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## **Echoes of distant pasts? New Britain, Vanuatu and Felix Speiser**

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### **Abstract**

Recent papers on the genetics of the First Remote Oceanians raised questions about the nature of two population movements into the islands of Vanuatu, particularly the dominance of ‘Papuan’ lineages in the second phase. The papers identified potential ancestral lineages in New Britain, Papua New Guinea and cited Vanuatu linguistic features and cultural practices as additional evidence for the origin of the second phase in that region. This paper reviews these claims through an examination of ethnographic and archaeological records, focusing on the head binding of babies (artificial cranial modification), the raising of full-circle tusker pigs and their tusks, aspects of pottery forms, and stone arrangements. While noting some differences, the review broadly supports the claims of Speiser, the geneticists and the archaeologists, and proposes likely contacts between Vanuatu and the New Guinea – New Britain – north Solomons areas during the last 1000 years or so. There is currently no cultural evidence for the postulated earlier secondary movement that introduced ‘Papuan’ genetic ancestry to Vanuatu.

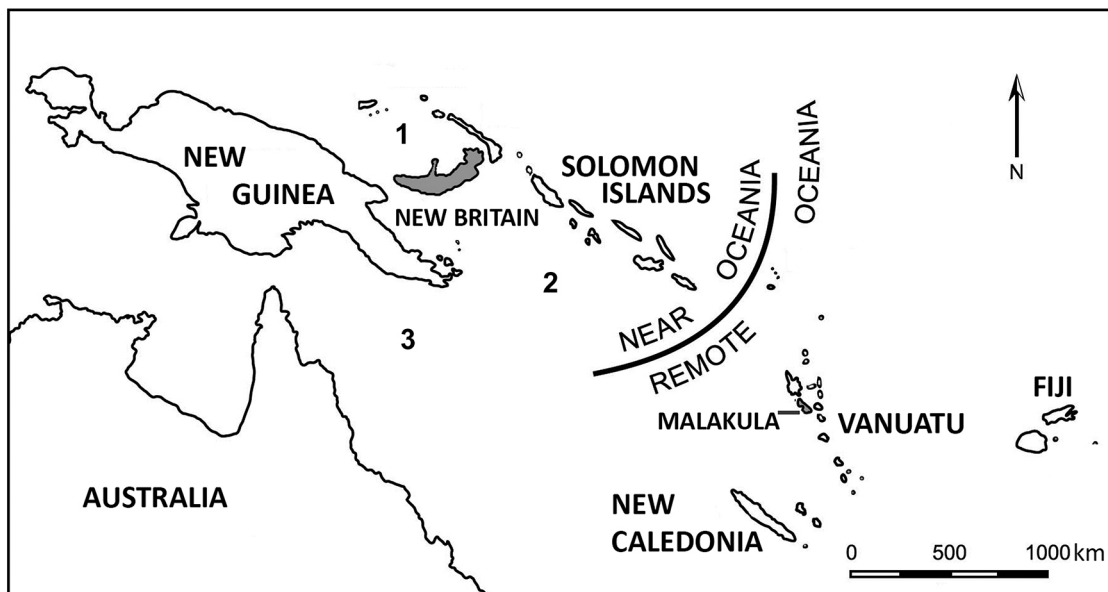
### **Introduction**

Recent papers on the genetic history of Vanuatu identified settlement by three population movements into these islands, with the second pointing to the Bismarck Archipelago, and specifically to New Britain, as its likely source (Skoglund et al. 2016; Lipson et al. 2018, 2020; Posth et al. 2018) (Figure 14.1).

From an archaeological perspective the primacy of the Bismarck Archipelago in the settlement of Remote Oceania has long been accepted (Golson 1961) and confirmed by the identification of Bismarck Archipelago obsidian at Lapita sites in Remote Oceania (Ambrose and Green 1972; Galipaud et al. 2014; Reepmeyer et al. 2011), and stylistic analyses of Lapita pottery (e.g. Green 1979:Fig. 2.10). The purpose of the present paper is to assess this claim from archaeological and recent material culture aspects, some of which have previously been canvassed by archaeologists and linguists but not explicated in relation to the genetics’ studies. The paper addresses four questions:

1. Can we confirm New Britain as a specific source area for the ‘second wave’ into Vanuatu?
2. If the answer is ‘yes’, when did this occur?
3. Can we define other potential source areas?
4. What do the results of points (1) to (3) tell us about relationships (if any) between genetics/ biology, language and material culture?

The paper summarises the main points of the genetics and related studies in relation to these questions and reviews the non-genetic and non-linguistic evidence for two cultural practices—head binding and boars’ tusks—cited by the genetics’ papers, and on the late-sequence pottery comparisons of Bedford and Spriggs (2008:99, 107). To these I add the treatment of the dead and aspects of stone arrangements. I conclude that the northern Solomon Islands, the New Guinea mainland and possibly even the south-east islands of New Guinea should be added to New Britain as likely source areas for so-called Papuan cultural components of Vanuatu, consistent with the preferred phylogenetic model of ‘Papuan’ ancestry in Vanuatu (Lipson et al. 2018:1162).<sup>1</sup> The paper ends with some observations on the relationship between genetics, languages and culture.



**Figure 14.1: The western Pacific islands, showing the Near and Remote Oceania boundary, the major island groups and the Bismarck (1), Solomon (2) and Coral (3) Seas.**

Source: Original map by Fiona Roberts, modified by Jim Specht.

<sup>1</sup> The term Papuan is variously used to denote unrelated languages that are not Austronesian, people of a range of phenotypes, kinds of material culture and as a geographical term for people of the former colony of Papua in Papua New Guinea. Here ‘Papuan’ in quotation marks refers to ‘the deep ancestral lineage that contributes the majority of the ancestry found in present-day populations from Near Oceania’ (Lipson et al. 2020:4847). This avoids confusing genomic populations with geographical, cultural, archaeological or linguistic ones (Skoglund et al. 2016:512; Spriggs and Reich 2019:5). Papuan without quotation marks represents the cited author’s usage.

## Genetics and Vanuatu

Based on genome analyses of burials from Teouma and other Vanuatu archaeological sites, together with modern samples from Vanuatu and elsewhere, the genetics' papers demonstrated initial settlement of Vanuatu at ca 3000–3100 BP by people with almost unadmixed East Asian and Southeast Asian genomes, whereas people with predominantly 'Papuan' genomes were present by 2800–2400 cal. BP, suggesting a secondary settlement phase (Spriggs and Reich 2019:625–626). Archaeological individual TAN002 from Tanna Island, dated to 2630–2350 cal. BP (Posth et al. 2018:Table 1), was genetically close to modern-day Baining people of New Britain, who were therefore considered living proxies for the ancient 'Papuan' genetic lineage of the secondary movement (Posth et al. 2018:734). Lipson et al. (2020:4849–4850) later generalised this to 'a subset of populations from New Britain', having previously noted that 'three Papuan source lineages' from New Guinea, New Britain and Bougainville were needed for their preferred phylogenetic model of 'Papuan' ancestry in Vanuatu (Lipson et al. 2018:1162).

Independently of the genomic data, Bedford and Spriggs (2008, 2018:174–175) and Bedford (2018), citing Speiser (1996 [1923]), supported likely contacts between Vanuatu and New Britain marked by the common practices of head binding of babies and the raising of full-circle tusker pigs, adding similarities between the late-sequence pottery of Buka and Malakula. These contacts were placed around 600–1000 years ago (Bedford 2018:137; Posth et al. 2019:58). Initially Blust (2005:554, fn. 3, 2008:453–454) and Posth et al. (2018:736) proposed that these cultural elements and non-Austronesian (NAn) linguistic features were shared 'almost exclusively' between Vanuatu and NAn-speakers in the northern regions, but Lipson et al. (2020:4854) later dropped the reference to NAn languages.

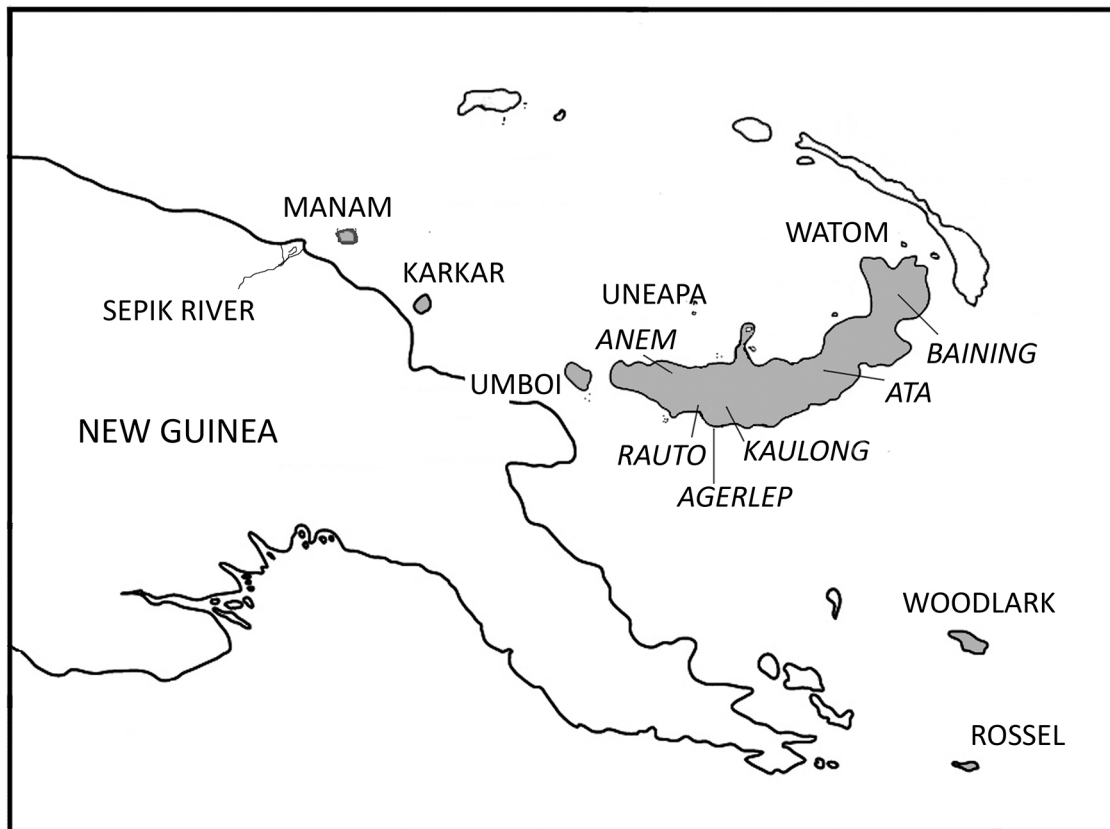
The genetics studies sparked debate between geneticists, linguists and archaeologists (Bedford et al. 2018; Posth et al. 2019; Spriggs and Reich 2019; Spriggs et al. 2019). The claims about cultural practices, however, escaped scrutiny, perhaps because the archaeological evidence was convincing, and it was obvious that migrants would have taken their cultural practices with them. Furthermore, claims for links between Vanuatu and New Britain based on head binding and boars' tusks were not new. Ethnologist Felix Speiser devoted his career to the history of cultural connections across the islands of Southeast Asia (ISEA) and the western Pacific (e.g. Speiser 1996 [1923], 1932, 1934a, 1934b, 1938; Adam 1950; Kaufmann 1996). He conducted archaeological excavations on several islands in Vanuatu with little success and turned to comparisons of contemporary cultural practices that he observed in the island groups from New Caledonia to New Guinea, including a five months' visit to New Britain's south coast (Gosden and Knowles 2001:101–128; Kocher Schmid 2001; Speiser 1996 [1923]:83–86). He claimed four practices were shared exclusively between the 'Arue' (Arawe) area of New Britain and Malakula: head binding, the raising of tusker pigs, the production of full-circle tusk ornaments, and tusker pig sacrifices (Speiser 1934a:131, 155–156).

## New Britain, languages and the Baining

At ca 36,500 km<sup>2</sup> New Britain is the largest tropical island in the Pacific east of New Guinea. Similar in size to Taiwan and three times the land area of Vanuatu, it comprises a main landmass and several dozen offshore islands (Figure 14.2). About 51 Austronesian (AN) and NAn languages are spoken on New Britain and adjacent islands (SIL 2015). These languages present 'one of the most complex linguistic geographies of the region', and 'probably display greater genetic [i.e. linguistic] diversity than those of any similarly sized area in Oceania' (Ross 1996:v, 2). This complexity reflects

New Britain's deep human history (ca 40,000 years) and its geographical position between New Guinea to the west and New Ireland to the east. This position has facilitated exchange networks involving frequent short-distance movements of people in each direction that contributed to the present linguistic complexity (Ross 2014).

The AN languages belong to the Meso-Melanesian and North New Guinea Clusters in the Western branch of the Oceanic group (Ross 1988). Proto-Oceanic probably developed in the New Britain area from interaction between immigrant speakers of AN languages and the NAn residents, with today's Western Oceanic languages emerging after the dispersal of Proto-Oceanic-speakers into Island Melanesia (Ross 1996:2; Lynch et al. 2002:96–97). Today only 12 NAn languages are known in New Britain, but formerly there were probably many more (Stebbins et al. 2018:Map 7.1). Five languages form the Baining family on the Gazelle Peninsula in eastern New Britain (Stebbins 2009:224; Stebbins et al. 2018:775, Map 7.2). The Baining individuals with 'Papuan' genetic lineages came from inland villages speaking the Kaket and Mali languages. The other NAn languages are isolates. Kol, Makolkol, Sulka, Taulil and Butam are also on or close to the Gazelle Peninsula, though Butam is no longer spoken and Makolkol is possibly extinct (Rohatynskyj 2001:28; Stebbins et al. 2018:797). Ata is in the interior to the west of the Peninsula, and Anêm is located near the western end of the island (Ross 1996:ix).



**Figure 14.2: New Guinea and the Bismarck Archipelago, showing the main places and language areas cited in the text.**

Source: Map prepared by Jim Specht.

The Baining claim to be the original indigenous people on the Gazelle Peninsula and describe themselves as conquered by the Oceanic-speaking Tolai, who came from New Ireland several hundred years ago (Neumann 1992:117; Rohatynskyj 2001:26; Salisbury 1972). The Taulil, Butam and Sulka speakers also came from New Ireland; when is not known, though recently enough for people on New Ireland to remember the Butam, and for the Butam and Sulka to believe that the spirits of their dead return there (Stebbins 2009:229–230). All three groups presumably arrived after the cataclysmic Rabaul eruption of AD 667–699 (1283–1251 cal. BP; McKee et al. 2015). The Mali language of the Baining family was influenced by an Oceanic language before the Tolai arrival (Stebbins et al. 2018:806), and a similar influence on Sulka has also been identified (Reesink 2005; Reesink and Dunn 2018:97), though in neither case has the Oceanic source language been identified. These interactions probably contributed to the 4 per cent East Asian/Southeast Asian ancestry of the Baining (Lipson et al. 2020:Fig. 5; Posth et al. 2018:734).

Previous genetic studies on New Britain showed only a ‘modest association between language and genetic affiliation’ in New Britain (Friedlaender et al. 2008:10). Hunley et al. (2008:10–11) noted that ‘Oceanic-speaking groups without the “Austronesian” signature are often genetically indistinguishable from their immediate Papuan-speaking neighbors’, and that NAn-speakers contributed more genetically to Oceanic-speakers than vice versa. The AN Meramera, Mamusi and Nakanai (Loso), for example, have become genetically ‘predominantly Papuan’ like their NAn neighbours, the Ata (Friedlaender et al. 2008:8, 10).

## Artificial cranial modification (head binding)

Artificial cranial modification (ACM) involves various methods of applying pressure to the head of a newborn child to modify permanently the shape of the cranium, creating an elongated or flattened shape depending on the technique applied (Tubbs et al. 2006). ACM has a long history in Australia and Asia, from the late Pleistocene at Zhoukoudian, China (Brothwell 1975; Li et al. 2018) to terminal Pleistocene – early Holocene in Australian contexts (Anton and Weinstein 1999; Brown 1981, 2010; Durband 2008). The oldest record in ISEA is dated to the sixteenth or seventeenth century in the Philippines (Clark 2013; Meyer 1881:133–134), and by the nineteenth century various practices including binding and hand massaging the child’s skull were widespread in Sulawesi (Meyer 1885:85), Timor (Garson 1884:387), Sumatra, Borneo, and Java (Meyer 1881, 1885).<sup>2</sup>

Records of ACM practices are discontinuous across the Pacific Ocean. In the Mariana Islands during the Latte Period (950–1521 AD) several archaeological skulls had posterior flattening, a practice probably introduced by Spanish colonists (Ikehara-Quebral et al. 2018). In nineteenth-century Fiji (Fison 1885:20, fn. 1) and Samoa (Speiser 1934a:156), manual pressure was applied to the baby’s head, whereas a skull from Niue was posteriorly flattened (Virchow 1884:153). In Hawai’i, Stokes (1920) recorded various techniques employed in historic times and cases of ACM occur among the undated Mokapu skulls (Schendel et al. 1980). The best historical evidence comes from the Arawe area of New Britain (Blackwood and Danby 1955; Parkinson 1999 [1907]:26, 88–89) and southern Malakula in Vanuatu (Layard 1928:218, 220; Speiser 1934a:156–157, 1996 [1923]:162–163).<sup>3</sup>

<sup>2</sup> Meyer (1881:Fig. 2) illustrated a device from Sarawak allegedly used to flatten a child’s head, but its weight and size (the wooden part was 325 mm long) would make it inappropriate for attaching to a baby’s head; it is more likely to have been an adult’s carrying device.

<sup>3</sup> Reche (2015 [1913]:103, plate LXXIII.1) acquired three crania with posterior flattening at the Sepik River mouth which he believed were not of local origin as he saw no village people with deformed heads. Speiser (1934a:156) suggested that they were Arawe skulls that had been traded, though the skull in Reche’s plate does not resemble those illustrated by Blackwood and Danby (1955).

The Arawe area extends along the south coast of New Britain from Gasmata westwards to beyond the Arawe Islands and into the hinterland (Figure 14.2). Today it contains about a dozen languages within the North New Guinea Cluster of Western Oceanic (Ross 1996:map, p. ix), some displaying what Blust (2009:685) called ‘undeniable lexical deviance’. Of these, Kaulong has the lowest retention rate (5.2 per cent) among Oceanic languages of Proto-Malayo-Polynesian lexical reconstructions (Pawley 2006:234), which is as low or lower than NAn adoption rates from the AN lexicon (Blust 2009:686–687). On this basis Kaulong and its lexically aberrant neighbours could be mistaken as NAn languages, but grammatically they are Oceanic (Chowning 1985, 1996:23; Ross 2002:387; Reesink and Dunn 2018:946–948). ACM was practised within the distribution of these languages.<sup>4</sup>

On Malakula and in the Arawe area, the heads of newborn children were coated with black pigment made from charred nuts or wood. On Malakula, the baby’s head was then wrapped with a banana leaf and covered with a tight, woven cap (Layard 1928:220, Fig. 5; Speiser 1934a:140). On New Britain the Kaulong, Rauto and Agerlep speakers wound barkcloth around the baby’s head and secured it with a vine ‘string’ (Blackwood and Danby 1955:173–174; Goodale 1995:plate opp. 81; Gosden and Knowles 2001:Fig. 1.1; Maschio 1994:182; Todd 1934:202). The binding was removed each day and the baby’s head was washed, massaged, painted again and re-bound (Blackwood and Danby 1955:174; Maschio 1994:224). This process was repeated for about a year. The procedures in New Britain and on Malakula essentially differ only in the use of a woven cap instead of bark cloth on Malakula.

There is little archaeological evidence for ACM practices in New Britain and none for Malakula. The New Britain evidence is an adult male burial (W15) in the late-to-post Lapita cemetery on Watom Island dated to 2750–2050 cal. BP (human bone, 95.4 per cent probability), though there are issues about its stratigraphic integrity (Petchey et al. 2016:27, Fig. 21). This date range embraces that for TAN002, the oldest dated individual with a ‘Papuan’ lineage in Vanuatu (2630–2350 cal. BP, 95.4 per cent probability: Posth et al. 2018:Table 1). The genetic lineage of W15 is unknown, but Pietruszewsky et al. (2014:16) concluded from a morphometric study that the Watom crania and mandibles are most like those of inhabitants of Near Oceania and western Remote Oceania and least like those of Polynesians. In a separate study, Valentin et al. (2016:294) explicitly linked the Watom craniofacial forms with the secondary movement into Remote Oceania. There are, however, no cases of ACM among the Lapita-age burials of Teouma or the later burials of Uripiv and Vao that were contemporary with Watom W15 (Valentin et al. 2010, 2016; Bedford et al. 2011:Table 1). There may be several reasons for this lack of archaeological evidence for ACM among these early Vanuatu people, the most obvious being that the practice was not taken to Vanuatu until after the Lapita and immediate Post-Lapita periods, although other issues like sample sizes, status associations and taphonomic issues also merit consideration.

## Treatment of the dead

The post-mortem manipulation of human remains was formerly widespread in the western Pacific Islands in various forms of memorialising and paying of respect to ancestors, particularly in the form of skull cults (Layard 1928; Speiser 1934a). This section discusses an unusual form of manipulation identified in the Teouma cemetery (Valentin et al. 2010) that seems to be echoed among the Kaulong people of New Britain in the recent past.

<sup>4</sup> Head binding was still practiced inland from Kandrian in 1979–1981, but I did not see evidence for the raising of tusker pigs either on the coast or inland. As I do not have up-to-date information whether these practices are still followed, I use the past tense here.



According to Goodale (1985:239–240) the Kaulong followed a complex process involving exhumation and washing of the skull, mandible and sometimes clavicles, scapulae, arms and sternum (Goodale 1985:239–240). The skull and mandible were painted red, a perforated stone was placed in each eye socket, and the bones were then displayed with the deceased's valuables. A ceremony was held at which a tusker pig was sacrificed, and the dead man's skull and other bones were presented with the sacrificial pig skull to one of the deceased man's exchange partners to restore the link broken by his death. Over time, the bones passed through the network and eventually returned 'home' for secondary burial.<sup>5</sup> The Rauto people to the west of the Kaulong also exhumed the skull, mandible, ulna and hand bones and conducted various rituals, but did not circulate them through the exchange network (Maschio 1994:92–93, 187–189).

Similar bone removals were apparently practised 3000 years earlier at the Teouma cemetery where 25 adult burials lacked skulls and incomplete sets of clavicles, scapulae and arm bones (Valentin et al. 2010:217, Fig. 3). The skeletal remains in three jar burials were similarly incomplete (Valentin et al. 2016:83, Table 1). Some removed bones were given secondary burial (Bedford et al. 2010:155, Fig. 12; Valentin 2010:167, Fig. 3).

There is no evidence for similar patterns of bone removals in the later burials on Vao and Uripiv Islands (Bedford et al. 2011:34) or among the Watom burials (Pietrusewsky et al. 2014), though on Watom there are instances of the removal of skulls and other bones (Valentin et al. 2010). There is little skeletal evidence elsewhere in the Bismarck Archipelago, with only fragmentary skeletal elements and no identifiable burials in the Mussau Islands (Kirch 2021:511, Table 6.1). The similarity of practices across 3000 years and thousands of kilometres, however, invites speculation whether this is coincidence or persistence of cultural performances. While this question currently cannot be resolved, the possibility of some degree of relationship or continuity should be kept in mind.

## Pigs, tusks and ornaments

Beran (2014) and Bedford (2018) reviewed the production and distribution of full-circle boars' tusks in the New Guinea – Bismarck Archipelago region and Vanuatu respectively, with Bedford also exploring the archaeological evidence for their use and their scarcity in excavations apart from certain burials.<sup>6</sup> In Vanuatu, the raising of tusker pigs and their full-circle tusks is limited to the northern and central islands. It takes many years to produce the circle tusks, during which the boars receive special attention, being treated with great respect and regarded as sacred. Production of these tusks is intimately linked to grade-taking ceremonies through which men gain increasing status and receive armbands of full-circle tusks appropriate to their grade (Bonnemaison 1996; Huffman 2005; Layard 1942:241–246; Speiser 1996 [1923]:143–144). Bedford (2018:128) notes that old photos show relatively few people wearing full-circle tusks, which were often left embedded in the mandible and displayed on racks, presumably to show the wealth and success of individuals and the social group.

Full-circle boars' tusks occur throughout Papua New Guinea and Torres Strait, including the Fly River delta and the Massim (Davies 2011:87; Lawrence with Varjola 2010:151; Swadling and Bence 2016), though their actual production seems very restricted. Beran (2014:10–11) identified

<sup>5</sup> Goodale (1985:232) recounts a myth about a child-eating monster Yumihin who 'looked like the butchered head of a pig, with his cloak detached from the body but left attached to the fore-legs and skull'. This echoes the human remains circulated among the deceased's exchange partners.

<sup>6</sup> Vanuatu pigs come in three genders - male, female and intersex (Baker 1929:115–130; Layard 1942:240ff; Huffman 2005; Lum et al. 2006). The intersex variety does not occur on New Britain (Hide 2003).

production on New Britain in the Arawe area, probably in the Bariai area, and possibly on Umboi, the north New Guinea coast and adjacent islands, and in the Massim. Most information, however, is about obtaining tusks by exchange or their role in performances (e.g. Gaffney and Summerhayes 2017:1, 15; Hogbin 1978:39; Lipset 1990; Lutkehaus 1990:300, 2013; Swadling and Bence 2016), and there is no information about the raising of the boars. McSwain (1977:7) recorded that each village on Karkar had a specialist to remove the tusks from the mandible, but there is no indication that these were locally raised full-circle tuskers. In fact, photos of boars' tusks incorporated into body ornaments throughout the islands and New Guinea mainland rarely show full-circle tusks.<sup>7</sup>

Goodale (1985:234–235) described the process of producing full-circle tusks among the Kaulong as taking about 10 years. After the boar is sacrificed, the tusks are removed from the mandible and bound together, sometimes decorated with gastropods (Beran 2014:Fig. 2; Goodale 1966:24; Kaufmann 1975:Fig 62; Parkinson 1999 [1907]:Fig. 27). These paired tusks are insignia worn by senior men on the back of their necks. Formerly, during warfare, they were clenched in the wearer's teeth to signal aggression and power (Goodale 1985:234), but today they are worn in ceremonial and celebratory performances on New Britain and Manam Island and along the north coast of New Guinea (Beran 2014:Fig. 5; Lutkehaus 2013:8, Fig. 5).

In Vanuatu the most valuable tusks have double or triple circles (Huffman 2005:41–43), but these forms are not mentioned in the anthropological literature of New Britain and do not appear in photographs of people wearing boars' tusks in New Britain or the broader New Guinea region. Paired circle tusks are not the prerogative of men in southern New Britain, as both Chinnery (n.d.:19, plate 4, plate 6) and Todd (1934:plate IIB) photographed coastal women wearing paired tusks round their necks. In Todd's case the tusks belonged to one of the woman's male relatives, and among the Rauto, women could receive them during puberty rites to mark their new status as 'big women' (Maschio 1994:134, 1995:136, 156–160). In northern Vanuatu wives of high-ranking men can wear a tusk if they have completed the requisite rites, but not at puberty, which is regarded as far too early in life (Speiser 1996 [1923]:plate 8 Fig. 8; Kirk Huffman, pers. comm. 17 November 2021).

A change in the use of tusks might have occurred in New Britain over the last 180 years, for Jacobs (1844:252, 260) commented that people assembled for a ceremony on the south coast wore 'boars' tusks bangles' on their arms. As this is the only record of circle tusks being worn this way in New Britain, it is likely that Jacobs saw *Trochus* shell armbands.

In Vanuatu full-circle tusks only appear about 400–600 years ago, though an earlier date ca 1050 BP in the Banks Islands is possible (Bedford 2018:130–131). The earliest evidence comes from burials on Tongoa Island that postdated the Kuwae eruption of ca AD 1452 (Robin et al. 1994), and from Roi Mata's cemetery on Eretok (Retoka) Island dated to the early seventeenth century AD (Bedford 2018:130), where 22 individuals had over 50 full-circle tusks as arm/wrist bands (Garanger 1972:Table 11, Figs 192–196). The absence of full-circle tusks in other contexts may reflect gaps in the archaeological record (Bedford 2018:138, endnote 5), or the practice of smashing of a man's boar's tusk and replacing it with a new one when he progresses to a higher grade on Malakula and Vao (Layard 1928:149, 154). No whole tusks have been reported from archaeological sites in the Bismarck Archipelago. On Watom Island, canine fragments were found in Late and Post-Lapita contexts at the SAC site but appear to be from normal tusks (Smith 2000 [1998]:141; Specht, unpublished data). There were no pig canines in the Lapita levels of the Anir Islands (Summerhayes et al. 2019:382, Tables 18.1, 18.2); and none among the pig remains from

7 Neither Bedford nor I have been able to access Speiser's (1932) paper on the production and use of full-circle tusks on New Britain cited by the late Harry Beran.



the Tanga Islands' excavations (Cath-Garling 2017:Table 3.8). Pig remains were common in sites on the Siassi Islands near Umboi and on mainland New Guinea, but no breakdown of body parts is available (Lilley 1986:Table 10.1). Consequently, the antiquity of producing full-circle tusks in the Bismarck Archipelago is unknown but this does not eliminate the possibility of a time depth like that of Vanuatu.

## Pottery of Malakula and Buka/Bougainville

It is unclear whether pottery production on Malakula continued between 1200 and 600 cal. BP (Bedford 2006:168, Fig. 8.16), but from ca 600 BP bullet-shaped vessels with vertical sides termed Chachara were appeared and continued in elongated form as *Naamboi* ware during the last 200 years (Bedford 2006:143, 151–155, Figs 7.14, 7.19–7.23). These bullet-shaped pots are unique in the archipelago and there is no predecessor in the Vanuatu industry from which they might have developed. Layard's Malakulan informants were uncertain about the origin of these vessels and attributed them to the *Ambat*, a light-skinned people of the past whose origin is unclear (Layard 1928:210–214). They certainly did not originate in New Britain, where there is no evidence for pottery production during the last 2000 years.

Bedford (2006:151; Bedford and Spriggs 2008:107) proposed possible connections between Chachara ware and the modern/recent bullet-shaped *tabeli* vessels of Buka Island in the northern Solomon Islands (May and Tuckson 2000:Fig. 11.2; Specht 1972:130). Related tall, cylindrical- to bullet-shaped vessels with everted rims also occur in the Bougainville industries of Siwai (Oliver 1967:Fig. 34) and Buin, where Terrell excavated one at the Loiai stone arrangement site dated to the last 1000 years (Terrell 1976:300–329, Figs 4.19c, 5.4a, 5.5). Terrell (1976:360, Fig. 6.1) grouped the pottery industries of Buka, Bougainville (Nasioi, Buin, Siwai), Shortland Islands and Choiseul into the North Solomons Tradition with two sub-traditions, Buka and the rest. Chachara ware is similar to the Buka sub-tradition in form, decoration and chronology and is highly likely to have been introduced from the Buka region (Bedford and Spriggs 2018). This would rule out the light-skinned *Ambat* as the carriers of the pottery tradition since the people of Buka–Bougainville have 'extremely dark' skins.

The large size and poor quality of *Naamboi* vessels led Bedford (2006:155) to propose a shift in their function from domestic to ritual use. *Naamboi* were used in ceremonies for fertility and resource increase, burials and control of weather, and were kept in sacred places (Deacon 1934:597; Layard 1928:210). In contrast, the Buka *tabeli* was a domestic cooking vessel (Blackwood 1935:399–400; Specht 1972:130), though Blackwood recorded (but did not see) a large form known as *abonon* that was used for feasts. The *Naamboi* vessels are more tubular than *tabeli* (Buka: Blackwood 1935:plate 61; Specht 1972:Figs 2, 3; Malakula: Bedford 2006:143–156, Figs 7.14, 7.19–7.23; Galipaud 1996:122, Fig. 102; Layard 1928:plate XVIII.3), though they are similar in size: the mean height of 10 *Naamboi* vessels is 344 mm and maximum 458 mm (Bedford 2006:Figs 7.19–7.23), and the mean height of 11 Buka *tabeli* is 324 mm and a maximum of 465 mm (Specht 1972:131). An unusual *Naamboi* form is a simple cylinder open at each end that was associated with burials (Layard 1928:plate XVIII.3, plate XIX, Fig. 1). Such cylinders are unknown on Buka and Bougainville.

## Stone arrangements

Malakula and the Small Islands have one of the densest concentrations of stone arrangements in the western Pacific Islands, and these are prominent in grade-taking cycles and other rites (Geismar and Herle 2009:45–46; Layard 1928:153–154, 1943:12–20). Riesenfeld (1950) surveyed these features in his study of the ‘megalithic cultures’ of the western Pacific, and since then further information has been published (e.g. Bedford 2019; Bickler 2006; Riebe 1967; Terrell 1978). The arrangements come in many forms, often with rich oral histories and mythologies. Along with Speiser (1934a), Riesenfeld saw parallels between Vanuatu and the New Guinea – Bismarck Archipelago region, with both citing the stone ‘seat’ on Uneapa Island in the Vitu group (Parkinson 1999 [1907]:plate 14). This kind of feature comprises a tabular slab supported on two or more ‘legs’ and is a common sight on Oceanic-speaking Uneapa Island off northern New Britain, where some are identified as sacrificial tables (Ambrose and Johnson 1986; Byrne 2008:Figs 5.3, 5.4, 2013:Table 1; Torrence et al. 2002). The form is also present on Umboi Island between New Britain and New Guinea (Byrne 2008:Fig. 9.2). Similar structures, called ‘dolmens’ by Layard, are common on Malakula and the Small Islands around dancing grounds where they form parts of skull shrines (Geismar and Herle 2009:48–49; Layard 1928:frontispiece). Structurally related features occur in NAn-speaking areas of the middle Sepik River (Schindlbeck 2018), in south Bougainville and on Choiseul Island in the Solomon Islands (Leavesley and Mandui 2004; Terrell 1976:267–329, 1978:226, Fig. 79; Thomas et al. 2001:Fig. 4; Thurnwald 1934). These features are grouped here under the single term ‘capstone features’ that includes those called ‘seats’ and ‘tables’ on Uneapa (Byrne 2013).

The variety of capstone features and the range of reported functions complicate simple comparisons between Vanuatu and the New Guinea – Bismarck Archipelago – Solomons region, but in both areas they are associated with ritual spaces and ‘dancing grounds’ (Layard 1942:293, 365–368) and ‘meeting places’ (Byrne 2008:175–176, 2013:70–71). Monoliths, some of massive size, are associated with dancing grounds (e.g. Geismar and Herle 2009:50, 54; Layard 1928:Figs V.1, XVI.3, 4, XVII.1, 2). On Vao, some are made from coral or beach rock slabs that are roughly dressed, but others are dressed pillars engraved with male anthropomorphic figures, and these stand inside a circle of smaller stones (Bedford 2019; Layard 1928:154, 186).

Both plain and engraved monoliths are found widely in the western Pacific Islands and have a diversity of functions (Bedford 2019; Byrne 2013:Fig. 9; Riesenfeld 1950; Schindlbeck 2018:photos 1, 5; Specht et al. 2021:Fig. 15). Some memorialise ancestors, provide backrests for seats, mark graves, form avenues and delineate sacred spaces. They are associated with special plants such *Cycas* and *Cordyline* species (e.g. Layard 1928:184, Plate XV.4; Schindlbeck 2018:214–215). In south-east Papua New Guinea and on Bougainville they form rectangular or circular enclosures or components of stone platforms or pavements (Bickler 2006; Bickler and Ivuyo 2002; Egloff 1970; Kahn 1990; Ollier et al. 1970; Terrell 1978), but elsewhere they stand alone or within a circle of smaller stones (e.g. Blackwood 1935; Byrne 2008; McPherson 2007:Fig 7). As with capstone features, pillars engraved with anthropomorphic figures occur in both Oceanic and NAn language areas.

In the Bismarck Archipelago, none of the monoliths, capstone features or other stone arrangements have been directly dated. In south-east New Guinea, Bickler and Ivuyo (2002:Table 3) suggested that stone arrangements at the Bunmuyuw site on Woodlark (Muyuw) Island date to around 1300–400 cal. BP based on <sup>14</sup>C dates for burials. On Rossel Island, Shaw (2015:163–166) obtained a charcoal date of 500–300 cal. BP (ANU 32531) from 40 cm below a stone feature associated

with a small monolith, placing the construction of the stone arrangement within the last 500 years. Similar dates have been obtained for capstone features on Bougainville (Terrell 1978:34–36) and Nusa Roviana, Solomon Islands (Sheppard et al. 2000:32, Table 2).

Layard (1928:200) referred to historical records for the late introduction of monoliths to Malakula but did not cite the evidence. On Tongoa Island monoliths postdate the Kuwae eruption of ca 1452 AD (ca 500 BP: Garanger 1972:92–94, Figs 246–260; Robin et al. 1994), and at Roi Mata's cemetery on Eretoka Island they date to the early seventeenth century (ca 400 BP: Garanger 1972:Figs 149, 152–153). Assuming that these were not an independent local invention, the dates place their introduction around the same time as the appearance of boars' tusks, and well within the timeframe for the Woodlark, Rossel and Solomon Islands' stone features.

## Discussion

The review of head binding (ACM) and boars' tusks on Malakula and its adjacent Small Islands and the Arawe area of New Britain has followed well-worn paths of evidence but yielded new information and new questions. Whereas ACM was present in the late Pleistocene to early Holocene in Australia, it is known in ISEA only from much later times, arguably reflecting the paucity of skeletal remains of this early period. Its presence among the Watom burials in the Late to Post-Lapita period (ca 2750–2050 cal. BP) invites consideration whether this was a local development or an introduced practice. If the latter, there is currently no likely source area; Malakula is highly unlikely in view of the absence of ACM among the Teouma Lapita burials and later ones on Vao and Uripiv Islands. At this stage it is reasonable to accept a plausible connection between the practice on New Britain and Malakula, while not assigning a date for its initiation in either area.

The pattern of the Kaulong and Rauto bone removals from inhumations are reminiscent of those in the Teouma cemetery. In Vanuatu it appears restricted to the earliest Lapita period, implying the practice was current at initial colonisation of the archipelago. Its absence from the later Watom burials, where more restricted bone removals were practised, and the lack of skeletal evidence on New Britain in general limit discussion. The great length of time separating the practices on New Britain and at Teouma makes a link between them seem improbable, though further research might resolve the matter.

The review of full-circle boars' tusks in the New Guinea – Bismarck Archipelago region supports previous views that their production was probably restricted to New Britain, though their production in other areas remains a possibility. Nevertheless, the similarities of practices on New Britain and Malakula are sufficient to support transmission between them, but the direction of transmission is not known. There is no evidence yet for their production on New Britain before historical times, but in Vanuatu they appeared ca 550–600 years ago. In the New Guinea – Bismarck Archipelago region it appears that only single circle tusks have been produced, whereas double- and triple-circle tusks are produced in Vanuatu, perhaps to accommodate increasing complexity of grade-taking and the addition of extra higher grades as recorded by Layard (1928:143, 202; 1942:290). In recent times the practices associated with the tusks in Vanuatu and New Britain differed: Rauto girls could receive full-circle tusks at puberty, but in Vanuatu only adult women of high status could possess and wear them.

The late-sequence pottery opens possibilities for contacts between Vanuatu and the north Solomons and islands in southeast Papua New Guinea. The bullet-shaped forms of Chachara and *Naamboi* wares of 600–200 cal. BP (Bedford 2006:Table 6.1) are likely to have been introduced from Buka in the northern Solomons, though their functions and context of use changed on Malakula.

The final comparisons concerned stone arrangements. As Riesenfeld's (1950) survey showed, this is a complex field as there are obvious structural similarities between stone features throughout the western Pacific Islands and beyond. They could have been introduced to Vanuatu from the Buka – Bougainville – western Solomon Islands region, or from Woodlark Island in south-east New Guinea (via the western Solomons?). If from Woodlark, this followed connections in Late Lapita and Post-Lapita times (Tochilin et al. 2012) and could have been through the later short-lived interaction sphere across the Solomon Sea proposed by Sheppard et al. (2015). The dates for some stone features place them within the time range for the introduction of bullet-shaped pottery and full-circle boars' tusks in the later stages of Vanuatu's history. It remains to be seen whether there was any connection between these events.

## Conclusions

There is no disagreement that the first settlement of Remote Oceania (as opposed to possible 'scouting' visits) came from the New Guinea – Bismarck Archipelago region around 3000–3100 BP. The two-phase process previously discussed by linguists and speculations about the movement of people and specific cultural practices into Vanuatu recall the diffusionism of Speiser, Riesenfeld and others who sought answers in multiple migration events between ISEA, New Guinea and the Melanesian islands. Speiser (1934a) even proposed a nonstop migration direct to New Britain from the island of Nias on the western side of Sumatra. While such a proposal exceeds the bounds of credulity, the genetic studies discussed here and one relating to the Solomon Islands (Pugach et al. 2018) generally support the archaeological model for a 'leapfrog' initial movement of people from the Bismarck Archipelago into Remote Oceania (Sheppard 2011, 2019; cf. Felgate 2007). The discussions on ACM and full-circle boars' tusks indicate the possibility of one or more later 'leapfrog' movements (Spriggs and Reich 2019:632).

Lipson et al. (2018:1162) inferred three source populations to explain the 'Papuan' genetic input to Vanuatu in the secondary population movement, citing New Britain, Bougainville and the New Guinea Highlands, the latter presumably a portmanteau term for potential ancestral populations across New Guinea. Spriggs and Reich (2019:632) view the secondary movement as 'a continuing migration stream but in changed circumstances' from the initial colonising event. The discussion presented here does not conflict with this stream of people with 'Papuan' lineages but opens possibilities for movements, accidental or planned, from several directions consistent with the Lipson et al. conclusion. The Late Lapita transport of pottery or temper from Woodlark Island across the Solomon Sea to the western Solomon Islands (Tochilin et al. 2012) suggests forms of contact other than migration, though there is no evidence at this stage that this involved Vanuatu.

This review has covered many communities with diverse languages and cultural practices that are the products of millennia of change and modification, reflecting what Spriggs (1997:186) termed '2000 years of contingent history and cultural drift'. Increasingly, the evidence for people moving within and across the Bismarck, Solomon and Coral Seas (e.g. Lilley 2019; McNiven 2021; Sheppard et al. 2015; Tochilin et al. 2012; Torrence et al. 2013) supports this view and challenges the unidirectional and bounded thinking about the region's past that has often tended to become embedded in discourses about interaction spheres and networks. It is a warning not to expect straightforward relationships between language, genes and cultural practices. Previous studies have revealed complex patterns of association in modern populations of the western Pacific; even a small island can yield levels of complexity across all three fields (Cox and Lahr 2006; Friedlaender et al. 2008; Hunley et al. 2008; Ricaut et al. 2008). There is no reason to assume that the past was different.

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