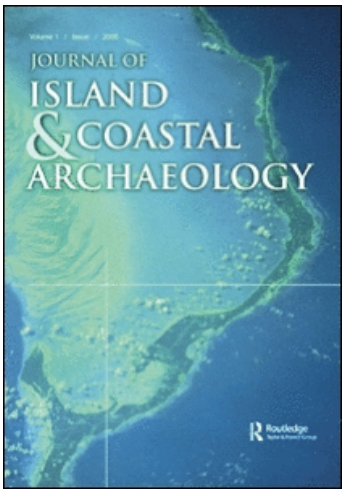

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Islands of Isolation: Archaeology and the Power of Aquatic Perimeters

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Islands of Isolation: Archaeology and the Power of Aquatic Perimeters

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ABSTRACT

Isolation has contributed over time to the development of humans culturally and biologically. The concept of isolation was popular in earlier anthropological and archaeological discussions of island settlement, but it has waned in favor of models emphasizing interaction. Although many islanders around the world developed sophisticated techniques for seafaring, these did not assure them of constant access to other peoples or places. Using case studies from the Pacific, we stress the importance that isolation played in island societies; the sea may have been a highway to some but for others it remained a difficulty to overcome. While we emphasize here the need to consider isolation factors in the archaeological study of islands, it is clear that we should move beyond the "isolation" versus "interaction" debate and recognize that, for varying environmental and sociocultural reasons, different levels of connections and separation existed between island peoples.

Keywords islands, isolation, interaction, seafaring, Pacific

Anthropologists and archaeologists have been increasingly interested in how peoples came into contact and interacted along different types of boundaries or borderlands (e.g., Biersack 1995; Stark 1998; see also Fox 1997; Hirsch and O'Hanlon 1995; Ingold 2000; Myers 1986) and the degree to which societal changes occurred as a result of these (dis)connections.

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Examining the effects of isolation or interaction—whether continuous, punctuated, or absent—caused by either physical or social boundaries, is important because it can help explain why and how human groups evolved through time culturally and biologically. As the papers in this special section of the *Journal of Island and Coastal Archaeology* demonstrate, various social, mental, and physical factors can influence the degrees of interaction and isolation that occur through time.

One of the most convenient units of analysis for exploring issues of interaction and isolation has been oceanic islands. Since the early eighteenth century, explorers and writers of fiction have been fascinated with islands, describing them on one hand as being exotic, primitive, and dangerous, and on the other as virtual Gardens of Eden, with plentiful resources that allowed people to live in harmony with their environment (for a review see Rainbird 1999). These sentiments are illustrated by a host of popular novels and tales. *Robinson Crusoe*, written by Daniel Defoe in the early 1700s, and based in part on the adventures of Alexander Selkirk, describes the plight of a man shipwrecked on an island who must fend for himself and battle cannibals to survive. This influential tale inspired numerous others, including a genre of German novels, *Robinsonaden*, which prompted deliberate attempts at recreation such as the German settlers of the Galapagos Islands (Treherne 1983). Similarly, in Jules Verne's 1874 book *The Mysterious Island*, Union soldiers land on a remote and fictional island in the Pacific after escaping a Confederate jail in a hot air balloon. Much to their surprise (and benefit), the island is inhabited by a dazzling array of minerals, plants, and animals that allow them to make gunpowder, forge metal, and grind corn—a paradise by any stretch of the imagination.

These and many other stories and films involving insular isolation, have a plainly didactic intent, and islands often play a similar role in archaeological scholarship. Bounded island landscapes appear to be convenient analytical boxes for investigating cultural and biological change. The sociological study of islands had its first major exposure to academic opinion in notions of noble savagery woven, most influentially by Rousseau, from the observations of early French and English explorers in Polynesia. Direct anthropological fieldwork was later taken up by Malinowski (1922) in the Trobriand Islands, Radcliffe-Brown (1922) in the Andamans, Firth (1936) on Tikopia, and Mead (1957) in Samoa. In the 1960s, biologists such as Fosberg (1963) and archaeologists and anthropologists, including Vayda and Rappaport (1963) and Evans (1973), began exploring in more detail how insularity affected cultural behavior and complexity in island societies of the Pacific and Mediterranean. A prevalent theme in these studies was the concept of isolation and how islands, as bounded and circumscribed environments, limited human interaction. Studies by Evans (1973) and later Keegan and Diamond (1987), drew heavily from biogeography, *sensu* MacArthur and Wilson (1963, 1967), incorporating a geometry of size and distance of islands from continents or other islands to explore correlations with human colonization patterns.

This early research relied heavily on the concept of "cultural laboratories" as ideal units of study, and thus reinforced an isolationist perspective. More recently, such notions have been challenged by many archaeologists, including Hunt and Fitzhugh (1997), Terrell et al. (1997), Rainbird (1999, 2007), Boomert and Bright (2007), and others.

Evidence, ranging from the stylistic and compositional similarities of ceramics and stone artifacts, to language, architecture, and symbolic expression, has been employed to demonstrate the reality of interaction for most island people at most times in the past. It is not our purpose to argue that this conclusion is mistaken, but rather to refine its message.

ISLANDS AS AREAS OF STUDY

To reexamine the role isolation has played in the development of island societies, it is worthwhile to first define what we mean by an "island." From a geographical perspective, an island is typically described as a land mass completely surrounded by water. To geographers, an island is defined as "land separated from a much larger mainland or other islands by a water barrier reducing accessibility and linkage, but also protecting island biotas from certain mainland impacts such as predation, competition, and disease" (Walter 2004:177). Mayr (1976:604) also noted that geologically oceanic islands are those which are not situated on a continental shelf whereas zoogeographically they are islands that have "received [their] fauna across the sea and not by way of land bridges."

Biogeographically, islands can also be patches of land or habitat that are relatively homogeneous, completely surrounded and isolated to varying degrees by different habitats or ecosystems. This includes montane islands where changes in elevation create stark differences in habitat and aquatic oases that develop in xeric environments. Rosenweig (1995:211) defined an island biogeographically as a "self-contained region whose species originate entirely by immigration from outside the region." Watson (in Sadler 1999:953) noted that islands are "disjunct isolated patches that were never contiguous with other patches and have developed their biota exclusively from colonists."

Although there are several ways to define what an island is depending on the disciplinary research goals, we focus here on the archaeological study of island societies situated in larger seas and oceans. We use a simple definition such as the one given by Terrell (1999:240) who stated that "islands are what they are because they are living spaces (habitats) surrounded by radical shifts in habitats" (i.e., water). We can then ask two broader questions: 1) if oceanic islands by definition are geographical isolates (whether connected previously by land or not), then under what conditions do human societies isolate themselves or become isolated as a result; and 2) how often have human societies been affected in this way?

CROSSING AQUATIC BOUNDARIES

Part of the reason for thinking of islands as isolated is that they have a well-defined aquatic perimeter. In the eyes of early European explorers who came on large and complex ships, this perimeter was a void that could not be easily crossed, and they were not easily persuaded that native peoples reached distant islands with the "primitive" seafaring technologies they observed. Archaeological evidence demonstrates, however, that seafaring was fairly common in the ancient past, from the Austronesian expansion and Lapita peoples migrating into Remote Oceania (Figure 1) (e.g., Kirch 2002), to Amerindians venturing from South America into the West Indies (Callaghan 2001; Keegan 2000; Wilson 2007), the Norse crossing of the North Atlantic to Iceland and

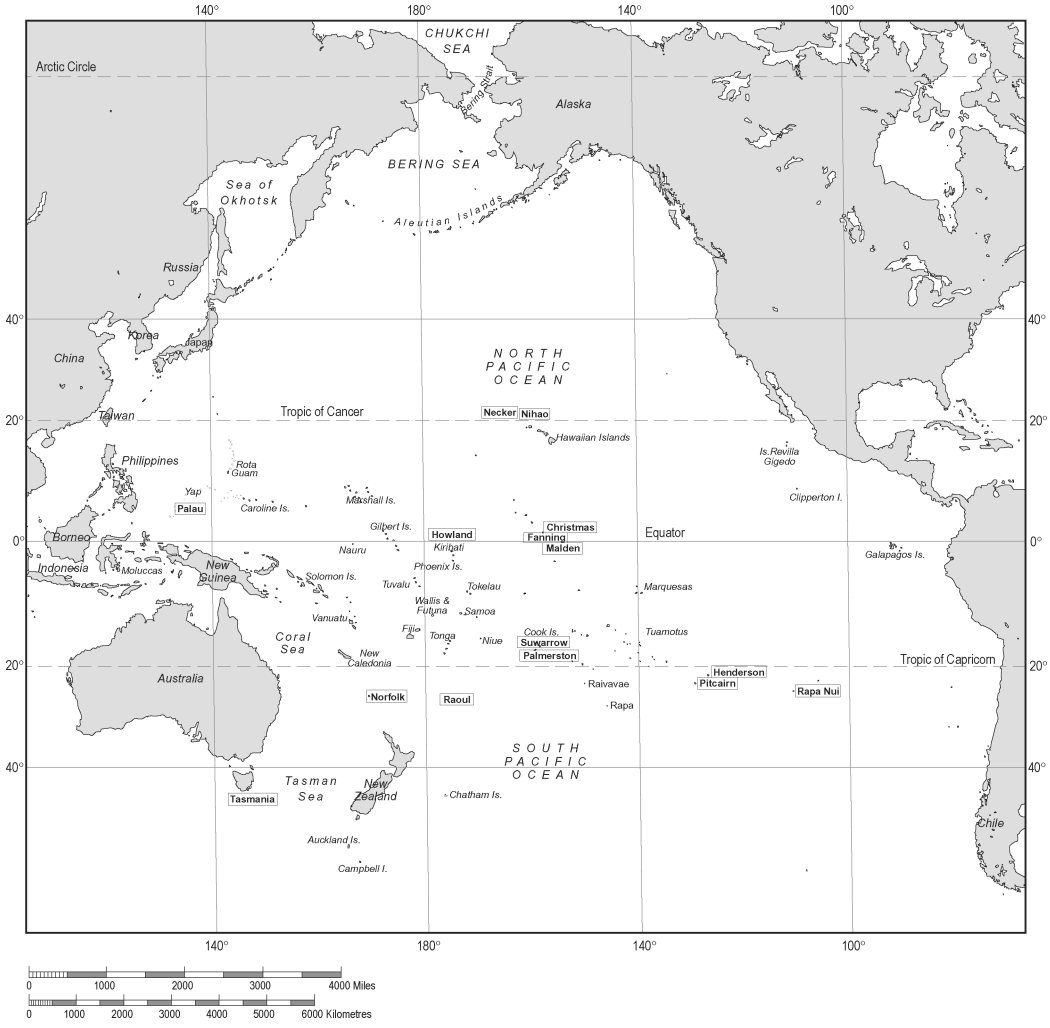

Figure 1. *Map of Oceania (specific islands mentioned in text are in boxed bold).*

Greenland (McGovern 1994), and various incursions into the Mediterranean (Broodbank 1993, 2000, 2007).

Yet, it is important to emphasize that in crossing natural or cultural boundaries, isolation is a common consequence. Hominins crossed rivers and narrow sea gaps fairly early—as in the movement of *Homo erectus* from the Sunda shelf to Flores about 800–900 kya (see Bednarik 2003; Erlandson 2001; Morwood et al. 1998). There may have been additional movement to Timor, but irrespective of that, it can be assumed that these island populations were at least more isolated than they had been. *Homo sapiens* eventually developed the technological capacity to cross broader expanses of water, including substantial distances of open ocean in the

colonization of greater Australia between 60 and 40 kya (Erlandson 2002; Erlandson and Fitzpatrick 2005). Both the distinctive character of Australian aboriginal archaeology and modern genetic studies indicate that there was only limited subsequent contact with Asian populations, or even with those in New Guinea, until well into the Holocene. Island colonization later in human history also led to some degree of isolation, even in the period of European dispersal (e.g., Callaghan and Fitzpatrick 2007). Seas and oceans were always relatively difficult and potentially dangerous to cross, could not be done by everyone, and isolation was a common problem for those who made pioneering voyages.

Nevertheless, island research has shown that interaction in many aquatic regions was fairly frequent at archaeological time scales. As a result, both "island laboratory" and "isolation" concepts have waned in explanations of culture change, with recent explanatory models focused more intensively on the interactions that occurred between island societies. D'Arcy (2006:6) observed that "calls from academics to view the sea more as a means of communication than as an isolator have mounted." Rainbird, in his review of Micronesian (2004) and island (2007) archaeology observed that interactions (i.e., using concepts of *fusion*, *fluidity*, and *flux*) were the primary catalysts for culture change and that connections were virtually omnipresent. Boomert and Bright (2007:15) also argue that isolation is "primarily a cultural construct often employed by islanders to manipulate their own identity as opposed to that of their neighbours." But this point, and much of the 'interactionist' reaction to conventional assumptions about isolation, carries an implication of reasonable proximity between islands (or islands and continents) to which island societies and activities became adjusted. That is doubtless true of many situations, as in the Mediterranean and the Baltic, and in some areas of the remote Pacific, but it was hardly true of much of the Pacific or the remote regions of the Atlantic and Indian oceans. We agree with Broodbank (2000) that the 'island laboratory' should not be privileged in examining social processes and culture change in insular environments, but argue that neither should interaction—we should not "lose sight of the remote end of the insular spectrum" (Anderson 2004:255; 2005). Remoteness is manifested both by the impact of inadequate technology or difficult passage conditions (or both) on potential interaction.

Water can be both a barrier and a facilitator to the dispersal and radiation of plants and animals, as for example in the cases of the pygmy mammoths and "giant" mice on California's Channel Islands (Agenbroad 2001), and the komodo dragon, pygmy hippos and stegodons on Flores in Indonesia (Morwood et al. 1999). Modern humans, however, did not develop the technology to colonize islands more than 20–30 km distant until the Late Pleistocene: 90–120 km to reach Australia and New Guinea by about 55–45 kya (Clark 1991; Groube et al. 1986; Roberts et al. 1990), 140 km to reach Buka at 30 kya, 200 km to colonize Manus Island about 21 kya (Allen et al. 1989; Wickler and Spriggs 1988), 30 km to the Izu Islands in Japan between 20 and 25 kya to quarry obsidian on Kozu Island (Oda 1990), over 20 km to Melos in Greece to obtain obsidian around 13 kya (Cherry 1990), and 15–20 km to reach California's Channel Islands by at least 13 kya (Erlandson 2001). More distant passages, as in many oceanic cases, were not accomplished until the later Holocene.

SOME PACIFIC INSTANCES OF ISLAND ISOLATION

Rapa Nui (Easter Island)

Around AD 1200, Polynesians colonized Rapa Nui, one of the most remote islands in the world (see Figure 1). It is located 1900 km east from Pitcairn (the nearest island) and 3500 km west of South America (Hunt and Lipo 2006; Mann et al. 2008). Current archaeological data (Hunt and Lipo 2006) and genetic evidence from rats (see Barnes et al. 2006) suggest that this founding population never interacted with outside groups or received new colonists until historical times. Some anthropologists have suggested that isolation influenced the construction of the giant *moai* statues (Sahlins [1955] described them as examples of "esoteric efflorescence") where specialized knowledge by a group inhabiting a place with limited resources was channeled into a productive system—seemingly, a byproduct of the island's isolation.

It is important to remember, however, that the construction of monuments is not a unique feature of island societies. The Rapa Nui case is unusual mainly in the extent to which islanders used their resources to create statues in greater quantity and increasing size. In the process, they diminished their supply of trees, though these may have already been under stress due to rat predation on palms (Hunt 2006). The impact of Easter Islanders on their resource supplies was exacerbated by their isolation (Rolett and Diamond 2004). Eventually, nearly all of the statues were toppled, although mainly within the European era.

The "Mystery Islands" of the Pacific

At the time of discovery by Europeans, there were at least 26 (Anderson 2002) 'isolated mystery islands' (Bellwood 1978) that had remnants of prehistoric settlement but were completely uninhabited. These included Christmas, Fanning, Howland, Malden, Palmerston, Suwarrow, and Washington islands, all atolls or low coral islands in the central Pacific; Nihoa and Necker in the Hawaiian chain; and Henderson, Norfolk (Anderson and White 2001), Pitcairn, and Raoul in the southern subtropics.

Various explanations have been suggested to explain why people no longer lived on these islands: overexploitation of local resources, reduced levels of interisland contact, or cultural conflict that led to extinction or wholesale emigration. Anderson (2004:14) noted that "within the common environmental and social stress of life on small islands the onset of community isolation and loss of commodity transfer by a general contraction of Polynesian voyaging after about AD 1500 is one such possibility." As Terrell (1986) and Anderson (2002) also noted, low islands near the equator are extremely susceptible to prolonged periods of drought and tropical storms. It is not clear how occupation ceased, whether by extinction or abandonment, and it cannot be assumed that the latter was ever successful.

Palau

Current archaeological research indicates that humans first colonized Palau between about 3000 BP and 3300 BP (Clark 2005; Fitzpatrick 2003), while paleoenvironmental data suggest that initial settlement may have occurred even earlier (Athens and Ward 2002). During its occupational history, Palauans are known to have had connections with other people, as evidenced by Palauan pottery found in Fais ca. AD 100–400 (Intoh 1996; Intoh and Dickinson 1994, 2002) (although the

chronology may be somewhat problematic), and stone money carved in Palau by Yapese Islanders. These connections appear punctuated, however, with no real evidence that contacts with outsiders were common.

Although a paucity of research may help explain the gaps in evidence for prehistoric interaction, it is interesting to note that Palau did not come into sustained contact with Europeans until AD 1783 when Captain Wilson on the *Antelope* wrecked on reefs surrounding Ulong Island. As Lessa (1975) noted, Sir Francis Drake sailing with the *Golden Hind* encountered natives in canoes on his way to the Moluccas, who began to trade and then steal things from the ship, causing Drake to refer to it as the 'Island of Thieves.' Hezel (1972:26–27) suggested, however, that Drake's description of the people and their canoes does not readily support the notion that this was Palau. Francis Padilla sailed from Guam to Sonsorol in 1710 on the *Santissima Trinidad* and apparently lay off Palau for two days. This contrasts with all other islands in western Micronesia, including Guam, Yap, Ngulu, and the Southwest Islands which were contacted in the early to mid-1500s (Hezel 1972).

What is most surprising is that the Spanish deliberately tried to locate Palau in the 1700s after hearing reports from voyagers who had accidentally drifted to the Philippines that islands lay to the east. Between AD 1664 and 1669 there were no fewer than nine different landings of drift voyagers from the Carolines (Hezel 1983). In December of AD 1696, Father Paul Klein, met 30 Carolinians on Samar who had blown off-course while sailing from Lamotrek to Fais. Klein later described their experiences in a letter to the Jesuit General in Rome (Hezel 1972:27) that spurred interest in finding these islands to claim for the Spanish Crown. Ironically, the only successful attempt to find Palau was on November 30, 1710, after Padilla's *Santissima Trinidad* spent four days fighting winds and currents but never was able to anchor (Hezel 1972:33).

Computer simulations of voyaging by Callaghan and Fitzpatrick (2007) confirm what early seafarers noted in ship logs—that the currents (of which several come into contact with Palau) and extremely volatile winds, made it extremely difficult to reach Palau by sail. These conditions, which made locating the archipelago nearly impossible during most times of the year, isolated Palauans for centuries from Europeans, and perhaps other people prehistorically. A similar situation might also have occurred on Jamaica in the Caribbean as Callaghan (2008) notes in this issue.

Tasmania

Pardoe (1991:1) remarked that "Tasmanians have experienced the longest period of isolation of any human group, perhaps in our whole history." After having colonized Tasmania over 30,000 years ago across the Bassian Plain, Tasmanian Aborigines were severed from the Australian mainland by sea-level rise around 8000 years ago (see Cosgrove 1989). After having shared a similar tradition with Australian populations, including the manufacture of core-tools and scrapers during the Pleistocene (e.g., Kiernan et al. 1983), closure of the Bassian land bridge left archaeological traces, particularly during the Late Holocene, of divergence in "stone tool assemblages, diet, woodworking technology, and approaches to a maritime economy" (Pardoe 1991:12) and in general, "less intensive economic and settlement patterns" (Pardoe 1991:12 after Lourandos 1983). Along with Chile, Tasmania was the southernmost region

on earth inhabited by humans during the Pleistocene, but even during periods of lower sea level it was less than 150 km from the Australian mainland, with some intermediate islands. However, rough seas in the "roaring forties" and a lack of a sophisticated seafaring ability effectively isolated Tasmanians for thousands of years after connection with the mainland was severed. Some islands within a few kilometers of Tasmania continued to be visited or inhabited, but on most of the Bass Strait islands, and many others around Australia, such as Kangaroo Island, rising sea levels were accompanied by settlement cessation.

DISCUSSION

There are more cases of island isolation than we have discussed, and more variety in their circumstances, as in Tokugawa Japan (Callaghan 2003) and Medieval Greenland (Dugmore et al. 2007). But what can we take from the general case? Isolation as a "state of separation between persons or groups" was sometimes a consequence of distance from the homeland or an adjacent mainland and sometimes mediated by conscious decisions (i.e., Tokugawa Japan) to limit or control interaction. This does not necessarily mean that these or other societies were not interacting at all with outside groups, although that seems true of some Pacific Islands. Rather it was the ability to interact at some level that enabled members of island societies to establish power bases, increase wealth, status, and power through the transfer of goods, commodities, and knowledge in Oceania and the Caribbean (e.g., Alkire 1978; Descantes 1998; Fitzpatrick 2003; Hofman et al. 2008; Torrence and Clark 2000). The galvanizing of relationships with people on other islands also helped ensure that a population could attain needed resources in the event of a natural catastrophe—the so-called "rescue effect" which Alkire (1978) suggested was one reason why Micronesian atoll dwellers established ties with other groups. But interaction, although an archaeologically recognizable feature among most islanders worldwide, was not necessarily omnipresent, desired, or possible with all peoples at all times due to changing climates, environments, oceanographic conditions, seafaring technologies, and sociopolitical desires.

Just as we should not underestimate the degree of contact between prehistoric peoples, we should not underestimate or ignore the power of aquatic perimeters. Lape (2004:233) noted that we should no longer "think of the boundaries of island worlds as simply their beaches." As we have already suggested, this is only partly true. Throughout history, we have seen island societies such as Malta and Japan effectively isolate themselves by taking advantage of aquatic perimeters to protect their national interests and prevent others from gaining power or exerting undue influence (this is, of course, also possible terrestrially, as in the cases of modern North Korea or Myanmar). In Malta's case, isolation may have helped the emerging elite maintain their power base, although there does appear to be evidence that obsidian from Pantelleria and Lipari in the Aeolian islands was being imported during this period (see Robb 2001; Tykot 2002). As Held (1993:25) noted, "Isolation may ensure protection and the stability required for sustainable growth." For Japan, increasing concerns about the expansion of Western ideologies, religion, and influence led them to seal their borders and enact and enforce laws on ship construction (Callaghan 2003). It

is likely that many other societies in the past implemented similar measures. Anderson (2006:45) suggested that exile may have been one reason why some people initially settled islands, noting that "the more circumscribed or isolated the islands, the more suitable they were for exile."

In some cases, interaction between island communities was not needed or wanted. Historical reports and oral traditions in Micronesia document intergroup fighting within and between islands that may have lasted for years or even decades, limiting or discouraging frequent contact in a region widely known to have been home to some of the most skilled sailors in the historical Pacific (Lewis 1994).

It is not our intention to argue that the sea did not provide an important arena for interaction. Archaeological research on islands worldwide supports this opinion and as Lape (2004) and others have noted, many people living on the coasts of islands may have had more frequent interaction with neighbors on islands other than their own. We generally agree with Rainbird (2004:254) that Micronesia, for example (at least during the few hundred years prior to and after European contact), is "defined less by boundaries and more by connections." Research in Palau (Fitzpatrick 2003) and Yap (Descantes 1998; Hunter-Anderson and Zan 1996) testifies to the importance of creating and maintaining connections, even between culturally and linguistically distinct groups that had to deal with sailing against volatile winds and currents. But it is important to remember that many peoples such as the Greeks still conceived of the sea as a dangerous place with the potential to bring death, take things away, or make them disappear (Lindenlauf 2004:421). The number of accidental drift voyages by Caroline Islanders recorded in the Philippines during the mid-1600s indicates that even expert sailors could lose their way and never reach their intended destination (Hezel 1972). Favoring an interaction model for cultural trajectories, especially one that dissolves "the culture/nature dichotomy by recognizing 'nature' as a cultural concept" (Rainbird 2004:66), may relegate islanders and humans in general to actors unaffected by the natural world around them.

Terrell (1997:432) noted that "[Pacific] islanders and the complexity (and interdependence) of their history and prehistory can be better understood if they are seen as a geographic set of local and larger populations who are more or less in touch with each other and who have followed separate but often interconnected historical pathways of local adaptation and culture change." Critical here is the "more or less" aspect of these interactions. We should also be cautious in dismissing the possibility that there were island societies in prehistory that imposed their own isolation to prevent the spread of disease, external influence, and conflict, or ensure that the elite ruling class maintained control over local resources (thus maintaining power over unequally distributed goods).

Anderson (2004:255) suggested that Terrell et al.'s (2001:106) assertion that "we would guess that few experts today believe that people in the Pacific were ever truly isolated from the rest of the world" may go too far. As many studies have demonstrated, the ability of peoples to interact with each other can be facilitated or hampered by the vastness and unpredictability of the sea. We should be cautious in assuming that isolation or interaction, however they are perceived, were present in island situations without well-excavated and rigorously dated archaeological remains

that span the full temporal range of an island's settlement history.

In this paper we have used several case studies to argue that isolation is a real phenomenon which has been influential in how these island societies have developed over time. There are other cases that deserve further attention, but are beyond the scope of this paper. We would like to point out that one immediate problem that archaeologists are confronted with fairly frequently is how much emphasis to place on negative evidence. For example, it is clear that peoples must have reached islands using some type of watercraft even if they are not often found in the archaeological record. Should we also assume that interaction was occurring even without archaeological materials or other lines of hard evidence?

Overall, we would like to stress that our initial treatment of the subject should not lead us into a more polarized discussion of "interactionism" versus "isolationism." To the contrary, we must move beyond this debate and recognize that all island (and human) societies are characterized by varying degrees of isolation and interaction through space and time. The task of archaeologists, then, is to combine archaeology with ethnohistorical records, paleoenvironmental data, genetic sequencing, ethnographic research, linguistic information, and other sources of data to help us understand how and why differing degrees of interaction and isolation affected island societies at various points in their developmental history.

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