

Narrow Margins: Standardised Manufacturing of Obsidian Stemmed Tools as Evidence for Craft Specialisation and Social Networks in Mid-Holocene New Britain

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ABSTRACT. Geochemical studies have shown that between ca 6000 and 3400 cal. BP, distinctive stemmed tools were produced at obsidian sources on New Britain and transported widely throughout the island and the Archipelago, implying extensive social networks linking communities across the region. Technological studies at the sources on Willaumez Peninsula of New Britain have suggested specialisation in the production of the two major types of stemmed tools, with implications for the nature of society at that time.

The present study extends this previous work through morphological and use-wear analyses of the stems of 148 obsidian Type 1 tools. It proposes that a group of skilled artisans worked together to systematically produce standardised obsidian blades, particularly with regards their stems that were designed to be hafted. It further argues that these artisans were organised in some kind of formal workshop that produced stemmed tools as valued items of social significance. These tools entered an array of exchange networks across the Archipelago and beyond. These networks are likely to have facilitated the later spread of the Lapita cultural complex across this island world.

Introduction

A key issue for understanding the history of settlement of New Guinea and its neighbouring islands is the nature of society prior to the emergence of the Lapita cultural complex in the Bismarck Archipelago of Papua New Guinea, that has been described as a period of major changes during which the world was ‘turned upside down’ through significant cultural changes introduced by the Lapita pottery makers (Spriggs, 1997: 67). This picture, however, arguably reflects the sparse archaeological evidence for the pre-Lapita peoples apart from an abundance of lithic artefacts, especially of obsidian. Geochemical studies of the provenance of these obsidian artefacts show that from the late Pleistocene onwards, and particularly during the mid-Holocene period, obsidian from the New Britain sources was distributed through extensive networks across the islands of the Bismarck Sea (Torrence and Swadling, 2008: 610–613; Summerhayes, 2009).

The movement of obsidian within these networks was not limited to raw materials, but included two types of stemmed tools, Types 1 and 2 (Araho *et al.*, 2002), produced primarily on obsidian from the Kutau/Bao source on Willaumez Peninsula of New Britain (Torrence *et al.*, 2013). The design of both types is particularly complex, and production would have required a high degree of skill (Araho *et al.*, 2002: 76). During the mid-Holocene obsidian artefacts, prepared cores, and blade blanks were transported from the Kutau/Bao source to nearby Garua Island (Figs 1, 2), contrary to expectation as Garua has its own source of raw material of comparable high quality (Torrence and Summerhayes, 1997; Rath and Torrence, 2003: 121). Analysis of the manufacturing stages suggests that this involved transferring unfinished tools from the original producer to another person, presumably a specialist, for completion (Rath and Torrence, 2003: 126). This pattern of transfer and logistical movement suggests that the value attributed to some stemmed tools was

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