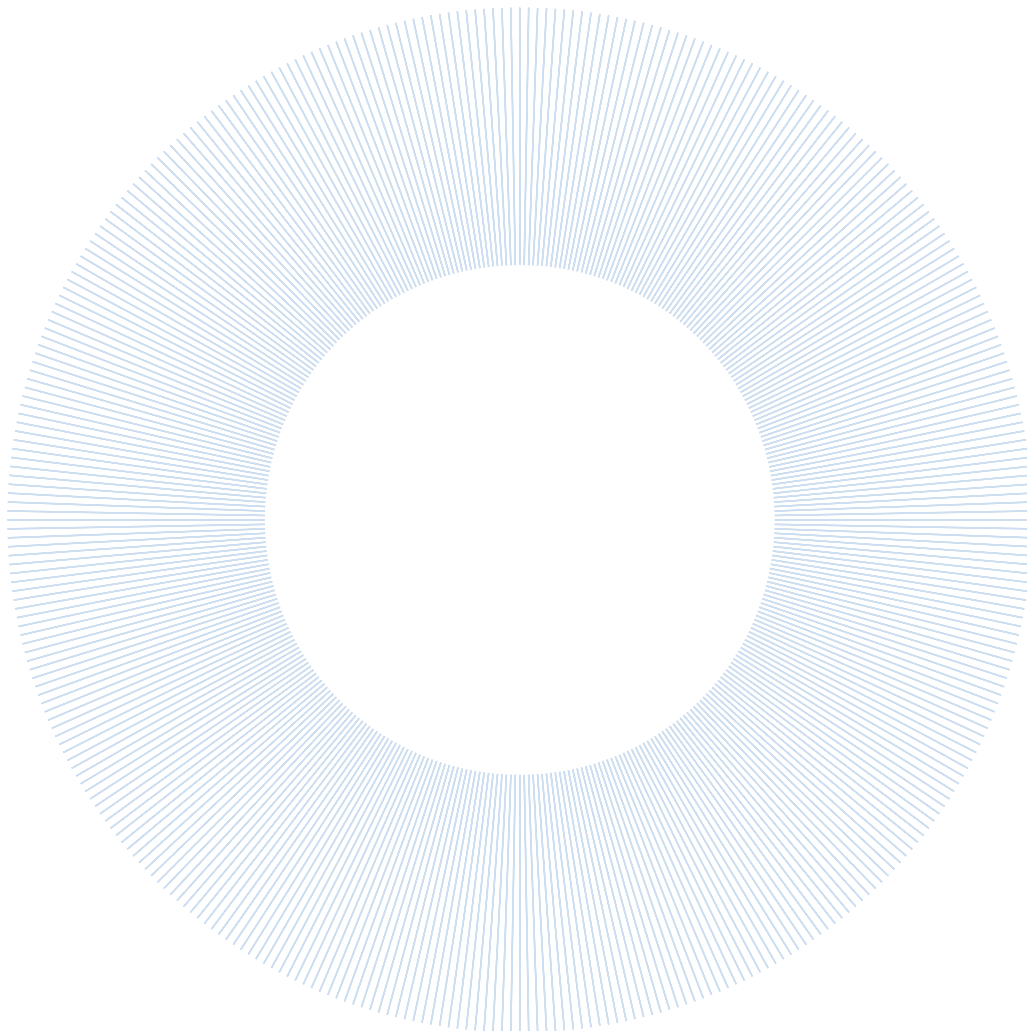


# Problems of the ‘Traditionalist’ Model of Long-Distance Polynesian Voyaging



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## *PROBLEMS OF THE 'TRADITIONALIST' MODEL OF LONG-DISTANCE POLYNESIAN VOYAGING*

*The nature of prehistoric, long-distance Polynesian seafaring has been debated for centuries, primarily because it was never witnessed by Europeans and left almost no traces beyond the colonization of far-flung islands. The dominant mode of understanding has been 'traditionalism', an appeal to information about vessels, navigation and voyages contained in supposedly-authentic Polynesian traditions that came to light during the nineteenth century. More recently, neo-traditionalism, which relies upon even more recent ethnography and experimental sailing, has supplanted its older form. Here, I criticize several cases of traditionalism in modern research on Polynesian prehistory, arguing that in one it has disguised a scholarly error and that in another it is illogical. Prehistoric Polynesian seafaring will continue to defy close analysis, but cogency could be expected to improve by abandoning the traditionalist research agenda in favour of explicit historical analysis, continued archaeological research and a broadly-based form of simulation modeling.*



Prehistoric seafaring, especially long-distance seafaring (passages of >1000 km), is difficult to investigate because the operations of sailing and navigation can be inferred only indirectly from the remains of boats, or of seaborne displacement of people and things. The nature of prehistoric Polynesian voyaging is particularly elusive because migration had run its course long before the arrival of Europeans and only a few fragments of large canoes have been recovered. Prehistoric seafaring in Polynesia has of necessity been conjured up from historical records, linguistics, ethnography and traditional recollections. Archaeological evidence has made, until recently, a relatively minor contribution.

The dominant methodological model has been traditionalism; that is the formation of hypotheses about seafaring by appeal to indigenous traditions that are regarded as having prehistoric origins. Such traditions have inspired models of seafaring and experimental voyaging in regard to Norse and Celtic exploration, Arabic seafaring in the Indian Ocean, pre-Columbian exploration of the eastern Pacific, and the extent of classical sailing beyond the Mediterranean, amongst other such examples. In Polynesia, the central proposition of traditionalism has been that early prehistoric long-distance voyaging was more capable and interactive than later and that this is reflected more faithfully in indigenous traditions than it was in early European observations (e.g. Fornander, 1878-1885; Best, 1923; Buck, 1954; Evans, 1997).<sup>1</sup>

Since 1970, traditionalism in Polynesia has assumed a different form, which I have called 'neo-traditionalism' (Anderson, 2000, p. 43). It relies heavily upon modern ethnographic practice and experimental voyaging (e.g. Finney, 1979, 1997, 2003, 2006; Lewis, 1994; Evans, 1998; most contributions to Howe, 2006). The main alternative to traditionalism has been historicity, which attempts to authenticate the presence or absence of potential features of seafaring by analysis of historical evidence (e.g. Sharp, 1957, 1963; Denning, 1963; Anderson, 2000, 2001). Its profound epistemological difference with traditionalist

approaches is reflected in a record of acerbic debate. A third approach, essentially geographical, uses simulated seafaring to define probabilities of voyaging along potential routes according to wind patterns against the geometry of the oceanic insular landscape and then compares the results against archaeological sequences of colonization. This method, however, depends substantially upon which assumptions of voyaging capability are preferred; traditionalist (e.g. Irwin, 1992, 2006; Di Piazza et al., 2007), or simpler technological scenarios (e.g. Levison et al., 1973; Avis et al., 2007) leading to quite different conclusions. The key question, then, is to what extent is it possible to estimate the capabilities of prehistoric Polynesian seafaring given that there is no direct record of vessel form, sailing rig, performance or navigation? It is a question so difficult to answer that any attempt seems almost pointless, except for the fact that upon where robust answers are thought to occur along a spectrum of potential voyaging capability, hangs much of what we need to know about prehistoric exploration, colonization and interaction in the remote Pacific.

Currently prevailing views are strongly traditionalist, as they have ever been, and are so widely accepted as to seem almost beyond debate. Indeed, in New Zealand, the state imprimatur, delivered through school text books, which once supported an older, and now discredited, traditionalist view of voyaging, encapsulated in the notion of a 'Great Fleet' of colonization, is now being substantially transferred by the Ministry of Culture and Heritage to neo-traditionalism, as if no alternatives existed (see the online encyclopaedia, [www.teara.govt.nz](http://www.teara.govt.nz); Te Ara, 2006; Dalley and McLean, 2006). Traditionalism in general, and neo-traditionalism in particular, suits the desire for an orthodoxy that meets general approval, not least by modern Polynesians and also, I fear, the temper of our times in which criticism, the essence of scholarship, is increasingly unpopular.<sup>2</sup>

As I work, inter alia, in Maori traditional history and ethnography (Anderson, 1994, 1998, 2003; Tau and Anderson, 2008) my opposition to traditionalist perspectives upon Polynesian seafaring (Anderson, 2000, 2001) is not grounded in academic disdain for traditional evidence. It is rather that I find traditionalist arguments weak in logic and substance. One that characterizes the field, is the assertion that scholars who also sail, as many of us do, have a greater understanding of Polynesian seafaring than those who do not. Yet it is perfectly possible to understand the issues of Polynesian voyaging without being a sailor (cf. Gamble 1997, p. 144), and the neo-traditionalist appeal to exclusivity in authority is largely peculiar to Polynesian voyaging research. My colleagues in Polynesian agriculture are not rated, perhaps mercifully, according to their demonstrated skills in the taro garden.

In this comment, I examine two recent examples of traditionalist views: a proposition about long-range trade (Collerson and Weisler, 2007), and debate about estimating sailing capability (Finney, 2006, 2007). In my opinion, these illustrate the continuing shortcomings of traditionalist thinking.

### *Long-Range Seafaring and Interaction*

Methods for determining the sources of stone artefacts provide direct evidence of the inter-island movement of commodities and potentially, therefore, a means of measuring the extent of prehistoric interaction by seafaring. Research by Weisler (1997) has shown the extent of material transfer amongst the central Polynesian archipelagos but prehistoric interaction involving very distant islands such as Hawai'i, Easter Island and New Zealand has lacked a material basis. However, Collerson and Weisler (2007) have recently presented



evidence of movement from Hawai'i to the Tuamotu Islands in support of prehistoric, long-distance trade, a traditionalist tenet.

Using chemical source analysis of basalt adzes collected in the Tuamotus in 1929-1934 they show that most had local sources, but one adze (C7727) was attributed to a source on Kaho'olawe Island, Hawai'i. Adze C7727 is not the first archaeological basalt sample from outside Hawai'i to be attributed to a Hawaiian source. A surface-collected sample from a Christmas Island (Kiribati) archaeological site also showed Hawaiian chemical characteristics, but these were judged insufficiently definitive (Anderson et al., 2002). That aside, sample C7727 is a type 3A adze, a form which does not occur in Hawai'i and which, therefore, must have been made somewhere else on raw material imported from Hawai'i (Collerson and Weisler, 2007, p. 1911). As type 3A occurs in later prehistory (Collerson and Weisler, 2007, p. 1909), which extended up to the period of European exploration, it could have been made on Hawaiian ballast stone discarded from a European vessel, or on a Hawaiian adze taken to the Tuamotus by a seaman or guano digger, or in various other such circumstances. In this regard, and most importantly, there is no precise information about the circumstances of sample recovery. Adze C7727 is not from a reported excavation and how it was collected is unknown. It is an almost wholly unprovenanced sample.

This is of concern, because there is ample evidence of the long-distance movement of traditional artefacts between Oceanic islands in circumstances suggesting that the agent was European-era shipping. Easter Island obsidian 'spearpoints' (mataa) are widely spread in Chile, but they are not from archaeological sites (Ramirez-Aliaga, 1992, personal communication, March 2007). New Zealand jade artefacts have been recovered from the Cook Islands but in no unequivocal archaeological context (Skinner, 1933). Melanesian artefacts of late prehistoric form occur in some quantity on Norfolk Island, but never in verifiable archaeological context, and they are more plausibly associated with the nineteenth century Melanesian Mission (Anderson and White, 2001). Even Jomon Japanese potsherds have been recovered in Vanuatu, although in circumstances suggesting modern deposition (Dickinson et al., 1999). None of these cases would provide suitable samples for investigating prehistoric mobility or interaction, let alone trade, and it is difficult to see in what respect adze C7727 can be thought significantly different. It has no stratigraphic or assemblage context nor an association with any radiocarbon age.

As an absence of secure provenance is an elementary issue that invalidates the inference of prehistoric origin drawn by Collerson and Weisler, we might wonder how colleagues so experienced in the field could derive a proposition of long-range trade. I suggest that traditionalism is the problem. Collerson and Weisler (2007) contextualize their hypothesis in a traditionalist model of Polynesian voyaging; 'Hawaiian oral histories mention voyaging from Hawai'i to Tahiti and back via the Tuamotus;' 'East Polynesian colonization was purposeful;' 'Two-way post-colonization [prehistoric] voyaging between Hawai'i and Tahiti is well supported by Hawaiian oral histories' (Collerson and Weisler, 2007, p. 1907). The 1976 sailing route of the *Hokule'a* experimental canoe is nominated as the likely route between Tahiti and Hawai'i and it is supplemented with the observation about modern voyaging that '...today, as possibly in the ancient past, canoeists often stop at the westernmost tip of Kaho'olawe Island, Kealaikahiki (literally, "cape or headland of the way to Tahiti") before beginning their voyage south.'

However, modern scholars do not take the traditions cited here as unquestionably authentic. For example, Taonui (2006, p. 35), although broadly sympathetic to traditional thought, asserts that, 'the most notorious examples of errors in historical analysis [of traditions] are

from Hawai'i, Rarotonga and New Zealand,' and he cites, inter alia, the influential Hawaiian traditionalist, Abraham Fornander (see also Sharp, 1957, pp. 106-11; Howe, 2003, p. 45). In addition, the term 'kahiki' which is unhesitatingly identified as Tahiti by Collerson and Weisler (2007) and Finney (2007), is argued by many others to have no such clear meaning; Cachola-Abad (1993, p. 23, repeating, interestingly enough, a point made a century earlier by Fornander) suggesting that its general meaning is 'a foreign land, abroad.' The use of traditionalism, I contend, has presented an *a priori* assumption of plausibility, without which a serious flaw in the interaction argument and the existence of alternative explanations might have been more readily apparent to the authors. If the Collerson and Weisler (2007) hypothesis is rejected, then there are no cases in which source characterization of lithics demonstrates voyaging to and from the vertices of the Polynesian triangle, despite the variety of readily identifiable materials which might have been carried, such as New Zealand, Hawaiian and Easter Island volcanic glasses and basalts and New Zealand flint, sandstone, silcrete, jade etc.

### *Traditionalism and Sailing Capability*

The most critical issue in potential Polynesian interaction is sailing capability. Large, fast, windward-sailing vessels could make more frequent and rapid passages, in more directions, and operate at sea with greater flexibility and safety than vessels which, by having little or no windward capability, were necessarily slow and limited in making long-distance passages. In traditionalist hypotheses, ancient Polynesian sailing canoes are conceived as having the former attributes. This view arose in several ways.

First, from about the mid-nineteenth century, long after European contact, narratives asserted as traditional which described long-distance, two-way, voyaging began to accumulate throughout Polynesia. Their collection lacked any protocol for assessing reliability, mainly because it was assumed that they were of ancient origin; possibly wrong in detail but basically sound representations of oral lore passed down over generations prior to the arrival of Europeans (Sorenson, 1979; Howe, 2003, 2006; Finney, 2006). Second, it was assumed that a more sophisticated maritime technology had existed at the time of Polynesian colonization and that this declined over about 500 years prior to European arrival. This assumption suited the opinions of some early European explorers who surmised that colonizing voyages must have occurred in more substantial vessels than those they observed. As the 'principle of degeneration' (Denig, 1963, p. 120), it was also consistent with Polynesian estimation of the capabilities of their ancestors as superior to those of the living generation. Consequently, traditionalism developed a powerful belief in a devolutionary or degenerative model.

Yet, historical evidence, so far as it goes, contradicts this conclusion. Observations by European navigators from the sixteenth to early nineteenth centuries do not reveal traditionalist devolution but rather evolution of sailing capability, based upon innovations associated in particular with west Pacific lateen sails. As a result, the main traditionalist hypothesis can be inverted to argue that the less complex maritime technologies, seen in early historical New Zealand and some other archipelagos, could represent not degeneration but survival in isolation of technology transferred during the period of initial dispersal (Anderson, 2000). This is not a new idea. It was canvassed, amongst others, by Haddon and Hornell (1975, p. 208) and it is a proposition that contradicts the neo-traditionalist conception of early voyaging and the construction of experimental vessels on that basis.

As an example, Finney (2006) objects to my argument (Anderson, 2001) that the specifications of modern voyaging canoes grossly exceed those of historical examples. He argues that the historical data do not contain any examples of 'sizeable long-range sailing canoes' (Finney, 2006, p. 132). The key word here is 'long-range'. As no large double canoes (sailing canoe with two hulls joined together) were recorded far at sea historically, traditionalists dismiss all large double canoes in early historical evidence as essentially intra-archipelagic. This is, at best, a tenuous argument, because there is evidence, noted by Cook, and evident in the geographical knowledge and comments about sailing by Tupaia (Beaglehole, 1955, pp. 156-7), of long-distance seafaring occurring more or less contemporaneously with European exploration in central East Polynesia.

Finney rejects the largest of the historically comparable vessels, the New Zealand double canoe drawn by Hermann Spöring in 1769 on Cook's first voyage because, 'the ungainly craft had evidently been assembled for the occasion by temporarily lashing closely together, and planking over, the hulls of a long, elaborately carved war canoe and a shorter, plain canoe' (Finney, 2006, p. 132).

In fact, there is no evidence that it was a temporary vessel. Banks' comment that *Endeavour* was visited by 'a large double canoe, or rather 2 canoes lash'd together at the distance of about a foot which was covered with boards so as to make a kind of deck' (Beaglehole, 1962, p. 423), hardly bears that interpretation, and Cook recorded the vessel as first appearing about 7 pm, just as the *Endeavour* came to anchor after a long passage. Furthermore, precisely the same style of double canoe, down almost to the last detail, was recorded soon afterward in the South Island (Anderson, forthcoming). The assertion of temporary construction is a canard (see also Haddon and Hornell, 1975, p. 197; Irwin, 2006, pp. 87, 89) used in support of the circular argument central to neo-traditionalism; i.e., technological degeneration in late prehistory meant that historical vessels could not be representative of earlier voyaging canoes, which therefore required modern 'replica' vessels to be built to much higher specifications, against which historical double canoes are thus perceived as degenerate.

My specific assertion (Anderson, 2001), that the modern Hawaiian voyaging canoe, *Hokule'a*, could sail unusually fast and well to windward because her sails are much larger for the waterline length of her hulls than can be estimated from historical data, is dismissed by Finney (2006, p. 132) on the grounds that her sail area to displacement ratio (SA/D) is comparatively conservative. It is quite true, as Finney (2006) avers, that *Hokule'a* has a conservative SA/D in comparison with modern sailing boats. However, the proper comparison is not with the present, but the past. It hardly matters how *Hokule'a* measures up to other modern sailing boats but rather how it measures up against early historical double canoes of similar size; such data, albeit limited in quantity and quality, being our only actual basis of comparison for evaluating the historical realism of the experimental canoe designs. Here are some comparative data: *Hawai'iloa*, an experimental double canoe, has a waterline length of 15.5 m and a sail area of up to 70 m<sup>2</sup>, while *Hokule'a* has a waterline length of 16.5 m and a sail area of 50 m<sup>2</sup>. The Spöring canoe has an estimated waterline length of 15.4–15.8 m and a sail area of 28–35 m<sup>2</sup> (using the method in Anderson, 2001). Thus sail areas for the two experimental vessels of comparable size are around 50–150% of those estimated for the historical vessel, and no amount of comparison by Bruce numbers (essentially SA/D ratios for multi-hulls) can conceal that substantial difference. Putting this another way, *Hokule'a*, fully laden (11 tons or more), might need 80 m<sup>2</sup>+ of sail area (i.e., 60% more sail) to work as well as a good cruising design of recent times which would have an SA/D ratio of 16-18 (Gerr, 1995, p. 159), but if the Spöring canoe had a length-consistent laden displacement, of say 10 tons, it might have needed an additional 38 m<sup>2</sup>+ (i.e., 120% more sail). In short, the experimental vessels are indeed very liberally endowed with sail area and for that reason,



amongst many others concerning their construction and handling (Anderson, 2000; 2001), they do not provide an acceptable model for prehistoric long-distance voyaging. They serve merely to reinforce the traditionalist dogma upon which they are constructed.

### *Concluding Remarks*

In criticizing conclusions drawn by appeal to traditionalist assumptions I do not say that they are wrong. In fact, so little is known about prehistoric seafaring in Polynesia that almost any of the scenarios that have been proposed, ranging from mere chance landfalls to purposive, systematic voyaging, could turn out to be correct for Polynesia generally, and it is highly likely, in any case, that each is valid for some former circumstances. Rather, my dissatisfaction lies with several of the approaches.

Traditionalist appeal to the plausibility of voyaging narratives demands an unacceptable level of faith in the immutability and universality of traditional knowledge. Cook and his Tahitian interpreter, Tupaia, were unable in 1769–1770 (or indeed on later voyages) to obtain any prosaic information about how Maoris came to New Zealand. Yet, more than a century later, supposedly traditional voyaging instructions, to sail a little to the right (in some versions to the left) of the setting sun in November, were brought to light and acclaimed by arch-traditionalist Percy Smith as describing ‘almost the exact course from Rarotonga, which was always the starting point for New Zealand’ (Best, 1923, p. 388). Often cited by traditionalists (e.g. Buck, 1954, p. 277; Lewis, 1994, p. 338; Finney, 1997, p. 43; Evans, 1998, p. 38) in favour of return voyaging to New Zealand, these instructions and their context have been shown as dubious at best (e.g. Simmons, 1976). Traditions are seldom literal and ancient; they have been continually manipulated for various ends by Polynesians and Europeans, and need to be handled critically, investigating the circumstances of collection, specificity of genealogical attribution, comparative corroboration and other features that bear on authenticity (e.g. Sissons et al., 1987; Linnekin, 1991; Jolly, 1992; Gunson, 1993; Turner, 1997; Anderson, 2003, pp. 14-24).

Traditionalism is almost inextricably woven into experimental voyaging. There is, for example, no compelling reason to accept that Micronesian navigational practices recorded in the twentieth century, and used on modern experimental voyages, represent the largely unrecorded navigational practices of early historical Polynesian seafarers, let alone their prehistoric forebears. Similarly, the key theoretical assumption in building experimental canoes, that early prehistoric vessels must have been more capable than those known historically, together with the methodological consequence of combining pan-Polynesian and European technical traits and materials, has produced performance characteristics which deliberately exceed any historical parallels and lie beyond comparative evaluation. This offers little of scientific value to thinking about prehistoric voyaging.

It is not reason or evidence, but traditionalist belief, that elevates the questionable propositions outlined here to widely-accepted orthodoxy (e.g. in Howe, 2006). We would do much better, I think, to set traditionalism and its modern ethnographic support to one side and focus instead upon historical evidence that has been subjected to established historiographical analysis; upon archaeological evidence of prehistoric inter-island movement, including the use of materials source analysis; and upon simulation voyaging (by vessels, computer and in wind tunnels) which is open to the widest range of experimental conditions. These means are, at least, open to empirical criticism and are to some extent reproducible, and those are minimum standards of scholarly enquiry.



*Notes*

<sup>1</sup>It is important to distinguish capability from frequency; a decline in the latter through prehistory is often cited as a corollary but it need not be so.

<sup>2</sup>My E-letter on the Collerson and Weisler paper, sent October 2007 to *Science*, was rejected (Brian White, personal communication, 28 January 2008) with the comment, 'We are currently only posting those letters most likely to promote positive and stimulating discussion online.'

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