

# Modelling Prehistoric Social Interaction in the South-western Pacific: a View from the Obsidian Sources in Northern Vanuatu

CHRISTIAN REEPMAYER 

Centre of Excellence for Australian Biodiversity and Heritage, College of Arts, Society and Education,  
James Cook University, Cairns Queensland 4811, Australia

**ABSTRACT.** This paper investigates the history of social interaction within communities in the Vanuatu Archipelago and between Vanuatu and other regions in the Western Pacific as reflected by variations in lithic raw material sources and technology of stone artefacts. Past research determined an apparent contradiction between long-distance transportation of obsidian, indicating high value, and the under-utilisation of the raw material at the place of discard, indicating low value. The paper concludes that because previous hypotheses depend too much on the notion of the scarcity of resources in their evaluation of the concept of value, they are insufficient to explain the pattern of spatial and temporal distribution of lithic artefacts. Rather than focusing on the intrinsic value of obsidian raw material for individuals or communities, it is more useful to view it as a marker of group identity in a complex system connecting discrete populations in mitigating risk in unpredictable new environments. These new environments included pre-established populations, which might be hostile to new arrivals. The necessity for this complex system quickly disappeared once the colonisers arrived in regions uninhabited by prior populations.

## Introduction

Obsidian has been a focus of archaeological research in the Pacific for its unique geochemical attributes that allow identification of distance and directionality in raw material transport, which enables interpretations about its importance as an item embodying cultural meaning (Sheppard, 1993; Torrence, 2005). During the period when Lapita pottery was made some 3000 years ago, obsidian travelled long distances from source locations in West New Britain, Papua New Guinea, as far East as Fiji and West to Sabah in Malaysia (Sheppard, 2011). This long-distance transportation of obsidian over several thousand kilometres has raised questions why people selected obsidian from particular sources, and how this transport might have been organised.

The appearance of Lapita pottery in Remote Oceania (the islands to the south and east of the main Solomon Islands chain) has been associated with a migration of groups out of the Bismarck Archipelago Papua New Guinea region (Kirch,

1997; Spriggs, 1997). These groups have been described as potentially small and highly mobile initially leaving only a small footprint of human occupation; primarily, but not exclusively, on small off-shore islands (Bedford and Sprigg, 2008). The small size and low number of initial groups have been hypothesised to be prime cause explaining subtle difference in the archaeological record of Lapita sites (Bedford, 2019), and this differentiation has been associated with the emergence of ‘localised ethnic identities’ (Green and Kirch, 1997: 30). The detailed process of this population movement is unclear (Sheppard, 2011), as are likely reasons for it. Different explanations have been proposed, summarised as push and pull factors (Lilley, 2000), such as demographic pressures (Bellwood, 2011), environmental disasters (Grattan and Torrence, 2007), and the search for pristine environments with abundant food resources (Lilley, 2019). Each of these reasons might have played a part at some stage in the process, but the archaeological record is unlikely to preserve clear evidence for them (Kirch, 1997: 253; see also Anthony, 1990).

**Keywords:** Pacific prehistory; Remote Oceania; obsidian exchange; social interaction; distance decay models; risk minimisation

**Corresponding author:** Christian Reepmeyer [Christian.Reepmeyer@jcu.edu.au](mailto:Christian.Reepmeyer@jcu.edu.au)

**Received:** 19 November 2020 **Accepted:** 30 November 2020 **Published:** 12 May 2021 (online only)

**Publisher:** The Australian Museum, Sydney, Australia (a statutory authority of, and principally funded by, the NSW State Government)

**Citation:** Reepmeyer, Christian. 2021. Modelling prehistoric social interaction in the south-western Pacific: a view from the obsidian sources in northern Vanuatu. In *From Field to Museum—Studies from Melanesia in Honour of Robin Torrence*, ed. Jim Specht, Val Attenbrow, and Jim Allen. *Technical Reports of the Australian Museum Online* 34: 137–148. <https://doi.org/10.3853/j.1835-4211.34.2021.1748>

**Copyright:** © 2021 Reepmeyer. This is an open access article licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

