THE GLOBAL ORIGINS AND DEVELOPMENT OF SEAFARING

Atholl Anderson, James Barrett and Katie Boyle (eds), 2010.
McDonald Institute Monograph, McDonald Institute for Archaeological Research, Cambridge.
320 pp., 115 figures, ISBN 978-1-902937-52-6. Hardback £44.

Reviewed by:
Matthew Campbell, CFG Heritage Ltd, Auckland.

This book arose from a 2007 conference of the same name held at the McDonald Institute in Cambridge. Its purpose was 'to explore key themes in maritime prehistory from the perspective of seafaring… travelling upon and making a living from the sea.' In particular, the volume seeks to centre on seafaring, a topic that has, the editors claim, become marginalised and taken for granted as maritime-oriented archaeologies have focussed on other topics such as trade or colonisation.

Following Anderson's introduction, which summarises globally work to date and frames the basic structure of inquiry into the archaeology of seafaring, Part II examines 'Inferences of Early Seafaring.' The first two papers, by Erlandson and by Bailey, take a long-term overview of seafaring and the relationships between humans and their near ancestors and the sea. Changes in sea level have unfortunately drowned if not destroyed much evidence of early maritime communities; ironically, changing sea levels may have been both spur and opportunity to venture from land.

O'Connor provides a critical summary of work to date in the Indo-Pacific region, both practical and theoretical. While this paper presents little that is new it is notable that the study of what can be gleaned from largely indirect evidence of seafaring is sufficiently advanced in this region that this kind of paper can be written. Seafaring has perhaps been studied more intensively in Sahul than elsewhere since people obviously could not have entered Australia or New Guinea without it.

This theme is continued by O'Connell, Allen and Hawkes, who argue for a theoretically driven approach that brings economic and ecological models into consideration. How disappointing, however, to see the bullet point entering scholarly writing.

Fitzhugh and Kennett examine Holocene voyaging over smaller, but still significant, distances between the North American mainland and the offshore islands and archipelagos of Kodiak, Haida Gwai and the North Channel Islands. They outline a pattern of increasing economic and political centralisation linked to increasing voyaging, either for trade or to exploit high status and high cost resources such as whales.

Ammerman looks at pre-Neolithic seafaring in the Eastern Mediterranean, linking mobility evident in the first settlement of Cyprus and other islands to the increased mobility already present in the Levant during the Younger Dryas of *ca.* 12,800–11,500 years BP. Seafaring developed as 'extensification', an alternative pathway to agricultural intensification.

The next two papers, by McGrail and by Crumlin-Pederson, make up Part III, 'The Development of Boats and Seafaring.' They look at the early evidence of boats themselves, which are well represented in the archaeology of Europe beginning in the Mesolithic. Different sea conditions require different kinds of boat; conditions in the relatively sheltered Mediterranean or Baltic are quite different to those in the oceanic Atlantic. It is the variety of European boat types that is striking when compared to the more restricted dugout canoe based forms of the Pacific. A later paper by Habu could have fitted into this section, and looks at similar evidence from Japan, where evidence of canoes is common from the earliest Jomon. Japan was first occupied at least 30,000 years ago but may have been connected to the Asian mainland by land bridges. The presence in Japan of obsidian from offshore islands from an early date indicates a well-established maritime technology.

Irwin traverses familiar ground, integrating recent archaeological evidence into computer simulation models, bringing his earlier work up to date.

I cannot pretend to understand the paper on Pacific population movement by Allaby and 12 co-authors. The combination of genetics, linguistics and statistics produces some very pretty pictures, but most of us will take it on faith and skip to the conclusion. And the conclusion that language and genes do not necessarily correlate should come as no surprise – there are few 'Austronesian genes' in north Melanesia despite the numerous Austronesian languages spoken.

There then follow several papers that are more about colonisation than seafaring, and generally, I must say, of little purpose. Farr's paper on colonisation and trade in the Mediterranean particularly annoyed me – haven't we had enough of deconstructing perfectly useful concepts? Colonisation is one such concept and to try and take it apart, on largely spurious grounds, without providing a useful alternative, merely for effect, is rather poor.

Of more interest is Dawson's examination of island abandonment, comparing the Mediterranean and the Pacific. In the latter the 'mystery islands' were abandoned as resources declined and the will to provision them also declined (a lack of seafaring mobility), whereas in the Mediterranean, islands were abandoned and reoccupied within a context of widespread mobility. Such cross-cultural comparisons effectively illuminate seafaring in both regions.

Dugmore *et al.* examine the relationship between

three axes of seafaring: motivation, technology and sea and weather conditions. They show that getting from northern Scotland to the Orkneys is generally easy, while getting from Iceland to Greenland is generally very hard. No surprises there, but a clear model that incorporates the human factor – motivation – and relates it to environment and technology has the potential to be applied more generally to seafaring anywhere.

The final section of six papers looks at 'Sailing and Society.' Clark begins with an examination of the distribution of place names within the Tongan maritime chiefdom in order to elucidate the extent of Tongan influence. Language, however, is not culture. Blench follows this with an examination of what is known of Austronesian voyaging in the Indian Ocean – which isn't much, at least compared to the Pacific situation. This is clearly an arena for future research.

Two papers, by Broodbank and Cunliffe, examine seafaring in the Mediterranean and European Atlantic respectively. The spread of sail from east to west was, as Broodbank shows, dependant not so much on technology – anyone who saw one would understand how it worked – but on the level of local political integration. It takes a lot of labour, and control of labour, to build a big sailing ship. And sail is essential to any serious seafaring beyond mainland Europe or Britain in the heavy, stormy seas of the Atlantic.

Westerdahl's examination of a completely different aspect of seafaring is one of the more intriguing papers in the volume – the importance of the liminality of the beach, the social relationships between sea and land as expressed in Scandinavian rock art, in modern place names and in the recorded beliefs and attitudes towards the sea of early 20th century north European fishermen. The simple, but imperative, binary opposition of land and sea is widely reflected throughout maritime societies. Seafaring is not just a technology; it is a total cultural phenomenon.

Barrett then looks at the causes of the Viking diaspora, 'rounding up the usual suspects' or, rather, setting up some determinist straw men, though to good effect. The origins of the Viking diaspora are multiple and contingent, often subtle, and cannot be located within a single cause.

Finally, Barrett and Anderson provide a conclusion to the volume, looking at five themes that are at the fore in the book and provide a framework for future research. There are the physical themes of 'time', 'land' and 'sea', but more interesting and more forward-looking are the social themes, 'the crew' and 'the vessel and its cargo.' That these themes can be so profitably discussed shows the maturity of seafaring studies – the physical parameters are now well enough canvassed so that social topics can take their place alongside them.

The purpose of the volume, and the conference from which it arose, was to consider 'the nature and dimensions of seafaring as a research field in its own right.' Certainly this is widely discussed, from many areas of the world, many time periods and many methodological and theoretical points of view. Whether it has established the archaeology of seafaring as a legitimate research field in its own right is an open question; in fact, do we really need a new sub-discipline? It is the cross-disciplinary viewpoints that give this volume its strength.

POLYNESIANS IN AMERICA, PRE-COLUMBIAN CONTACTS WITH THE NEW WORLD

T.L. Jones, A.A. Storey, E.A. Matisoo-Smith and J.M. Ramírez-Aliaga (eds), 2011.
Altamira Press, Lanham, Maryland, USA.
359 pp, ISBN 978-0-7591-2004-4, hardback US$85.

Reviewed by:
Graeme K. Ward, Research Fellow, AIATSIS.

This book is based on presentations made at a 2010 meeting of the Society for American Archaeology held in St Louis, which reopened consideration of prehistoric contacts between Oceania and the western coasts of the Americas.

There was much to consider. In the previous several years there had been new evidence of what American researchers think of as 'pre-Columbian' cultural contacts, exchanges and adaptations of economic resources, various cultural traits and genetic material. These built upon foundations, both generally acknowledged and particularly disputed. Ethnographic parallels between Eastern Polynesian and coastal northern South America had been noted since the mid-19th century, but many were dismissed as coincidental or parallel evolution or adaptation to similar environmental circumstances. But some connections were indisputable, notably the American sweet potato that was to become a human staple in Eastern Polynesia. Conversely, the fowl (*Gallus* sp.), an Old World domesticate, was an acknowledged introduction into the Americas; but did it come across the north with the original migrants (or their Asian successors) or was it delivered by a returning raft or the historical Spanish, rather than by visiting Polynesian seafarers?

The first few papers set the scene: 'Re-introducing the case for Polynesian contact' shows where Terry Jones is coming from. Jones and Alice Storey's chapter on oral traditions touches on evidence of similarities between Polynesia, South America and south-western North America (California), concluding that, despite a 'tantalizing possibility', 'most cited mythological parallels are vague and often impossible to evaluate critically' (p. 35). More useful from the same authors is 'A long-standing debate', in which they review the history and speculation about possible

connections between Oceania and the Americas, usually framed in terms of Polynesian origins.

Jones also addresses 'The artifact record from North America'. Single-piece, curved shell and bone fishhooks, the subject of interest over many years, he finds 'constitute one of the least compelling lines of evidence for pre-Columbian contact' (p.72). Among problems is that, while there are clear similarities between Polynesian types and those found in American excavations, the dating is most often incompatible and independent invention more likely. In the case of the barbed hook with a grooved shank, the 'southern Californian style [has] an uncanny similarity with some Polynesian types' (p.75), and here Jones argues that the abrupt appearance a bone version of this style in the Chumash area regional sequence 'seems consistent with an introduction from outside' (p.79). It is one among many types. 'Polynesian-style' two-piece trolling hooks are similar to those from late excavation contexts in southern California and coastal Chile (pp.79–80). Also interesting is the comparison of 'sewn-plank boat technology' – well known in Oceania – with manifestations in several areas of western coastal American where they are apparently another late introduction (pp.81–90).

In 'The Mapuche Connection', José Miguel Ramírez-Aliaga, seeking to counter Heyerdahl's 'obsession with the notion of contact in the opposite direction', was driven to 'think about the old hypothesis of Polynesian-Mapuche contact' by 'analyzing the Polynesian-like material…in central-south Chile' (p.95). In an entertaining account, he moves from his collaboration with Matisoo-Smith and Storey at the University of Auckland on chicken bones from secure archaeological contexts and his delight in the confirmation of Polynesian DNA and a pre-Hispanic date to a reconsideration of stone mataa, hand clubs and toki (with Chilean linguistic cognates of the last) and a conclusion that the Chiloé Archipelago was a 'nexus of possible borrowings' (p.106) of Polynesian items by the Mapuche (more of this later).

In 'Identifying contact with the Americas' Storey, Andrew Clarke and Elizabeth Matisoo-Smith describe a 'commensal-based approach', '…based on evidence of biological variation of a particular species closely associated with humans, which can be used as a proxy for tracking the movement of those humans across geographic space' (p.111). Oceanic commensal animals include Pacific rats, dogs, pigs, chickens and land snails, and among plants, the bottle gourd, Cordylines, kava, breadfruit, coconut and sweet potato. Two viruses also are described as having potential for study of long-term prehistoric contact (p.114). Ancient DNA from archaeological contexts can provide dated contexts to assist the study of evolutionary relationships. The commensal 'kumara' with the Ecuadorian cognates is 'highly suggestive of at least one episode of direct contact between Oceanic voyagers and South Americans', and 'The recovery of chicken remains from the site of El Arenal in Chile represented the only recorded evidence we currently have of a Polynesian introduction to the Americans' (p.138). Analysis of ancient and modern DNA is seen as having the potential to clarify further commensal relationships. In the following chapter, Storey, Daniel Quiroz and Matisoo-Smith review '…evidence for pre-Columbian introduction of chickens to the Americas', derived from sophisticated techniques only recently available.

In Chapter 9 Richard Scaglion and Maria-Auxiliadora Cordero consider evidence from Ecuador's Gulf of Guayaquil where the sweet potato is called 'cumar' or variants thereof, surveying the widely varying explanations of how the local cultigen was translocated into Oceania. Important in this is the 1990s identifications of sweet potato from central eastern Polynesia excavation contexts suggesting its presence there about 1200 years ago, corresponding '…reasonably well with contemporary estimates of the dates for Polynesian expansion…', and a little later than 'the onset of the Integration period in Ecuadorian prehistory, an epoch in which larger polities emerged together with a sudden increase…in the appearance of exotic materials that apparently were transported by sea' (pp.171–174). A problem with the identification of this area of South America as a Polynesia source had been that the cultigen names were highland based and not coastal. But kumara was a lowland as well as highland cultigen and was grown in coastal Ecuador since about 5500 years ago (p.192). Significantly, the authors identify 'kumara' cognates in the local (lowland) languages (p.177).

In Chapter 10, Kathryn Klar considers 'North and South American linguistic evidence for prehistoric contact', '…a collection of linguistic observations that cannot be explained solely by internal reference to the languages in whose written records they are found. In five cases (spread over four languages), the most parsimonious explanation is that they were borrowed from the specialised vocabulary of boat-building technology in use among Central Eastern Polynesian long voyagers …' (p.194). The examples from south-western North America (pp.194–201), for instance, include cognates for such terms as 'sewn-plank canoe', 'sew', 'carve' (in relation to sewn-strake canoe manufacture), 'harpoon', 'sharp-pointed object' and 'bone' (in relation to fishhooks). There are others from South America for canoes and chickens.

Matisoo-Smith reports 'Human biological evidence for Polynesian contacts with the Americas' starting with an apposite quote from the Maori: '*He tangata* …' (p.208). The person in question, persuasively (as alluded to above), was one of a waka of Polynesian seafarers who arrived in the region of Mocha Island, in Mapuche territory, about 1200 years ago. Were his the skeletal remains with Polynesian characteristics in the museum at Concepcion studied by Matisoo-Smith and Ramírez-Aliaga of the University of Valparaíso? Well perhaps not, as their craniometrical data were consistent with the '… population being of mixed ancestry – specifically, we suggest the likelihood of Polynesian influences'; one container had remains of a 20 to 25

year-old female 'striking in its robusticity and possession of Polynesian-like features' (including 'rocker jaw') (p. 213). We await genetic studies on this particular assemblage. Matisoo-Smith writes that, if voyages involved only men, then genetic exchange 'would be invisible in terms of mitochondrial DNA' (passed on through the maternal line); however, Polynesian Y chromosomes may '…be found on small, isolated island populations, particularly if ancient DNA analyses were undertaken' – and proposes such work for '…several coastal and island locations in South, Central and North America' (p. 222).

Geoffrey Irwin reviews and updates voyaging simulation results, setting them within discussions of seascapes, chronology, the form and performance of various Oceanic sea-going craft, and geographic and seasonal patterns of wind and weather. 'Contacts between Polynesia and America were most probably made by means of return voyages by East Polynesians'; multiple routes were possible resulting in landfalls on different parts of the North and South American western coastline (pp. 260–261).

One despairs of American researchers' inability to adopt SI in their scientific writings – especially when mistaken terms are used and metric distance and mass have been converted back into imperial and the latter has been given priority in the text. There are many mistakes throughout; minor matters such as surprising end-of-line hyphenations, but also the addition of a plural 's' to italicised Polynesian terms, and inconsistent usages that the editors might have agreed upon. One substantive matter that some contributors appear not to have caught up with is that the Old World bottle gourds (*Lagenaria*) appears to have multiple translocations into Oceania; it has been dated in New World contexts to several millennia before it appeared in some parts of Polynesia (pp. 125, 130).

The compilation and newer material, interpretations and partial syntheses contained in this book will be welcomed, and shows the benefit of multidisciplinary and collaborative research arrangements – including a focussed conference meeting. The downside is that, with so much familiarity with the work of colleagues, and the tendency to quote other's work, there is much repetition of results and interpretation; a stronger editorial hand would have reduced pages by a chapter's length. It also suggests the value of a single-author overview. Where are the synthesisers? One must, however, acknowledge the promptness with which the editors and Altamira Press have compiled and published this volume as a worthwhile and useful survey with new perspectives of an important area. Importantly, it suggests directions for various and collaborative approaches involving several disciplines to guide future research. Appropriately the book is dedicated to the late Roger Green, whose own research covered much of the territory and whose mentoring of researchers will be remembered by many.