter-gatherer groups. We do not, for example, seem to ever need to distinguish between ‘normal’ and ‘complex’ states.

Following these examples, we see marginality as representing the minority position within an asymmetrical relationship. Given that marginality is a relational category, it is always important to ask what the groups and areas being studied are marginal to. Geographical marginality refers to locations on the edge of existing exchange systems, whereas social marginality refers to disenfranchised, disadvantaged, or understudied groups within a society. During the prehistoric period, for example, Yuman and Chumash-speaking groups had some understanding of Pueblo life in the American Southwest and only a limited experience to the state societies of Mesoamerica and the Mississippi. Following Clastres (1989), however, we see resistance to state hierarchy to be an understood component of all societies, especially those maintaining some level of egalitarian ethos. In this paper we will explore how different strategies of resisting hierarchy had important historical repercussions for hunter-gatherer societies in colonial and pre-colonial California.

The unique landscape of southern California facilitated trade and social interaction between politically and linguistically separated groups. In the Santa Barbara Channel, Point Conception provided a natural break from the beating of the open ocean making canoe travel more tolerable and allowing the Chumash to better maneuver between islands and along the coast. For Yuman-speaking people situated in the desert regions of California, Arizona, and Nevada, the Colorado River also formed an important natural landmark and cultural landscape. The Colorado River was a central point in the landscape between for north-south trade networks in California, as well as east-west interactions between groups in California and the Southwest. The Colorado River and its tributary provided accessible routes to places, either on water or terrestrial paths along the shoreline where the rivers have cut natural valleys through otherwise steep mountainous terrains. The Yuman-speaking Kumeyaay were traditionally located in Alta



and Baja California in a geographical region encompassing the Pacific Ocean. Here, numerous estuaries and lagoons, rivers and streams, and mountains and deserts, all facilitated travel on both coastal and inland trade routes.

For the purpose of this analysis we will examine two different regions of southern California; one that has been traditionally described as complex and another that has not been. The Chumash of the Santa Barbara Channel fall into the first group, while the Yuman-speaking people of southern California and the Lower Colorado River fall into the second group. Before the Spanish conquest, Chumash-speaking people lived in villages along the coast and interior of modern-day Santa Barbara County. The Chumash were hierarchically organized, with a clearly defined vertical class structure and hereditary rulers presiding over multi-tiered settlement hierarchies, in villages ranging from 500 to 1000 people (Arnold 1992, 2001; Erlandson 1994, Gamble 2008, Johnson 1988, Kennett 2005, King 1976). Within the archaeological record, complexity amongst the Chumash has been understood to have emerged with a series of traits that include population increase, new technologies, trade intensification, and the magnification of warfare (Arnold 1992, 2001; Gamble 2008; Kennett 2005). However, it is important to specify the social structure of relations. Specific social organizational aspects of the Chumash include village chiefs—either island or mainland—who attempt to accrue status and power regionally through control and exchange of asymmetrically distributed resources through advanced watercraft, and by means of fostering an exchange economy based on non-attached shell bead production, thus centralizing the sociopolitical system (Arnold 1992, 1993, 2001; Gamble 2008; Kennett 2005). The hierarchical and inegalitarian nature of Chumash society, therefore, fits well with traditional approaches to understanding complexity in the archaeological literature. Perhaps unsurprisingly, the Chumash have been the subject of intense scholarship in recent decades, with

many of papers in top journals discussing and debating their social evolutionary advancements (e.g., Arnold 1992; Arnold and Martin 2014; Fauvelle 2013). The context of this rich history of the Chumash in literature is rooted in early Spanish ethnographies and anthropological ethnographies, such as the works produced by John P. Harrington. Unlike many other groups in California, the Chumash communicated with people who wanted to write about them and became willing informants. This, together with the geographical location of the University of California, Santa Barbara near many large Chumash sites, has contributed to the convergence of scholarly interest in Chumash archaeology, placing Chumash scholarship at the center of academic work in southern California and marginalizing scholarship on many other important groups.

By comparison, Yuman-speaking groups such as the Mojave and the Kumeyaay have received far less attention from scholars, as they were often wary about providing information to outsiders, and thus we do not have the generations of informers that we see in the legacy of Chumash ethnographies. Most of the research on Yuman-speaking groups has focused on their interaction with their landscape and environment (e.g., Moratto 2014; Waters 1983). These groups were sedentary or semi-sedentary, forming small villages across the landscape in most coastal and mountain regions. Unlike the Chumash, Yuman-speaking groups were relatively non-hierarchical. If there were village chiefs, they often did inherit their positions, but held fairly little authority (Kroeber 1976 [1925]:745). Instead, most organization was conducted along unilinear descent groups called *sibs*, which crossed village and lineage boundaries. The Kumeyaay (Ipai-Tipai), for example, were organized into territorial bands covering 10 to 30 square miles which were further subdivide into 5 to 15 *sibs* (Shipek 1982). Groups on the Mojave River were similarly organized but tended to form larger tribal units (Hicks 1974).

Despite the presence of “chiefs,” most leadership positions were situational and based, for example, on previous experience in warfare or perceived association with political or spiritual concerns (Forbes 1965; Kroeber 1976 [1925]). Due to their horizontal organization, therefore, these groups generally do not fit into classical hierarchical complexity models.

This analysis focuses on two attributes normally associated with highly complex societies: warfare and economic exchange. We compare four famous historical instances of warfare to show that—at the minimum—Yuman-speaking and Chumash groups displayed similar, yet different, levels of organizational capacity for militarism. Then we will briefly overview evidence for economic exchange and argue that Yuman-speaking groups actually traded farther and wider than anything undertaken by the Chumash. Both of these examples will show that traditional correlations between political hierarchy and organizational capacity do not hold up to historical or archaeological scrutiny. Furthermore, we will argue that southern Californian Yuman-speaking groups display many of what Angelbeck and Grier (2012) describe as the “core attributes of anarchism,” making the Kumeyaay, Mojave, and other Yuman-speaking populations interesting case studies in forms of social organization in opposition to the state.

## **Anarchy and Complexity**

Loosely defined, complexity refers to any whole comprised of meaningfully interrelated components. In archaeological discourse, however, the term has been historically used in an evolutionary sense; to separate between egalitarian societies on the one hand, and those characterized by hierarchical organization on the other (e.g., Johnson and Earle 1987). This binary connection between complexity and social inequality has been heavily critiqued in recent

decades (Haas 2001; McGuire 1983; Wiessner 2002), with scholars arguing that all societies should be seen as complex in their own ways. McGuire (1996:23), for example, has argued that there “are no simple societies,” suggesting that the desire on the part of archaeologist to see some social groups as non-complex stems from a need to fit societies into evolutionary stages. Other scholars such as Woodburn (1982), and Wiessner et al. (2002), have critiqued that egalitarianism has been described by evolutionary archaeologists as a form of organizational simplicity; a tabula rasa on which evolutionary processes play out. On the contrary, Wiessner et al. (2002) argue that egalitarianism is not an inherent human phenomenon, but is rather the outcome of complex social institutions and ideologies that have been created and maintained, of which agency, structure, and history play into the (re)production of social equality.

One productive approach to moving beyond binary categories of complexity can be found in the concept of heterarchy. As discussed by Crumley (1979, 1995), heterarchy describes a situation in which the elements that comprise a system are either unranked or ranked in a variety of different ways. This is differentiated from hierarchy, which describes a situation where the component parts of a system exhibit clear ordinal ranking. It should be noted that the presence of heterarchical social organizations does not exclude hierarchical rank. Heterarchy works conceptually on both social and spatial scales, where a society that may appear to be unranked and homogenous on one scale, may be ranked and heterogeneous at another scale—or any other scalar configuration. Following these definitions, heterarchical and hierarchical societies can both be said to be complex, yet the way in which their complexity is expressed varies greatly. Compared to evolutionary models that associate complexity with hierarchy, approaches based on the concept of heterarchy can be said to move away from “yes/no” questions that ask “are these societies complex,” and towards more descriptive questions of “how were these societies

complex” (Nelson 1995; see also Alt 2010; Rautman 1998). Such questions allow for a considerably more nuanced perspective on past societies and allow for a variety of forms of social organization to be compared with respect to their relative organizational complexity.

More recently, anarchist approaches to understanding social organization have also helped to build on our understanding of non-hierarchical societies. As described by Angelbeck and Grier (2012), decentralization and network organization are key components of anarchic societies, aspects that closely parallel Crumley’s concepts of heterarchical organization. In addition, Angelbeck and Grier (2012:551) argue that characteristics such as local autonomy, voluntary association, mutual aid, communal decision making, and justified authority provide important means through which anarchic societies actively resist the imposition of social hierarchies. Together these characteristics form what Angelbeck and Grier (2012:551) describe as the “core principles” of anarchic society. Angelbeck and Grier (2012) use this framework for analyzing decentralized Coast Salish societies in the Northwest Coast, which have been classified as exhibiting high social complexity, yet low political complexity with the recognition of no superior chiefs. In doing so, they uniquely operationalize the concept of heterarchy through an ideology of resistance to regional political centralization in the Salish Sea.

Anarchic societies can also be said to exist in a relationship of opposition to the state. As described by Clastres (1989), an understanding of the concept of hierarchy, based either on historical or imaginary constructs, exists in all egalitarian societies and is actively and fiercely resisted through a number of social processes. Geographical and social marginality is also a common characteristic of anarchic societies, especially in relation to hierarchical states. Scott (2009), for example, argues that geographically inaccessible regions can act as social areas of refuge for societies resisting nearby states. In southern California, local groups would have been

aware of alternate forms of social organization not only from their immediate neighbors, but also from trade contacts with the ancient Southwest and beyond (Smith and Fauvelle 2015). In the follow pages we will argue that Yuman-speaking groups of southern California can be usefully understood as anarchic societies as described by Angelbeck and Grier (2012), contrasting their organization with the hierarchical political structures found among the Chumash. We focus on two social phenomena, warfare and trade, to show how heterarchical and autonomous societies can display different yet comparable degrees of organizational complexity as nearby hierarchical groups.

## **Warfare and Resistance in Southern California**

### *Warfare in the Mojave*

Organizational capacity for warfare has long been associated with sociopolitical complexity (e.g., Johnson and Earle 1987). In southern California, both archaeological and ethnohistorical records point to a long history of violent conflict. The way in which violence was organized, however, varies greatly between regions. Here we will compare generally the evidence for organizational complexity between Yuman-speaking groups of the Colorado River and the Chumash, before turning to well-documented historical events connected to resisting Spanish colonialism. We argue that despite the considerable emphasis placed on the “complexity” of the Chumash in the archaeological literature, the organizational capacity of Yuman-speaking groups equaled and occasionally exceeded that of their northern neighbors.

During the historical period in southern California, the Yuman-speaking groups of the Mojave Desert fielded some of the most widely feared and respected warriors in the American west (Earle 2005; Kroeber 1976 [1925]; Stewart 1947). Mojave war groups were among the largest and best organized, spending considerable effort to defend the trade routes and territories

under their control. Indeed, the organizational capacity involved in Mojave warfare often eclipsed that seen in more traditionally “complex” societies on their borders. Mojave war parties would attack their enemies in segregated battle formations, with shield and club wielding warriors in front, followed by a line of archers, and finally a formation of less experienced warriors with staves, whose task was to dispatch fallen enemies (Stewart 1947). Pitched battles were not unheard of, and war parties would often number between 50 and 100 warriors; numbers far exceeding anything recorded in the Chumash region.

The long history of warfare in the Lower Colorado River region gives testimony to the considerable organizational capacity of Mojave warriors. In the historic period, battles were frequently recorded along the Lower Colorado River, was often the theme of myth and oral traditions within River Yuman-speaking cultures. Warfare was a constant component to life in the Lower Colorado River, resulting in the regular displacement of entire populations. The Yuman-speaking Quechan and Mohave frequently united in military campaigns against their neighbors, mainly the Maricopa, Cocopa, and Halchitoma; with 33 conflicts recorded from 1835 to 1886 (Forbes 1965; Kroeber 1976 [1925]; Spier 1933). The dynamism of the Quechan-Mohave alliance is most visible in the territorial expansion warfare and nationalistic military excursion, against the Halchitoma. After incessant warfare in the 19<sup>th</sup> century, the entire tribe of the Halchitoma was eventually forced to flee the Colorado River. They travelled east toward their allies the Maricopa, and then south to Sonora Mexico, traversing over 400 miles of desert, before they found refuge with an “unidentified friendly tribe” (Spier 1933:14). Years later, the tribe returned, and settled along the Gila River in Arizona with the Maricopa. This example demonstrates the magnitude of the Quechan-Mohave war alliance, in terms of having the power to displace an entire population. Additionally, the Halchitoma seemed to be structurally stable

enough to maintain an integrated and cohesive unit and a network of alliances even after moving hundreds of miles outside their traditional tribal area, and being able to return.

A similar fate occurred with the Kohuana who were originally allies with the Quechan, until it was discovered that they were also in an alliance with the Halchitoma (Forbes 1965; Kroeber 1976 [1925]; Spier 1933). They were kept in a subservient position by the Quechan until the Kohuana also fled to the Maricopa and Pima allies along the Gila River. Because of the centuries of repeated Quechan-Mojave attacks, the Maricopa and Halchitoma were frequently forced to resettle, with “practically every inch of the valley from Sacate to Gila Crossing had at one time or another been the site of dwellings” (Spier 1933:22). The Maricopa, Halchitoma, and Kohuana *sib* alliance was maintained during these resettlement events, and the Maricopa and Pima allowed the Halchitoma and Kohuana to share their territories. Presumably, hundreds of people within a decade inundated the Gila River region.

In addition to this history of shifting alliances, territorial conquest, and population resettlement, a number of pitched battles were fought in the historical period. The battle of Pima Butte in 1857, for example, involved a force of over 300 Yuma and Mojave warriors arrayed against a Pima/Maricopa alliance and resulted in over 150 casualties (Kroeber and Fontana 1986). The numbers of warriors involved in such conflicts represents the ability of decentralized network organization to amass large numbers of individuals. Additionally, it shows that heterarchical societies characterized by situational authority can and did organize extremely large and complex military expeditions. Indeed, such numbers and actions were far beyond the ability of the hierarchical chiefs of the Santa Barbara region, as seen in the following example of warfare organized by El Buchon, one of the most powerful Chumash chiefs encountered by early Spanish expeditions to the region.



### *Chumash Warfare: El Buchon*

Compared to the Mojave, there are relatively few chronicled descriptions of Chumash warfare. Several of the most well-known historical events involve a chief named El Buchon or the Goiter (because of a tumor on his neck), who greatly impressed the Spanish explorer Juan Crespi due to the extent of his political power and the degree to which he “was feared, held in awe, and obeyed” by his followers (Brown 2001:717). If his demands were not met, his soldiers would sack villages, often murder the inhabitants, and then set the villages on fire. Further adding to his martial abilities, El Buchon had an entourage of armed bodyguards, even though he was a skilled soldier. The Spanish soldier and explorer Pedro Fages also met El Buchon and described him as a Chumash chief that clearly adopted the role of military leader (Gamble 2008). While several of El Buchon’s raids have been described in detail, they generally consisted of an army of at most 30 to 40 soldiers. However, El Buchon was capable of organizing noteworthy assaults. The diary of Fernando de Rivera y Moncada, military governor of California from 1774 to 1777, describes accounts of the burning of large settlements by El Buchon, with more than 90 huts and two sweatlodges at one village, and an unknown number of people killed (Gamble 2008:256).

El Buchon was the most powerful Chumash chief encountered by the Spanish, and presided over a clear multi-tiered settlement hierarchy consisting of numerous villages. Despite this apparent power, however, his ability to amass and organize warriors was clearly no greater than that seen in the situational leadership of horizontally organized Yuman-speaking groups to the south. Additionally, the raids organized by El Buchon do not compare to the territorial expansion warfare occasionally practiced by Yuman-speaking groups. In terms of organizational

capacity for warfare, therefore, it does not seem that the hierarchical nature of the Chumash made them in any way more “complex” than heterarchical Yuman-speaking groups. In the following section we will narrow our focus to two specific examples of warfare, to compare how the Chumash and Kumeyaay variably reacted to being forcibly positioned on the margins of the Spanish empire as colonial subjects.

### *Kumeyaay Revolt of 1775*

The Kumeyaay Revolt of 1775 gives a clear-cut instance of resistance to imposed authoritative hierarchy, and is perhaps the most famous one in California’s early history. In fact, it is telling that it was the horizontally-organized Kumeyaay that presented one of the earliest and most aggressive acts of resistance to early Spanish colonialism.

The Spanish presence in Kumeyaay territory was contentious from the start. Within a month of its construction in 1769, Mission San Diego de la Alcala was attacked and plundered by a force of Kumeyaay resulting in one fatality for the Spanish. Also in the same year a Spanish supply ship anchored in San Diego Bay was attacked, although in that case the Kumeyaay were repulsed. After five years of Franciscan efforts, less than 100 baptisms were recorded; a dismal record which caused the Spanish to redouble their attempts at conversion (Carrico 1997).

These renewed incursions into Kumeyaay territory led to a concerted campaign of resistance. Individuals in villages most affected by Spanish contact began advocating for an attack on the mission, and recruited their fellow *sib* (defined above) and lineage members from other villages. According to a subsequent Spanish investigate, these revolutionary leaders were not necessarily village chiefs, but were more often individuals with personal experiences with the Spanish presence, emphasizing the degree to which Kumeyaay organization was ad-hoc and

situational. All together some 70 villages from throughout San Diego County joined in the rebellion, representing 18 different *sib* groups (Carrico 1997). Indeed, almost every Kumeyaay village approached seems to have joined in the rebellion. The villages that took part in the revolt were all Tipai, consisting of marriage and *sib* relations, and were spatially situated east-west along the San Diego River. Two neophytes, Francisco and his brother Carlos, ran from the mission a month prior to the revolt, and encouraged *kwaipai* (or leaders) from these various Tipai villages to join in a military alliance against the Spanish. Several *kwaipai* together led warriors from their villages in the revolt, and almost every village approached for assistance participated (Carrico 1997). It is interesting to note that Father Francisco Garcés was with the Anza exploration party in the eastern deserts, when a native runner was sent to the Colorado River Tribes to invite more distant kin to join in the upcoming insurrection. These adjacent Yuman-speaking groups in the Colorado River eventually decided against involvement.

The attack itself was carried out shortly after midnight on November 5<sup>th</sup>, and involved somewhere between 800 and 1000 warriors – an impressive coalition for supposedly non-complex hunter-gatherers. This Kumeyaay army attacked the Spanish Mission, rapidly overpowering the surprised Spanish guards and burning all the buildings to the groups. Only three Spaniards were killed in the attack, with the rest eventually being released. Among the dead was a Spanish priest, Luís Jayme (Figure 2), who became the first and last Christian martyr in the Spanish conquest of California (Carrico 1997).



Figure 2. Kumeyaay Revolt of 1775, Death of Father Jayme

After the initial attack the Mission was burned four more times before it was finally rebuilt almost two years later. The Spanish presence in San Diego continued to be tenuous for decades, and the Mission itself recorded only 6000 baptisms in its entire 65 year history; hardly an impressive record when one considers that nearly as many individuals were baptized in just the first 20 years of the mission period in Santa Barbara (Johnson 1988:136; Kroeber 1976 [1925]:712). The degree of scale and organizational planning represented by the Kumeyaay rebellion is certainly noteworthy. As previously stated, 18 *sib* organizations representing some 70 villages from across southern California were organized on an ad-hoc basis in a successful military action involving some 1000 warriors – all without alerting the Spanish to their plans (Carrico 1997; Shipek 1982).

Shipek (1982) further explores the sociopolitical organizational aspects of the Kumeyaay 1775 revolt and finds evidence for an inter-regional level of organization. The attack was carefully organized and premeditated, with large alliances between villages from coastal and inland bands. In addition to usual situational consensus leaders, a head war leader emerged

(referred to as El Captain Grande by the Spanish), who organized and directed mountain lookout points around the region. The person chosen for this position was a justified and situational leader chosen based on known superior war abilities. Generals, or *Kuuchult kwataay*, functioned beneath the big leader and were in charge of managing runners carrying information to the big leaders of the Quechan, Cocopa, and Mohave in the eastern desert, who were busy with their own revolt against the Spanish. Shipek (1982) explains that these mountain lookout points, relay stations, and trails for running information were actually tribal-owned (versus band) lands, serving larger group purposes. The system facilitated rapid communication, and quick population movement. Altogether, Shipek (1982) believes that the *sib* system that crosscut the structural organization of the band allowed for strong alliances during conflict, and sociopolitical organization at the nationalistic tribal level. The Kumeyaay revolt of 1775 reveals a dynamic sociopolitical system based on established lateral networks and alliances that were far reaching in both time and space, flexible, and capable of high-level military assault. This degree of coordination crossed numerous geographical, social, and political boundaries, and should put to rest any notion that non-hierarchical groups can accomplish feats of considerable organizational complexity.

#### *Chumash Revolt of 1824*

The later Chumash Revolt of 1824 is an excellent comparative case study with which to examine the anarchic aspects of the earlier Kumeyaay revolt. This incident bears many similarities to Kumeyaay revolt some five decades earlier, but also some noteworthy differences. Indeed, one of the most interesting differences is the fact that it took almost five decades from

the construction of mission San Luis Obispo in 1772 for the Chumash to also mount a rebellion against Spanish authoritarianism.

The Chumash revolt had its origins in 1821, when Mexico won independence from Spain. The Spanish inhabitants of the mission system in the Santa Barbara region reacted with concerned anticipation to this news, and apparently put additional pressures on Chumash mission residents causing increasing tensions. This led to a series of altercations which came to a head on February 21<sup>st</sup> 1824, when a Chumash page at the Santa Inés Mission was brutally tortured and publicly executed; apparently for talking negatively about the Spanish (Blackburn 1975; Hudson 1980; Johnson 2007). The death was considered outrageous, and the Chumash chief, or *Wot*, of the San Luis Obispo region issued a call to arms, with large groups of Chumash warriors subsequently mounting attacks on both the La Purísima and Santa Inés Missions. The small Spanish garrisons fled, and the missions were subsequently occupied by the Chumash for a period of about one month before a force of around 100 Spanish/Mexican soldiers arrived and retook control; capturing and executing seven men in retaliation (Figure 3).



Figure 3. Soldiers advancing at Mission Santa Barbara during Chumash Revolt of 1824. Drawing by Alexander Harmer.

The revolts at the La Purísima and Santa Inés Missions prompted a simultaneous rebellion at Mission Santa Barbara. Here a large group of Chumash men seized a Spanish storehouse, taking possession of a half dozen guns. Armed with these weapons they occupied the Mission at Santa Barbara, prompting an immediate response from the military garrison at Santa Barbara Presidio. Soldiers under the command of Captain José De la Guerra surrounded the mission for three hours, exchanging fire with the Chumash. This encounter resulted in three wounded Spanish soldiers, and four wounded Chumash, and ended when the Mexican soldiers withdrew to the safety of the presidio. Over the course of the following night most of the Chumash inhabitants of Mission Santa Barbara fled to the hills, abandoning the mission and bringing the conflict to an end (Johnson 2007).

These events of the Kumeyaay and Chumash Revolts, represent two of the largest rebellions against colonial presence in southern California. Both were large affairs, incorporating numerous political units from across large geographic areas in resistance to Spanish colonizers. The Kumeyaay revolt, however, incorporated a far larger number of warriors and prevented missionization for a much longer period of time. What was the cause of this difference? An obvious answer might be that the Spanish were more entrenched in Santa Barbara at the time of the rebellion, although as mentioned before this begs the question of why there was no armed insurrection at an earlier date. Some other differences are also noteworthy; it is interesting, for example, that the Santa Inés insurrection was almost immediately taken over by a Chumash *Wot*, who lent his chiefly authority to the Rebellion. The Kumeyaay revolt, on the other hand, was organized across political boundaries by largely non-elite individuals. Conventional archaeological wisdom would suggest that the former situation would have been more successful, but this does not seem to have been the case. Could this pattern hold for other aspects of social complexity?

## **Economic Organization**

### *Chumash Shell Industries*

In addition to warfare, economic organization is commonly used as a central variable in describing the complexity of a society (e.g., Johnson and Earle 1987). The Chumash are perhaps most famous for the extent of their economic specialization, producing and exporting millions of shell beads from the Santa Barbara Channel region after around 500 CE (Arnold 2001). This exchange was controlled by Chumash elites, who owned a monopoly on the use of the plank canoes used to transport these goods across the Channel. The role of elites as canoe owners has



often been suggested as a primary factor in the consolidation of Chumash political hierarchies (Arnold 1992; Fauvelle 2013). A noteworthy component of the Chumash economic system was the production of shell beads by craft specialists. As described by Arnold and Munns (1994), shell making detritus assemblages as well as the localization of production strongly indicate that beads on the islands were being produced by beadmaking specialists. Such a multifaceted craft industry is strong evidence of the complex organization of the Chumash economy.

The patchy regional distribution of resources in the Santa Barbara area also played an important role in the development of Chumash political systems (Arnold 2001; Fauvelle 2011, 2014; Gamble 2008). Shell beads produced on Santa Cruz Island were exported by means of the plank canoe, or *tomolo*, the use of which was restricted to Chumash elites (Hudson, et al. 1978). The *tomolo* would have been constructed from sewing together driftwood planks of redwood and pine using milkweed string, and then caulking the canoe with asphaltum and pinepitch (Hudson, et al. 1978). The resources required to build the canoe were not all locally available on Santa Cruz Island, requiring trade with the mainland coast (Fauvelle 2011, 2014; Gill and Erlandson 2014). Canoe grade asphaltum, for instance, could only be acquired from two mines along the coast, while steatite ollas for mixing asphaltum would have needed to be acquired through trade with the Gabrielino-Tongva. Additional high-grade asphaltum was also likely acquired from the Gabrielino-Tongva controlled La Brea source, as well as from the McKittrick tar seeps in Yokuts' territory in the Southern San Joaquin Valley (Fauvelle 2014; Fauvelle, et al. 2012). Available only in a few key locations, canoe related construction materials could thus have been easily controlled and would have made for important trade items.

The Chumash shell bead economy was largely export oriented. Produced by craft specialists on the Channel Islands and traded by elites to the mainland coast, large numbers of

beads ended up in burials around modern day Santa Barbara on the mainland coast (Gamble 2008). Many more, however, were traded north to the southern Valley Yokuts and south to the Gabrielino-Tongva. These beads were in turn traded across the Mojave Desert to the Pueblo regions of the Southwest, where they were regularly exchanged as *hishi* trade currency (Frisbie 1974:125; Smith and Fauvelle 2015). Other historic period writers describe how lengths of California bead strings were commonly traded for cloth blankets and hides throughout the Southwest, often at set exchange rates (Beaglehole 1937:84; Ford 1983). Controlling and carrying-out much of this trade were the Yuman-speaking people of the interior, who were well positioned to act and benefit as middlemen in the considerable trade that took place between coastal California and the greater Southwest.

#### *Merchants in the Mojave*

Compared to the complex and internally differentiated Chumash economy, Yuman-speaking groups were uniquely situated on vast inland trading system stretching from Kumeyaay territory on the Pacific Coast to numerous Colorado River Groups such as the Mojave. The landscape of the desert interiors of California facilitated much of this exchange, with a patchwork of trails connecting numerous interior and coastal groups. The Mojave in particular were extensive traders, using their position as middlemen between coastal chiefdoms and the Pueblos of the Southwest to profit from heavy east/west trade. Early Spanish explores in southern California such as Francisco Garcés and Pedro Font made note of several Mojave trading parties encountered on the coast of southern California and the southern San Joaquin Valley, and made it clear that these groups had traveled to the coast in order to trade for shell and steatite items with cotton blankets and other items from the interior (Bolton 1930; Forbes 1965). Writing in 1776, Garcés described major trail routes from the Palos Verdes Valley westward to

the Los Angeles Basin used continuously by the Halchidhomas in commerce with coastal groups (Forbes 1965). The trail was a four-day journey from the interior, with a fifth day by boat to reach the shores of the “opposite island,” which was likely Catalina Island (Forbes 1965:109). Garcés also described Mojave trade expeditions to the San Joaquin Valley, with the Mojave traders observed in route north of Los Angeles in the Santa Clarita Valley and in the Tehachapi Mountains, hundreds of kilometers from the Colorado River (Earle 2005). Shell beads were probably the most intensively traded artifacts by Yuman-speaking traders, with thousands reaching the Pueblos of the ancient Southwest (Smith and Fauvelle 2015). In his 1776 diary, Font specifically mentions the Mojave traders acquiring shell beads in Chumash territory, although beads were also obtained by the Mojave via Yokuts intermediaries in the San Joaquin Valley (Earle 2005). In return for shell beads, the Mojave likely carried cotton mantas and ceramic pots to the California coast, some of which have been identified in archaeological contexts (Kroeber 1976 [1925]; Ruby and Blackburn 1964). These examples show that while the Chumash carried out intensive production and exchange supervised by elites, the more horizontally organized Yuman-speaking groups of the desert organized and participated in an extremely large economic network, likely exceeding that of the Chumash in reach and scope.

One aspect of Colorado River life which challenges the concept of horizontal organization is the well documented capture and exchange of slaves. Francisco Garcés, for example, recorded purchasing two Halchidhoma slaves from a Mojave group when first exploring the Mojave Desert in 1776 (Smith and Walker 1965). The capture of slaves was often associated with warfare; an observation emphasized by Pedro Font in 1775 (Forbes 1965:77). Another missionary, Jacobo Sedelmayr, described how the Quechan and Maricopas warred and sold each other as captives to the O’odham as well as the Spanish (Zappia 2014:63-64). The

demand for slaves during the historic period is likely to have intensified this practice, leading to an increase in raids and warfare between Yuman-speaking groups (Smith and Walker 1965; Zappia 2014). Indeed, by the 1780s slave raiding had become so wide-spread that Sedelmayr recorded the presence of substantial multiethnic slave communities in the Spanish outposts of Altar and Tucson (Zappia 2014:175). The presence of extensive slavery among many Yuman-speaking groups can be difficult to reconcile with their otherwise non-hierarchical form of political organization. It is not uncommon, however, for groups with relatively anarchic forms of social organization to practice some form of slavery. Other such groups can be found among the Coast Salish, who are known to have practiced slavery despite having a famously “pear-shaped” social hierarchy (Angelbeck and Grier 2012). The degree to which such exchanges represented prehistoric practices, or resulted from the economic pressures of Spanish colonialism, can also be difficult to determine (Smith and Walker 1965; Zappia 2014). Finally, it is uncertain whether the western category of “slave” correctly applies to all cases of prehistoric Californian captivity. The O’odham term “nijora,” translated by the Spanish as “slave,” more correctly translates as “captive,” and it is unclear that western concepts of slavery would directly apply to all of these individuals (Zappia 2014:63). Nonetheless, it is clear that during the early contact period slavery was a component of Mojave life, complicating their stereotypical portrayal as “egalitarian” hunter-gatherers.

## **Conclusions**

So what can we draw from these comparisons? In both cases – economics and warfare- we see that hierarchical elite activity was more central to the organization of Chumash society than for Yuman-speaking groups. The question is whether or not these appeals to hierarchy led to more successful outcomes. We would suggest that the answers are mixed. The horizontally

organized Kumeyaay planned a much larger and more successful resistance to Spanish colonialism than what we saw under the Chumash, although the Chumash did face considerably more resistance. On the economic front, Chumash elites were able to control and intensify fairly large-scale production, but likely relied largely on Mojave and Yokuts traders to carry their goods to distant markets (Earle 2005; Smith and Fauvelle 2015). Whether this is a testament to Chumash ingenuity or the organizational capacity of Yuman-speaking traders is a question that remains to be tested. What we can say is that these case studies clearly show that organizational capacity and hierarchical authority are clearly not correlated. Yuman-speaking groups, both in economics and warfare, organized on at least comparable levels to their more intensively studied northern neighbors.

Another interesting question concerns the degree to which Yuman-speaking groups can be said to fit into Angelback and Grier's (2012) characterization of anarchic societies. Yuman-speaking traders encountered a wide range of different forms of social organization through their interactions across the Mojave and into the Southwest, yet resisted the adaptation of concepts of hierarchical authority. Instead, leadership remained largely situational, as seen in the examples of Mojave warfare and the Kumeyaay revolt against the Spanish. Additionally, the form of network organization and contact maintained through trail systems in Yuman-speaking regions, and the decentralized nature of *sib* organization fit well with Angelback and Grier's (2012) principles of anarchic organization. It is telling that despite -and perhaps because of- these anarchic characteristics, Yuman-speaking groups were able to organize some of the largest trade networks in western North America and initiated one of the most successful revolts against Spanish colonialism. These comparisons show that work on the organizational capacities of anarchic

societies throughout the world may be helpful to our understanding of the various forms that complexity can take in small-scale societies.

Throughout their early recorded history, California societies existed on the extreme periphery of two world systems; the wide-reaching prehistoric trade system of the greater Southwest, and the colonial system of the Spanish empire (Peregrine and Lekson 2012; Smith and Fauvelle 2015). In this paper we have described how two differently organized societies engaged with and reacted against this geographic and social positioning. We have argued that horizontally organized Yuman-speaking groups and the more hierarchical Chumash, both engaged in complex forms of organization for warfare and economic exchange. Prehistoric Californian complexity, therefore, should not be seen as a characteristic associated predominantly with the coastal chiefdoms of the California bight. Hopefully future studies, will continue to challenge the ways in which we understand the development of social complexity among marginal peoples and places.

## Chapter Conclusion

The approach used in this paper offers a means to reanalyze social organizations of groups in California that has not been given the same level of attention as the Chumash. In addition to Yuman-speaking people, there are other groups that have been left out of discussions of social complexity. The Yokuts in the San Joaquin Valley of Central California were deeply embedded in a vast trading network reaching from the Pacific Coast to the Colorado River. If economic organization is a measure of complexity (e.g., Johnson and Earle 1987), then the Yokuts should certainly be discussed.

Briefly, the Yokuts consist of the Northern, Southern Valley, and Foothills Yokuts (Powers 1976[1877]; Silverstein 1978). The traditional Tribal territory of the Yokuts included the Mount Diablo Range to the west, the foothills of the Sierra Nevada to the east, the Consumne River basin to the north, and the Tehachapi Pass and Fort Tejon to the south. Much of the environment consisted of a lake-slough-marsh environment, grassy plains and wetlands, Tulare Lake, and a web-like river system connecting the coast to the interior. They used *tule balsa* watercraft for hunting and fishing, and to maneuver through the environment. Large *balsas* were used for longer annual trading treks to the Sierra foothills and Tulare Lake, carrying people and cargo great distances (Durham 1960). It is estimated that the Yokuts were as many as 70,000 people at contact, which is one of the highest populations in precontact North America, and the Yokuts were able to use much of the environment as a sanctuary in evading contact with missionaries.

The Yokuts were not politically centralized, but rather self-governing local groups that could be one village, although were often organized as several settlements with a dominant village.

Headsman and chiefs were known and respected, with totemic positions inherited along patrilineal lines (Wallace 1978a). Often described as secondary headsman, wealthy traders-

messengers-heralds, called *winatum*, were inherited positions (Gayton 1945; Kroeber 1925; Spier 1978; Wallace 1978b). These high-status elites profited from activities relating to trading transactions, often on long-distance excursions (Arkush 1993; Gayton 1948; Latta 1949). Kroeber (1925) describes each village with a centrally located chief's house, and a messenger house on each end of the village, to easily take off and send information. The messengers would be paid by the party they visited, and if a chief needed money, they would be sent to other chiefs, which demonstrates the high value of information sharing, the connectivity of villages, and the strength of intra-village alliances.

The Yokuts were situated in an ideal location to trade with neighboring people in diverse habitats, where a network of trails and waterways webbed the landscape in prehistoric and historic times. Ethnographic accounts detail intensive trade between the Santa Barbara Chumash, Southern Valley Yokuts, the Coso Shoshone, and the Mohave. For instance, the Yokuts moved shell beads from the Channel Islands and likely to the Mohave traders, who would have been linked into larger trade networks reaching the Southwest (Koerper and Hedges 1996; Kroeber 1976:612; see Smith and Fauvelle 2015). They would have also moved Coso obsidian throughout Southern California, the Mohave Desert, and eastward.

A considerable amount of wealth and prestige goods have been recorded among the Ohlone and Yokuts. In fact, the wealth amassed was so great, that thousands of shell beads have been found within archaeological sites in San Joaquin and Alameda Counties, far more than those found at Chumash sites (Milliken et al. 2007; Wiberg 1988; see Fauvelle and Perry 2019; see Gamble 2011, 2020). This included 30,000 beads found in a burial at CA-ALA-413 (Milliken et al. 2007:116; Wiberg 1988; see Gamble 2011, 2020). Likewise, a Yokuts burial at Buena Vista Lake in the San Joaquin Valley included a Southwestern trade blanket that may have originated



in Pecos, New Mexico in the 18th century (Gifford and Schenck 1926; Kroeber 1976; see Smith and Fauvelle 2015). Ethnographic accounts report San Joaquin Valley Yokuts also wearing Hopi textile blankets in the 18<sup>th</sup> century (Bolton 1930; Gifford and Schenck 1926; see Smith and Fauvelle 2015). These blankets were associated with status and chiefs, and considerable prestige as they signaled and tapped power as exotic goods from places afar.

The extensive trading and messaging network of the Yokuts indicates that they were economically organized quite complexly. They were also major players in the development of social complexity outside of their realm, including in the emergence of Chumash complexity. Why they are regularly passed over in political economic research makes no sense. Certainly, there are many other Indigenous groups in California and elsewhere with rich ethnographic, archaeological, and historical records that could be revisited using this alternative framework.

## CHAPTER FOUR

### COMPARING CANOES: A MULTITHEORETICAL APPROACH TO WATERCRAFT IN THE PACIFIC NORTHWEST AND CALIFORNIA

#### **Chapter Introduction**

This paper is all about boats, inspired by Ken Ames' (2002) seminal paper *Going By Boat*. In his paper, Ames redirects attention from research solely focused on evidence for the earliest and firsts of watercraft evolution and colonization and instead looked to how boats were integral to daily production within the lives of aquatic-hunter-gatherers. Indeed, boats were essential in subsistence activities, in hauling loads, and in travel, and this paper expands on his research by incorporating additional dimensions to human-boat relationships. In an attempt to more wholly conceptualize the complex relationships between humans and watercraft, I employ a multitheory to draw out commonalities, differences, and potentialities among aquatic hunter-gatherer groups. However, I first address the depth of human-boat relationships through the archaeological and ethnographic records as background.

#### *A Deep History of Watercraft in North America*

Watercraft have always been a part of human history, associated with early colonization and technological development, such as the colonization of Australia by anatomically modern humans by 65,000 BP (Clarkson et al. 2017), with intriguing data suggesting as early as 120,000 BP (Bowler et al. 2018). Watercraft technology, in some form, may have been known to other species within our genus such as *Homo sapien neanderthalensis*, *Homo erectus*, and *Homo*

*florisiensis*, and perhaps even other hominids (Erlandson 2001, 2002; Erlandson and Fitzpatrick 2006; Keegan and Diamond 1987; Morwood et al. 1998).

The relationship between watercraft and Indigenous people in North America exists deep in time and widely across space, beginning with the early colonization of the New World at least 14,000 years ago (Dillehay et al. 2008; McLaren et al. 2020). Decades of archaeological research supports many theories on coastal migrations (e.g., Dixon 1999; Erlandson et al. 2007; Fladmark 1979; see Braje et al. 2020). Although cyclical storms, rising sea levels, and poor preservation limit material archaeological evidence for actual vessels, support for early watercraft in North America comes from evidence of population movements to places only reachable by people through the use of some form of watercraft. In British Columbia, the exploitation of diverse resources in aquatic environments was enabled and facilitated by watercraft technologies during coastal and island occupations on Triquet Island, Kilgii Gwaay Island, Calver Island, and Quadra Island (Braje et al. 2020; Fedje et al. 2005; Fedje et al. 2018; Gauvreau and McLaren 2017; Koppel 2016; McLaren et al. 2018; Potter et al. 2017; Potter et al. 2018). This is also shown through key archaeological sites in the Santa Barbara Channel Islands (Erlandson et al. 2007, 2008, 2011; Johnson et al. 2002; Kennett 2005; Rick et al. 2005; see Jazwa et al. 2013) and Cedros Island (*Isla de Cedros*) (Des Lauriers 2006; Erlandson et al. 2008).

Early ethnographic writing in North America indicates considerable diversity in watercraft designs, forms, elements, and sizes, oftentimes displaying culturally-distinct styles and designed specifically for marine, riverine, and lacustrine environments (Adney and Chapelle 1964; Durham 1960). Indigenous watercraft were a focal point in the historic fur trade and missionary work (Hudson et al. 1978), and European colonizers even employed Indigenous people for their familiarity with vessel paddling techniques and navigational strategies (Adney and Chapelle

1964). Watercraft journeys were no easy feat, and required a complex navigational knowledge that would include an attunement to the waters, knowledge of the landscape, geographical markers, seasonality and astronomical movements, and mapping skills.

In the 20<sup>th</sup> century, watercraft were integral to Intertribal gatherings (Suttles and Lane 1990), Northwest Coast potlatches (Lincoln 1992; Mitchell 1990), and funeral ceremonies (Codere 1950; Holm 1990). Traditional practices continued with modern modifications such as the use of outboard engines on canoes and the adoption of powerboats. Today watercraft remain an important part of Indigenous decolonization and cultural revitalization strategies. The Canoe Movement is said to have begun with the first construction of the Hawaiian double-hull canoe on Hokule'a in the 1970s, followed by similar events among the Chumash with the *Helek* (Peregrine Falcon) *tomol* in 1976, and the fifty-foot cedar dugout, *LooTaas* (Water Eater) at Vancouver's Haida Heritage Centre in 1985 (Johansen 2012; Moss 2008; Oh 2016). In 1989, the first contemporary Tribal Canoe Journey took place to celebrate Washington's centennial, Paddle to Seattle, and now a handful of canoe journeys take place annually. Through paddling along ancient water pathways, people reestablish their histories, experience cultural resurgence, and individual and communal Indigenous identities are enhanced.

COMPARING CANOES: A MULTITHEORETICAL APPROACH TO WATERCRAFT IN  
THE PACIFIC NORTHWEST AND CALIFORNIA

Erin Marie Smith

**Abstract** This paper is about boats, but it is more about human-boat relationships—the ways in which people used boats, thought about boats, interacted with boats, and how boats shaped the human world. Decades of anthropological archaeological scholarship have recognized the theoretical importance of boats and generated regional interpretations about the uses of boats, mostly from ecological or political economy perspectives. Such analyses epistemologically and methodologically limit conceptualizing the pluralistic human-boat realities. To overcome these methodological challenges, this analysis employs a multidimensional approach that draws from the theoretical perspectives of ecological possibilism, political economy and materialism, and actor-network theory and historical processualism, while also incorporating the humanistic perspectives of phenomenology and Indigenous ontology. Only through a holistic theoretical mapping of *watercraft culture*, can we appropriately conceptualize the relationships that Indigenous people had with boats. In assessing these relationships, I focus on the cultural regions of the Pacific Northwest and southern California, two areas where boats were fully integrated into all aspects of culture. Ultimately, this paper illuminates the many relationships formed between people and boats, and the incredible ways boats shaped their worlds.

**Introduction**

A number of inventions have profoundly changed the history of the world, watercraft among them. Many forms of watercraft have been revolutionary technologies, helping humans to colonize the world and some, like the HMS *Beagle* and the USS *Arizona*, to be historically

memorialized. Within many Indigenous histories, boats have been viewed with similar reverence. Indigenous watercraft were essential to the lives of aquatic hunter-gatherers, wholly integrated into their lifeways and vital to their existence. As John Muir stated: “What the mustang is to the Mexican *vaquero*, the canoe is to these coast Indians” (Durham 1960:39). Boats as aquatic vehicles created *watercraft culture*, allegorically akin to contemporary western *car culture* (Des Lauriers 2005).

Archaeologists working among aquatic hunter-gatherers have focused their attention on the function of watercraft by emphasizing their contributions to resource acquisition, transportation, population sedentism, and the emergence of complex social organizations, with only a few focused on ceremonial and symbolic aspects (e.g., Ames 2002; Arnold 1995; Fauvelle 2011; Gamble 2008). However, the relationships between people and watercraft are also essential to identity formation, status, worldviews, histories, and ways of being. The objective of this paper is to look beyond more functional views of Indigenous watercraft, to contextualize and critically analyze the more nuanced relationships disparate peoples had with boats. This is undertaken by operationalizing a multitheoretical approach that incorporates elements of ecological possibilism, political economy and materialism, actor-network theory and historical processualism, and phenomenology and Indigenous ontologies. Operationalizing this multitheory of watercraft relations offers a way to create a holistic theoretical map of *watercraft culture* that would otherwise be methodologically and epistemologically limited.

Specifically, I focus on watercraft among Indigenous groups along the Pacific Coast of North America. Although people all along this coast have long used watercraft, this analysis distinguishes the cultural regions of California and the Northwest Coast as exemplars of particular and contextual boat uses, also linked to global commonalities and potentialities. This

paper compares the Chumash from California, and groups in the Northwest Coast, such as the Haida, Nuu-chah-nulth, and Coast Salish.

First, through environmental possibilism, I consider how using watercraft opens the environment widely for potential actions, but that people variously take advantage of every possibility due to a range of social and historical factors (Ames 2002; Thom 2005). Second, I adopt a multidimensional political economy approach to show how watercraft can create bottlenecks, or economic constraining points, that leaders exploit in the context of centralizing or decentralizing power strategies (Furholt et al. 2020). I then shift to two approaches that incorporate socio-materialism, and human and non-human actors: actor-network theory and historical processualism. Through actor-network theory, I look at the entanglement of boats within society, and explain parallels between terrestrial and water-based practices. Within historical processualism (Pauketat 2001), I focus on watercraft technology as a sequential process conceptualized as the materialization of social actions by humans and non-humans. Fifth and finally, I use the humanistic approaches, phenomenology and Indigenous ontology, to show the ways people used boats to experience the world and viewed them as beings, and I explore questions of realities and beings by drawing parallels between boats, houses, bodies, beings, and the cosmos.

Drawing from Ames' (2002) seminal paper, *Going by Boat*, this paper is all about boats, but it is about people's relationships with boats—how they were used, viewed, and interacted with, and how they shaped the human world. Through the application of multi-theoretical approaches, I explore the many relationships people had with watercraft and show the many effects they had on *watercraft cultures*. This includes extending possibilities for distant travels through the landscape for foraging or social connections, creating opportunities for power grab or resistance,

informing social roles by tying land to sea networks, looking at the processes and actors involved in the creation of watercraft, thinking about what comes from boating experiences, and considering how boats were viewed in nonwestern realities.

### **Comparative Watercraft, Environments, and Social Organizations**

Watercraft were ubiquitous throughout the Pacific Coast of North America. They have been vital in survival and livelihood, and were designed to traverse the diversity of aquatic environments, including coasts, bays and gulfs, lakes and marshes, rivers, channels, and the open-ocean. The types of watercraft built and their morphological designs were based on resources available and the desired functions of the craft. Although the term watercraft encompasses a diversity of craft, such as rafts and floats, for the purpose of this comparison, the focus is on boats such as the *tule balsa*, dugout, and the planked canoe in the Northwest Coast and California.

I make the distinction between two types of watercraft: vernacular and specialized. Vernacular watercraft are often small, general-purpose vehicles used for routine tasks. Most people had access to the materials for vernacular craft. Specialized craft are typically larger, often with function taken into consideration in design (e.g., speed, stealth, hauling capacity). Such watercraft required manufacturing specialization and were used in an organized manner by bringing together many individuals for rowing power, conflict tactics, and resource transportation, creating the opportunity for strategic advantage. Specialized craft were more controlled, with limited access given the materials needed, expense to construct, and the required knowledge and skill to construct these often considerably-sized vessels.



In what follows, I address the context in which aquatic hunter-gatherers designed, built, and used their boats, the environmental settings, and their social organizations. I then explore these relationships further using different theoretical approaches.

### *A. California*

The cultural region of Alta and Baja California consists of one of the most ethnolinguistically diverse populations in North America, ranging from northern California down to the Baja Peninsula. The Chumash cultural sphere encompasses the area from Point Conception to northern Malibu on the mainland coast of California, and includes the Northern Channel Islands. At contact the Chumash mainly employed two different types of watercraft: the *tule balsa* and the *tomol*. *Tule* rush (*Schoenoplectus acutus* or *californicus*) was ubiquitous in the coastal areas and anyone had access to the material to make *tule balsa* craft, a boat of bundled reeds, that was naturally buoyant. This type of craft was employed in daily tasks, near-shore fishing, and—infrequently—for trips to the islands, where larger vessels were preferred (Hudson et al. 1978). The area did not have trees suitable for the construction of dugout craft made from tree trunks, as commonly used in central and northern parts of California, so instead, different resources, such as redwood driftwood, were acquired by trade, making the *tomol* a costly investment. A fairly well-established class system existed among the Chumash, with leadership consisting of hereditary chiefs who presided over multitier settlement hierarchies, and they have been identified as a “chiefdom” level society (Arnold 1992, 2001; Erlandson 1994; Gamble 2008; Johnson 1988; Kennett 2005; King 1976). Elite members of society included chiefs, chiefly families, shamans, canoe owners, members of the elite *antap* religious cult (Blackburn 1974; Corbett 2004), and members of the exclusive group, the *Brotherhood of the Tomol*, who held secret knowledge for building and using *tomols* (Arnold 1995; Gamble 2008; Hudson et al. 1978;

Johnson 2001). The *tomol* was a specialized watercraft, and the select owners of *tomols* were able to gain power and influence, and reached elite status by controlling labor, resources, and information. The Chumash used *tomols* for island-mainland trade and exchange, for cross-channel freighting of people for feasts, and as paid-fare water-taxis carrying passengers (Hudson et al. 1978). Ownership of a *tomol* came with considerable symbolic significance, as it was used to validate social standing, and as manifestation of powers (Arnold 1995; Gamble 2008).

### *B. Northwest Coast*

The Northwest Coast consists of numerous peoples occupying portions of Southeast Alaska, British Columbia, Washington, Oregon, and Northern California. The western red cedar (*Thuja plicata*) was the preferred material for dugout construction. The largest and best quality cedar trees ideal for larger dugouts grow in distinct areas on western Vancouver Island where the conditions are wetter, cooler, and foggier, as well as northern Vancouver Island, and the central and north coast of British Columbia, most notably at Haida Gwaii (Minore 1983; see Gahr 2006). With sizable trees 400 to 800 years old, monumental craft could be constructed of premium wood in the traditional Tribal territories of the Haida and Nuu-chah-nulth (Lincoln 1992). They had the ability to withstand and maneuver through challenging aquatic environments and were widely recognized as prestige items (Blackman 1990; Drucker 1951; Gahr 2006).

Suttles (1987) explains how inhabiting different environments had important cultural impacts on Northwest Coast peoples, and by adapting to conditions presented in the environment, each group developed particular cultural signatures, including attributes of social organization and descent. While looking at the relationship between the environment and social organization,

Suttles (1987) compares the Coast Salish, Wakashan (Nuu-chah-nulth and Kwakwaka'wakw), and Northern (Haida, Tsimshian, and Tlingit) areas, and identifies similar technologies, ideologies, and motivations, but also differences in sociopolitical organization, such as in leadership and ranking. Generally, all people had access to vernacular craft by asking for permission, but specialized dugouts required considerable knowledge and expertise, and access was more restricted. Ethnographic data indicates that carving and woodworking were positions held by high status individuals, with canoe-making associated with young household elites who controlled knowledge and had the rights to carve objects of household prestige (Ames 1995; Boas 1916). Canoe carvers were highly respected for their skills, with some carvers holding membership in an elite group among chiefs and chiefly council, where they were privy to restricted and secret knowledge, and controlled the methods of production and uses of certain object related to prestige and the crest system. This group is known as *gitsonkt* to the Coast Tsimshian and Northern Kwakwaka'wakw. In fact, the word is derived from *gidson* meaning "inner or secret room" (Ames 1995; Shane 1984). The members of the *gitsonkt* were also secret council advisors to chiefs and may have been of high or chiefly status themselves (Ames 1995; Shane 1984). This class of individuals seems to parallel the Chumash *Brotherhood of the Tomol*. There are three noteworthy sea-craft types in the Northwest Coast assessed here, with some specialization in form for general purposes, freighting, warring, and ceremonies: the Westcoast Type, Northern Type, and Coast Salish Type (e.g., Durham 1960; Neel 1995; Stewart 1984; Suttles 1990).

*Westcoast Type*. The Nuu-cha-nulth resided on Vancouver Island consisting of exposed and unbroken open coast with a series of sounds and converging inlets with sheltered islands (Arima and Dewhirst 1990). At contact, whaling was the central activity of the Wakashan speaking Nuu-

chah-nulth, Ditidaht, and Makah, as well as the Salish speaking Quileute and Quinault. Whaling has played an integral role in influencing and forming culture, in sociopolitical organization, ontologies, and ritual. It is a dangerous and prestigious occupation, highly symbolic in ritualization and iconography (McMillan 2019). There was a high degree of political organization among the Nuu-chah-nulth in which hereditary chiefs, or *hawilh*, were symbolically associated with whales as whale-chief affinities (Arima 1983; Drucker 1951; Harkin 1998). Groups and individuals, including commoners, or *mascin* (Arima and Dewhirst 1990; Drucker 1951), were ranked based on the principle of numerical seriation observable at potlatch seating and gifting orders, household habitation areas, and in canoe seating positions. The Nuu-chah-nulth, as well as the Makah, Chinook, and Quileute, locally constructed the Westcoast Type canoe, typically in moderate sizes, with larger vessels imported from Vancouver Island (Durham 1960). Specialized Westcoast dugouts were particularly suited to maneuver the powerful open-ocean and whaling activities.

*Northern Type.* The Haida reside on Haida Gwaii (Queen Charlotte Island) and northward in southeastern Alaska in the Alexander Archipelago. Haida Gwaii consists of two larger islands and 150 smaller islands, as far as 80 miles offshore of the northern British Columbian coast. While there were fewer resources overall, they occurred in greater concentrations, and ownership of resources increased status within communities (Suttles 1987). Leadership among the Haida was rigid, with hereditary positions strictly determined by descent. Although different types of chiefs were recognized, the household chief had control of the family properties, including crests and canoes (Blackman 1990; Swanton 1905). Potlatching among northern groups was ostentatious in display of wealth and served sociopolitical purposes in reaffirming chiefly status. Formal invitations were led by house chiefs and crew in monumental canoes, and people arrived

at potlatches in similar formal style. Likewise, warring served to secure status roles, and specialized canoes were used to raid for resources and slaves. The Haida, among the Tsimshian, Bella Bella, Haisla, Tlingit of Alaska, and Kwakwaka'wakw on northern Vancouver Island, commonly used the Northern Type oceangoing canoe. Haida specialized canoes could serve different purposes by refitting the prow with a dedicated war or ceremonial piece (Durham 1960; Seaburg and Miller 1990)

*Coast Salish Type.* The Coast Salish (Northern, Central, Southern, and Southwestern Salish) reside in the Strait of Georgia south into Puget Sound, on the southeast side of Vancouver Island, the lower mainland, and the Olympic Peninsula. Suited for these sheltered waters were a variety of Coast Salish canoes, including the Puget Sound and Northern Gulf canoe styles (Holm 1991; Suttles 1987). A heavy and large freighting canoe, called *sti'whahl* in Salish language, was the most common canoe used in the region for hauling fish from the Fraser River or carrying house beams and residences on seasonal moves. While resources were generally owned, they were also widely shared, and access was often given if permission was asked (Miller 1999; Suttles 1987). The Coast Salish practiced bilateral descent, creating a larger network of affinal ties and flexibility in group membership. Stratified Salish society can be conceptualized as an inverted pear, with a larger upper-class (*siem*) outnumbering the lower-class (*siexem*) and slaves (*skeye*) (Suttles 1987, 1990). Social leveling mechanisms were at work within the redistribution ethos of the Salish system. Potlatching was part of a much larger socioeconomic system that ensured high levels of resource productivity were equalized in food consumption throughout the region. The importance of resource sharing and gifting was emphasized during feasts and ceremonies, and status was achieved through gifting in this wealth redistribution system (Suttles 1987).

### **Theoretical Perspectives and their Applications to Watercraft**

Among aquatic hunter-gatherers, boats were engulfed into all aspects of *watercraft cultures*, in which it becomes problematic in appropriately characterizing otherwise elusive human-watercraft relationships. The multitheory that I apply here exposes and further explores the complex relationships people had with their boats. Through this, I will show culturally particular relationships with craft, but also find patterns and processes that can explain these particulars as part of a grander narrative. Watercraft have rarely been subjected to this level of comparison and inquiry in anthropological research, rather they have either been evaluated based on similarities of descriptive qualities or compared using a singular theoretical lens. In what follows, I seek to illustrate how this strategy reveals new insights into *watercraft culture*.

*Environmental Possibilism: Watercraft as Amplifiers of Historical Traditions and Unpredictable Human Choices*

In this section, I explore the role of watercraft through the perspective of environmental possibilism (Trigger 1971, 1989, 2003), focusing on how the adaption of watercraft technologies limited and enabled the environmental constraints and possibilities through which people could act. From this perspective technology does not drive behavior, or is straightforwardly derivative of it, since people did not necessarily seize available opportunities and act optimally or predictably under a certain set of conditions. Using the Northwest Coast as the focus area, I show how watercraft created an opportunity to amplify historical traditions, connections, and networks. Examining boats through the lens of environmental possibilism illustrates the need for us to more broadly contextualize the role of watercraft in how people negotiate their environments.

Grounded in historical materialism, Trigger (1971, 1989, 2003), proposed an environmental possibilism (EP), sometimes referred to as open-systems ecology (Trigger 1971) and geographical possibilism (Trigger 1989, 2003). Within EP, human agency is understood as unpredictable and indeterminate, creating opportunities for multiple cultural trajectories and histories, offering the possibility of producing various explanatory models for human-environment interactions and change (Trigger 1971, 1989). Although similar, this differs from cultural ecological models in which environment and culture are fully integrated to the extent that social practices and sociopolitical organizations are (mostly) determined by ecological parameters. To the contrary, while human behavior can be constrained by environmental factors, the parameters and factors involved are more complex than predictive models permit. As complex technologies, watercraft may dampen environmental forcing mechanisms and provide many new possibilities for engaging and negotiating the environment. These possibilities include increased capacity for traveling across landscapes to distances near and far, accessing diverse environmental niches and resources, decreasing travel time and increasing travel frequency, improving carrying capacity and cost-benefit ratios for energy expenditure, extending networks for marriage, ceremony, and exchange, and exploring and learning about an endlessly-expanding world.

On the Northwest Coast, Ames (2002) has examined the theoretical relevance and applicability of aquatic (boat-using) hunter-gatherers for our conceptualization of the collector-forager continuum, considering the ways in which boats influenced mobility strategies, food processing decisions, population densities, and demographic stability. Advantages of boat-use in subsistence strategies include increasing the time spent foraging, the ability for multiple daily trips, and the capability of freighting large loads of resources, often unprocessed. Together these allowed for the possibility of further exploitation of the environment in novel and far-reaching ways,

expanding the collector-foraging spectrum by extending the realm of foraging radii to greater than 10 km for one-way trips. Ames (2002:35) estimates that within 1 to 2 hours, a boat could travel 4 to 6 km, and in 4 to 10 hours, it could travel 20 to 30 km. However, with ideal boating conditions (e.g., weather, crew, weight, boat-type), a group could travel over 50 km in a single day one-way trip.

In comparison to terrestrial movement along the Northwest Coast, Ames (2002) identifies that the typical area exploited by villages was less than 10 km in a day, which is quite similar to models for fully pedestrian hunter-gatherers. He suggests the maximum, single day foraging radius might represent a group's territory. Ames (2002) emphasizes the point that using boats can increase the area aquatic hunter-gatherers forage and allow for longer forays, however, the full advantage of boats was not always utilized given additional considerations. I suggest this pattern indicates that using boats for foraging was not the only factor at play, but that boat-use also involved a social layer creating spatial parameters that would have been incorporated into movements. Essentially, the ecological function of boats to access heterogeneous environments was a driving force in regional networks, but did not structure social relations; instead, networks were based on histories, ancestral ties, and ongoing negotiations amplified by boats and the broader access and mobility they provided.

To emphasize the significance of watercraft as amplifiers of historical connections in the Northwest Coast, I borrow from Thom's (2005) discussion on long-shared, joint title territories of Coast Salish residential groups along the Fraser River. Island Hul'qumi'num' people held territories rich in resources near the Fraser River mouth, yet also inhabited places that were much greater distances upriver as far as Stó:lō territory, some 50 km or more inland. With an abundance of resources readily available in the Lower Fraser and Gulf, why would people make



less optimal choices and expend considerable energy paddling great distances upriver? Clearly the relationship people had with territories was not simply predicated on resource acquisition and sharing, nor was this the sole function of the canoe. Thom (2005) finds that the pattern of lengthy canoe travels up the Fraser maintained long-established descent, alliance, and marriage networks which crosscut residential group boundaries (Suttles 1958, 1960). To illustrate the level of engagement with the mainland, he offers an account at the time of the Fort Langley Journals in which 300 canoes traveled upriver to help Stó:lō neighbors, allies, and relatives, indicating significant efforts in alliance maintenance. Here, watercraft extended the environmental parameters of possibilities, opening up opportunities for people to simultaneously maintain both a complex social network connected to historical descent, and a resource circulation network, solidifying and maintaining connections to distant places.

Boats shaped the way people acted and created new opportunities for actions, but human motivations and choices can be complex. The examples on the Northwest Coast illustrate the need to consider alternative perspectives to understand the context in which people used watercraft to interact with their ecological and social environments. EP is a powerful tool in comparing environments, boat uses, and *watercraft cultures*, as it sets the environmental guardrails of what people were able to do or not do, and how cultures developed particularly and similarly (Trigger 1989). By taking an EP perspective elsewhere, we have a lens to explore the culturally-contextual nuances of human-environmental relations, and the significant roles of watercraft in shaping human behaviors.

*Political Economy: Watercraft Bottlenecks and Power Opportunities*

In this section, I explore the role of canoes in creating bottlenecks for the construction of power or for resistance to such efforts, showing how canoes created different opportunities among the Coast Salish and Chumash that produced unique historical trajectories in each region. Recent political economy (PE) models have focused on alternative pathways to complexity through consideration of historical processes and long-term change, bottleneck opportunities, and the maritime mode of production, enhancing our understanding of the centralizing and decentralizing elements of power among aquatic hunter-gatherers along the Pacific Coast (Earle and Spriggs 2015; Furholt et al. 2020; Ling et al. 2018). I adopt the synthesized, multidimensional model of Furholt and colleagues (2020) to compare the role of watercraft in the PE of the Coast Salish and Chumash, as these two groups afford a clear contrast in sociopolitical organization. Furholt and colleagues (2020) offer a multidimensional model to PE that synthesizes top-down, bottom-up and horizontal approaches. The model synergizes the common themes and perspectives of Marxist PE, anarchist theory, collective action theory, and heterarchy, in which dialectic tensions fuel social change in varying ways. The theoretical principles of emphasis are aspiring power, property rights, collaboration and balancing, resistance, overlapping layers of action, and embeddedness (Furholt et al. 2020). Watercraft were critical for shaping the political economies in both regions, but in different ways.

Furholt and colleagues (2020) have used this approach to explore the various opportunities of power grabs and resistance among the Coast Salish. In brief, within the Coast Salish region, there were complex, multidimensional relationships formed over millennium which facilitated trade and negotiations, and informed the regional landscape (Grier 2003). In the 2<sup>nd</sup> millennium BP, elite household networks were well-established, and exotic materials and privilege-reinforcing symbols were simultaneously circulating with other networks functioning to resist and level out

would-be centralizing authority (Angelbeck 2016; Angelbeck and Grier 2012; Furholt et al. 2020).

Among the Coast Salish, I argue, watercraft served to create bottleneck opportunities for both emerging elites to potentially seize power, and for people to resist. The roles of watercraft were structured on the unique physical environment of the Salish Sea and kinship structure (Suttles 1987). The Salish Sea offered unlimited and easily accessible habitational space, which contrasted to the fjords of the north coast and constrained space. The Coast Salish practiced bilateral descent, and household social structures were flexibly designed to accommodate kinship ties (Suttles 1987). Essentially, the environment and social structure allowed individuals multiple strategies to fission from households, join new ones, or set up their own. Watercraft helped to create this autonomy for people reflected in seasonal movements of families, who dispersed from the larger household and operated on their own most of the year, to then return to the larger, household grouping at the winter village. Such autonomy was also observable in their religion, where spiritual power could be sought by any individual and was not restricted to those that were part of secret societies and elite guilds. Taking into consideration that anyone had access to watercraft, by ownership or permission, the Coast Salish were truly able to “vote with your feet, or with your paddle” (Ames 2002:32) if they were at all displeased with household politics and emerging autocratic elites.

Nonetheless, Coast Salish canoes were essential in the formation of long-term, complex, multidimensional networks, and in the control and circulation of resources and status symbols. In fact, the ethnographic record indicates that Coast Salish elites often traded for high-quality Nuuchah-nulth canoes, seeking symbols outside of their own system for better status signaling on their home front (Stewart 1984). Canoes may have enhanced opportunities for centralization by

households of already elite status to further extend their reach. However, canoes simultaneously allowed for social leveling by connecting people to the numerous networks of affinal-kin to be called upon to reestablish region cohesion (Angelbeck 2016; Angelbeck and McClay 2011; Angelbeck and Grier 2012; Furholt et al. 2020; Grier 2003). While canoes were status amplifiers, enhancing social connections and regional interactions, they alone likely did not create cinching points for which select elites could emerge. Although, there are indications that the adoption of the Nuu-chah-nulth Westcoast-type canoe by the Coast Salish may have better served the changing milieu of raiding and warring in the last millennium (Schaepe 2009; Stewart 1984).

Watercraft also played important roles in power plays among the Chumash. The PE of the Chumash has been addressed in detail elsewhere, but primarily viewed from the top-down. A more nuanced perspective is gained by considering the interplay of bottom-up and lateral components in greater detail (e.g., Arnold 1992, 1995, 2001; Arnold and Munns 1994; Gamble 2008; Kennett 2005; King 1976). To refresh, the kinship structure of the Chumash was matrilineal, they practiced year-round sedentism, and households were fixed. The physical environment of the Santa Barbara coast, consisting of circumscribed coastlines and distant islands with steep cliffs, put constraints on available coastline space. Although most people had access to vernacular *tule balsa*, the specialized watercraft, *tomol*, was strictly controlled. *Tomols* were very expensive to manufacture, as the construction materials were asymmetrically and scarcely distributed throughout the region, and only those affiliated with the *Brotherhood of the Tomol* had the knowledge to construct the vessel-type. For Chumash house and village residents, there were few places to go, and few reliable ways to get there, especially if an individual wanted to relocate across the channel. This is a classic bottleneck scenario (in some respects).

Prior to the widespread adoption of the *tomol*, the *tule balsa* was likely the primary watercraft (Arnold 1995; Arnold and Bernard 2005). Early island settling and cross-channel crossings occurred through the use of large, oceangoing, specialized *tule balsa*, with a high gunwale to prevent swamping, or presumably some early composite craft that was around at least 6,500 BP (Cassidy et al. 2004; Fagan 2004; Glassow 2004; Raab et al. 2009), that would have been more reliable than earlier fortuitously seaworthy craft. The craft needed to have been larger than vernacular *tule balsa* to cross the channel, likely required more labor to construct and navigate, and may have required some specialized construction knowledge of bundling techniques. Power and leadership can come in different shapes and forms. Having early watercraft like specialized *tule balsa* would have created a bottleneck, in which aspiring ritual specialists were able to cross the channel and access spiritual power. The northern Channel Islands were believed to be the cosmological center of the Chumash world, and Santa Cruz Island was a place of considerable power and importance (Perry 2007).

Through indirect archaeological evidence, it is possible to conceive that early aspiring ritual leaders, driven to harness ritual power from the islands, opportunistically used early, seaworthy watercraft. Settlement and cemetery data show the importance of the islands early on, and offer clues into the ritual nature of the people there. The early village site on Santa Cruz Island, El Montón, dates from 8400 to 2500 BP (Erlandson et al. 2020), constructed on top of a large shell mound; in fact, the largest shell mound in southern California (Gamble 2017; Jazwa et al. 2013). The extensive village had 50 houses and three cemeteries with over 200 individuals, which has been interpreted as a multigenerational persistent place occupied over centuries (Gamble 2017; Jazwa et al. 2013). There is evidence for inequality in burials, wealth and ritual power, exotic goods, and ornamental status beads. In fact, early cemeteries on the islands suggest the ritualized

nature of beads, with burials showing an uneven distribution of different forms of shell beads, indicating different status positions (Gamble 2020; King 1990). One particular burial at El Montón is an adolescent female interred with six serpentine beads and 175 painted and shaped effigies; the latter objects are associated with supernatural powers. The unique burial is similar to Middle Holocene burials in Malibu on the mainland, interpreted as people who hold significant ritual powers (Gamble 2017; Gamble et al. 2001). El Montón was a persistent place visited for 6,000 years, where ritual events, feasts, solstices, and commemorative performance acts took place (Erlandson et al. 2020; Gamble 2017).

It is interesting to consider how boats of reed have been treated differently by scholars in California and elsewhere around the world. Reed *balsas* were ubiquitous throughout North America's waterways. Durham (1960) reports the vessel was used from the Columbia River continuously to Patagonia. *Balsas* could be quite seaworthy, meaning they had to be reliable and dependable 1 to 2 km offshore (Des Lauriers 2005), which included those used by the Seri of Sonora Mexico, the reed *caballitos* boats of Peru, as well as few ethnographic accounts of large *tule balsas* used by the Chumash to cross the channel. While *tule balsa* watercraft have often been left out of discussions of Chumash complexity, taking them into consideration can provide useful bottom-up and lateral perspectives. First, Chumash *tule balsa*, or similar boats, were early status enhancers. They were seaworthy, used for channel crossings and pelagic fishing, including for highly symbolic swordfish, found at archaeological sites pre-dating the *tomol*, although used less often (see Bernard 2004). Second, most people had access to construct and use these craft, which may have provided a way to resist attempts to consolidate power and expand control. Fractioning of cohesion and diverse networks of alliances can be observed in the many different types of beads simultaneously circulating throughout the Holocene, beginning as early as 10,000

BP (Gamble 2020). The beads had different symbolic meaning, including political status, accomplishments, and family affiliation, as well as other special-purposed beads, such as for ritual-uses (Bennyhoff and Hughes 1987; Gamble 2020; Gibson 1976; King 1990). In this sense, *tule balsa* offered both centralizing and decentralizing opportunities, but there were ultimately some limits as to what they could accomplish.

The invention of the *tomol* represents the second major bottleneck, in which opportunistic leaders had the potential to affect the centralization and consolidation of power in new ways. The advent of the *tomol* and the arrival of the bow and arrow in Santa Barbara occurred between 1500 to 1300 BP (see Kennett 2005); both had immediate repercussions. People resisted the rise of autocratic elites, marked by a period of violence. The archaeological record indicates there were changes in cultural practices, which included the abandonment of old cemeteries, and the establishment of new cemeteries that continued to be used until the historical period. New settlements were built along the coast, near beaches suitable for watercraft landing (Arnold 1991; Kennett 2005). With growing populations, increasing resource restrictions, and leaders seeking to consolidate wealth and power, people continued to resist.

The archaeological evidence for endemic warfare is a clear indication of the level of resistance (Kennett 2005). Because people had access to other watercraft, like specialized *balsas*, why would they suddenly, willfully give up autonomy and succumb to powers hungry elites? Specialized *balsa* would not have suddenly been decommissioned and merely replaced with the onset of the *tomol*, as not all specialized *balsa* owners, captains, and crews would have adopted the new vessel, been privy to the restricted construction knowledge, or had access to the required inventory of manufacturing materials and associated trade networks. Furthermore, we might speculate that *balsa* captains would not have easily conceded to the socioeconomic ventures of

aggrandizing *tomol*-owning elites, but would have continued their operations, and perhaps contended and competed, not without impact and interference to *tomol* cross-channel interactions.

It is the most likely scenario that both boats were used simultaneously in channel crossing, different forms of political, socioeconomic, and religious leadership coexisted, and subsistence goods, exotic items, and different beads continued to circulate in separate and overlapping networks.

However, the *tomol* clearly outperformed specialized *balsa*, and with shifting climate patterns, *tule* reeds may not have been so widely accessible (Arnold 1995; Arnold and Bernard 2005). The *tomol* created a bottleneck, that was further cinched by other external factors, resulting in the elite-control of cross-channel trade and the distribution of goods, the intensification of the shell bead industry, the explicit association of beads as currency and status, the callus-bead mint, the consolidation of wealth, and the onset of multitiered hierarchical social structures (Gamble 2020; Kennett 2005; King 1990, 1976).

Although the *tomol* offered great opportunities to elites, Chumash political alliances were opportunistic and unstable. Interrelated villages remained largely autonomous, only loosely organized into confederacies (Kennett 2005). While varying in size, larger villages tended to have many chiefs in residence (Kennett 2005). In a village of 500 people, there were perhaps 10 *tomols*, although estimates vary slightly (Brown 1967; Durham 1960; Hudson et al. 1978; also see Ames 1995), which may indicate 10 chiefs in a single village. Therefore, the *tomol* may have also served as a social-leveling mechanism where *tomol* owners had the means to rival competing chiefs and prevent the rise of oligarchical chief, or any leadership that could become



institutionalized. Instead, elites were entangled within a complicated web of economic, political, and ritual power that was situational, based on warfare and ceremonies. By the historical period, this entanglement of power is particularly noticeable in the hierarchical political and religious cult, the *antap*, which connected villages throughout the region, and the *Brotherhood of the Tomol*, which connected religious specialists and chiefs across the channel (Blackburn 1974; Gamble 2017).

The *tomol* simultaneously created a bottleneck for chiefly power consolidation and power-leveling. In addition to rivaling *tomol*-owning chiefs, the very nature of the craft's design required considerable collaboration with other actors, which ultimately functioned as a social leveling mechanism. *Tomol* production required considerable collaboration for specialized construction and navigation knowledge, a range of construction materials that were widely spaced throughout the region and beyond, skilled labor to construct and crew the vessels, and considerable planning in what resources to pack, what seasons and weather to set sail, and where to land for economically viable pursuits. In fact, the undertaking would not have been possible without these collaborating actors, in which each vital player had bargaining power that rivaled those of the aspiring elite, resulting in the balancing of dynamic power relations. Although it is unclear when the formal *Brotherhood of the Tomol* formed, the necessity of an elite-based craft guild appears to have been built-in.

The *Brotherhood* evolved to have their hands in *tomol* construction, use, profits, and ownership. First, the *Brotherhood* became the only way that construction and repair materials for the *tomol* could be accessed. *Tomols* were manufactured on both the islands and mainland, and *Brotherhood* members resided in both places in historical times. Mainland-island marital connections were matriarchal, with island chiefs strongly connected and having influence on

mainland kin. Across the channel, relationships with mainland natal villages would have been essential in accessing resources and people, particularly essential items for *tomol* construction and repair. Second, the *Brotherhood* grew to become an exclusive council and advisory board that retained some command over the watercraft. It controlled intellectual property and retained the sacred knowledge of associated construction and rituals. It benefitted by the financial gain or status from watercraft ventures. It had financial shares in economic activities in the form of shell money (Hudson et al. 1978). It dictated who could become members, for instance, it was not just a person, but the chiefly family that was tied to inherited positions within the *Brotherhood* and/or the *antap*' (Hudson et al. 1978; King 1982). During the historical period, it has been estimated that the Chumash population along the coast was 15,000 people and there were 300 to 500 members of the *Brotherhood of the Tomo*, or roughly 3 percent of the population (Brown 1967; Hudson et al. 1978). However, this number is greatly enlarged when calculating each chiefly family, who would have also benefitted from *tomol* ownership and been afforded enhanced status. Altogether, this is quite a large number of people for an oligarchic chief to subjugate, and an impressive army of rivaling chiefs and their families to level the scale.

In sum, among the Coast Salish and Chumash, watercraft created bottlenecks for the emergence of elites to grab power, but they also served as the means to enact social leveling strategies that prevented the centralization of power and the rise of an oligarchic chief in both cultural regions. The historical processes and social structural outcomes were different, but the roles of watercraft in influencing these trajectories were similar. The use of a synergized top-down, bottom-up, and lateral approach has been applied to the Coast Salish, and the ideology of decentralization and autonomy has been well-documented (Angelbeck 2016; Angelbeck and Grier 2012; Furholt et al. 2020). Coast Salish watercraft expanded elite networks and enhanced status, but simultaneously

expanded overlapping networks, that included elaborate networks of affinal ties who could be called upon in events of attempted power consolidation. Chumash scholarship on PE has predominantly been top-down. Both the *tule balsa* and *tomol* served as bottlenecks for aspiring elites to consolidate power, but they also allowed for resistance measures that could be enacted by fellow *Brotherhood* members or specialized *tule balsa* merchants. By exploring alternative pathways to complexity within existing frameworks, we can explore the roles of different types of actors in shaping their *watercraft culture*.

#### *Actor-Network Theory and Historical Processualism*

Building upon these complex environmental, social, and economic relationships with watercraft, it is important to go further in considering the ways in which watercraft are connected into networks with people and things. Social organizations need not solely exist between people, but can also concern other things, like watercraft. Actor-Network Theory (ANT) and Historical Processualism (HP) can be useful in understanding watercraft as they both implement socio-material approaches to culture and incorporate the complicated relationships that exist between-and-among humans and non-humans. Within materialist thinking, watercraft as things can be social, they can be actors, and they can hold meaningful roles in society. Both approaches are important; they offer agency to watercraft, allow them to be considered things or non-human beings, incorporate them into networks with other actors, and insert them into histories and historical processes, as a part of becoming or long-term processes.

#### *Actor-Network Theory (ANT): Boats as Actants in Land-Sea Networks*

In this section, I look at watercraft in the Northwest Coast and show how boats-as-things were entangled with humans to the intensity of boat-household entrapment, in which the historical

processes involved in the entrapment influenced settlement patterns and informed regions. The approach I use follows Latourian ANT, where no one acts alone, meaning that human culture can be understood by its relationships to an overarching system, or network (Latour 2005). In these networks, humans and non-humans have roles, scripts and agency, and thus, the potential to produce effects that bring about consequences. By studying the processes of an object's becoming over the long-term, the logic and significance of this unique relationship can be understood (Harman 2014; Olsen 2007; Preucel 2012). I also draw from Hodder (2014) who adds useful attributes to ANT influenced by Ingold (2006). He suggests that instead of focusing on networks and meshworks, we should direct attention toward the historically-contingent dialectic tension of dependence and dependency. Hodder discusses long-term trends, the process of interacting with things, creating things, taking care of things, and the cycle of dependency; essentially, in order to take care of things and fix things, more things are needed. And with scale and increasing complexity, levels of entanglement increase, in which it is difficult to "go back" and disentangle since the "fixing needs fixing," which leads to entrapment (Hodder 2014).

A useful application of ANT and symmetrical archaeology to watercraft comes from Bjerck's (2016) research on the Scandinavian Early Mesolithic, the role of boats in human strategies, and the ways human-boat relationships influenced settlement and maritime lifestyles. Boats tend not to survive in the archaeological record, but the "ghost image" of boats can be conceived through their entanglement in networks; therefore, networks help us conceptualize the role of boats in structuring life (Bjerck 2016:8). Bjerck employs a non-site-centric view of settlements, where boats are mobile sites that are part of a much bigger network of the human-thing machine. Evidence supports a single boat type, with a standardized crew, reflected in the characteristics of terrestrial sites, the structural uniformity of settlements, and stability of residences, that were also

interlocked with logistics and activity patterns (Bjerck 2016). This example from Scandinavia is particularly relevant in understanding watercraft as part of a land-sea network involving households and settlement patterns in the Pacific Northwest. Indeed, boats and people were part of an entangled dependency, with a pulse that tied land and sea, as doing anything by boat included land support, tending to the boats, coordinating land layovers and seasonal repairs (Bjerck 2016).

Similarly, Whitridge (2004a) utilizes ANT in archaeology in his inquiry into changes in Thule whaling technology and practiced in the North American Arctic around AD 1000. In cooperative whaling, chiefs were boat captains and arranged kin-based whaling crews to assist in harpooning whales, dragging them to shore in their skin boats, and distributing whale meat. Importantly, he describes the captains-boats-whaling crew triad in water as a *homology* that mirrors the chiefs-house-residential household triad found on land. Whitridge (2004a) attributes the changes in whaling and social organization to a *sociotechnical imbroglio*, an entanglement of social, ecological, and technological aspects of whaling with the onset of complexities in harpoon technology. The human and non-human players in Thule whaling are given ontological equality, where the network of whaling was created through the *homologous* process of forming the links comprising terrestrial residency, to include the material aspects of community layout and house architecture (Whitridge 2004a). This case study has remarkable parallels to Nuu-chah-nulth whaling communities on Vancouver Island, including the land-sea *homology*.

I present a perspective in the Northwest Coast in which the house-boat *homology* exposes larger social practices, connected to persistence in regional structures. To understand canoes in the Northwest Coast is to understand *house society*. The house is a dwelling, the material habitation of the household, lodging the most fundamental social unit. It is the nexus for social, political,

and economic organization, where production and redistribution are managed and culture is transmitted and reproduced. I argue that canoes and houses can each be *blackboxed*, consisting of parts coming together to form a thing, but they can also be *blackboxed* together along with other things, like totems and houses, to form the greater concept of a singular coherent House (Ames 1995); a human-thing machine. The fixed house style and rigid social organization within Northern and Wakashan areas, and the flexible architecture characterizing numerous residential options in the Coast Salish area (Grier 2001, 2006; Suttles 1991), had implications for the different types of regional dynamics, and the formation of regions of different characterizations. Essentially, a house-boat *homology* is a reflection of larger social practices, which are also acted out in boats, and the properties of boats act to create persistence in regional social structures. I explore this further by looking at the house-boat *homology* of the Haida.

Nuh-chah-nulth whaling is productively interpreted similarly to the case of the Inuit (Whitridge 2004a) from an ANT perspective, with complex land-sea *homologous* networks involving boats, and yet Haida canoes would have been involved in very similar networks of actants in different contexts. Both Northern and Westcoast canoes served similar purposes relating to ceremonialism, warfare, trading, and whaling, yet the emphases were differently weighed, with Westcoast canoes particularly suited for whaling, and Northern canoes for raiding. The Haida are known for their artistic monumentality: obtuse crests and images of beings on gigantic totems, impressive feasting dishes, colossal house structures, and grand canoes. Watercraft played an important role in Haida ceremonialism, trading, freighting, and raiding; none of which were mutually exclusive, and all of which were significant in region formation via the networks of human and non-human actants. Utilizing ANT, Haida canoes were actants in a network with house chiefs and residences, other households, supernatural beings, and geological and natural

formations (e.g., islands, water bodies), among other connective entities. Specialized craft were actants within a complex ceremonial-warfare network, where some canoes could transform from vessel-beings evoked for warfare and ceremony by removing/replacing the totemic crests of the prow and stern (Durham 1960), coinciding with humans aboard transforming into other beings well-suited for such purposes in regalia. Chiefs and crew, as *homologies* of the house-boat, would extend invitations through ritual performance to other villages within range by canoe-beings for potlatches and other ceremonial events, often evoking supernatural actants mediated by canoes. Among other actants, canoes played prominent roles in ostentatious potlatch ceremonies, acted as altars in marriages with the bride and groom placed within canoes, and were prominent in feasts as ritual taxis and sacred gifts. Likewise, Haida canoes were supernatural harbingers of war, alongside maritime war chiefs and soldiers in raids across the Hecate Strait and elsewhere. As actants, watercraft facilitated all forms of network interaction throughout the Northwest Coast island archipelagos, and by doing so were the ultimate creators and enforcers of regional boundaries through interactions and interconnectivity. In comparing regions through ANT, the house-boat *homology* exists within a network with other house-boat nodes. Varying types of house-boat *homologies* form meaningful patterns creating different types of networks and regions, with any changes having rippling effects throughout the networks.

ANT provides a framework in which viewing boats as actants creates a richer understanding of cultural life and were involved in many social relationships, including hunting, ceremonies, and warfare, although weighed differently by cultural groups.

*Historical-Processualism: Watercraft in Culture-Making*

In this section, I use an HP approach and emphasize how agent-based theories that consider long-term historical processes can create a better understanding of the historical relationships people had with watercraft, and how these relationships have changed over time and impacted other cultural domains. An HP framework (Pauketat 2001; Pauketat and Alt 2005) helps us view watercraft as the material construction of a technology, the materialization of human actions that are meaningful and socially negotiated, and the historical processes involving traditional knowledge; the outcome of the actions, experiences, and choices of people, informed by what came before and that shape what comes next. The process in which actors physically create watercraft is culture-making. Any changes in watercraft technology occur through negotiations that are context-contingent and can be understood through genealogies of practice (Pauketat 2001). The selected forms, design elements, and iconography of boats embody an active history and the intersubjective materialization of peoples' agency, which indeed are reflections of wider society. Through HP, I first explore the roles of vernacular and specialized watercraft as people use them to experience the landscape, how they inform identity and memory, and how using them is part of culture-making. Second, I provide insight into the steps and ontology-based negotiations involved in watercraft construction. Finally, I show how boat-building is historically-based, embodying the experience and knowledge of generations, and can mark the landscape with meaning.

Boating experiences vary based on watercraft as vernacular and specialized forms, which I address here. Vernacular dugouts and *balsas* were part of everyday dialogues used in quotidian cultural practices. Nonetheless, commonplace experiences can be transformative and become more impressive and lasting (e.g., meaningful landscape referents) (Pauketat and Alt 2005).

Likewise, specialized watercraft embodied complex meanings and were also fundamental to the



success of the household (e.g., subsistence activities, prestige). Aboard vernacular and specialized canoes, the crew physically engaged in collective experiences that were community forming, such as synchronized paddling and chanting that could be mundane or memorable. While vernacular craft could be manifestations of individual and communal identities, ethnicity, gender, and unofficial histories, distinctively, specialized craft were displays of status, hereditary rites and ancestry, political allegiances, cosmologies, and official histories. These monumental craft had rich biographies and were associated with notable events, and prestigious households and people, with some boats becoming notorious in histories, legends, and myths.

Technology can involve a *chaînes opératoires*; sequential operational processes and social actions (Pauketat 2001; Wall 2016). Watercraft *chaînes opératoires* in the Northwest Coast are inseparable from Amerindian ontology and includes steps involving human and non-human actors. The steps involved are: selecting a tree, preparing the treefall zone with ferns to protect the tree, cutting down the tree, moving the log, shaping the tree into a dugout, and then launching the canoe. Each of these steps requires knowledge, embodies experience, and comprises essential components of Indigenous ontologies. Trees in the Northwest Coast are other-than-humans and important, all-seeing ancestors overlooking life within the overhang of their canopies for hundreds or even thousands of years. Transformed and shaped into a canoe, the wood maintains the wisdom and knowledge of the tree. Thus, selecting and cutting down a tree is a meaningful and laden process that involves ritual process and negotiation. The *chaînes opératoires* from tree to canoe entails killing an ancient being to create or transfer life into a new being. In the rainforest, the treefall will rattle and take other trees down in the fall zone, incorporating other beings, and the heavy trunk (as a preform) must be moved by a cooperative of laborers through an obstacle of forest, both require a task force and further negotiations with forest brethren.

Cultural practices in canoe manufacture can be corporealized within the landscape as forests imbued with meaning, history, and genealogies of taken trees, marked by remnant stumps. The Coast Salish oral narrative *Beavers Seek Spirit Power* expresses feelings of a *sense of place* at locations of canoe manufacturing, and the potential to tap primordial powers or encounter spiritual powers in these places (e.g., myth-age animal-people, spiritual helpers)(Thom 2005).

Shaping the canoe requires the skill of generations of knowledge and reverence, beginning with the first ones made in the Myth Age and the Great Floods. The shapes and styles consider genealogies of practice that are locally specified, reflect communal culture, and are distinct from neighbors. Finished canoes are enlivened with another level of sentientism, birthing a being from the limb of another being. The launch of a new canoe would have a significant impact on the household and community, as a new family member, a reinvention of kinship and identity, as a reawakening of the ancestors adorning the canoe with family crests, and as another generation in canoe genealogy. Each new canoe was a part of long-term cultural history, contributing to unique trajectories, throughout their lifespan. The canoe as the house afloat, would be launched and returned to the winter village, tied to that place and people, inalienable in meaning. Each canoe grew to have its own unique biography, that could extend beyond the canoe's lifespan by incorporating retired planks or a vessel into the house structure (Altschul and Grenda 2002; Fagan 2004; Mauger 1991; Wallace 2017), memorialized on a totem, or interred to the afterlife with a dead chief.

HP offers a body of theories that can help us reconceptualize watercraft technology by directing focus to the actors, choices, negotiations, and histories materialized within the craft. Both vernacular and specialized watercraft were culture-making, informed identities, and helped imbue meaning onto the landscape. Northwest Coast watercraft were created through an

ontology-informed *chaînes opératoires* from tree to canoe. Canoe construction is in Northwest Coast oral narratives and cosmology, and places of manufacture hold important meaning. Not only are Northwest Coast canoes representations of houses and the ancestors, they also have a biography of their own. The engagement with human and non-human beings via canoes and the relationships formed over generations would have continuously created an area of physicality and spirituality known more familiarly than other places through experiences as an entangled region.

*Phenomenology and Indigenous Ontology: Watercraft in Experiences and Realities*

In this section, I use phenomenological and Indigenous ontological (IO) approaches to gain insight into the ways watercraft were apparatuses for people to experience the world and were prominent entities in Indigenous realities. Within *watercraft cultures*, boats were the predominant way of being, saturated into every bit of life, and connected the multiple planes of reality. I draw examples from groups in the Northwest Coast and California to show that watercraft were extensions of self, pedagogical vehicles, beings capable of metamorphosis, and were *homologies* of other beings and ontologies.

*Phenomenology: Wisdom Sits in Canoes*

Phenomenological and landscape approaches can be useful in exploring how boat-using people may have experienced the world, accessed knowledge, made places, and connected people to storied worlds. Experiencing a cultural landscape evokes deeply emotional, place-based sentiments about oneself, other people, places, and times, by instilling a *sense of place* composed of feeling, awareness, and comprehension (Basso 1996a).

The canoe, like the body (e.g., Heidegger 1962; Ingold 1993; Merleau-Ponty 1962), is the vessel used to experience the aquatic landscape. Canoes are aquatic sensory extensions of the self, like the blind man's stick (Merleau-Ponty 1962), in ways that can be otherwise humanly impossible. In inhabiting, living, and dwelling in the world, boats are part of the conscious *living relationship* between people and places that instill meaning to spaces (Heidegger 1977; Ingold 1993). Similarly, Ingold (1992) offers an ontology of dwelling to understand the nature of human existence, where the mind and body are both attached to the world, the world is conceived through engagement and dwelling, and views of the world are generated from being in it. As Basso relays, to the Apache, *wisdom sits in places*, which entails learning names of places, going to places, thinking about them, remembering them and their histories, having conversations about them, and remembering those conversations (Basso 1996a, 1996b). Canoes are pedagogical vehicles providing not only access to places, but knowledge of these places—land and sea. To boat-using people, *wisdom sits in canoes*, yet simultaneously, canoes are places in themselves imbued with meaning, memories, and collective identity. From a phenomenological approach, we can understand how watercraft helped people experience places, build relationships with places, and were significantly meaningful places themselves.

### *Indigenous Ontology: Watercraft Views, Beings, and Homologies*

Moving beyond animism as things that possess souls and into animic ontologies (Tyler 1958[1871]; see Bird-David 1999), a new emphasis has been placed on questions of reality and the nature of being (e.g., agency, materiality, relations, change, causality), and has revisited questions on the ways in-which and by-which the world exists as plural ontologies (Alberti et al. 2011). These new methods in IO rightfully enable Indigenous theory to be taken seriously as ontology rather than epistemology, in which IO is taken as anthropological theory.

I draw from Viveiro de Castro (1998, 2004) and his research on Amerindian ontology, where all beings in nature share humanity as a condition; in fact, humankind is a *primordial plenum* (Viveiro de Castro 1998, 2004). Important concepts include: *multinaturalism*, where perception is the point of view located in the body and taken as valid, in contrast to representation, which resides in the mind and spirit; *transmorphism*, which allows access to multiple bodies; and *perspectivism* is having multiple viewpoints (Viveiro de Castro 1998, 2004). For instance, having different point of views is due to different bodies, so the things they see are different, like what blood is to us is beer to jaguars (Viveiro de Castro 1998, 2004). Ontologies of *perspectivism* and *multinaturalism* are common in the Pacific Northwest (e.g., De Laguna 1972; Drucker 1951; Suttles 1974; see Losey 2010).

Few archaeological studies have considered IO, with the exception of the following research. Losey's (2010) analysis of animate fishing structures in Willapa Bay, Washington, shows how the catching-killing agreements between humans and fish are mediated by animated fish traps (Boas 1966; De Laguna 1972; Suttles 1974; see Losey 2010). From the perspective of fish as sentient beings, it was important for humans to dismantle weirs or fish would no longer see the weirs as usable houses and, as a consequence, would not seek shelter there the following season. Similarly, McMillan (2019) focuses on effigies and pictographs among Northwest Coast whaling groups. Drawing from ethnography, the whaling chief harnessed incredible supernatural power in whaling and was symbolically linked to other beings that hunted whales. The chief's wife was symbolically linked to the whale being hunted, and was equally important as she could influence the hunt by attracting the whale. Another useful study is Robinson's (2013), on animic ontologies and rock art in California, where oral narratives pedagogically functioning as relational knowledge with rock art that serves as an analogue didactic visual narrative (Robinson

2013). Robinson (2013) uses a *third space* method, which is the intersection between anthropology, archaeology, and material culture to apprehend Indigenous ways of knowing.

#### A. *Indigenous Ontology and Views on Boats, Houses, and Life Cycles*

Among people in the Northwest Coast and in the Channel Islands of California, boats were essential for inhabiting, living, and dwelling in the world, and were feedback apparatuses for both instilling meaning onto the landscape and relaying wisdom about the world; in fact, they were places themselves within the aquatic landscape. Boats were among the most significant items and places to people, with specialized craft appraised and revered as much as houses (Arnold 1992, 1995, 2007; Fagan 2004; Hudson et al. 1978; Miller 1999). Views on boats can be delineated from conflicts and the ways canoes were treated. Destroying a canoe has been described as the worst offense, unconscionable, and crossing a line in the rules of war (Miller 1999; Lincoln 1992). The losing party might need to forfeit everything, including a wife and house, but the canoe would be left intact.

Within *watercraft cultures*, boats held significant roles within the *living relationships* between people and places. They were ingrained in all domains of life, informed perspectives and interests, and were the materialization of thoughts and practices. From *time immemorial* and the origins of humanity, throughout the course of life and into the afterlife, boats shared with humans an entangled parallel existence. Boats took center stage in pedagogical oral stories and ceremonies, such as the Salish Spirit Canoe and the Chumash First Canoe (Hudson et al. 1978; Waterman 1930). They were intertwined in key moments of life among groups in the Northwest Coast. There are accounts of infants attached to canoe-shaped cradleboards, and placed in dugout-shaped cradles (Durham 1960; Silverstein 1990; Swan 1857; see Hajda 1990). Some

marriage ceremonies occurred inside canoes, and vessels were given as nuptial gifts and used as serving bowls during the celebratory feasts. A boat-marriage *homology* can be observed in the Skidgate expression, “put a string on it,” used for marriage as-well-as to anchor a canoe (Swanton 1905:90). Likewise, a *homology* can be observed among Makah performance ceremonies, where taking a whale, paddling a canoe, and harpooning the house of the bride are one and the same (Durham 1960). At the end of life, the dead may be placed in a ritually “killed” canoe on the beach, in a tree, or on a totem (Elmendorf 1960; Harper 1971; Holm 1991; Silverstein 1990).

In California, some Chumash canoe makers, chiefs, and elites were buried with “killed” canoes or canoe parts, sometimes accompanied by canoe effigies and significant amounts of shell beads (Gamble et al. 2001; Hudson et al. 1978). Although ethnographic literature shows that only men owned canoes, the historic-period Malibu cemetery data indicate men, women, and children were buried with canoe planks, likely attributed to inherited positions among the *Brotherhood* and demonstrating the importance of canoe-owning families in elite membership (Hudson et al. 1978; King 1969, 1982; see Gamble et al. 2001). Other accounts offer insight on “killing” canoes by burning after a captain’s death, or burials at sea with shell beads cast as offerings to the ocean (Hudson et al. 1978). Canoes throughout life and into the afterlife contribute to our understanding of dwelling in aquatic landscapes, and of the complicated *living relationship* that created places, informed about places, and made boats places in themselves.

### *B. Homological Ontology*

Boats were so richly saturated into *watercraft cultures* that they were homologous and interchangeable with houses, bodies, beings, and the cosmos. Within ontologies, a homology can

be conceptualized as two ideas, practices, or things that may be separated by space and/or time, but share similarities due to underlying structure that shape the stratum of consciousness (e.g., Lévi-Strauss 1976, Bourdieu 1990). For instance, they can be meaningful juxtapositions and metaphorical equivalences, that “freely exchange properties in the form of conceptual attributes and symbolic associations” (Whitridge 2004b:240). In IO along the Pacific Coast and into the Arctic, *homologies* were frequently conceptualized in meanings, practices, and things, as entangled metaphoric resemblances, resonances, and practices (Whitridge 2004b). *Homologies* did not need to be precise and systematically transformative, but could be historical, particular, local, and transient.

Whitridge (2004b) conceptualizes *homologies* among the Inuit as *semantic*, *symbolic*, *material*, and *practical*. I use this as a foundation in exploring *homological ontologies* in the Northwest Coast and California concerning boats, houses, bodies, beings, and the cosmos, and describe them as *serial homologies*, *symbolic homologies*, *homologies of practice*, *semantic homologies*, and *homologies of being*. To better conceptualize ontologies on watercraft, I use ethnographic data organized into these *homologies* to make otherwise discursive relationships with watercraft more intelligible.

A *serial homology* can be defined as more than two resemblances. I present the case that among some Northwest Coast people, *serial homologies* are represented in the interconnectivity and inseparability of boat, house, body, cosmos, and being. The body’s outer skin, house wall, canoe shell, and rim of the world were one in the same, all containing an inner heart-hearth-helios. To the Salish Lushootseed, the cosmos was a capsized canoe, and by abstraction, the world was a *homology* of a canoe and was contained within a canoe (Miller 1999).



These similitudes are still more complex as they pertain to anatomy, structure, architecture, and the cosmos; the house front is seen as the face, with the body on hands and knees, a perspective mirrored in canoes, where the bow is seen as the head and the paddles as arms (Miller 1999). In the fixed two-pitched gable roof houses of the Northern and Wakashan areas, the ridge poles were *serial homologies* of the spine, river, and Milky Way, with the four support poles *serial homologies* of arms and legs, and sky pillars (Miller 1999). Though rare, the entrances of some Haida houses were painted to resemble human bodily orifices, such as a mouth (Skidgate House 5), a vagina (Skidgate House 31), or the navel of an animal crest carving (MacDonald 1983). The heart, navel, and uvula (mouth) are all features identified in parts of canoes, and, in addition to the vagina, can all be conflated into anatomical features of reproduction and life vitality (e.g., breath, pulse, body temperature-fire). In fact, through this *serial homology*, we can observe the materiality of ontologies, where the canoe, house, and residences become one. There are accounts of worn-out canoes recycled as wall planks in the house; essentially making the canoe become the house (Mauger 1991; see Wallace 2017). Canoe boards were also incorporated into the Coast Salish Spirit Canoe Ceremony as props, in which they are first set up to represent the house, but then the house transforms into a canoe to carry the shaman to the underworld to cure the sick (Waterman 1930).

Further anatomical-structural components of the body-boat-house *serial homology* include the heart-hearth. Accounts from the Tsimshian, Chumash, and Yurok illustrate that the holes near the center of their boats are considered the heart of the vessel, and without the heart were believed to be unsafe since it would not be alive (Hudson et al. 1978; Latta 1949; Miller 1999; Smith 1940; Thompson 1991). The Yokuts also had a hole in the middle of their *balsas* for fishing, but this may have served the dual function of a heart (Latta 1949). The body-boat-house *serial homology*

can be observed in the Haida house, where the house was the manifestation of a body, a crest animal being, and a microcosm. The axis of the house was symbolically and ceremonially significant, representing the middle world between the underworld and upperworld, in which the central hearth was aligned with the roof smoke hole allowing smoke to rise to celestial houses, connecting the domains (MacDonald 1983). The central hearth was the heart of the house, where the fire kept the residence alive. The *serial homology* of heart-hearth-fire can also be illustrated by the fires or smoldering kindle made on canoes to hunt waterfowl at night, warm the crew, and roast fish (Elmendorf 1960; Hudson et al. 1978; Kroeber 1976[1925]; Lincoln 1992; Miller 1999; Suttles and Lane 1990). The importance of fire and life is made apparent by Chumash cosmology in the The First Canoe story, where the “rolling house” canoe rolls onto the earth with the vital force of fire (Hudson et al. 1978: 43).

I use the concept of *symbolic homologies* to illustrate the symbolism and ritual associated with the canoe as the body of a living, gendered, being. Among Northwest Coast people, like the Tsimshian and Tlingit, canoes were living beings (De Laguna 1990; Miller 1999). A new canoe was called a baby, with the canoe maker and his wife the parents. Woodpecker and cedar were believed to have given the canoe maker special carpentry power to create the canoe being. When launching the canoe, the Tsimshian would ritually christen it as a living being (Miller 1999). Through Coast Salish accounts, canoes could also be gendered according to their construction, with coarse grained *palowqwtan* considered masculine, and fine grained *paloqwtant* as feminine, and the gender of the canoe could be referenced in speaking to canoes (Lincoln 1992; Miller 1999).

*Homologies of practice* are similitudes of actions, which I suggest relate the mundane to the ritualized, and may provide insight into the roles of watercraft in guiding Indigenous ways of

being. A *serial homology of practice* exists in which curing the body of illness, cleaning the house, and bailing water out of a canoe were the same action, similar to the Makah marriage ceremony harpooning the house of the bride mentioned earlier. Likewise, there is a single Inuit word that encompasses the *serial homology of practice* of entering a house, impregnating a woman, and loading a boat, referred to as *ilumiulerpaa* (Nuttal 1992; Whitridge 2004b). Body-house-canoe *serial homologies of practice* indicate that mundane actions may in fact be ritualized in themselves without distinction between the sacred and secular. This is like the Dine (Navajo) *hozho* and the dynamic equilibrium of opposition, the process of all actions creates goodness and harmony in the world (Witherspoon 1974). Considering this, cleaning the house and bailing water from a canoe were actions just as important as curing the body of illness, since the process as ritual was just as important as the outcome. With boats being central in *watercraft cultures*, they may have played a crucial role in informing ontological principles for living in the world.

I will illustrate how the degrees of integration of watercraft into cultures can be further drawn out through *semantic homologies* in word meaning, canoe descriptions, and naming practices. In the Tsimshian language, for instance, the name for canoe is generic for “water travel,” but also, “vehicle, waterway, narrow passage, throat, body trunk, curved sided” (Bates, Hess, Hilbert 1994:103; see Miller 1999), further corroborating the canoe as a living body. The nob on the neck of the canoe was called the “navel” by the Coast Salish and the “uvula” by the Makah (Waterman 1920). Likewise, the Chumash identified their canoes as having a “skeleton,” “ribs,” “ears,” and “wings” and “nose,” likely used during boat building (Hudson et al. 1978). *Semantic homologies* are reinforced by naming practices, for instance, the Kwakwaka’wakw and Tlingit, have shared names for people, houses, and canoes, were associated with crests and could extend

to other aspects of material culture (Codere 1990; De Laguna 1972, 1990; Losey 2010). Within whaling groups, names for people, houses, and canoes often incorporated whales, like the Quaksweaquwul house syntagmatic name “like water against a canoe when a whale is taken alongside” (Huu-ay-aht First Nations 2000: 50).

Finally, I present canoes as *homologies of beings*, some hybridized and others *transmorphic*, which can be understood through the ontologies of *mulinaturalism* and *perspectivism*. In the Northwest Coast wolves, whales (orcas), and canoes were *serial homologous beings* as land-sea variations, exhibiting anthropomorphic behaviors of living in packs, carnivorous dieting, and practicing corporative hunting. Wolves on land transform into whales in water, with the wolf’s tail turning into the dorsal fin, and vice versa (McMillan 2019). Nuu-chah-nulth whaling canoes could be designed to be whales, but were disguised with black paint to hide canoes from the keen sight of whale prey, or have secret animals carved on the prow like wolves (Miller 1999).

An example of *homologies of being* in action may come from a bone pendant from Barkley Bay (McMillan 2015). The pendant appears hybridized or zoomorphic, as it is characterized by a whale’s head depicted as a snout with a mouth formed by incised line, facing leftward, and a thunderbird’s head with a downturned beak facing right. Cleverly, the crest of the thunderbird’s head is the dorsal fin of the whale (McMillan 2015). Through the perspective of *homologies of beings*, I interpret the unusual attributes of the whale-thunderbird pendant as a visual narrative representing the hinge point of transformational agency between the two beings.

The whale-wolf-canoes *serial homologies* is present in many stories in the Northwest Coast. A whale spirit leaves their underwater house and gets into their canoes. The canoe takes the form of the whales and the spirit relocates to the dorsal fin. When the whale comes to land to interact

with humans, the spirit must leave the whale, to only return home by getting back into their whale-canoe (Thomas et al. 2003). An ethnohistoric illustration of a dorsal fin sculpture from a Yuquot Village in 1778 by John Webber, and archaeological evidence at Ozette validate the importance of dorsal fins from whale-canoes, as prized objects prominently displayed in chief houses (Marshall 2000). Like dorsal fin sculptures, there are accounts of canoes in similar contexts, displayed in houses and treated as heirlooms (Arima 2000). The whale-wolf-canoe *serial homologies* are often associated with the thunderbird-human *homology* who hunt orcas, which can be thought of as a *homologous complex*, and visually represented on wooden panel at Ozette depicting thunderbirds and wolves (McMillan 2015).

Using IO and phenomenology as theory, I have illustrated that within *watercraft cultures*, boats were the apparatuses and places in which people experienced and learned about the world, through *living relationships* helped instill meaning onto the world, and were the materialization of thoughts and practices. Boats were *homologous* to houses, bodies, beings, and the cosmos, and were part of larger *homological complexes* of *transmorphic* beings and actions. The depth of integration can be deduced through a framework that links watercraft to *serial homologies*, *symbolic homologies*, *homologies of practice*, *semantic homologies*, and *homologies of being*. In perception and practice, I argue, boat-related *homologies* significantly informed the ontological principals of *watercraft cultures*.

### **Lasting Thoughts: Boats Shaped People's Worlds**

Technologies have profoundly influenced global histories. Watercraft in their various forms were revolutionary technologies that expanded human abilities and transformed realities.

Traditionally, we associate watercraft with the ways they facilitated exploration and

colonization, exposed and amazed those to the new and exotic, fostered trade and exchange, enhanced subsistence and warfare strategies, and rendered status to aspiring elites. But in this paper, I have argued that the relationships people experienced with boats could be far more dynamic, intimate, and transformative.

Indeed, there are methodological and epistemological limitations and challenges in assessing and describing multifarious human-watercraft relationships, which necessitates reformulating concepts operationally. By operationalizing a multitheory of watercraft relations through these case studies, we come to better understand human-watercraft realities. The five main points I have made using this particular framework are as follows.

First, through EP, I show that while watercraft could extend the distance of foraging excursions and widen territories, there were other factors that influenced people's decisions and movements. In the example I present, the Coast Salish Island Hul'qumi'num had what they needed in terms of subsistence resources within the Salish Sea, but made long excursions up the Fraser River to the area occupied by the Stó:lō. Travel with watercraft facilitated maintenance of descent connections, historical alliances, and marriage networks that formed overlapping residential group boundaries (Suttles 1958, 1960; Thom 2005).

Second, by using a multidimensional PE model (Furholt et al. 2020), I show how watercraft played important roles for both creating bottlenecks permitting emerging elites to arise, while also creating opportunities for resistance to elites. Among the Coast Salish, watercraft helped form long-term overlapping networks in which resources and status symbols were controlled and circulated. Although this may have created ways to enhance household status, power did not extend beyond that, as watercraft also allowed regionally extensive non-overlapping sets of affinal ties to be maintained and called upon if needed. Among the Chumash, watercraft

functioned similarly within different contexts. The *tomol* created a bottleneck in which aspiring leaders could control cross-channel exchange. However, continued use of *tule balsas* may have deterred efforts to consolidate power and resource control. Likewise, the elite *Brotherhood of the Tomol* controlled boat construction knowledge, access to construction materials, and held stakes in the boat activities of its members. Given the number of members, this elite stratum likely also served to prevent the centralization of regional power by an oligarch.

Third, I examine the relationship between humans and watercraft as things in networks. Through ANT, I show how within *house societies* of the Northwest Coast there were land-sea *homologous* networks. Nuu-chah-nulth whaling and the Haida warfare-ceremonial complex connected to other house-boat nodes, which held each region together. Within HP, I illustrate how the steps involved in watercraft construction were the product of long-term historical processes, and within watercraft culture, these processes and steps involved both humans and other-than-humans.

Finally, I explore human-watercraft relationships from the humanistic perspectives of phenomenology and IO. Within *watercraft cultures* people established *living relationships* with boats, which informed about places as pedagogical vehicles, and created new places through experiences sitting in boats. I show how using ethnographic data and taking ontology seriously can provide a method to authentically understand Indigenous states of being in the world and an alternative conceptual means in interpreting the material archaeological record. For instance, to some, watercraft were *serial homologies* with houses, bodies, beings, and the cosmos, meaning they were fundamentally reflections of each other, and one and the same. As beings, they were *homologies* of other beings and had transmorphic capabilities.

This multidimensional theoretical analysis contributes to a better understanding of boats and the relationships people experienced with them. In comparing groups in Southern California and the Pacific Northwest Coast, some parallels can be drawn. Each group had vernacular and specialized watercraft, in which the latter were subject to some degree of restricted access and control. Regardless of the potential advantages of specialized craft, none of the groups had centralized regional power by an oligarch. All of the groups viewed watercraft as significant, meaningful objects, as *homologies* of houses, beings, and a part of cosmology and mythology. Furthermore, we can see how boats, in all their variety, had compelling impacts on people and culture. In essence, boats fully permeated all aspects of culture to the level of integration in which boats created *watercraft cultures*. Few material things have had that much impact on life, culture, and the ways of being.



## Chapter Conclusion

This manuscript offers insight into the complex human-boat relationships of the past, however, just as important are more contemporary experiences with watercraft. It is these relationships that I would like to turn to now.

In some ways, ethnographic and historical documentation reflect the persistence of the canoe in traditional mobility patterns, labor, and Indigenous lifeways. Unfortunately, this narrative is also one of colonial progress, cultural decline, and the “disappearance” of canoes and traditional technologies (Ritt et al. 2018). In the beginning of the 19th century, the fur trade was a booming enterprise for Indigenous people, and the canoe flourished in the Northwest Coast and parts of California with the demand for sea otter and fur seal pelts. At the beginning of the 20th century, there were approximately 10,000 canoes on the British Columbia Coast (Ritt et al. 2018).

However, this pattern was dramatically different in southern California, particularly among the Chumash, as missionaries banned the use of the *tomol* (Hudson et al. 1978). While people of the Northwest Coast were able to choose forms of economic activities based on the changes they faced (Lutz 2009; see Ritt et al. 2018), the Chumash were only given one option, and that was to learn what the missionaries thought was most important—agricultural practices and house building (Hudson et al. 1978). By 1850, the relationship between the Chumash and their *tomol* had suffered significantly, resulting in the near extinction of the craft in Santa Barbara (Hudson et al. 1978).

A range of historical changes in the Northwest had major effects on the relationship between people and their canoes, notably through Canada’s government imposition of the Indian Act of 1876 and its subsequent revisions. Land was taken away from Indigenous people, they were

moved or removed from their land, land became privatized, and the lumber industry intensified, all of which separated Indigenous people from trees used to make canoes (Cushman et al. 2021). Religious ceremonies and cultural gatherings were banned, which resulted in decreased use of canoes and a disconnection from the meaningful practices in which they were involved (Cushman et al. 2021). Further, as the sedentary wage economy was increasingly imposed, Indigenous groups had few options beyond the low-wage jobs in commercial fishing and canning industries, which served as a means of social assimilation (Codere 1950, 1990; see Ritt et al. 2018). Ultimately, competition with better equipped western companies, the rising cost of gasoline for powerboats or outrigs on canoes, the onset of World War One, and the economic downturn of the Great Depression had major effects on traditional lifeways, and the means in which Indigenous people were able to adapt with their canoes (Ritt et al. 2018). Continued colonial repression further restricted the economic and social movements of First Nations People while off reservations, which further diminished canoe-integrated cultural practices. With the perpetual introduction of new foreign diseases, traditional knowledge of canoe construction and use was disrupted with the loss of Elders (Cushman et al. 2021).

All the while, Indigenous watercraft themselves were colonized, stolen, and assimilated. White colonizers employed Indigenous guides during excursions to explore the backcountry, to encounter others, and to assess landscape commodities. Canoes were the mechanisms by which people were encountered and subsequently colonized. White men used canoes with Indigenous guides as part of an unspoken infrastructure of colonial encounters (Ritt et al. 2018), which brought more and more Indigenous people into contact with settlers and into an endlessly engrossing sphere of colonial expansion. Lewis and Clark are perhaps the most well-known examples of canoe-colonization, as they hired Native guides to navigate river systems. Less

known is how the U.S. government-funded explorers needed another canoe on their return journey from the Columbia River, and without any luck trading for a canoe, ordered four members from their expedition to steal a dugout from the Clatsop Chinookans (see Ericson and Krotz 2021). They not only stole the canoe, they enslaved it, forced it into a life of servitude without consent, and unlikely knew how to properly care for a cedar dugout. To the Chinook, they stole a being, a family member, something sacred, irreplaceable, and never forgotten. On the bicentennial celebration of the Lewis and Clark expedition, upon hearing of the historical theft, William Clark's decedents gifted a new canoe to the Chinook to welcome into their families—an act that should have been reconciled by the U.S. government long before (see Ericson and Krotz 2021).

Canoes became appropriated and modernized by settlers, perceived to have implemented improvements on Indigenous canoes, streamlined and standardized, in which industrial fleets of company-owned canoes were manufactured (Ritt et al. 2018). Some historical pictures depict fleets of company canoes in front of traditional longhouses, which holds considerable connotations of domestication of Indigenous labor and colonial incorporation (Ritt et al. 2018). Boats were also used to take Indigenous children, the sick, and elderly away to assimilation schools and sanitariums. And if people were not taken outright, they were encouraged by the colonial government to leave their villages on their own, using canoes. Families would wait at the shore, frequently check for boats to return day after day, but too often these people did not return, sometimes without word or just a message they had passed on, their bodies and souls became detached, and their families and communities were unable to enact funeral rituals and say goodbye.

Watercraft among First Nations and Native Americans today are part of movements centered on decolonization and sovereignty, misappropriation, Indigenous resurgence, colonial reconciliation, cultural revitalization, community heritage and healing, and the enrichment of Tribal identity. First, this includes placing Indigenous watercraft into context through ontology, where canoes are beings, they are family members, tied to people and land, and require rituals and cultural practices to continuously negotiate their relationships with humans. Second, this entails recognizing that canoes are still significant to Tribal people, although they have taken on new roles. Canoe journeys reconnect people to cultural traditions and ancestry, revive cultural heritage and community, and unite people with ancestral lands and ancient water pathways. Third, watercraft are used to heal communities from intergenerational traumas caused by the policies of colonial assimilation and suppression (Brown et al. 2021), and to aid in the survival of younger generations today who have experienced cultural loss and Tribal identity detachment (Oh 2016). These long-standing traumas have led to a range of outcomes for Indigenous communities, including substance abuse, mental health issues, poverty, sickness, poor quality of life, and lack of success at school and work. Renewal of watercraft culture provides possibilities for reconciling the colonial past and resulting present, and for reclaiming native sovereignty.

Indigenous voices today continue to identify canoes as beings, emphasizing them as stolen and imprisoned as part of Indigenous resurgence (Erickson and Krotz 2021). Notably, Anishinaabe poet Leanne Betasamosake Simpson's (2016, 2017) poem about *How to Steal a Canoe* addresses preservation violence and the role of museums as settler colonialism (see Erickson and Krotz 2021; see Peterson 2020). She presents imagery of birch bark canoes hanging in a "canoe jail," or a museum or collections warehouse, and states "oh, you're so proud of your collection of Indians," and she contextualizes canoes as the theft of bodies. She also describes the condition

and experience of the imprisoned canoe beings as “bruised bodies, dry skin, hurt ribs, dehydrated rage,” as if they are being abused and tortured. Bottomline, canoe beings did not give their consent to be there. Simpson (2016, 2017) addresses the violation of consent between humans and non-humans in placing canoes and other artifacts in museums, in which consent is land-based, involves rituals and practices that are continuously negotiated, which has not been the process involved in the placement of canoes in museums (Peterson 2020). Similarly, Stl'atl'imx storyteller Peter Cole's (2006) poem *Coyote and Raven Go Canoeing: Coming Home to the Village*, incorporates the imprisonment of his grandfather's cedar dugout canoe trapped in a colonialist museum (see Erickson and Krotz 2021). Uniquely, *homologies* of contemporary Indigenous resurgence follow traditional relationships of canoe-being, but in the modern context of museum-jail. It is worth noting that context and consent are particular to each canoe, as some canoes and their family members may have consented to being protected in museums or to being displayed proudly as part of storytelling and sharing traditions.

The revival of traditional canoe-making and canoe journeys has been instrumental to Indigenous cultural resurgence, colonial reconciliation, and the enrichment of Tribal identity. One notable example is Paddle to the Seattle, which began in 1989 when 17 Tribes from Puget Sound and Washington area each restored or built their own traditional dugout and learned how to paddle. Today, Paddle to Seattle has over 100 canoes with crews participating. Along the journey are stopovers with music, dances, storytelling, and community potlatches. The event is designed to promote “healing and recovery of culture, traditional knowledge, and spirituality” (Washington Indian Gaming Association 2014; see Donovan et al. 2015). Canoe journeys are now occurring more broadly, and may track from 50 km to 300 km. Many paddle workshops and journeys are saving lives and enhancing communal Indigenous identities. Those designed for Tribal youth

development, such as The Healing of the Canoe project, focus on healthy lifestyles, cultural values, suicide prevention, and communal ties. Learning traditional ways of paddling and the history of canoes is enculturating and informs a powerful sense of identity that prevents children from losing their cultural identities. In short, canoes save lives.

Finally, awareness of canoe appropriation and theft is growing among the mainstream cultural milieu, such that the canoe is increasingly recognized as a significant national symbol in Canada. In a 2007 contest held by CBC, the canoe was recognized as one of the Seven Wonders of Canada, alongside other symbols like the Rocky Mountains and Montreal-style bagel (see Osler 2014). Not without criticism, Dean (2013) explains that canoeing is appropriation, indigenization, and fetishization, in which white people experience nature in order to create a position for themselves in an unbroken line of inheritors to the land. This sort of reckoning in Canadian nationality today needs to be part of the process in which all people understand the complex relationships built with canoes.

This exploration into canoes has emphasized the profound and multifaceted relationships between Indigenous people and watercraft in the Pacific Northwest Coast and California. Significant watercraft relationships have existed throughout time in these cultural areas, deep into prehistory across time to the present, which from an Amerindian perspective may all simultaneously coexist temporally. Human-boat relationships have enabled the exploration and colonization of a landscape, allowed people to seek out unknown places and meet others, aided in subsistence and trade, enhanced conflict tactics, provided leisure and sport, and served in ceremonial and ritual events. Watercraft were valued, admired, and understood as family. They have survived historical suppression and abuse and remain a pinnacle of Tribal life and traditions. The only way archaeologists and the general public can come to truly understand the

survival of watercraft is to recognize their influence on so many dimensions of Indigenous life.  
Such recognition is most possible through a multitheoretical approach.

## CHAPTER FIVE: CONCLUSION

This dissertation is comprised of three manuscripts that collectively demonstrate the effectiveness of integrated theoretical pluralism, multiple scales of analyses, comparative methods, and multiple lines of evidence. Within each manuscript is a unique blending of theoretical approaches independently oriented toward specific inquiries. Through the operationalization of ad hoc theoretical approaches, archaeological and ethnographic data can be newly conceptualized or reanalyzed, offering fresh comprehensions of past human realities. Collectively, this holistic approach draws from long existing theoretical scholarship from the late 19th century popularized in the 1950s by archaeologists that continues to be relevant today across multiple scientific disciplines (e.g., Chamberlin 1965[1890]; Platt 1964; Trigger 1995). Chamberlin (1965[1890]) describes the methodological downfalls of the “ruling hypothesis” and “single working hypothesis;” the former being particularly toxic to researchers as they become affectionate to a single theory to the degree of orthodoxy. Instead, by using his method of multiple working hypotheses, the “dangers of parental affection for a favorite theory can be circumvented” (Chamberlin 1965[1890]):755; see Elliot and Brook 2007). Trigger integrated Chamberlin’s method into his holistic anthropological archaeology and argued for theoretically informed pluralism, creative middle-ground approaches, and comparative studies (Trigger 1984, 1989, 1991, 1995, 2003; see Chrisomalis and Costopoulous 2013 and Williamson and Bisson 2006). The three manuscripts presented here each use multiple theories and mixed frameworks applied to topics, or related topics, that have not previously been investigated from this approach. The first paper operationalized a large-scale perspective to regional interaction between groups in southern California and the American Southwest. Although world-systems theory and



continental perspectives have been used to conceptualize interaction between Southwestern, Mississippian, and Mesoamerican cultures (e.g., Lekson and Peregrine 2004; Peregrine and Lekson 2006, 2012; Mathien and McGuire 1986; Erickson and Baugh 1993), the model used in this paper uniquely incorporates the complementary perspectives of Pauketat's "big history" (2007:15), Peregrine and Lekson's (Lekson and Peregrine 2004; Peregrine and Lekson 2006, 2012) continental *oikoumene* perspectives, and Gill and Frank's (Frank 1998; Gill and Frank 1990, 1991) singular Asio-Afro-European *ecumene* world system approach. The outcome of this analysis established sustained connections between California and the Southwest, in which groups became interconnected, mutually influencing historical trajectories.

The second paper is on a separate topic and theoretical model, but overlaps in context and overall approach. People knew their world, were connected to distant places, and knew of other people. In California, the awareness of other societies may have held influence on natal organizational configurations. Although the Chumash were hierarchically organized, Yuman-speaking groups were arranged more heterarchically. Both cultures were on the periphery of larger-scale Southwestern centers. Through long-distance exchange, the incrementation of wealth and status symbols incurred through Chumash-Southwest trade would have enhanced the sociopolitical hierarchy of the Chumash. However, the heterarchically organized Yuman-speaking groups would have known of centrality, and resisted. The crux of the analysis was to develop a framework that incorporates a way to compare complexity inclusively with alternatively organized groups. By blending the framework of heterarchy (Crumley 1979, 1995) with a theory of anarchism (Angelbeck and Grier 2012) in comparing the organizational capacity of the groups during warfare and trade, an outcome that demonstrates proportional complexity was reached.

The final paper implements some elements of the theoretical perspectives included in the first two papers, and builds a multitheory of elements from ecological possibilism, political economy and materialism, and actor-network theory and historical processualism, with humanistic perspectives of phenomenology and Indigenous ontology. Similar to the second paper, this is a regional-scale, comparative analysis, but focused on the Chumash of California, and the Nuu-cha-nulth, Haida, and Salish of the Pacific Northwest. The emphasis of this paper relates to the common thread of this dissertation via application of informed theoretical plurality. To meet the challenge of fully conceptualizing the multidimensional relationships people had with watercraft, a multitheory was utilized in response to the limitations of singular theoretical frameworks. The result of this analysis was an outcome of new implications for understanding watercraft, which were wholly saturated into all aspects of culture, truly creating *watercraft culture*. Using select approaches, watercraft opened up environmental possibilities that overlapped with social connections and historical ties. Watercraft created opportunities for aspiring elites to centralize power, but they also allowed for people to resist and call upon networks for leveling. Boats were entangled within networks of humans and other-than-humans that formed house-boat and land-sea *homologies*, and these house-boat networks served to entangle people into regions. Boat-building was based on genealogies of practice and the physicality of agency, it created placed in the process, and building and using boats would have informed all about a meaningful world with historically familiar boundaries. The experience of using watercraft taught people about the world and aided them in making places. There were parallels in the ways watercraft were viewed, particularly as reflections of the house, body, being, and cosmos, and boats as *homologies* of beings could transform.

The three manuscripts use multiple lines of evidence in the form of ethnography, archaeology, and history, and show the benefits of using multiple theories, different scales of analysis, and cross-cultural data comparisons. The approach is informed, but also flexible, and allows for the combination of appropriate ad hoc theories, one or many scales of analysis, and the comparison of relevant cultures in order to draw new interpretations about past human realities.

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