‘The Malay Road’: Evolution in Connectivity and the Range of Products Sourced by Southeast Asia and China from Northern Australia, with or without Indigenous Agency, from the Sixteenth Century until World War 1

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A thesis submitted in partial fulfilment of the requirements for the degree of
Masters of Archaeology and Heritage Management

College of Humanities, Arts and Social Sciences
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30 August 2021

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Abstract

The objective of this thesis is to progress the debate beyond the particularism of the Macassan trepang industry and 'the Malay Road' towards a richer understanding of the role played by the Indigenous economy across the whole of northern Australia in wider Southeast Asian (SEA) and East Asian (EA) trade networks, from the mid-sixteenth century to World War 1 (WW1), potentially assisting a World Heritage nomination.

Ongoing work and knowledge gaps have been classified into nine thematic steps of a cyclic process telling the story of early trade in Australian forest and sea products. These are reviewed, and the conclusions of previous authors re-evaluated. New data has been gathered, and existing data used elsewhere has been applied to this problem for the first time, using a multidisciplinary approach including trade data and history, cultural anthropology, ethnography, Indigenous and SEA and EA contact archaeology, maritime archaeology and linguistics.

Historical research found that SEA visitors took native beeswax from northern Australia, in *perahu* that had cargo space available for 31 forest and sea products. Linguistic evidence indicates that up to nine products were collected by Indigenous people participating in a hybrid economy. The trade goods they received in exchange were tailored to a small degree, giving them broadly equivalent status to other paid commodity collectors of the periphery of the eastern Indonesian archipelago.

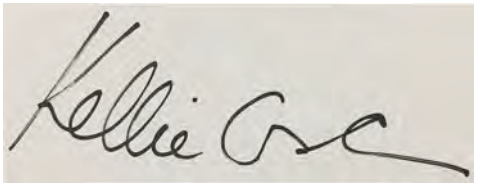
'The Malay Road' was broader than the Chinese financing of the collection and shipping of Chinese-sought northern Australian products to China. It involved SEA and Indigenous people, and Australian-based Chinese immigrants. The products sought and the way in which 'the Malay Road' connected northern Australia to SEA and EA changed across four distinct periods. Emerging in the sixteenth century, it sporadically transported forest products (e.g. sandalwood) and seed pearls traded by South Sulawesians for Chinese ceramics in Mainland or Maritime SEA. By WW1, it was characterised by maximum product and visitor diversification involving a hybrid economy, multiple trade centres and the decline of Makassar's and the Seram Laut Islands' central roles.

Recommendations for further research include: ground-truthing of commodity habitats and processing sites, including survey of native bee populations associated with Macassan archaeological sites; a comparison of Internal Colonialism with Hybrid Economic Model approaches to Asian-Indigenous culture contact; research into Japanese and Filipino culture contact; a comparison of ceramics at Macassan sites with samples from Lesser Sunda Islands, particularly Flores; and linguistic analysis to confirm Austronesian sources (e.g. Solorese, Jama Mapun, Butonese) and the chronology of trade product inclusion in the hybrid economy.

Declaration

I, Kellie Madeline Clayton, certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed



Acknowledgements

My supervisors: Dr Daryl Wesley and Associate Professor Dr Wendy van Duivenvoorde, for taking on my topic and me. I came to Daryl with a proposal about Macassans and native beeswax and he encouraged me to examine all commodities and, ultimately, 'the Malay Road' itself. Wendy recommended early Dutch sources and was of particular assistance when grappling with Old Dutch. Any mistakes made in this thesis are, of course, mine.

Comments on: Chapter 2 from Professor Heather Burke and the suggestions of the 2020 class of ARCH8309A; my 1 April presentation by attendees of the 2021 Flinders University Archaeology Research Seminar series, including Paul Clark's heads up about Rebecca Mirams' recent PhD research; my thesis by its examiners.

The Document Delivery Service and Copyright Librarian, Flinders University Library.

Robert Keane, College GIS Specialist; and the IT Service Desk.

Difficult to source, unpublished theses were provided by: Sharon Marshall, Administrative Assistant, Faculty of Humanities, Arts, Social Sciences and Education; School of Humanities, Arts, and Social Sciences, University of New England; Dr Annette Oertle; Dr Kailah Thorn, Curator, Edward de Courcy Clarke Earth Science Museum, School of Earth Sciences, The University of Western Australia (UWA); and Professor Alistair Paterson, School of Social Sciences, UWA. Rebecca Mirams shared a submission draft of her PhD thesis.

Kylie Jennings, Administrator, Broome Historical Society & Museum for assistance with information about Chinese pearlers and pearl-dealers.

Moya Smith, Head of Department, Anthropology & Archaeology, Western Australian Museum, for extraordinary assistance with Ian Crawford's correspondence with H.V. Howe.

Alana Colbert, Associate Registrar, Berndt Museum of Anthropology; Felicia Pickering, Department of Anthropology, Smithsonian Institution National Museum of Natural History; and Mary Morris, Senior Collection Manager, Ethnohistory Collection, First Peoples Department, Museums Victoria for providing short-notice images of ceramics and maps.

Finally, to my brother Scott for his support during both theses, and his apt motivational quotes: the most relevant to the thesis writer being from Marcus Tullius Cicero (106–143 BC) 'If I had more time, I would have written a shorter letter'.

Chapter 1

A richer history of East and Southeast Asian-northern Australian contact

To date, the history of Asian contacts with the Indigenous people of northern Australia prior to British colonisation has focused on the Macassan industry that shipped trepang to China (Clark and May 2013; Crawford 1969, 2001; Macknight 1969b, 1976). Long-term study of the traditional knowledge of the Yolngu of eastern Arnhem Land (Figure 1) has demonstrated the influence of Southeast Asian (SEA) visitors on Indigenous people (McIntosh 1995a, 2006, 2008). Research then passed on to pre-1770 culture contact with the crews (including SEA) of European exploration expeditions (Duivenvoorde et al. 2019:41–43); post-colonial development of poly-ethnic communities involving East Asian (EA) and SEA settlers (Ganter et al. 2006); the use of imported EA and SEA labour (Martinez and Vickers 2015); and twentieth century illegal Indonesian fishing in Australian waters (Balint 2005; Dwyer 2001; Fox 2000).

This thesis will expand the debate beyond the particularism of the Macassan trepanging industry to re-examine the early role of Indigenous, Chinese and Maritime SEA groups and the range of available products between Geraldton, Western Australia (WA), and the east coast of Cape York Peninsula (CYP), Queensland (QLD). A richer understanding of the role played by the Indigenous economy in northern Australia in wider EA and SEA trade networks will thereby be achieved.

The story so far

Historical and archaeological evidence shows that, from at least 1577, seven to 50 ton vessels sailed from the islands of Maritime SEA to the coast, and offshore islands and reefs, of northern Australia (Clark 2011; Crawford 1969, 2001:68; Dwyer 2001; Earl 1837a; Flinders 1814; Fox 2000:337; Macknight 1969b, 1976:18; Morwood and Hobbs 1997:197–199; Southon 1994:6; Taçon et al. 2010:3–5). The traditions of the Yolngu people tell of three phases of contact with SEA visitors (McIntosh 1995b; 2006:162–170). The first involved groups of Bajau[1] 'whale hunters', given various names by the Yolngu. The second involved the Bayini[1] and Badu[1] whale and dugong hunters. The third involved the Macassans from Sulawesi Island, until developing Colonial and Australian regulation of fisheries industries discouraged their visits (Macknight 1976:108–125; Morwood and Hobbs 1997:199).

[1] See Key terms.

Visualising the thesis premise

Figure 1 Maritime SEA and Chinese visitors and migrants exported up to 31 forest and sea products from northern Australia by avoiding, kidnapping, employing or trading with the Indigenous people. Maritime SEA people generally sailed *perahu* to northern Australia. Chinese generally arrived as passengers on ships, often building then sailing their own vessels along the coasts. Northern Australian products travelled northwest through archipelagic (e.g. Makassar and Batavia) and Mainland SEA (e.g. Penang, Melaka and Singapore) import/export centres. China was a key destination of northern Australian products, through coastal import/export centres from Guangzhou to Shanghai.

Provisioning in their homeports (Bulbeck and Rowley 2001; Wesley et al. 2014), and indebted by patron-client financing arrangements (Pelras 2000), they arrived around December-January, during the northwest monsoon, leaving around April using the southeast trade winds (Macknight 1976:35–37). Their destination was either between Melville (Tiwi) Island, Northern Territory (NT), and the Wellesley Islands, QLD (e.g. Malay Road), or the Kimberley, WA, between Cape Londonderry and Cape Leveque, with these areas known by the Macassans as *Marege'* and *Kayu Jawa*, respectively (Baker 1999:65–74; Crawford 1969:89; Macknight 1976:36–62, 2013:25; Oertle 2013; Oertle et al. 2014 contra Memmott 1980:238–240).

Unlike later British colonisation, the visitors' purpose was wholly commercial (Clarke 2000b:317; Dalrymple 1769:83–92; Macknight 1976:38). The identification and relative importance of other export products besides trepang remains unclear, however (Macknight 1976:42–46). There has been no new work on EA and SEA sources re-evaluating the evidence for the full mix[1] of Australian products contributed by these visitors to regional trade.

Commodities were collected and processed by SEA crews but linguistic evidence suggests the participation of Indigenous Australians (Evans 1992; Walker and Zorc 1981; Wesley and Litster 2015:3). The 'visitor' and 'visited' groups communicated using 'Makassan Pidgin' or 'Bugis patois', a language that the 'visited' also used with inland Indigenous groups (Earl 1846a:244; Gibson-Hill 1959:106; McGregor 2004:73; Mühlhäusler and McGregor 1996:109; Urry and Walsh 1981).

In northeast Arnhem Land, the northern sector (*kumur*) of the Indigenous ceremonial exchange cycle or system was known as *muadak* 'calico or fabric', reflecting the meaning that trade with SEA had for local Yolngu participants (Thomson 1949, 1957). Through their involvement, Indigenous Australians were 'an integral part of an informal international trade network', and northern Australia, as the 'final extremity of' SEA, was 'enmeshed in a trading network that linked it to China' (Bilous 2013:119; Macknight 1976:128; Ganter et al. 2006:1).

A more comprehensive research question

A more comprehensive picture of Asian contact with northern Australia, and its role in SEA maritime trade, must consider the range of products, the regions in Australia, and the EA and SEA visitor ethnicities and trade routes involved, as well as any change in these over time. It must re-examine the role of WA, where 'the history … is more complex and difficult than … the (NT)' (Macknight 1976:5). It must explain early dates for Macassan site occupation, Chinese ceramic sherds and a rock art painting of a *perahu* in the NT (Macknight 1969b; Rowley 1997; Taçon et al. 2010; Wesley et al. 2012, 2016).

By determining which commodities 'were traded at different periods and … the earliest appearance of' trade goods in northern Australia, linguistic analysis might establish a chronology for the borrowing by Indigenous Australian languages of SEA words related to exchange (McConvell 1990:20). There is also archaeological, linguistic and historical evidence suggesting that, perhaps as early as the sixteenth century, the maritime trade networks of Chinese and/or Seram Laut Islanders (SLI) extended along the south coast of New Guinea (NG), intersecting with NG-Torres Strait Islander (TSI) trade networks at Kulupuari, Papua New Guinea (PNG) (Grave and McNiven 2013; Rhoads 1984; Swadling 1996).

Finally, such a picture must investigate colonial northern Australian forest and marine industries developed by EA, SEA and Indigenous people. This includes Indigenous boat acquisition in the TSI (Beckett 1977:86–89); Chinese-owned pearl-shelling, trepanging and pearl-buying businesses on the WA and QLD coasts (Bain 1982; Gapps 2016; Rains 2005); and Chinese dried fish and sandalwood export from WA, NT and QLD (Bowen 2012; Mirams 2021:301; Wharton 2009).

Consideration of the above will contribute to answering fundamental questions about SEA cross-cultural maritime trade and its chronology (Blussé 1991:317–319; Hall 1999:270–275), including:

- How to define an economic network?
- How do trade structures develop and evolve?
- What were the uses and meaning of economic activity to the participants?
- Where did goods and services come from and to whom did they go?

The following research question allows this study to comprehensively explore and synthesise existing and newly collected data on Asian-Indigenous Australian contacts over time:

> Can re-examination of the collection and exchange of endemic products and trade goods between Indigenous Australians and maritime East and Southeast Asians clarify how northern Australia has been the 'final extremity of Southeast Asia'?

The study aims that will address this research question

Outlined below are five major study aims, with sub-aims, that test the premise underlying the research question: that 'the Malay Road' is defined by Chinese financing of the collection and shipping of Chinese-sought northern Australian products to China, regardless of era and where the Chinese were based, and involving SEA and Indigenous people to a greater or lesser extent. The progressive nature of the study areas, and argument development, is shown in Figure 2. The above summary of the Macassan trepang industry provides a reference model with nine thematic stages. These are outlined in Chapter 2 and applied within a multidisciplinary literature review on the activities of the visitor groups, to re-evaluate previously published conclusions and identify knowledge gaps. Methodological considerations related to the study aims and knowledge gaps are explained in Chapter 3. Newly collected and applied data will be presented in Chapter 4 and discussed within the context of 'the Malay Road' in Chapter 5. Finally, Chapter 6 will describe how the northern Australian end of 'the Malay Road' has been the 'final extremity' of SEA, and make suggestions for future research.

1. Identify visitors and Colonial Australian immigrants with an economic interest and capacity in forest and sea products, determining:

- Products (and species) over time;
- Whether visitors' *perahu* routinely had cargo capacity for other more or less valuable products than trepang;
- If there is value (contra Macknight 1976:18) in differentiating visitor groups; and
- Chinese immigrant boat building and ownership, and forest and marine industries.

2. Were these products, or their equivalents:

- At the Australian locations occupied by the visitors, and did the role of different regions of northern Australia vary?
- Like 'wax', derived from native bees or whales?
- Evident from ethnography of Indigenous people, and/or the archaeology of trepanging, Indigenous or shipwreck sites?

3. Describe the Indigenous market economy, including:

- Which visitors' words for products were borrowed by Indigenous people, indicative of a hybrid economy?
- Which products Indigenous people offered the visitors.
- Which trade goods visitors offered to Indigenous people, and whether these were similar to those offered to peoples elsewhere on the periphery of SEA or tailored; and
- The meaning of this economic activity to the participants.

4. Describe the role of northern Australian forest and sea products in the EA and SEA market economy:

- What were they worth, to whom, where and when?
- In which countries were these products likely to end up?
- Was interest sustained or fleeting?
- Can demand be characterised into periods?
- Were product ranges, lines or mixes organised for market?

5. Define the nature of the 'Malay Road', using case studies:

- Of Chinese financing of the acquisition and export to China of Australian products, including via SEA;
- That involve SEA, or elsewhere, but not China; and
- Illustrate the evolution of the local, regional and long-distance EA and SEA trade networks the Australian products travelled along, over time.

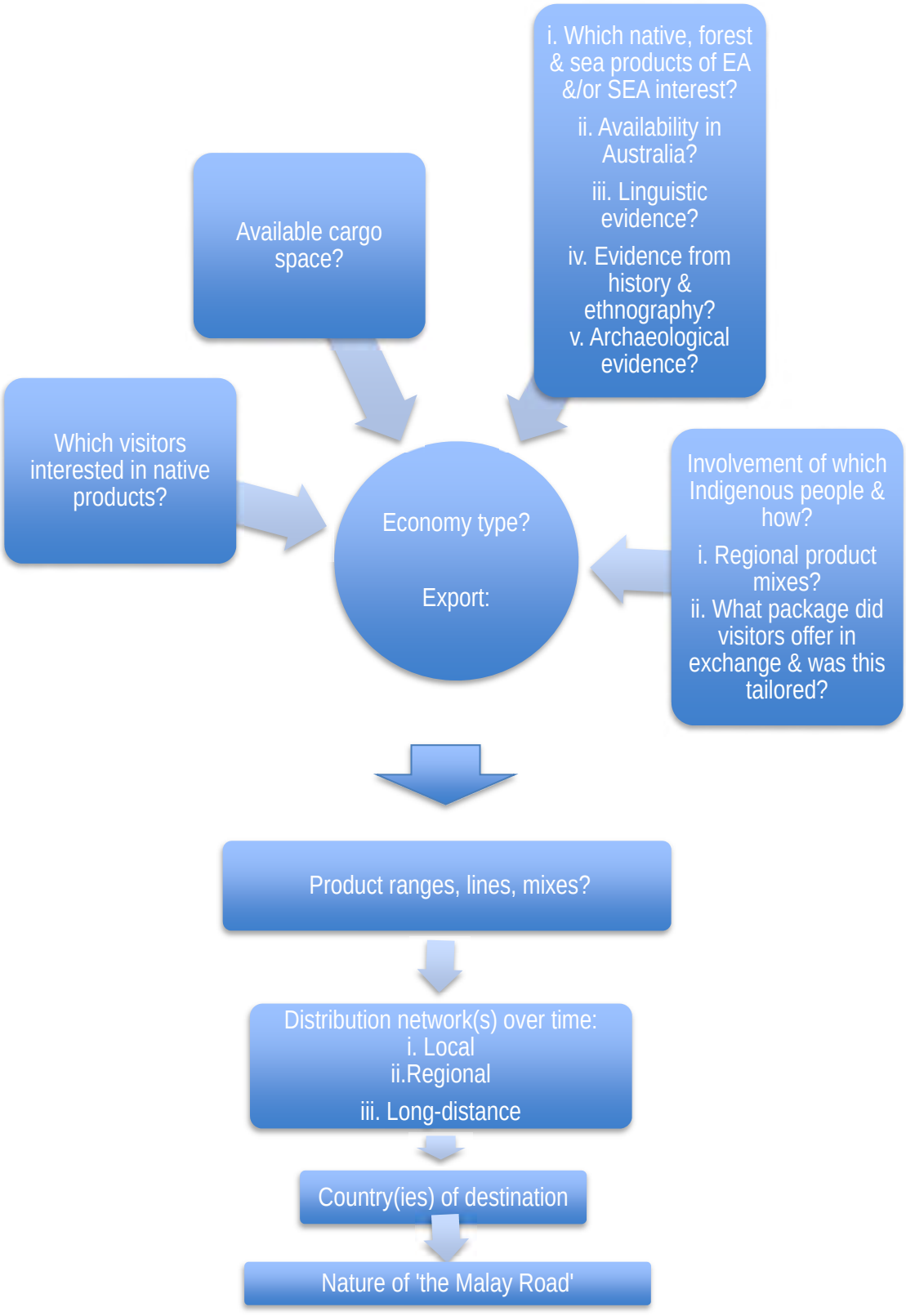


Figure 2 Study aims translated into a progression of areas of research and argument development.

The significance of addressing the research question

Blair and Hall (2013a:205–219, 2013b:44) raised the possibility of seeking recognition, under the UNESCO World Heritage Convention, of the Macassan 'trepang route' or 'sea road' as a cultural route of outstanding universal value. The place known as 'Malay Road', named by the then Lieutenant Matthew Flinders (1814:233) during his 1803 encounter with a Macassan fleet in the English Company's Islands, NT, effectively symbolised an intercultural maritime route, connecting Australia to SEA. To progress the nomination, a 'more comprehensive listing' of places associated with the route 'in its entirety' was called for.

The above five study aims, and their sub-aims, are original and groundbreaking. By addressing these aims, this study will demonstrate the contribution of Australian products to historical EA and SEA non-state, maritime trade networks. This will reinvigorate debate and stimulate new research design, ultimately progressing the World Heritage nomination of a better understood 'Malay Road'.

Scope

This study focuses on specific EA and SEA visitor types, time periods and geographical areas of interest. Visitor-type focuses on those who build, own and/or sail their vessels to and/or along the north Australian coast, and export products. The period of interest (POI) is from the mid-sixteenth century until World War 1 (WW1), when international trade networks and political geography were significantly disrupted or reoriented, changing SEA trade networks involving northern Australia. Other, later factors included the closure of regional coastal ports for customs purposes, preventing direct international export, and the reservation of coastal trade for Australian-registered ships under the Commonwealth *Navigation Act* 1912 (Bach 1976:138). Finally, northern Australia from the Mid-West, WA, to eastern CYP, QLD, will be covered as it relates to the above visitor-types, products and POI. Chinese gold mining and the use by European colonists of Asian indentured labour in the fishing and timber industries are excluded.

Key terms

Maritime SEA includes Brunei, East Malaysia, East Timor, Indonesia and the Philippines. Indonesia's Greater (GSI) and Lesser (LSI) Sunda Islands includes those from Sumatra to Madura, and from Bali to Timor, respectively. Further east is Maluku, including the Moluccas (Figure 3). The Dutch historically referred to Sulawesi as Celebes.

The term 'Dutch' prior to 1800 refers to the Verenigde Oostindische Compagnie (VOC) and afterwards to the Netherlands East Indies government. The Aboriginal and TSI people of

Australia are referred to as 'Indigenous'. SEA people were generally referred to as 'Malay' until the 1950s (Flinders 1814; Freycinet 1815; Worsley 1955). The terms 'Makassarese' and 'Macassan' refer to any person who came on the annual fleet of SEA vessels and have subsequently been generally accepted because of documented customs clearance from the port of Makassar (Crawford 1969:96; Macknight 1969b:xi–xii). Earlier SEA visitors (e.g. the Yolngu-identified 'whale hunters', *Bayini* and *Badu*) are called 'pre-Macassan'. EA and SEA populations in Colonial Australia are referred to as immigrants.

The Sama (or Samal)-Bajau is the largest of three ethno-linguistic groups of nomadic, boat-dwelling, littoral-exploiting people of Maritime SEA, including the Bajau Laut of the Sulu Archipelago (encompassing the Jama Mapun of Mapun or Cagayan de Sulu Island and the Samal Balangingi of Banguingui Island), the Bajau (or Sama Dilaut) of northeast Borneo and the Bajo around Sulawesi (Maglana 2016:74–75; Sather 1997:322, 2002:20–24; Warren 2007:182–183. Figure 3). Makassarese-speakers called the Bajo *Turijene* (Mahali 2014:299; Vosmaer 1839:159). The Iranun, and probably the Tausug of Sulu Island, originated from Mindanao Island (Frake 2006:324–325; Warren 2007:149).

Figure 3 Distribution of the Sama-Bajau, and three Mindanao ethnic groups (Adapted from Lenhart 1995:246 with permission from CCC RightsLink, with added data from Frake 2006, Stacey and Allison 2019:310, Vosmaer 1839 and Warren 2007).

The Bugis people came from four adjacent, agrarian kingdoms of South Sulawesi (Figure 4). Their reputation as sailor/traders particularly relates to the Wajorese (Tobing 1961:149).

Figure 4 Bugis kingdoms of Bone, Soppeng, Wajoq and Luwuq, South Sulawesi, c. 1600 (Adapted for WikiMedia by Karaeng Matoawa [www.demis.nl] from Caldwell 1995:396). CC BY-SA 4.0

The generic term for the traditional Indonesian ship is the *perahu* but there is considerable variety of types. The South Sulawesi-style tripod-masted *paduakan*-type was commonly sailed to 'New Holland' (Forrest 1792:82–83). Chinese, Japanese and Malay vessels may be referred to as junks or sampans (Bain 1982:184–196). Pearling vessels were commonly known as luggers.

Estimation of a ship's Gross Registered Tonnage (GRT), in tons, transitioned from linear dimensions to volumetric measurement in the nineteenth century. After 1850, Net Register Tonnage (NRT) estimated a ship's income-yielding, cargo-carrying capacity and, since 1994, is at least 30% of GRT (Vasudevan 2010:16–19. Figure 5).

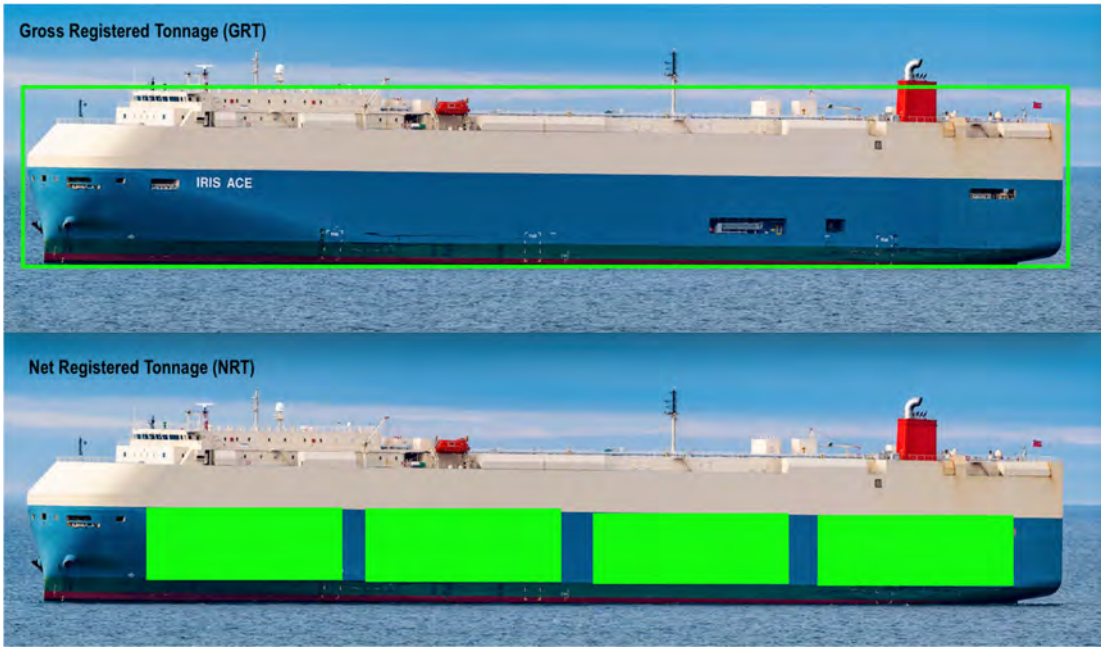


Figure 5 Ship GRT (Top) versus NRT (Bottom) (Adapted from "IRIS ACE [IMO: 9515474] is a Vehicles Carrier with 43709 gross tonnage…" by Rab Lawrence). CC BY 2.0

Commodities encompass the raw, endemic species of northern Australian seas and littoral, forested land, used to manufacture finished products (e.g. Indigenous spears) that were traded and sold to consumers. Slavery is included, since slaves were transported along the same trading networks. Product organisation includes:

- Range: a set of variations that appeal to different markets;
- Line: a subset of a mix e.g. the combination of shark's fin, fish maw and trepang for the prestige Chinese food market; and
- Mix: every product a trader sells.

Products had weight and value. The picul is a traditional Asian unit of weight, equalling 100 catties, 133.33 Imperial pounds, 1.19 Imperial hundredweight or 60.5 kg. One gallon (US/UK) of ethanol weighs 2.96/3.56 kg. Value, or currency, is 1873 Singapore dollars (unless otherwise indicated). Finally, all centuries referred to are AD. BP, in relation to radiocarbon dating, means before 1950.

Limitations

COVID-19 restrictions prevented fieldwork, including some hardcopy archival and library research.

Chapter 2

A broader, visitor- and product-oriented synthesis

The story of Macassan trade in northern Australian trepang provides a model against which the involvement of a broader range of ethnic and islander groups and products can be re-evaluated and knowledge gaps identified. This model consists of nine thematic steps of a cyclic process (Figure 6). Previous research including trade data and history; cultural anthropology; ethnography; linguistics; and Indigenous, maritime, and EA and SEA contact archaeology is re-evaluated according to these themes.

Figure 6 Key themes about the cycle (counterclockwise) of maritime EA and SEA visits to northern Australia for forest and sea products.

Precisely, who visited?

Perpetuating use of the generic term 'Macassan', and ignoring later, concurrent EA and SEA immigrant pursuit of Colonial forest and marine industries in northern Australia, stifles research. The possibility that specific groups were interested in characteristic products that entered unique trade networks and were delivered to different destinations remains unexplored (Evers 1988:92). The visitors and immigrants (summarised in Tables 1–2) can be identified using three approaches. Firstly, linguistic and ethnographic analysis has identified Makassan Pidgin words that were borrowed by Indigenous Australian languages. Secondly, stylistic and compositional analyses of ceramics found at Macassan sites have identified the probable manufacture location. Finally, contemporary eyewitnesses identified an ethnic association or island origin of visiting *perahu*. Eight ethnicities and at least five islands (Figures 7–8) have been identified. This study will investigate whether Arunese were seafarers, and contradictory claims about Madura and Ternate (Appendix 1).

Table 1 Evidence for visitors from at least eight SEA islands (Regions are colour separated).

Islands	Evidence in Australia		Historical reference	Sources
	Eyewitness identifies island origin of perahu	*Origin of ceramics at contact sites*		
(South) Sulawesi		✓		Bulbeck and Rowley 2001:65–66; Crawford 1969:340; Macknight 1976:Plates 28(c)-(d), 77–80; Rowley 1997:93; Thies 1992:28–32; Wesley et al. 2014:22–23
Madura	✓			Bain 1982:184–187 contra Crawford 1969:115–127.
Ternate (Alor)	✓			
Rote			✓	Balint 2005:8Dwyer 2000:115–118.
Sumbawa	✓			Earl 1846b:65, 1863:182.
Timor	✓		✓	Bain 1982:184–187; Crawford 1969:118–125; Robert 1973:146–149.
Seram Laut			✓ (theory)	Swadling 1996:139–276.
Aru	? wreck; 'not one of the regular visitors'			Searcy 1905:42.

Table 2 Evidence for visits by eight maritime EA and SEA ethnic groups.

Peoples/ Ethnic groups	Evidence in Australia				Historical reference	Sources
	Linguistic	*Eyewitness identifies island origin of perahu*	*Eyewitness identifies ethnic origin of perahu*	*Archaeology at contact sites*		
Makasar	Makassarese	✓	✓	Burial	✓	Berndt and Berndt 1954:57; Crawford 2001:78; Macknight 1976:130–131; Theden-Ringl et al. 2011:47; Wesley et al. 2014:23.
Bugis	Buginese	✓	✓		✓	Bain 1982:154–184; Berndt 1965:4; Berndt and Berndt 1954:57; Dalrymple 1769:83–92; Earl 1836:6–8; Earl 1839:14; Earl 1843:44; Forrest 1779:82–85; Jukes 1847:358.
Malay	✓	✓	✓			Bain 1982:183–184; Borland 1941; Freycinet 1815:251; Worsley 1954:14.
Bajau	✓		✓			Earl 1843:45, 1846b:65; McIntosh 1995c; Nolde 2014:93–317; Vosmaer 1839:161.
Chinese	✓	✓	✓	Ceramics	✓	Atkinson 1991; Bain 1982:288; Berndt and Berndt 1954:69; Bowen 2012:1–48; Boyd 1963:2; Choo 1995:102; Cronin 1973:6; Gapps 2016:19; Grave and McNiven 2013; Haddon 1935:15–88; Hoy 2006:86; Macknight 1976:103; Rains 2003, 2005, 2013a, 2013b; Ramsay 2017:61–65; Robert 1973:146–149; Searcy 1909:314–343; Statham 1990:31; Wharton 1985, 2009:30–39; WAM 2020.
Filipino	Tagalog				✓	Ileto 1993:26–29.
Japanese	✓				✓	Bain 1982; Chase 1981:15; Ryle 2000; Sissons 1977, 1979.
Jama Mapun	✓					
Sources:	Bain 1982:201; Edwards 1983:105; Evans 1992; McIntosh 1995a:15–21, 1995c:57; Shnukal 2017:254–255; Sutjipto 1969; Turner 1974:180–181; Walker and Zorc 1981.					

Figure 7 Maritime SEA locations mentioned in the text.

Figure 8 Australian and nearby locations mentioned in the text.

SEA perahu cargo capacity; TS and immigrant boat building and ownership

The amount of *perahu* cargo space available for other products can be estimated if NRT and the amount of space generally used for trepang are known. In 1803, Flinders, commanding HMS "Investigator", met a small fleet of *perahu* off northeast Arnhem Land whose leader (named Pobasso) estimated that 100 picul (5–6 tons) of trepang 'made a cargo' (Macknight 1969b:46, 1976:38; Mulvaney 1966:450). Flinders (1814:231) estimated the gross tonnage of Pobasso's South Sulawesi-style tripod-masted *perahu* (Horridge 1986:8–14. Figure 9) at 25 tons. Later, in 1829, the average trepang cargo at Raffles Bay (Figure 8) was 40 picul (2–3 tons), however NRT was not recorded (Mulvaney and Green 1992:235). Brierly (1848:141) recorded that 60–70 piculs (3.5–4.2 tons) of trepang was considered a 'good average cargo'. Robinson (1882), the Customs Collector, estimated that each *perahu* took 10.55 tons of cargo including 10 tons of trepang, half a ton of buffalo horn and 0.05 ton of tortoiseshell (cited in Macknight 1976:45; Mitchell 1994:33). Macknight (1976:27–38, 117–134) provided average trepang cargos per *perahu* (8.5–22.7 tons) for 20 recorded years (1884–1905), as well as approximate NRT (12–38 tons) for 26 *perahu* from Makassar, including 15 *paduakan*, visiting from 1881–1907. This study will cross-reference trepang cargo data from 1881–1907 with *perahu* tonnage to estimate average spare cargo capacity.

Documentation of the range of visitor and immigrant boat types assists future archaeological investigations. This study will investigate *perahu* types used at identified islands (Tables 1–2) that have not previously been associated with the Malay Road (e.g. Mapun and SLI).

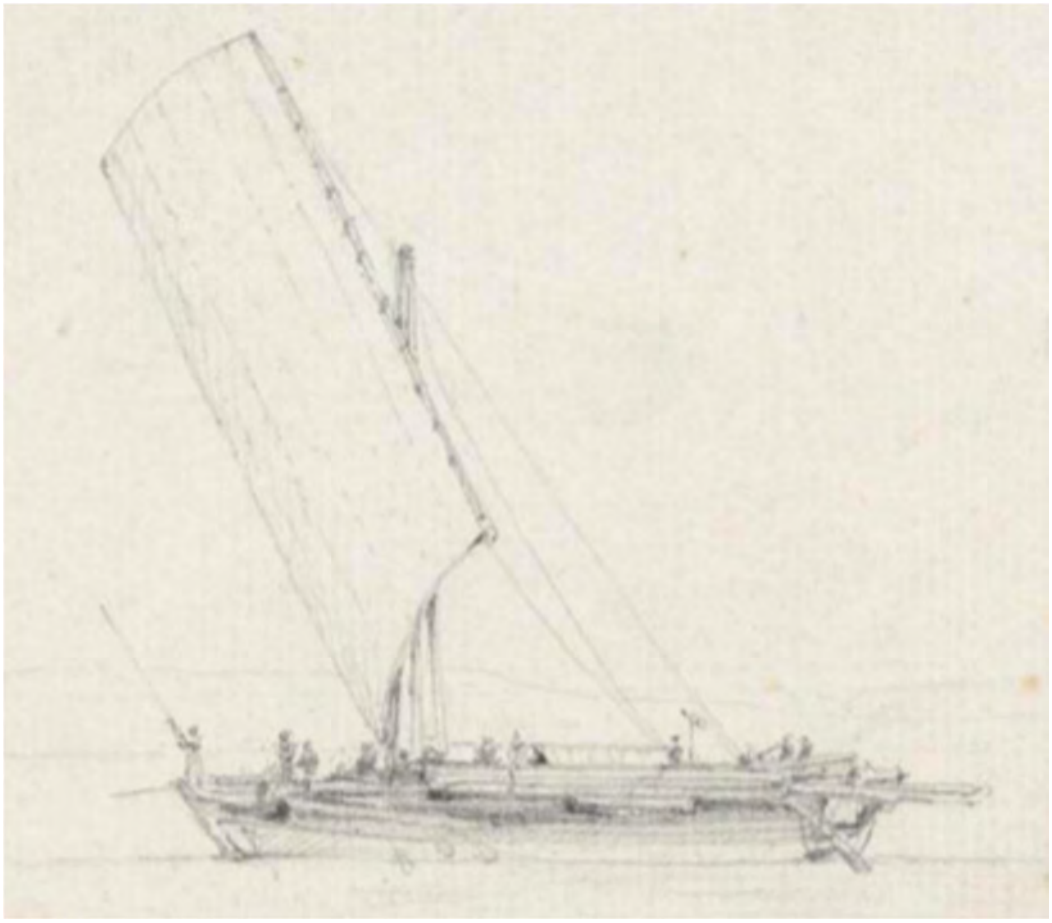


Figure 9 William Westall's 1803 sketch of a tripod-masted *perahu* in Pobasso's fleet (Out of Copyright. National Library of Australia [NLA] object 138887942).

A capacity for boat building and ownership by the concurrently active EA and SEA immigrants implies a degree of discretion in disposing of their products in ways not previously associated with 'the Malay Road'. While EA immigrants generally arrived by steamship, seven Cantonese men sailed a sampan to Palmerston, near Darwin, around 1890 (Mirams 2021:179). From the 1870s, EA immigrants built boats for marine industries in the NT and northern QLD (Figure 10), providing alternative explanations for the shipwreck record. They also owned or leased local colonial boats. Many endemic timber species were suitable for boat building (Clayton 2012). Prior to 1930, the building and repair of luggers on Thursday Island (TI) was a Japanese monopoly (Bach 1955:173). A scheme for TSI boat ownership commenced in 1904. A summary is provided in Table 3.

Figure 10 'Locally made junks in Trinity Bay, Cairns ca.1907' (Out of Copyright. SLQLD negative no. 16203).

Table 3 TSI, SEA and EA boat building and ownership in northern Australia.

Ethnicity	WA		NT	QLD	
	Boat type	Prominent person(s)	Boat type	Boat type	Prominent person(s)
TSI				luggers	Pacific Industries; Tanu Nona
Chinese	luggers	John Chi	junks, sampans	junks, sampans, luggers	Ah Gim (aka Wong or Quong Hing); Tommy Ah Kum consortium with Lai Kum Tai, Lai Fook, Lai Foo (trading as Kum Hun Chong & Co.); Gee Kee
Filipino	luggers	Josef Manuel, Francis Rodriguez, Juan Gonzalez	luggers	luggers	Heriberto Zarcal
Japanese	luggers	Yasukichi Murakami		luggers, hybrids?	Sato Torajiro
Sources:	Atkinson 1991:98–270; Bain 1982:117–290; Nagata 1996:54; Shaw 2001:21; Sissons 1979:15; WAM 2020		Gapps 2016:19; Searcy 1909:240–241	Aguilar 2012:380–381; Bain 1982:118–126; Beckett 1977:86–89; Gapps 2016:8–16; Hoy 2006:67; Ileto 1993:26–29, 2017; Rains 2005:103–395, 2013a:520–545; Ramsay 2017:52–65; Ryle 2000:150; Shnukal et al. 2017:302; Sissons 1979:15–16.	

Where did they visit?

The north Australian location of places occupied by the visitors and immigrants matters because the availability, species and value of forest and sea products of interest vary with location. Mother-of-pearl (MOP), like many marine commodities (such as turtle and trepang), was present across northern Australia and immigrant Chinese, Filipino and Japanese boat owners might be found wherever they occurred (Figure 11).

In WA, the Macassans worked from Cape Londonderry, Kimberley, to as far south as the Turtle Islands off Port Hedland, Pilbara (Stokes 1846:128). The Chinese of the Shark Bay pearling industry were based at the Notch Point West camp possibly from the early 1870s to December 1886 (Atkinson 1991:234; Price 2021; WAM 2020). Six Chinese pearl-buyers at Broome serviced the Singapore and Hong Kong markets (Bain 1982:288; Choo 1995:102). This study will re-examine Bain's (1982:170–187) claims that: around 1886, 'Chinese providoring vessels' in King Sound purchased MOP or transported it to Singapore; and, from the 1870s, boats from Madura, Timor and Ternate reached Rowley Shoals.

Figure 11 Major MOP grounds of north Australia (shown with dark grey lines). (Adapted from Bain 1982:24 and Saenger and Stubbs 2012:503, with data on *Pinctada maxima* southeastern and southwestern extent from the Atlas of Living Australia).

In the NT, the Macassans operated between Melville Island and the western Gulf of Carpentaria (GoC) (Cense 1952:253). A recent study of the NT maritime cultural landscape has remapped Macassan site locations (Mirams 2021:67–94). Although tamarind trees (often associated with Macassan sites) were recorded from Cape Ford to Port Keats (Searcy 1909:189–199; Walsh 1986:51), John Mulvaney's 1965 survey found no associated archaeology, leading Macknight (1969b:xi, 1976:36–152) to conclude that their presence was natural. Surface sherds of fifteenth- to seventeenth-century Chinese stoneware and export ware were found at South Goulburn Island (SGI), Arnhem Land, and Winchelsea Island, off Groote Eylandt, GoC, respectively (Bulbeck and Rowley 2001:65–66). From the nineteenth century, immigrant Chinese cured fish at Darwin and Daly River (Figure 12) and traded along the coast (Bowen 2012:48; Jones 1990:24; Searcy 1909:343).

Figure 12 A Chinese 'fishing station' at Daly River (Out of Copyright. Searcy 1909:240–241).

The Macassans reportedly did not sail further east than the South Wellesley Islands, QLD (Earl 1842:141; Grave and McNiven 2013:4549; Macknight 1976:36–152). At Sweers Island, GoC, a 1798 Macassan shipwreck and carvings on the HMS "Investigator" Tree may both historically have been misidentified as Chinese (Collins et al. 2020:158–159). From the late-nineteenth century, pre-European contact with Indigenous people occurred in CYP and TS wherever Chinese-, Filipino-, Japanese- and Malay-owned boats recruited crews, and bought, processed and shipped fish, MOP, sandalwood and trepang (Bain 1982; Chase 1981:7–13; Cronin 1973:6–11; Holthouse 1976 in Saenger and Stubbs 2012:507; Howard 1910:3–10;

Roth 1906:5–7; Ryle 2000:150; Uznik 2018). Key Chinese firms in the marine and sandalwood industries at Cooktown (Figure 13) were Tommy Ah Kum and Hip Wah & Co. (both with branch stores at Coen. Figure 14), Chew Lee & Co., Kwong Yee Wing & Co., and Gee Kee (with a branch in Cairns). Tommy Ah Kum was part of a consortium with Kum Hun Chong & Co. on TI and Lai family members in Guangzhou, China. Also on TI was See Yick & Company (Boyd 1963:2; Rains 2003:36, 2005:93–395, 2013a:520–545, 2013b:27–31; Statham 1990:31; Wharton 1985, 2009:30–39).

Figure 13 'Cooktown : Sandal wood for China' (Out of Copyright. Fryer Library, University of Queensland, James Cossar-Smith Collection p.89).

Figure 14 Sandalwood packhorse team outside Hip Wah & Co., possibly at Coen (Out of Copyright. Francis Birtles motor car tour collection, ca. 1899–1928. NLA object 149656110).

When did they visit?

The two competing models for timing Indigenous culture contact with SEA visitors in northern Australia are known as the Short and Long chronological models (Wesley et al. 2016). The academic debate about these models centers around historical literature and archaeological evidence.

The Short model relates to Macassan visits from c.1720–1906. Macknight (1976:7–8, 2008, 2011, 2013) pioneered this model, influenced by historical evidence that the trepang industry did not develop around South Sulawesi before 1695, and north Australian visits did not occur before 1725 (Dwyer 2000:115–118; Flinders 1814:228–257; Fox 2000:348; Nolde 2014:157). Supportive archaeological evidence from Tamarinda, Kimberley, includes a Dutch coin stamped '1823' and sherds of Chinese export ware dated by stylistic analysis to the nineteenth to twentieth centuries (Bulbeck and Rowley 2001:61; Crawford 1969:169–196). Preliminary results of recent radiocarbon dates for shell and charcoal associated with hearths indicate occupation at nearby Llanganana from the late-eighteenth century and c.1800 at Sir Graham Moore Island (Paterson et al. 2021). Mitchell (1994:177–390) and Clarke (2000a:172–173), in the Cobourg Peninsula and at Malmudinga on Groote Eylandt, NT, respectively, reported that Indigenous middens had more shell, dugong bones and turtle shell after 1720, which was suggestive of the introduction of Macassan technology (e.g. dugout canoe). Historical evidence of EA and SEA visitor/immigrant involvement in pearling, sandalwood shipping, trepanging and fish curing (Table 3) is consistent with this model.

Radiocarbon dating of beeswax over anthropomorphic motifs suggests that the 'sarong manner' was endemic to northern Australian rock art, developing within the late Holocene period 'Complete figure complex' (Chaloupka 1996; Wesley and Viney 2016:49–58). However, diamond-shaped decorative infill, possibly influenced by SEA textiles, occurs only in the very Late Period of rock art production at Marligur, Wellington Range (Figure 15).

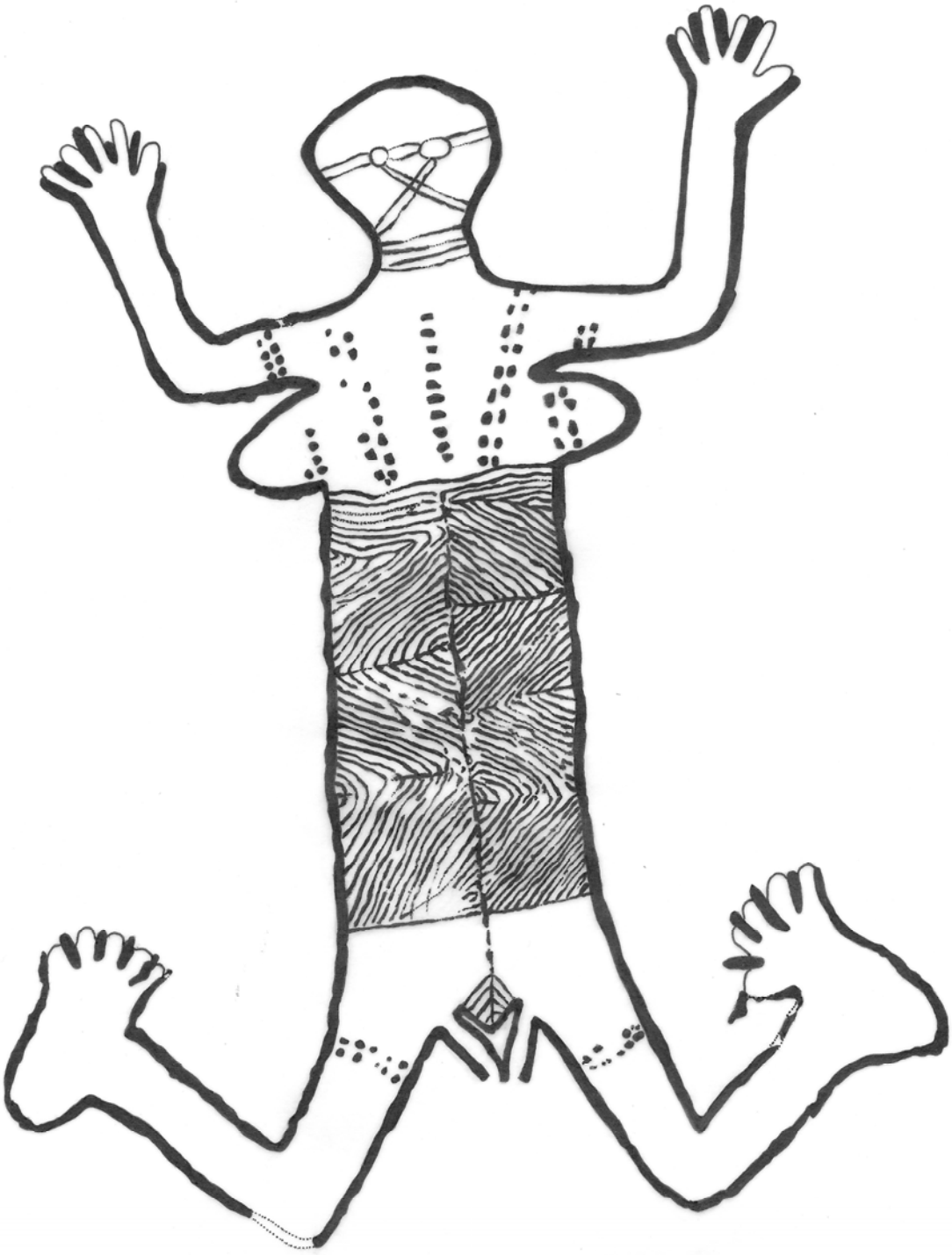


Figure 15 Diamond-shaped infill is consistent with the Short model (Reproduced with permission V. Das Neves, illustrator. Wesley and Viney 2016:39).

The Long model (Figure 16) posits cycles of contact from as early as the sixteenth century, starting with pre-Macassan SEA visitors, continuing after the Macassans into the Colonial and Mission eras and ending with the Commonwealth welfare period (Wesley 2014:134). Radiocarbon dating of beeswax and charcoal supports pre-Macassan visits. A yellow ochre rock art painting of a tripod-masted *perahu* at Djulirri Rockshelter, Wellington Range, has a calibrated median age of 1577 (Taçon et al. 2010:3–5; Wesley et al. 2012. Figure 17). The nearby Macassan site at Anuru Bay was probably first occupied by SEA mariners around 1637 (Wesley et al. 2016). This study will examine the possibility of South Sulawesian visitors in the late-sixteenth to early-seventeenth centuries.

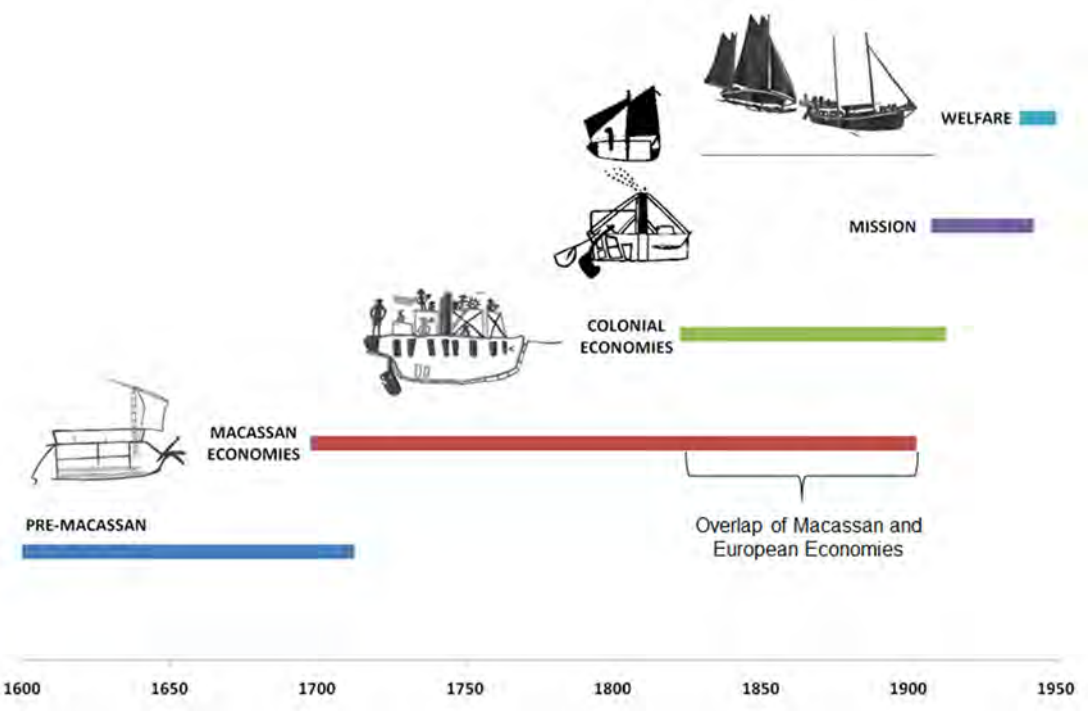


Figure 16 Long contact model of Indigenous engagement with Pre-Macassan, Macassan and European economies in northwest Arnhem Land (Reproduced with permission D. Wesley. Wesley 2014:134).

Figure 17 Djulirri 'Prau 2' dated to 1577 AD by Taçon et al. 2010 (Processed in Dstretch using yellow [yye]. Reproduced with permission D. Wesley).

The presence of early Chinese ceramics supports pre-Macassan visits. Stylistic analysis has provisionally dated a sherd of Chinese coarse stoneware surface-collected from SGI, off Anuru Bay, to the fifteenth or sixteenth century (Rowley 1997:15–80. Figure 18). Likewise, a sherd of blue and white porcelain export ware surface-collected on Winchelsea Island, GoC, has been identified as having been manufactured in China during the 1572–1620 reign of Zhu Yijan, the Wanli Emperor (Bulbeck and Rowley 2001:61–62; Macknight 1969b:186–387,1976:162[n.22] contra 2013:26; McCarthy and Setzler 1960:294; SNMNH 2021. Figure 19). Compositional analysis indicates that a sherd from Mabuyag Island, TS, was from a type of southern Chinese decorated, glazed stoneware jar dating to c.1500–1600 (Grave and McNiven 2013:4538–4547. Figure 20). Ceramic objects may have been long in use.

Figure 18 Sherds (393–398) from a fifteenth- to sixteenth-century Chinese stoneware jar, SGI, NT (Reproduced with permission. Berndt Museum of Anthropology Collection [1964/0071]).

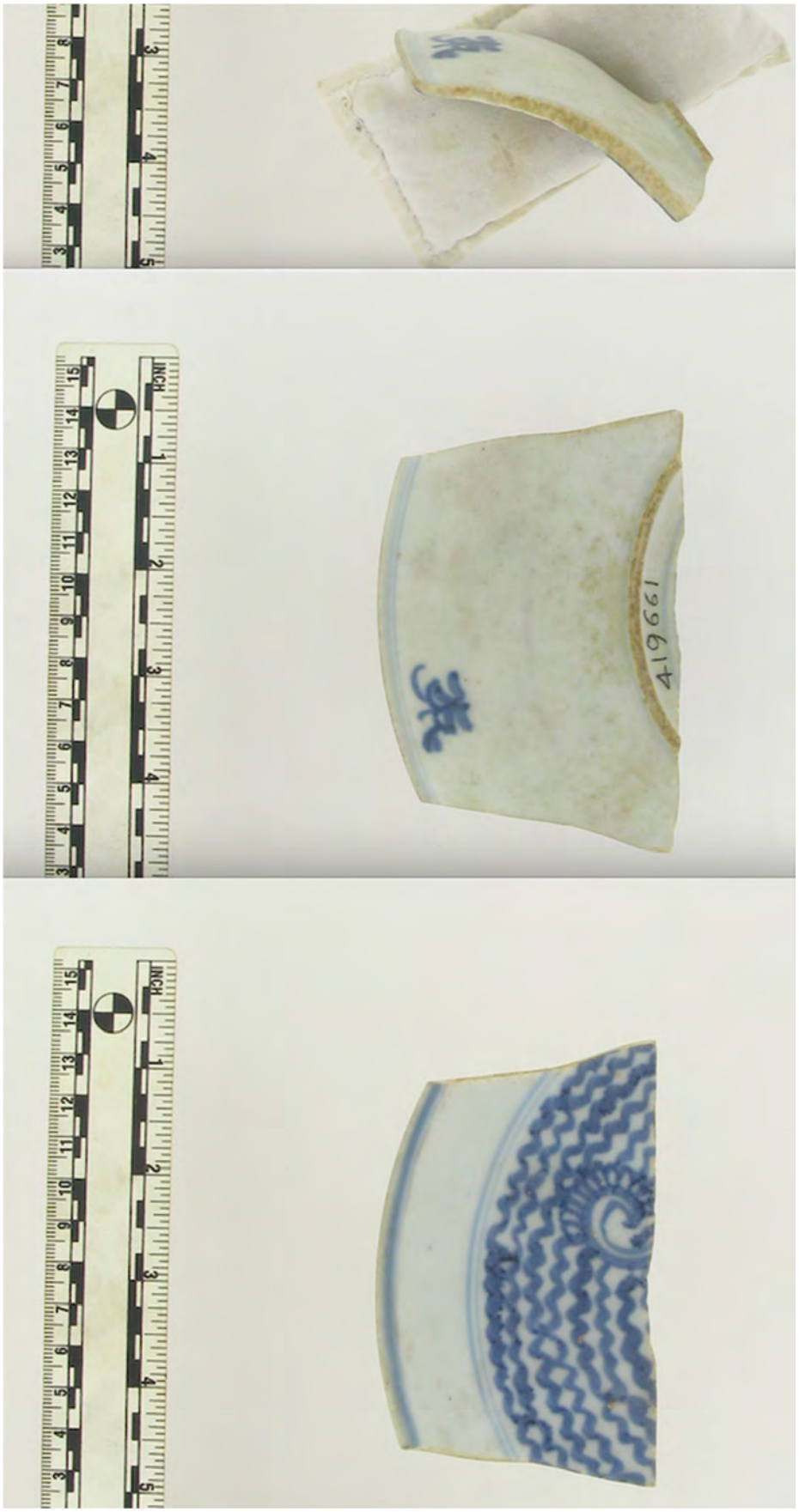


Figure 19 Three views of the Wanli blue and white porcelain saucer sherd from Winchelsea Island, GoC, NT (Reproduced with permission. Catalogue No. A419661, Department of Anthropology, Smithsonian Institution).

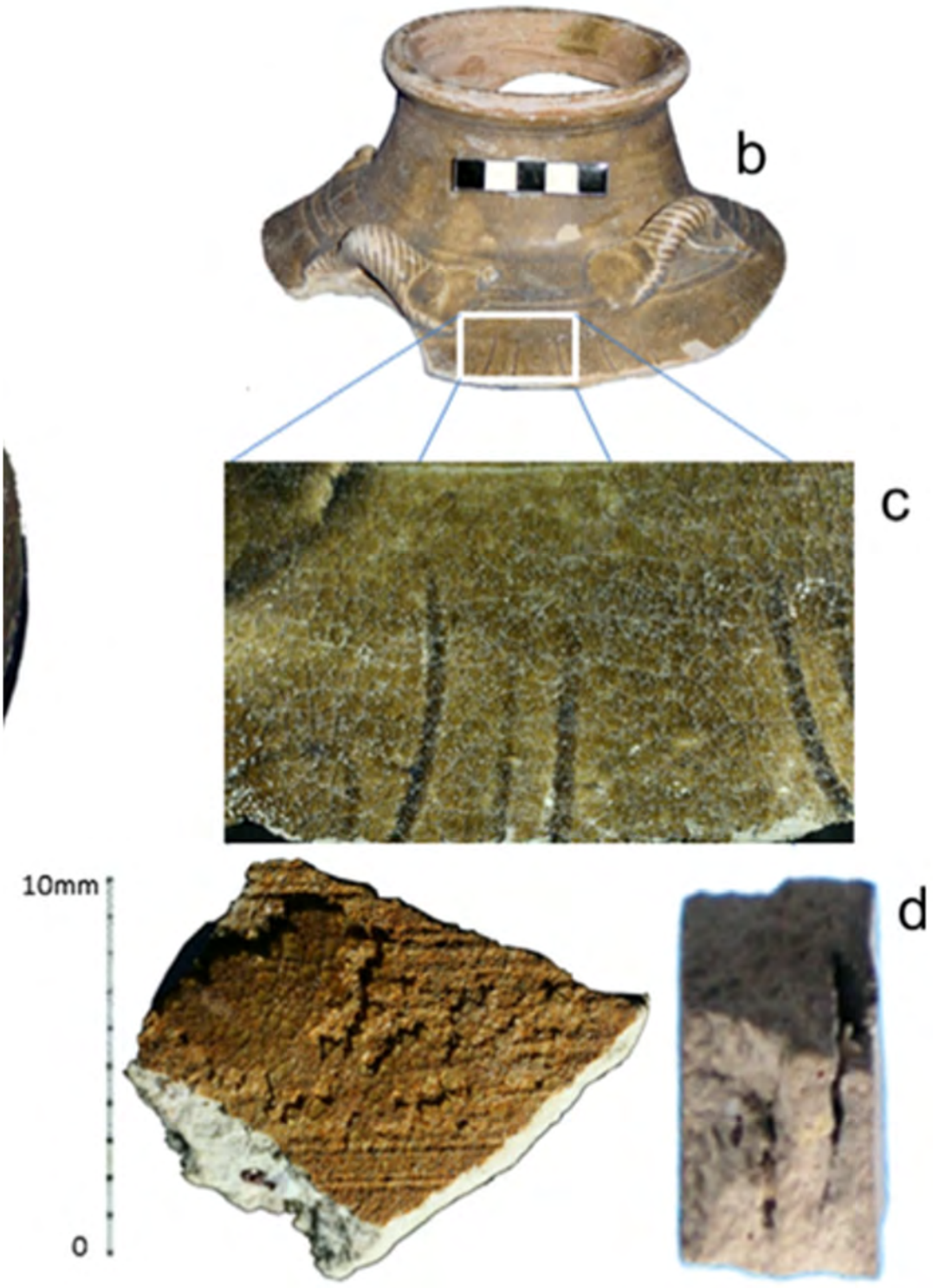


Figure 20 Two views of the glazed Chinese stoneware sherd (d) from Mabuyag Island, TS, QLD, which was found by Grave and McNiven (2013:4549) to be most similar with stoneware glazed jar (b) (Reproduced with permission CCC RightsLink).

What did the visitors seek?

While some Macassans were interested only in trepang (Mulvaney and Green 1992:135), the range of products sourced by EA and SEA visitors may have been underestimated. Also, no history of SEA slavery mentions the potential importation of Indigenous people as slaves, despite its discussion in Australian research (Reid 1983a versus Morris 2001:247).

Ethnographic literature mentions 25 forest, sea and Indigenous products obtained by the visitors (summarised in Table 4). The type of wax was not recorded but this study will investigate whether it was more likely to be terrestrial or marine derived (e.g. beeswax or wax-like whale ambergris or spermaceti). Re-evaluation of archaeological, historical and linguistic sources may expand this list (e.g. Macassans used local mangrove bark to dye trepang [Macknight 1969b:53–227]). The Macassan term for the Kimberley coast, *Kayu Jawa*, refers to this bark (Cense 1952:252–253; Matthes 1859:422), as does the word *panku*, a suspected Austronesian loan to the Indigenous Amurdak people of the Cobourg Peninsula (Evans 1992:86). Mangrove bark was exported from Makassar to Singapore (Kobayashi 2013:464). There is circumstantial evidence that Australian mangrove wood was exported to SEA. Further, the Long model requires additional consideration of whether the products sought by early- or pre-Macassan visitors differed. Zalewski (2013:26–30) suggests that it was early knowledge of turtle habitats that later brought Macassans back for trepang.

There is some evidence that Indigenous people were taken to SEA as slaves e.g. the Government Resident at Camden Harbour, Kimberley, recorded that a ‘Malay boy … has seen several … North Australians as slaves among the Islands’ (Sholl 1865). This study will investigate which SEA visitor groups were involved in the slave trade.

Table 4 Baseline understanding of forest, sea and manufactured products sought by SEA and EA visitors from northern Australia.

Product, by category	South East Asian	East Asian
Land:		
anchor stone	?	
bezoars[2]	✓	
cypress pine timber	'probably'	
gold ore	Specimen	
iron ore	'possibly'	
ironwood timber	✓	
cajeput oil	✓	
manganese ore	specimen	
mangrove timber	fire- and dyewood	
mengkudu timber	✓	
sandalwood timber	✓	
'timber'	✓	
tin ore	antimony specimen	
water buffalo horn	horn	
Sea:		
fish (cured/dried/salted)		✓
MOP	✓	✓
pearls	✓	✓
prawns		✓
shark's fin	fins and tails	
stingray	✓	
tortoiseshell	✓	✓
trepang	✓	✓
trochus shell	✓	✓
Manufactured:		
spears & spear-throwers	✓	
Unknown:		
wax	✓	
Sources:	Baker 1984:37; Berndt 1965; Bremer 1843; Brown 1802–3; Brown 1903; Cense 1952; Crawford 2001:79; Crawfurd 1820:442–443; Dashwood 1901–2; Earl 1837, 1846b; Flinders 1814; King 1827; Macknight 1976; Matthes 1885; May 1988:6; Mitchell 1994:33–106; Robert 1973:146–149; Robinson 1882; Rose 1947; Searcy 1909, 1912; Spencer and Gillen 1969 [1904]; Thomson 1957; Tindale 1925–8; Vosmaer 1839; Warner 1932; Worsley 1954 and Wilson 1835:81.	Bain 1982; Chase 1981:15; Geise 1995:20; Ryle 2000; Searcy 1909:314.

[2] Small concretions forming in the stomachs of certain animals used historically as antidotes for ailments or poisonings.

What did the visitors offer Indigenous people?

Defining where goods came from is a key question about SEA maritime trade (Hall 1999:270–275). Lists in ethnographic sources of the trade goods offered to Indigenous people appear incomplete and do not consider whether they were tailored for Indigenous requirements (Table 5). Nor is it known what the Chinese immigrants offered to Indigenous people. The precise manufacture location of goods is often elusive (Figure 21 is an exception).

Table 5 What Japanese and SEA visitors offered Indigenous people across northern Australia. Brackets indicate construction material was not specified but metal is assumed.

Trade goods	South East Asian	East Asian (Japanese)	Cape York/Torres Strait (unclear if EA, SEA or European/Colonial)
(metal) axes	✓		'iron', knives
(metal) fishhooks	✓		
(metal) knives	✓		
(metal) nails for fishhooks	✓		
(metal) spear-heads	✓		
(metal) tomahawks	✓		✓
alcohol/liquor (glass bottles of)	✓	✓	✓
beads	✓		
belts	✓		
blankets	✓		✓
calico, cloth for sarongs, wool	✓		
cash/money	✓	✓	
clothes, trousers			✓
dugout canoes, mast and pandanus sail	✓		
firearms			✓
fishing-lines for fishhooks, or string	✓		
flour	?	✓	
food	✓	✓	✓
molasses/sugar	✓		✓
opium	✓		✓
rice	✓		
smoking pipes	✓	✓ 'Chinese'	✓
tea			✓
tobacco	✓	✓	✓
Sources:	Berndt 1965:4; Crawford 2001:84–87; McCarthy and Setzler 1960:268; Searcy 1909:343; Thomson 1949:72–86, 1957; Tindale 1925–8; Turner 1974:180; Warner 1932; Worsley 1954:17, 1955.	Chase 1981:13–14; Gillen 1968:298.	Bain 1982:50; Chase 1981:10; Swadling 1996: 155–162; Uznik 2018:23–63.

Figure 21 An Indigenous man wearing a 'Malay sarong' (Out of Copyright. Searcy 1912:114).

Further research of archaeological, historical and linguistic sources in this study may expand the list of goods, and determine whether they were standard Maritime SEA trade goods or tailored for Indigenous people across northern Australia, as possibly indicated in Tables 5–6.

Table 6 Regional differences in trade goods received.

Common to northwest and northern regions	Kimberley	Common to both northern regions	Arnhem Land and Tiwi Islands	Groote Eylandt and Bickerton Island
(iron) axes		(iron) axes		
		beads (of coral at Tiwi)		
			belts	
			blankets	
			calico, cloth (e.g. for sarongs), linen, wool	
dugout canoes		dugout canoes, mast, pandanus sail	lines for fishhooks, or string	sails, 'watercraft accessories'
			cash	
			clothes ('stolen')	
		(iron) fishhooks		
			flint?	
	flour? food?		flour?	food
		(glass bottles of) gin		liquor
		(iron) knives		knives
			(iron) nails for fishhooks	
(iron) spear-heads				(iron) spear-heads
		(iron) tomahawks		
		rice		
		smoking pipes		
			sugar?/molasses	
		tobacco		tobacco
Sources:	Crawford 2001:84–87.		Berndt 1965:4; Duivenvoorde et al. 2019:36–42; Robert 1973:141; Thomson 1949: 72–86, 1957; Warner 1932.	Tindale 1925–8; Turner 1974:180; Worsley 1954:17, 1955.

How and why were Indigenous people involved?

Defining an economic network and characterising the meaning of economic activity to participants are two fundamental questions about SEA maritime trade (Hall 1999:270–275). Because utilised glass, lithics and shell middens occurred at over half of the Macassan sites in the NT, recent research concluded that there were longstanding relationships between the Macassans and Indigenous people (Mirams 2021:249–297). There is historical and linguistic evidence of Indigenous engagement with Macassans in the NT and in WA pearling (Figures 22–23).

Figure 22 Arnhem Land, NT, languages with Macassan words (Reproduced with permission CCC RightsLink. Adapted from Evans 1992:48).

Figure 23 Indigenous groups in Kimberley, WA, pearling (Adapted from Wurm et al. 1996: Map 14).

Indigenous people responded in various ways to the EA and SEA visitors, whether by:

- Giving access to lands and resources;
- Aggregating in coastal areas for longer periods to gather products and meet the visitors;
- Signalling to visitors' boats when offshore;
- Stockpiling products for exchange;
- Voluntarily providing labour (e.g. as bondsmen on visitor boats and at their homeport[s]) versus involuntary slavery;
- Bartering goods, recompensed by EA or SEA trade goods;
- Acquiring canoes and boats;
- Withholding products from Europeans in preference to the visitors; or
- Providing the services of Indigenous women

(Bain 1982:50–188; Beckett 1977:86–89; Brierly 1848; Brigg 2011; Chase 1981; Choo 1994; Clarke 2000b:331; Gribble 1987:47–50; Holthouse 1976 in Saenger and Stubbs 2012:507; Kwaymullina 2001; Langton et al. 2006; McIntosh 2006, 2008:166; Macknight 1976:20–85; Martinez and Vickers 2015:51; Rains 2013b:36; Searcy 1909:32–33; Sultani et al. 2019; Swain 1993:164; Thomson 1957; Turner 1974:179; Uznik 2018; Worsley 1954, 1955).

Debt was a fundamental reason for SEA slavery (Reid 1983b:158–159). However, an 1875 report of Indigenous Australian men at Makassar was variously interpreted as their sale in the slave market (Bain 1982:32), or their availability for fixed term hire as labourers by mutual consensus with their bond-holder (Macknight 1976:24–102 contra 86).

According to anthropologist Donald Thomson (1949:51–86, Figure 2; 1957), trade goods drove the Indigenous ceremonial exchange cycle or system in northeast Arnhem Land (Figure 24). The Yolngu engaged with the Macassans to obtain two types of SEA trade goods. The *malli* 'purchase' of dugout canoes reflected market activity but *gerri* 'gift exchange', part of the customary kinship system, was extended to the visitors. The name of the system's *kumur* 'northern quarter' was *muadak*, the collective term for all Macassan *gerri* 'calico, blankets, string and wool'.

Later, linguist Alan Walker (1988:29) clarifed that the Yolngu term *girri* 'things, clothes' was borrowed from the Makassarese word *kiring* 'export'. He also suggested that '*muwakhak* (in some dialects) and *muwayak* (in others)' was a lenited form (the process of palatalizing or weakening pronunciation of consonants over time — see Appendix 3) of the Malay word *mupakat* 'consultation/agreement'. Because of the lenition, linguist Patrick McConvell (1990:22) concluded that *muwadhak* (which he identified as borrowed from the 'Macassan' word *mupakat*, itself borrowed from Arabic) and, by inference, the process of barter or exchange, was a relatively 'early loan predating other borrowings from Macassans'.

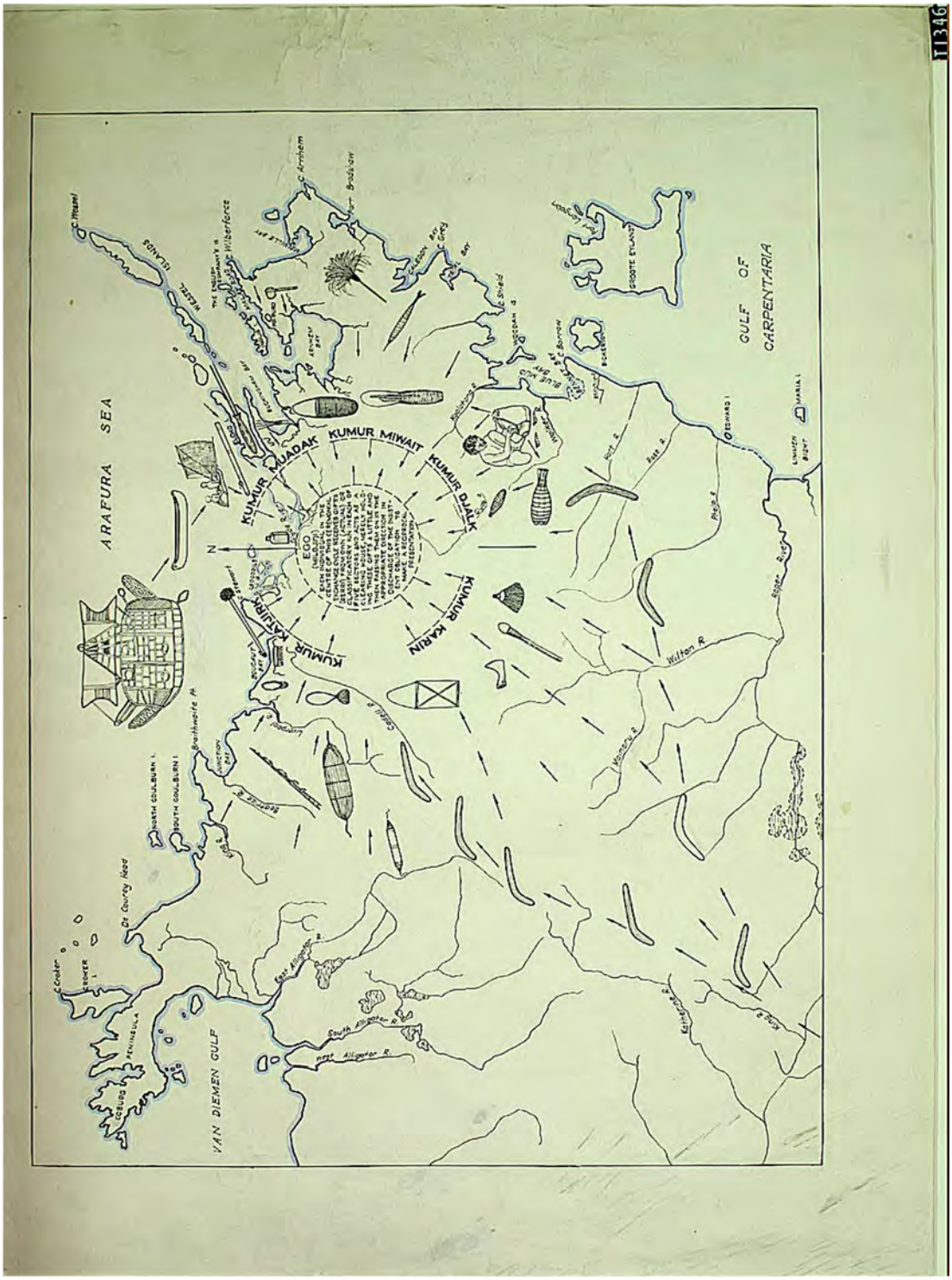


Figure 24 Illustration. Northeast Arnhem Land 'ceremonial exchange system' (TI346). (Created by either Joan Elizabeth Clark or Gladys Winifred Thomson, 1920s-1966. Donald Thomson Ethnohistory Collection. Reproduced courtesy of the Thomson Family and Museums Victoria with permission from the University of Melbourne.) The illustration shows a Macassan *perahu* and dugout canoe above the Kumur Muadak (or northeast) quarter of the system.

Which trade networks did Australian products enter?

Defining where goods came from and where they were sent is a fundamental question about SEA maritime trade because the non-European maritime commerce of the eastern archipelago is poorly understood (Hall 1999:270–275; Macknight 1976:11–13).

McCarthy (1939:191) included the first map of SEA routes to northern Australia. Walsh (1986:50) included a map of 'Buginese and Makassarese commercial links 1690–1850', by linguist J. Urry, related to influences on northern Australian languages. Thies (1992: Figure 1.1) showed the Tamarinda site within 'historical trade and fishing routes'. Both drew on unpublished sources. Hobb's map (Morwood 2002:35) illustrated sailing routes between Maritime SEA and northern Australia, and the NG Bird of Paradise (BoP) trade. Clark (2011:2. Figure 25) built on Hobb's map, suggesting that, up until the early 1880s, visiting *perahu* may have come from Sumbawa and the Maluku region (e.g. Tanimbar and Aru), and the returning cargo trans-shipped to Makassar. This is partially consistent with Pobasso's information in 1803 (Flinders 1814:228–233) that their cargo would be carried to the Tanimbar Islands and sold, although the Dutch resident at Kupang, Timor reportedly thought this unlikely. This study will build on Clark (2011) by illustrating the evolution of these links over time.

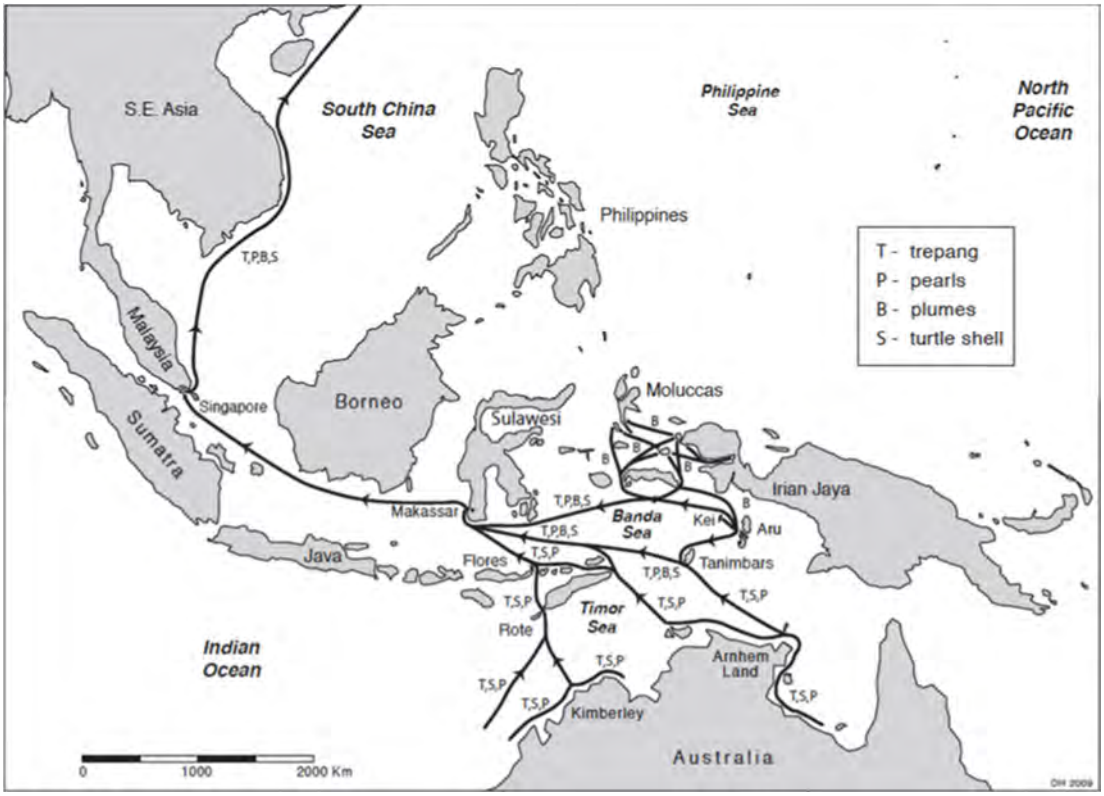


Figure 25 Clark's (2011:2) map of northern Australian links with SEA, c.1780–1900 (Reproduced with permission P. Clark).

An overview of key historical EA and SEA trading centres starts with the Melaka sultanate, which controlled the trade of Chinese silks and porcelain, Indian textiles and Moluccan spices from the fifteenth century (Pinto 2012:11–31). Chinese junks were in Melaka when captured by the Portuguese in 1511. The Javanese controlled the spice trade until the 1580s (Chase 1991:13; Sutherland 2001:398). The Portuguese leased Macao from the Chinese Ming dynasty (1368–1644) in 1557 (Holroyd 2018:70). Ming merchants sailed to Timor (Mills 1979:70–85). Commerce in Melaka declined following Dutch capture in 1641, moving to Johor (Pinto 2012:32; Sutherland 2001:398). The Chinese Qing dynasty (1644–1912) established a new trading network from the 1670s (Figure 26). While it included Makassar, the eastern archipelagic hub was Batavia (Kobayashi 2013).

Figure 26 China-based trade in SEA, c.1700 (Reproduced with permission R. Holroyd. Holroyd 2018:79).

From 1746, the Amoy (Xiamen)-Makassar junk no longer called at Batavia (Knaap and Sutherland 2004:72–146). In 1786, the Qing ceded Penang to the British East India Company (EIC), who also captured Melaka in 1795 (Hussin 2007:69). Johor and Batavia declined after the British founded Singapore in 1819 (Kobayashi 2013). The Qing ceded Hong Kong to Britain in 1842. From 1860–1880, WA sandalwood was mainly shipped to Singapore and Hong Kong, and re-exported to Shanghai (Guoth 2017:201–210. Figure 27). QLD exported sandalwood to Hong Kong (Wharton 2009:39–41).

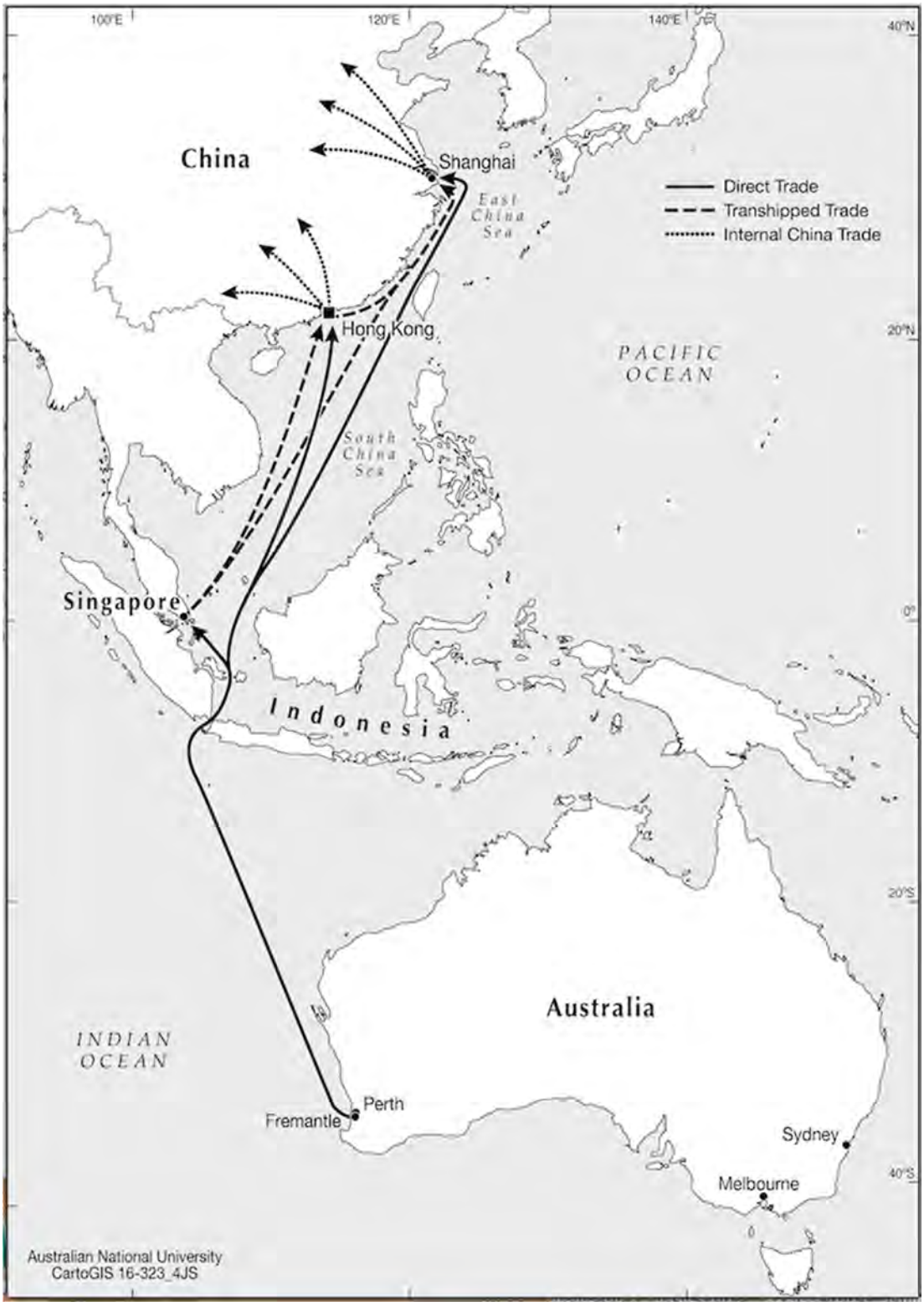


Figure 27 WA sandalwood exports to China, 1860–1880 (Map originally created for Dr Nick Guoth [2017:201] in 2016 and reproduced with the permission of CartoGIS Services, Scholarly Information Services, The Australian National University). CC BY-SA 4.0

SEA slavery peaked between 1500–1650 (Table 7). Slaves were but one commodity in interisland trade. Until the nineteenth century, an extensive network involving Bugis, Makassarese, Malay and Sumatran traders, and Iranun and Sama Balangingi raiders, supplied local demands (Fox 1983:246–250; Raben 2008:123–135; Reid 1983a:26–248; 1983b:170; Sutherland 1983:266–273; Kraan 1983:334; Warren 1997:199–209, 2007:146, 2013:155). The Iranun and Balangingi had bases 'in small bays and coastal sites on Sumbawa, Komodo and Flores', including a Balangingi settlement at Riung on the north coast of Flores (Warren 2007:149–194). While there is no historical evidence that they visited the northern coast of Australia from their LSI bases, the extent of their raiding suggests that their vessels were capable of reaching Australia (Figures 28 and 40). From 1660s–1670s, less than 500 slaves were transported to Batavia annually. In the eighteenth century, Makassar annually exported 3,000 slaves (Knaap and Sutherland 2004:18). European, Eurasian, Chinese and 'Makassarese/Bugis' households had between two and 10 (in 1730) or 20 (in 1694) slaves.

Table 7 Maritime SEA native slave trade.

Century	Slave origins	Trade(r) centre	Importer	Source
16th	LSI	Java	Melaka, re-exported to Siam (Thailand)	Raben 2008:122–135; Reid 1983a:31, Reid 1983b:158
17th	Sulawesi, Flores, Timor, Alor, Solor, Tanimbar, Buton; Mindanao, the Sulu Sea; and Brunei	Makassar	Johor, Sumatra (Aceh), Batavia and South Borneo	Fox 1983:250; Reid 1983b:170; Sutherland 1983:266–271
18th	Bali, Sulawesi, Timor, Bima (Sumbawa), Ende (Flores), Nias	Makassar	Batavia	Fox 1983:246–250; Knaap and Sutherland 2004:18; Raben 2008:129–133; Sutherland 2021:216
	N/A	N/A	Chinese in Batavia	Reid 1983a:27
	Maritime SEA	Balangingi	Balangingi	Warren 1997:199–209
19th	'east Indonesian'	Bugis	Singapore	Reid 1983a:30
	Bali	Chinese	Batavia	Kraan 1983:334
	N/A	LSI and Sumatra	N/A	Sutherland 1983:272–273

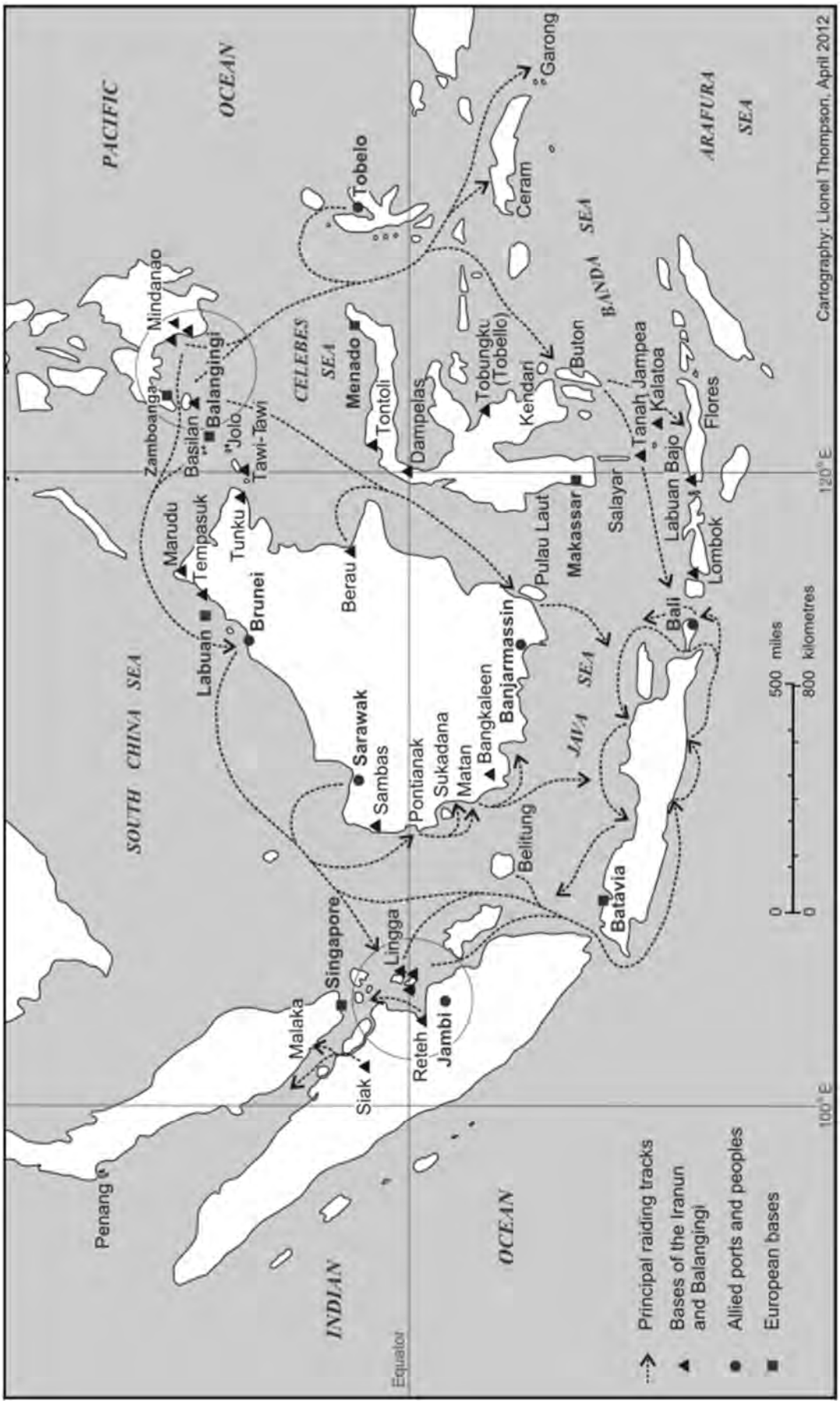


Figure 28 SEA slave raiding, 1768–1848 (Reproduced with permission CCC RightsLink. Warren 2013:155).

Where did Australian products end up?

Defining where goods were sent is a fundamental question about SEA maritime trade (Hall 1999:270–275). Currently, only the export to Makassar of north Australian trepang, and its re-export to Xiamen (Xumien) in China, has been mapped (Figure 29). Yet trading centre locations and product destinations changed over time.

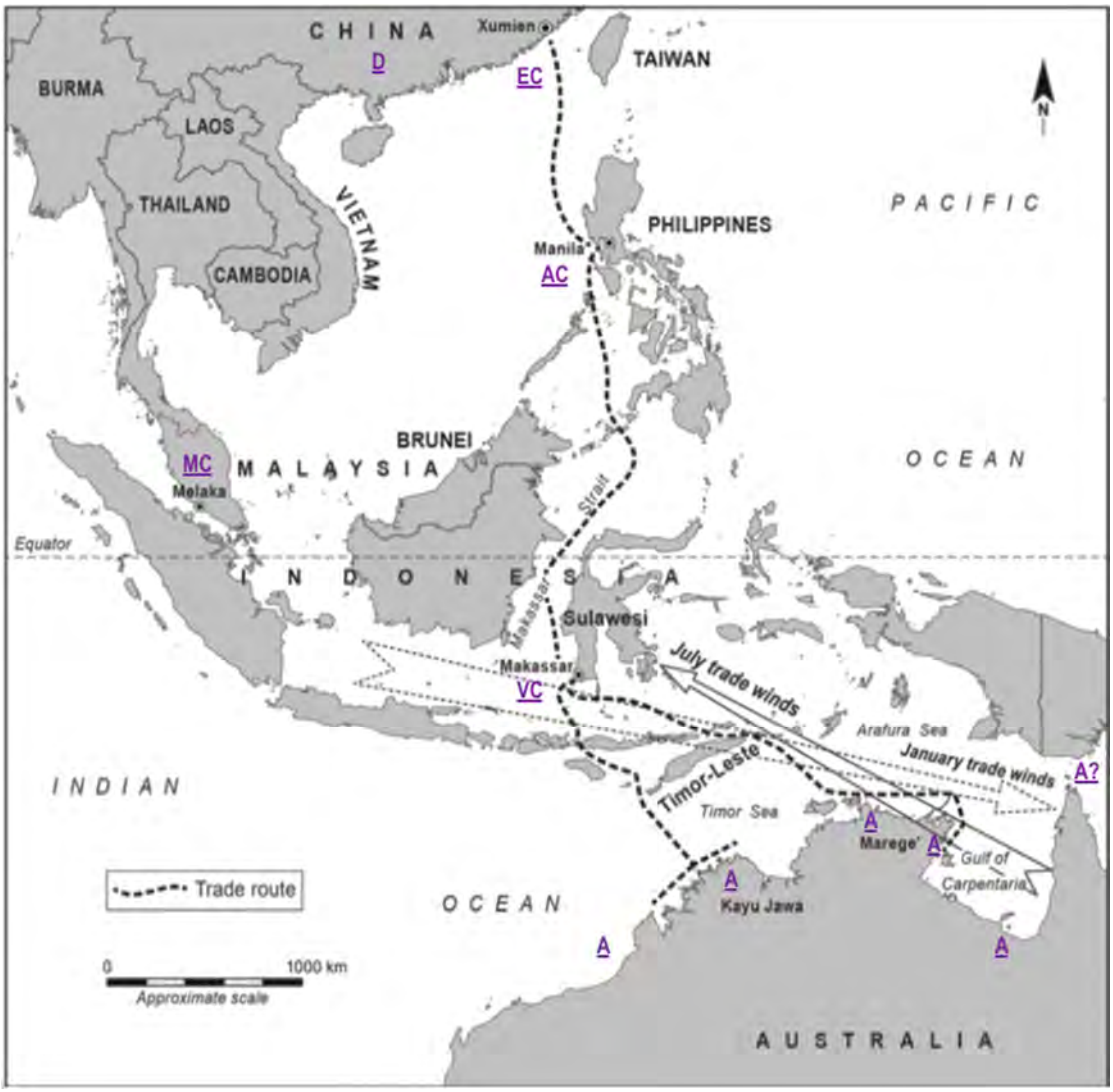


Figure 29 The route of Australian trepang to China (Reproduced with permission of cartographer P. Johnson. Blair and Hall 2013a:212). The map has been annotated for use with Table 8, and for defining trading networks later in this study. Here, Australian (A) products are exported by visiting Macassans to their (Visitor) centre (VC) at Makassar, and re-exported via another Archipelagic Centre (AC) to an East Asian Centre (EC) that forwards them to their ultimate destinations (D) within China. MC signifies a Mainland SEA Centre.

Export pathways for northern Australian products are summarised in Table 8. Products were exported to, and re-exported from, other SEA trading centres besides Makassar alone. There were also other EA trading centres along coastal China besides Amoy (Xumien). Shanghai was the primary destination of WA sandalwood (Guoth 2017:17). Finally, there were other country destinations besides China. For example in 1899, QLD exported sandalwood to Japan (Wharton 2009:40). This study will investigate and map these destinations, and their change over time.

Table 8 Types of trade networks exporting northern Australian products.

Type	Description	Example(s)
I:A-to-VC=D	Product consumed by visitor or within their local island/region (VC).	1. Timber for *perahu*, jetties and houses (Earl 1846b:77–78; Robinson 1882).
II:A-to-VC-to-EC-to-D	VC trades the product to an East Asian centre (EC), which re-exports it to the destination.	1. Mid-18th-century Makassar-Amoy (China) junk carried 'wax' and trepang (Knaap and Sutherland 2004:72–149). 2. Trepang for Canton, China, was shipped from Makassar on Macao vessels (Vosmaer 1839:178).
III:A-to-AC-to-EC-to-D	Visitor trades the product within the archipelago, and that centre (AC) re-exports it to the destination.	1. Macassan agar-agar sent by the Batavia-Amoy junk (Knaap and Sutherland 2004:99). 2. Pobasso's trepang sold to the Chinese in the Tanimbar Islands (Flinders 1814:228–233).
IV:A-to-VC-to-MC-to-D	Visitor trades the product to a Mainland SEA centre (MC), which re-exports it to the destination.	Mid-19th-century mangrove bark, beeswax and ebony imported from Makassar to Singapore, the latter two are re-exported to Thailand (Kobayashi 2013).
V:A-to-MC-to-D	Visitor transports product from Australian waters directly to the Mainland SEA centre, which re-exports it to the destination.	1. Late-19th-century WA MOP transhipped at sea for Singapore (Bain 1982:170–171). 2. Late-19th–early-20th-centuries Japanese MOP transhipped at sea in QLD waters, direct for Japan, which re-exports to Europe and USA (Bain 1982:202).
VI:A-to-EC-to-D	Visitor exports product directly to EA centre, which re-exports it to the destination.	1. Late-19th–early-20th-centuries Japanese MOP exported from TS or Brisbane, direct for Japan, which re-exports to Europe and USA (Bain 1982:202). 2. Late-19th-century Chinese exported dried fish, trepang and prawns to Hong Kong and 'China' (Geise 1995:20; Searcy 1909:314).

Chapter 3

Methodological considerations

This Chapter focuses on specific data requirements and issues requiring resolution needed to progress this study. A multidisciplinary approach is used, including trade data and history, cultural anthropology, ethnography, Indigenous and SEA and EA contact archaeology, maritime archaeology and linguistics.

Google Translate was applied to foreign language sources. Original tables and charts were created using Microsoft Excel and Powerpoint SmartArt. Original maps were created using ArcGIS Online basemaps and annotated using MacOS Preview.

Identifying additional visitors

This study will research the trade networks of identified visitors. The exceptions are Japanese and Filipino networks because this thesis posits a China-focused 'Malay Road'.

Makassan Pidgin and Lugger Malay mixed words from various SEA languages (Evans 1992:70; Hosokawa 1987; Urry and Walsh 1981. Figure 30). Therefore linguistic analysis cannot identify visitor ethnicities at specific times and places.

Researchers do not agree on the origins of non-Sulawesian earthenware observed at NT and WA Macassan sites (Appendix 1 Table A1.1 using data from Bulbeck and Rowley 2001:65; Burns 1990 cited in Morwood and Hobbs 1997:205; Crawford 1969:334–350; Key 1969:105–106; Rowley 1997:66–151; Smith 1999:50–62; Thies 1992:13–30). This study will research their suggestions (Aru, Flores, Kei and Rote) because already identified visitor ethnicities (Table 2) migrated to these islands (Figure 31). Also, Yolngu whale and turtle mythology suggests occasional visitors from Maluku, including Aru and Tanimbar (McIntosh 1995c:56–58).

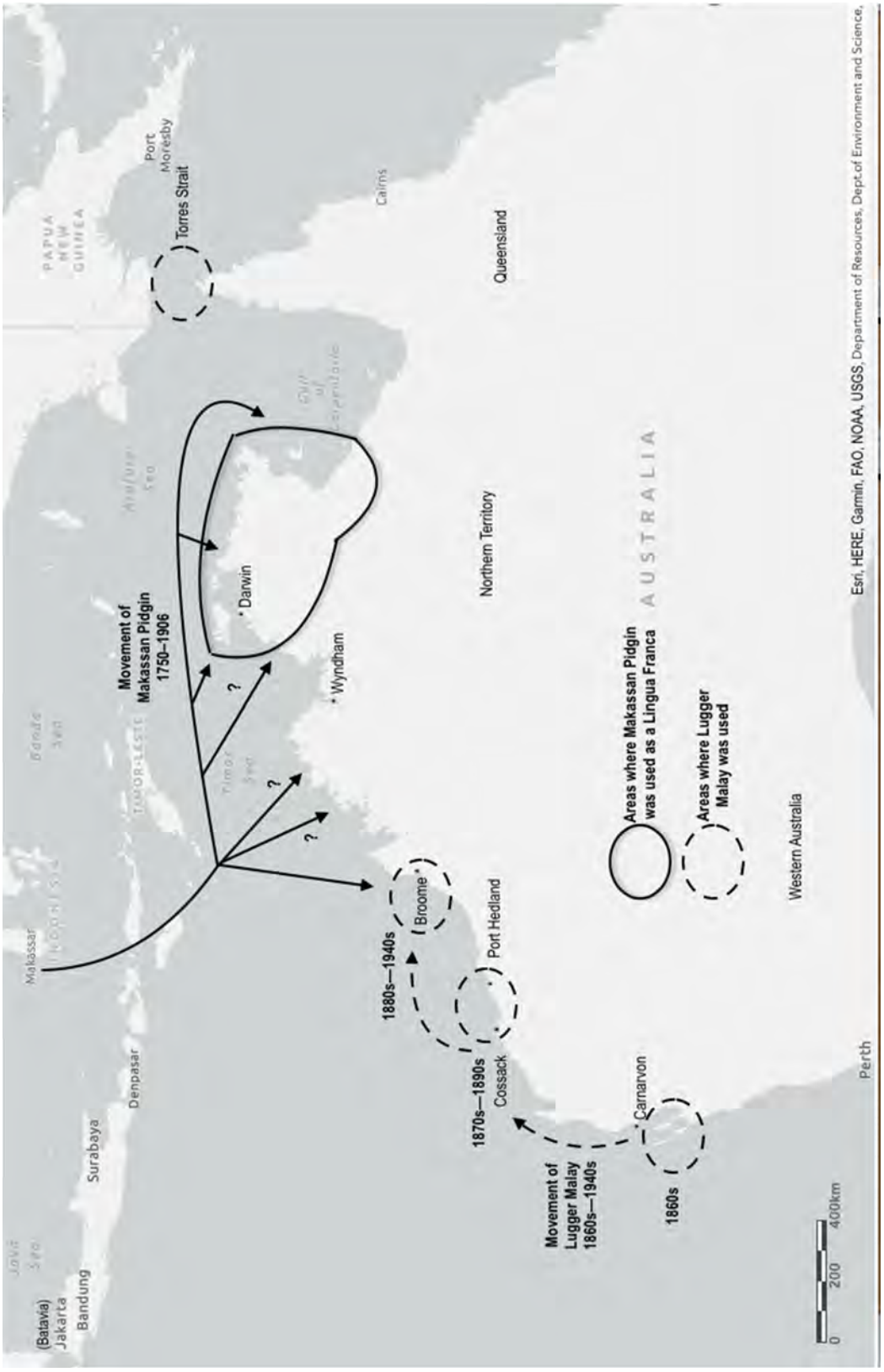


Figure 30 Language contacts in Western and Northern Australia (Adapted from Wurm et al. 1996: Map 14).

Research shows that migration of Chinese and SEA ethnicities across the Malay Archipelago was common (Akamine 2016:154; Andaya 1995, 1999:3–7; Barnes 1996:323–324; Chang 1991:18; Earl 1837a:334–5; Ellen 2003:21–252; Forrest 1779; Fox 1977:462; Fox 2000:343; Freijss 1859:451–516; Knaap and Sutherland 2004:57–164; Kruseman 1836:41; Macknight 1969a:184, 1976:12–131; Noorduyn 1987:69–73, 2000; Ormeling 1957:117–221; Parimartha 2002:195–210; Reid 1999:157; Robert 1973:146–149; Sopher 1965:60–249; Stokes 1846; Sutherland 2001:397–399; Swadling 1996:176; Vosmaer 1839:157–161; Wallace 2014 and Wichmann 1891:205). Figure 31 also shows that migrant Solorese are of interest to this study.

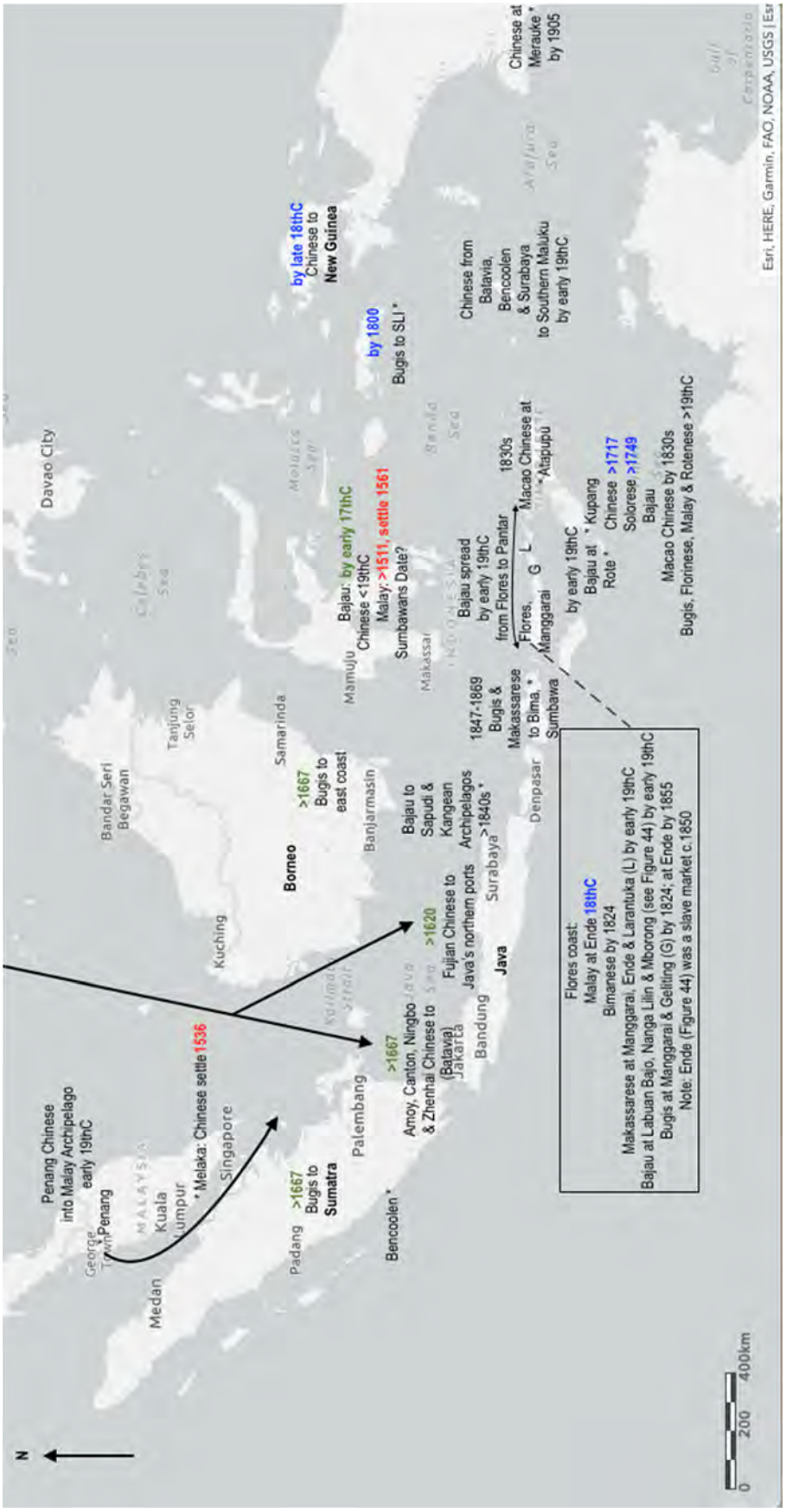


Figure 31 Sixteenth- (red), seventeenth- (green), and eighteenth- (blue) to (black) twentieth-century migration to/across the Malay Archipelago.

SEA perahu cargo capacity and mast-style; and Chinese boat ownership

This study will collect new data about the cargo capacity, and mast-styles, of the visiting SEA *perahu*. Estimating the NRT available for cargo is a proxy for the potential to carry extra goods. The four ton NRT of the "Nur Al Marege" *paduakan,* recently built to re-enact Makassar-northern Australia voyages, is 30.7% of its 13 ton GRT (Liebner 2021). This validates the study methodology.

If the gross tonnage of Pobasso's *perahu* (Figure 9) was 25 tons (Flinders 1814:231), then NRT was 7.5 tons. Since 100 picul of trepang 'made a cargo' in 1803, and there were 17 picul of trepang per ton, then the trepang cargo was 5.9 tons (Macknight 1969b:46, 1976:38; Mulvaney 1966:450). Therefore 1.6 ton of cargo space remained available to be filled by other products. Dried shark's fin is probable, since Robert Brown (2001), accompanying Flinders, saw 'sharks tails' on a *perahu's* deck.

Some Macassans visiting Raffles Bay in 1829 were interested only in trepang and would go elsewhere if they couldn't obtain it (Mulvaney and Green 1992:135). This implies a contractual requirement to provide a certain amount to a supplier. Pobasso intended proceeding to 'Timor-laoet' (or '-Laut' i.e. the Tanimbar Islands) possibly to obtain more trepang (Flinders 1814:228–233; Forbes 1885:298–299). However, capacity was also allowed for products (e.g. MOP and tortoiseshell) privately collected by the *perahu*'s crew (Macknight 1976:18–46). Timber (e.g. sandalwood) was the captain's monopoly.

This study will research *perahu*-types with tripod-masts, providing candidates to explain the Djulirri painting (Figure 17) and the shipwreck record (Clark 2011; Mirams 2021:90). Bajau, including Jama Mapun, *perahu*-types also require more research of historical sources. Finally, new data will be collected about immigrant Chinese boat building and ownership, particularly in the NT (Appendix 4).

Identifying additional visitor locations and commodity habitats

While anthropologist Athol Chase (1981) documented EA-Indigenous culture contact in the Lockhart River region, relatively little is known about early EA and SEA visitor locations on CYP. Missionary correspondence from west coast Mapoon, Weipa and Aurukun 'almost forget[s] that … mostly Asians … came ashore' (Ganter 1999:267–277). Archaeological and historical research has provided some glimpses into visitor impacts. Despite intensive archaeological study, only one utilised glass flake demonstrates culture contact southeast of Weipa (Ó Foghlú et al. 2016:1–7). 'Malay' kidnappings of Indigenous men at the Johnstone River (Innisfail) possibly around 1830 led to the naming of Millaa Millaa (Borland 1941).

Bowen's (2012) review of the immigrant Chinese fishing industry in colonial Australia provides one NT location but no evidence for WA or QLD. Mirams (2021:179–190) surveyed and documented Chinese fishing locations in the NT. This study will research historical newspaper reporting of immigrant Chinese fishing operations in the NT, QLD and WA.

By developing case studies, this study will cross-reference the forest and sea products of interest to maritime EA and SEA with those available in documented northern Australia visitor locations, using the Atlas of Living Australia and Australian Plant Name Index. This will indicate whether the visitors were commercially motivated to collect other products besides trepang. An example is Sulawesi ebony (*Diospyros celebica*), exported from Makassar to Singapore and re-exported to Thailand (Kobayashi 2013). Australian ebony (*D. humilis*) is common in coastal areas of NT and QLD, including regions where Macassans were known to visit. Therefore, there is circumstantial evidence that Macassans collected Australian ebony in the NT that was traded through to Thailand.

Establishing a chronology

According to the Long chronological model, the earliest, sporadic and small-scale visits were by Bajau (*Turijene* and Jama Mapun) people who exploited other resources besides trepang (Clarke 1994:470; Ganter et al. 2006:7; McIntosh 1995a:15–21, 1995c:56–57; Taçon et al. 2010; Wesley et al. 2016; Zalewski 2013).

Linguistic analysis of Makassar Pidgin words borrowed by Indigenous languages might differentiate periods, or strata, of cultural contact (Berndt and Berndt 1954:36; Evans 2002:72–95; McConvell 1990:22–23). No explicit chronology of borrowed words relating to commodities and trade goods has been published (Appendix 3).

Other chronological issues have been resolved. Re-excavation at Anuru Bay clarified that dated 800-year-old samples came from underlying pre-contact Indigenous occupation (Macknight 1976:98–99; Wesley 2014:130–131). Shell fishhooks, excavated from a 1220–731 BP radiocarbon-dated layer at Borngolo Rockshelter, Port Bradshaw, NT, are consistent with late Holocene Indigenous settlement (Brockwell et al. 2009:57; Schrire 1972:662–665). Stratigraphic context may not reliably indicate the age of a 'pottery' sherd from a level radiocarbon-dated to 930 ± 60 BP at Dadirringka Rockshelter, Groote Eylandt (Clarke 1994:398–583; Grave and McNiven 2013:4550).

Ethnographic research described three phases of contact by the Yolngu people with SEA visitors (McIntosh 1995a, 1995b, 1995c, 2006, 2008). This has been reinterpreted within the proposed four-phase Long chronological model (Table 9).

Table 9 Chronology of Yolngu contact with SEA visitors, adapted from Wesley et al. 2016:172–173.

Phase	Date Range	SEA Visitors
1	'Time immemorial' to mid-1600s	Bajau whale hunters
2	1650–1820	Bayini; Badu whale hunters; cooperation with Macassans
3	1820–1850	Deteriorating relations with Macassans
4	1850–1907	End of Macassan trepang industry

By developing case studies from the sixteenth century onwards, this study will examine whether periods of maritime EA and SEA trade in forest and sea products agree with this model. The possible meaning of the whaler references, and a suggestion that Macassans visited Australia by 1654, will also be examined (Coolhaas 1964a:678–680).

Determining products being sought

The records of NT customs collectors focused only on dutiable products (Macknight 1976:137). Several lists of what the visitors obtained in northern Australia vaguely conclude with 'and other native' or 'natural products', or 'a few other items', and must be considered incomplete (Berndt and Berndt 1947:134; Macknight 2011:23; Warner 1932). This study will re-evaluate the (Table 4) product list, using archaeological, historical and linguistic sources. The outcome will be a Table ranking the products in order of value, through estimation of the sale price of a standardised picul of goods in Singapore dollars in 1873 (GoS 1874). This Table will highlight potential associated SEA loan words, as indicative of the product's role in a hybrid economy (Evans 1992; Walker and Zorc 1981; Wesley and Litster 2015:3). The Table will indicate whether interest in a product was fleeting or sustained. Product species will be identified by scientific name from the Atlas of Living Australia and Australian Plant Name Index.

Some items listed in Table 4 will not be pursued further. The 1885 edition of Matthes' dictionary (cited in Macknight 1976:45) mistakenly defines *batu Marege* as 'stone anchor'. The Makassarese for stone is *batu* (Evans 1992:71; Walker and Zorc 1981:117–124); however, *batu trepang* is marketed as 'stonefish', reflecting its appearance (Ellen 2003:109–110; Setyastuti and Purwati 2015:22). The Macassans collected gold, antimony and manganese specimens, looking for 'minerals [including] tin' (Earl 1842; Searcy 1909). However, metal-related Makassarese loans to Indigenous languages describe only manufactured goods. Finally, the source (King 1827:124) does not actually associate bird's nests with the NT.

Investigating what the visitors offered Indigenous people

Excavations of contact-era Indigenous sites at Groote Eylandt and nearby Bickerton Island showed that beads were a trade-article (Clarke 1994:174–405). The loan of the Makassarese word *manik-manik* 'bead' to Indigenous languages as *mani mani* suggests that SEA visitors brought beads to trade with Indigenous people (Evans 1992; Walker and Zorc 1981; Wesley and Litster 2015:3). Incomplete lists of trade goods from ethnographic sources end vaguely with 'etc.', 'various other commodities', 'other objects of wealth', and 'articles of trade' (Thomson 1957; Warner 1932:480; Worsley 1955:3).

New data will be collected from archaeological, historical and linguistic sources that may expand the list of goods, potentially identifying their origin (e.g. traders brought 'native Celebes cloth', English calico and unbleached American cotton goods to the Aru Islands) (Wallace 2014:472–482). The outcome will be a Table ranking the goods by value, with reference to the price of a picul in Singapore dollars in 1873 (GoS 1874).

Standardisation or tailoring of Indigenous goods packages will be explored through comparison with those offered to Aru and Tanimbar Islanders islands at the southeastern periphery of the Malay Archipelago, and to the Bajau (Forbes 1885:306–331; Sopher 1965:239–241; Wallace 2014:472–482). Alcoholism on the Aru Islands reportedly created a dependency on the trade relationship (Brumund 1845:281) so this may also have been the Indigenous Australian experience.

Assessing engagement with Indigenous Australians

The Indigenous Australian role in colonial market economies is commonly analysed using internal or welfare colonialism approaches or the concept of the hybrid economy (Beckett 1977; Keen 2010:7; White 2011). The hybridised approach provides agency for all participants and allows for individuality in Indigenous behaviour (Altman 2007:4; Curchin 2016:69–75; Lloyd 2010:35).

The Hybrid Economy Model (HEM. Figure 32) demonstrates the interdependencies between contemporary markets, the state and the Indigenous customary economy (Altman 2001; Gregory 2016:32–39). The market sector involves price-, supply- and demand-oriented activities. The state sector is law enforcer or regulator. The customary sector includes traditional Indigenous activities occurring outside the market (e.g. hunting and gathering), and the exchange of goods with other Indigenous groups. The interaction of these sectors creates sub-sectors that visually reflect the unique customary, market and state circumstances of particular activities.

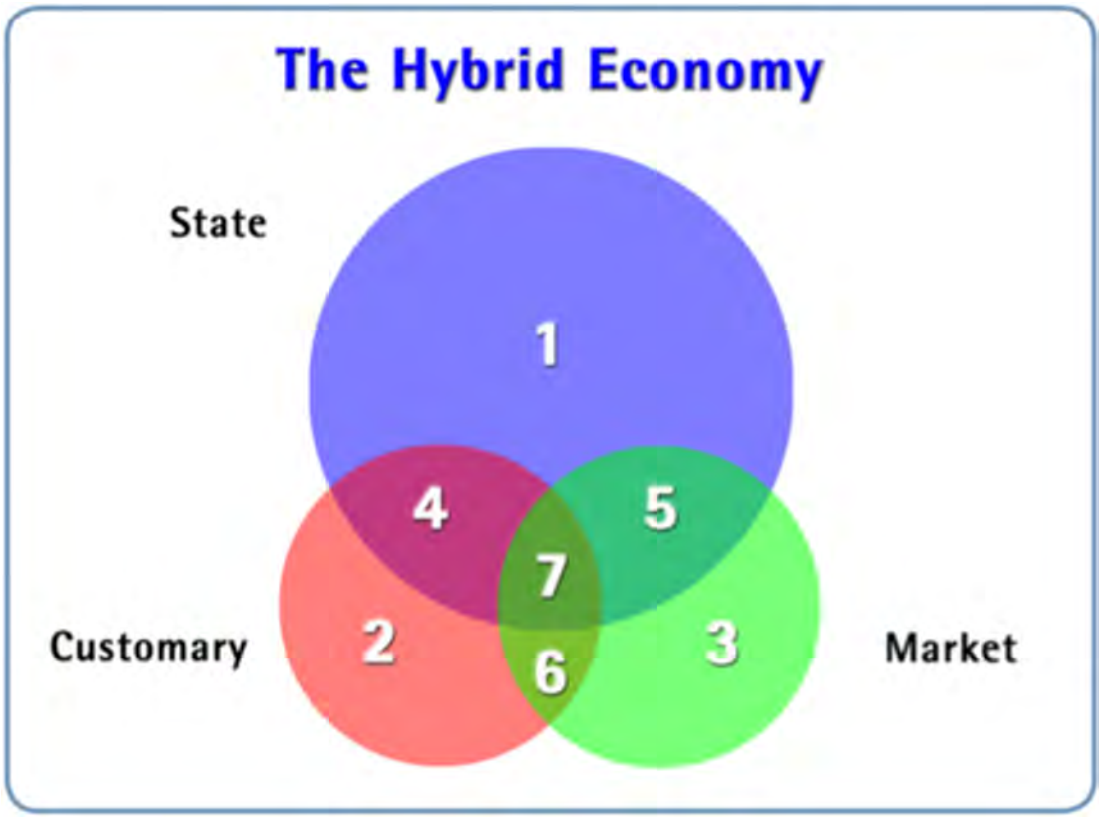


Figure 32 The Hybrid Economy Model, showing three sectors and four intersecting sub-sectors (Reproduced with permission J.C. Altman. Altman 2007:3).

Wesley (2014:47–51) used the HEM to assess Indigenous engagement during the culture contact period. The Macassan trepanging industry is an example of a market sector economy, since they were motivated to visit northern Australia to supply the demand for trepang from

China (Macknight 1976:6–7). By participating in that industry, Indigenous people obtained objects (e.g. beads and firearms) that held meaning within the customary sector (Wesley 2013:284; Wesley and Litster 2015:2). Wesley (2014:223) concluded that the interaction of the Macassan and Indigenous sectors could be visualised by sub-sector 6 of the HEM. However, the Colonial Australian administration introduced licenses and custom duties and regulation of Indigenous employment in buffalo shooting. The Dutch administered Macassan voyaging (Macknight 1976:24). The Macassans exported Australian buffalo horn and trepang (Table 4). HEM sub-sector seven better reflects these industries. This study posits that 'borrowed' words for commodities (Evans 1992; Walker and Zorc 1981) are a proxy for other products that were part of a hybrid economy.

Identifying and illustrating trade networks transporting forest and sea products

This study will illustrate the evolution of northern Australian links, including colonial Chinese forest and sea industries, with Maritime and Mainland SEA and EA visitors, within the Long chronological model time frame, using new and newly applied data from historical and academic sources. The islands and ethnicities of interest were identified in Tables 1–2 but potentially modified by the results of research in Appendix 1. The network mapping process will identify islands whose ceramics may be useful for comparison purposes.

There are four methodological considerations. The Bajau tendency for local trade (Sopher 1965:144–373) may render their links meaninglessly extensive except where they accompany Macassans and Bugis and use the same networks. Early nineteenth century Bugis charts (Figure 33) are cartographically inaccurate and anachronistic (the Mekong River mouth associated with Cambodia vice Vietnam; Singapore not mentioned). This study will focus on the Makassar Malay. Mainland Malaysia, and Sarawak and Sabah on Borneo, are outside the scope of this study.

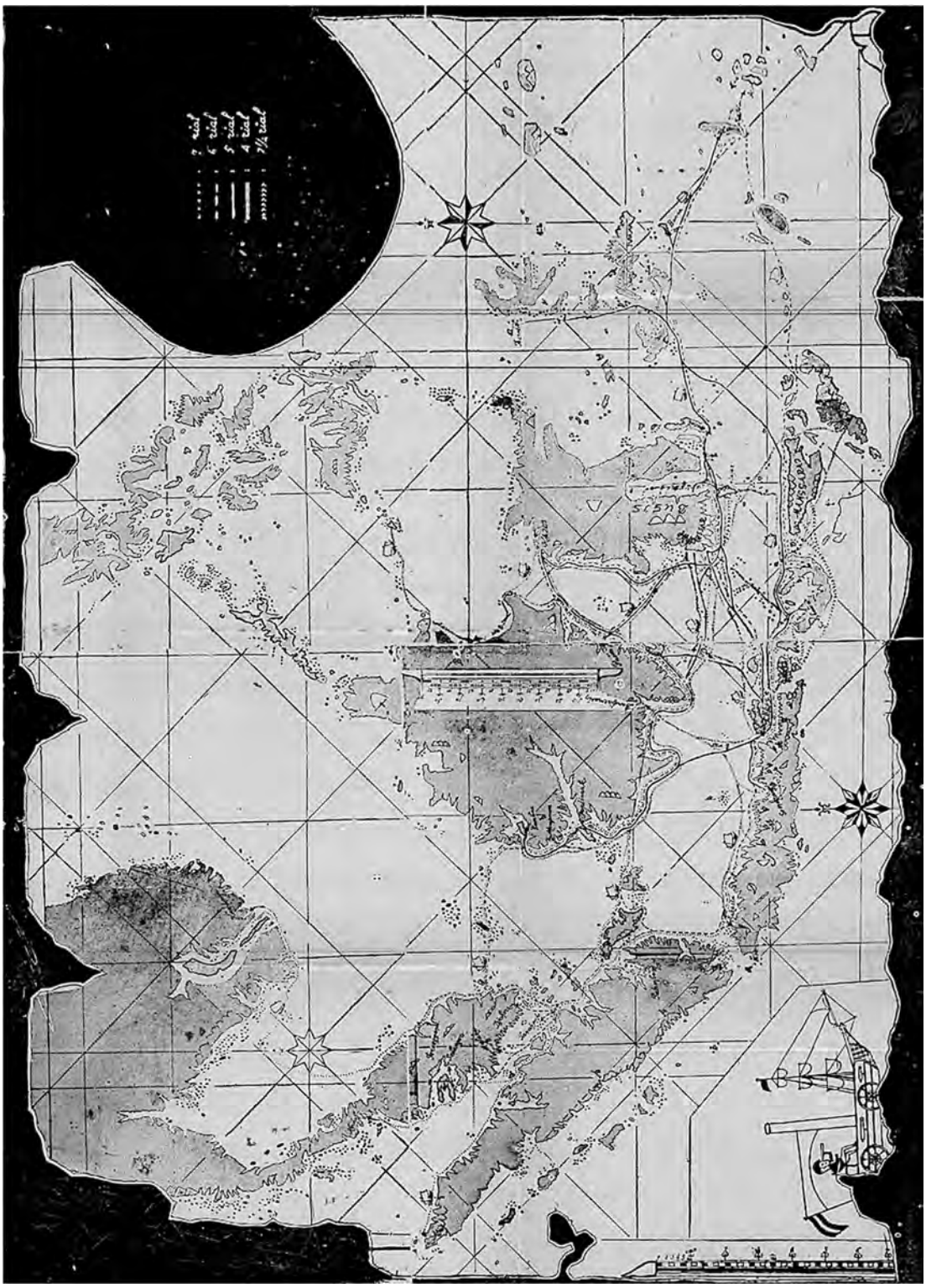


Figure 33 Reproduction of a Bugis chart annotated with freight routes, possibly c.1828 (Out of Copyright. Tobing 1961: Endpaper; Egmond 2019:43–46).

Finally, space-time representations of trade networks are challenging to depict (Owens 2012:33; Wachowicz and Owens 2012:67). The study will examine the most effective mapping approach: options include center-versus-periphery, conceptual, geographical, hierarchical and schematic (Figures 34–37).

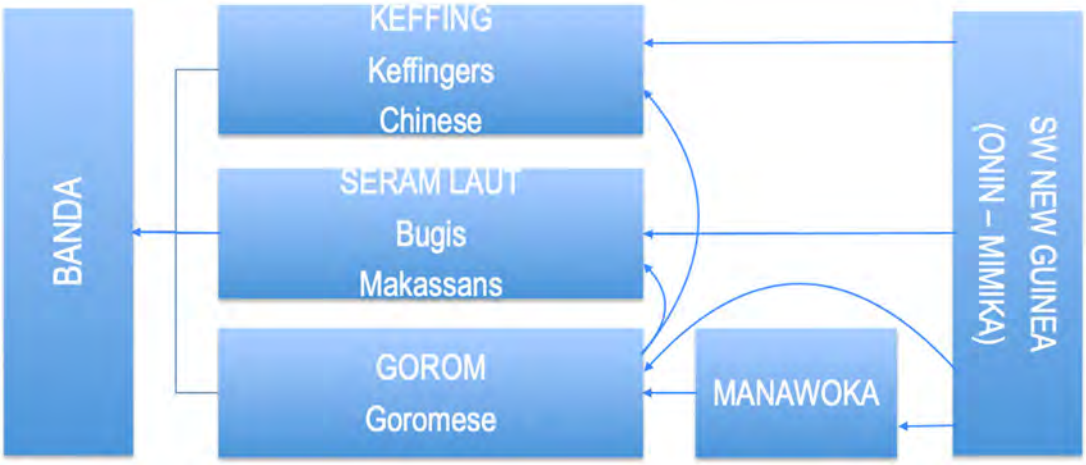


Figure 34 Schematic diagram of the role of ethnic groups and the Seram Laut Islands (middle four boxes) in mid-nineteenth-century Banda-Seram Laut Islands-Southwest New Guinea regional trade networks (Adapted, with permission, from Ellen 2003:132, with data from Goodman 2006:71–72).

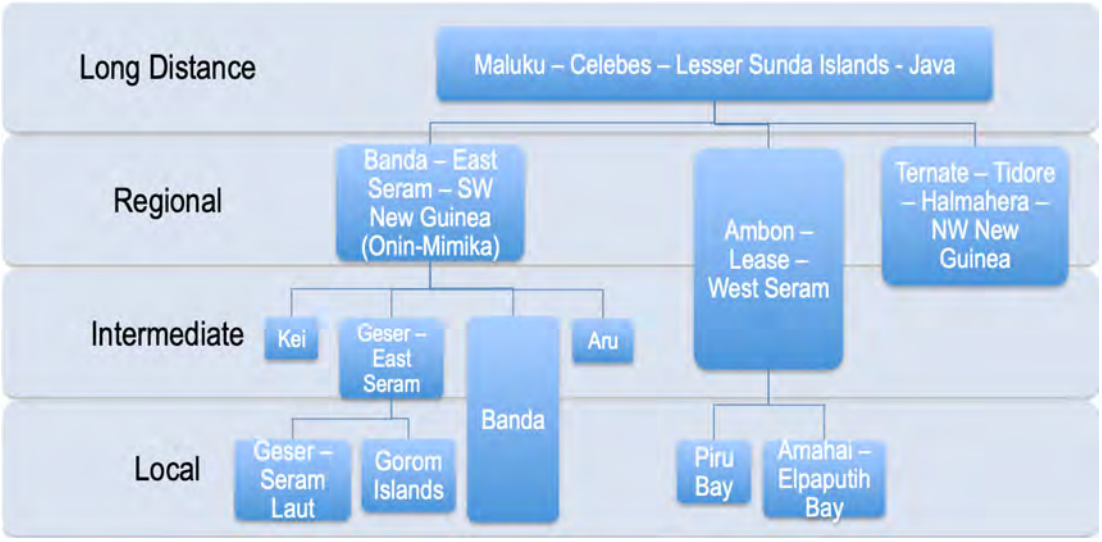


Figure 35 Hierarchy of Maluku's mid-nineteenth-century trade networks (Adapted, with permission, from Ellen 2003:11).

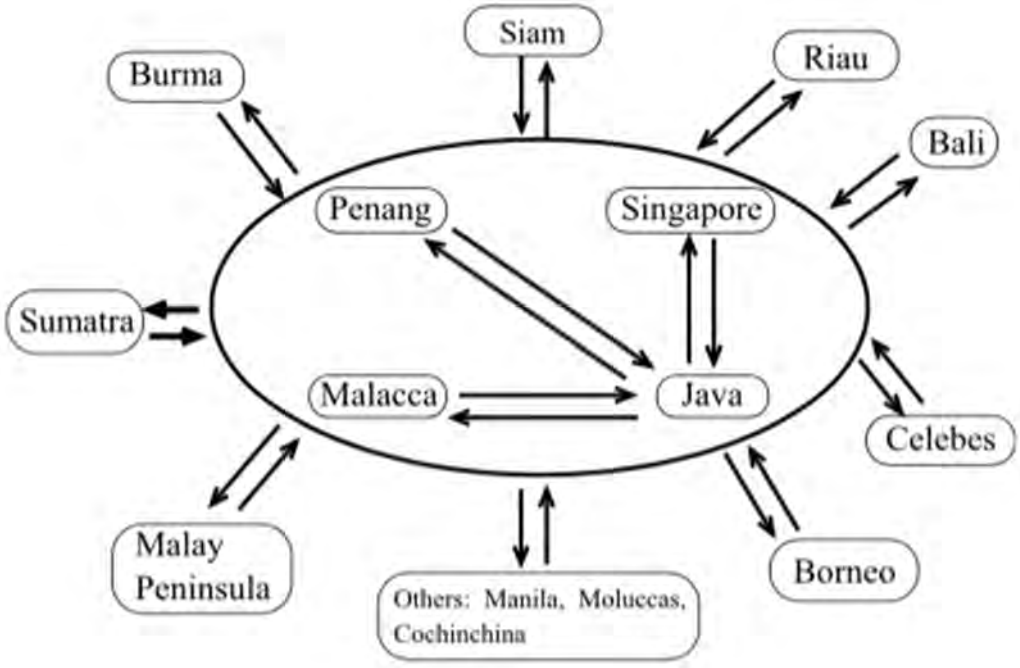


Figure 36 A conceptual map of SEA intraregional trade centered on British and Dutch colonies (Reproduced with permission A. Kobayashi. Kobayashi 2013:452).

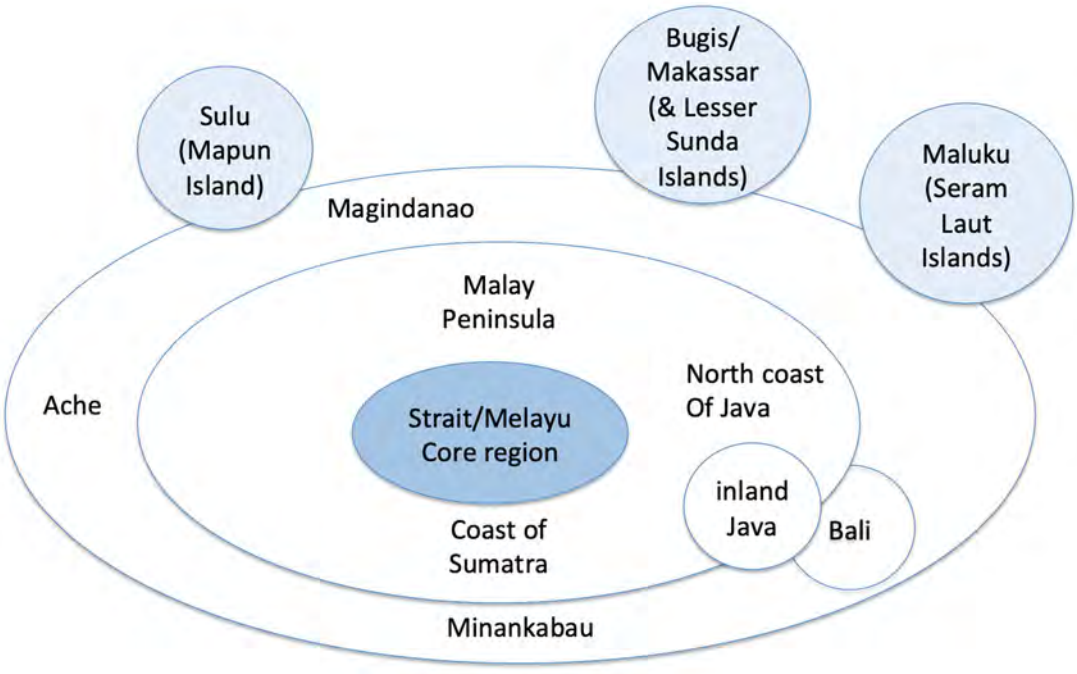


Figure 37 A center-versus-periphery map of Melaka's trade with Maritime SEA (Adapted from Sakurai 1996:109).

Determining end users and locations of Australian products

Kobayashi (2013) demonstrated that analysis of annual import/export reporting prepared by the local administration of British colonies in Mainland SEA and EA allowed the reconstruction of the networks of the trading centres. This study will collect new data on the final destinations of northern Australian forest and sea products by investigating the re-export of these products from SEA and EA trading centres (e.g. those identified in Chapter 2) within the Long chronological model time frame.

As well as confirming trading centre product mixes (i.e. every product they sold), this new and newly applied data will identify product lines destined for specific destinations. Table 4 shows that other products exported from north Australia, besides trepang, were desired by China (e.g. tortoiseshell and shark's fin). Further, analysis of this data may also resolve some knowledge gaps. Table 4 also shows that *mengkudu* wood was exported from northern Australia by the Macassans but it is not yet clear whether it was consumed in Sulawesi or intended for a wider variety of ports because of its utility as a dyewood and preservation agent (Macknight 1976:43).

By illustrating how Australian products were imported/re-exported over time, this study will address issues raised by Blair and Hall (2013a) and build on Clark's (2011) map. Again, this study will examine the most effective mapping approach. Kobayashi (2013:452. Figure 38) demonstrates that trade centered on British and Dutch colonies in SEA from 1820s–1850s can be shown conceptually, instead of geographically.

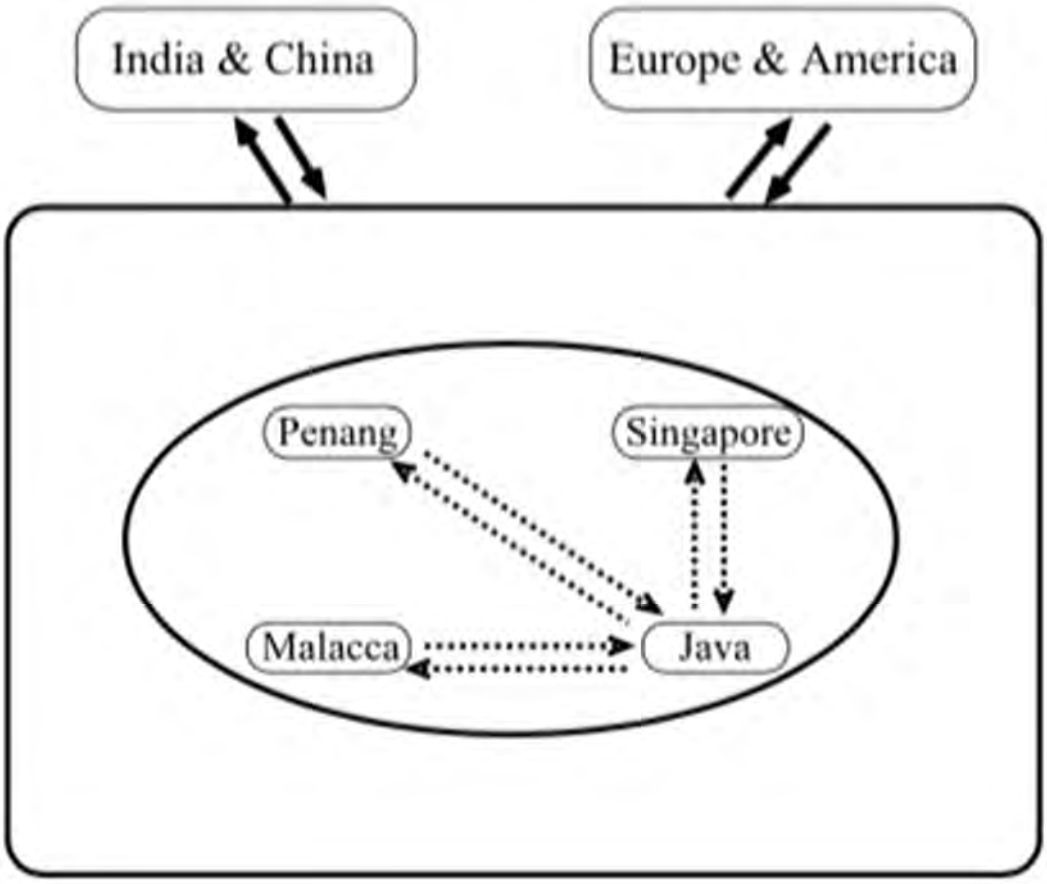


Figure 38 Trade with Asia and the West, centered on British and Dutch colonies in SEA (Reproduced with permission A. Kobayashi. Kobayashi 2013:452).

Chapter 4

New and newly applied data

This chapter addresses the themes (Figure 6) of SEA *perahu* cargo capacity, what the visitors sought and what they offered Indigenous people. Then, the subsequent case studies are organised by visitor, in alphabetic order, and include the evidence related to 'Where' and 'When' they visited during the POI, 'Which' trade networks these forest and sea products entered and where these products 'End' up. The trade networks are mapped geographically and their type identified according to the proposed export pathways model (Table 8).

SEA perahu: spare cargo capacity; types with similar mast-style

Macknight (1976:27, 117, 133–4) provided average Macassan trepang cargos per *perahu* for 20 recorded years from 1884–1905, as well as approximate NRT for 26 *perahu* visiting from 1881–1907. From this data, the averaged amount of trepang per *perahu* was calculated at 13.94 tons, compared to an average NRT of 18.54. By extrapolation, where NRT is 30% of GRT, the average *perahu* GRT was 46.5 tons. Therefore, during this period, even though the highest weight of trepang was being taken since 1803, on average there was 4.6 tons available for other cargo. If we assume, as was the case in 1882, that there was 0.55 tons of buffalo horn and tortoiseshell, this still leaves 4.05 tons available for unspecified, non-dutiable cargo. Pobasso's spare cargo capacity in 1803 was 1.6 tons, therefore spare capacity tripled from 1803–1907.

Research suggests four other tripod- and bipod-masted candidates for comparison with the north Australian rock-art and shipwreck record. Some Sulu and southern Philippines boat-types were reportedly influenced by South Sulawesi designs (Macknight 1980:121; Horridge 1986:6). According to Warren (2007: Figure 5), Figure 39 shows a Tausug or Samal trading vessel with a tripod mast at Sulu Island in the late-1830s; however, Figure 49 indicates that it is as likely to be a visiting Bugis *perahu*. In the eighteenth and nineteenth centuries, the vessels of Iranun and Samal Balangingi slave raiders reached, and were based in, the LSI (Figure 28). They had tripod masts but were also rowed (Figure 40; Warren 1985). Two other reviews of Bajau boats of the Sulu archipelago do not show such masts (Nimmo 1990; Sather 2001).

Figure 39 Entrée de la Riviére de Solo (Out of Copyright. Dumont d'Urville 1846: Plate 139).

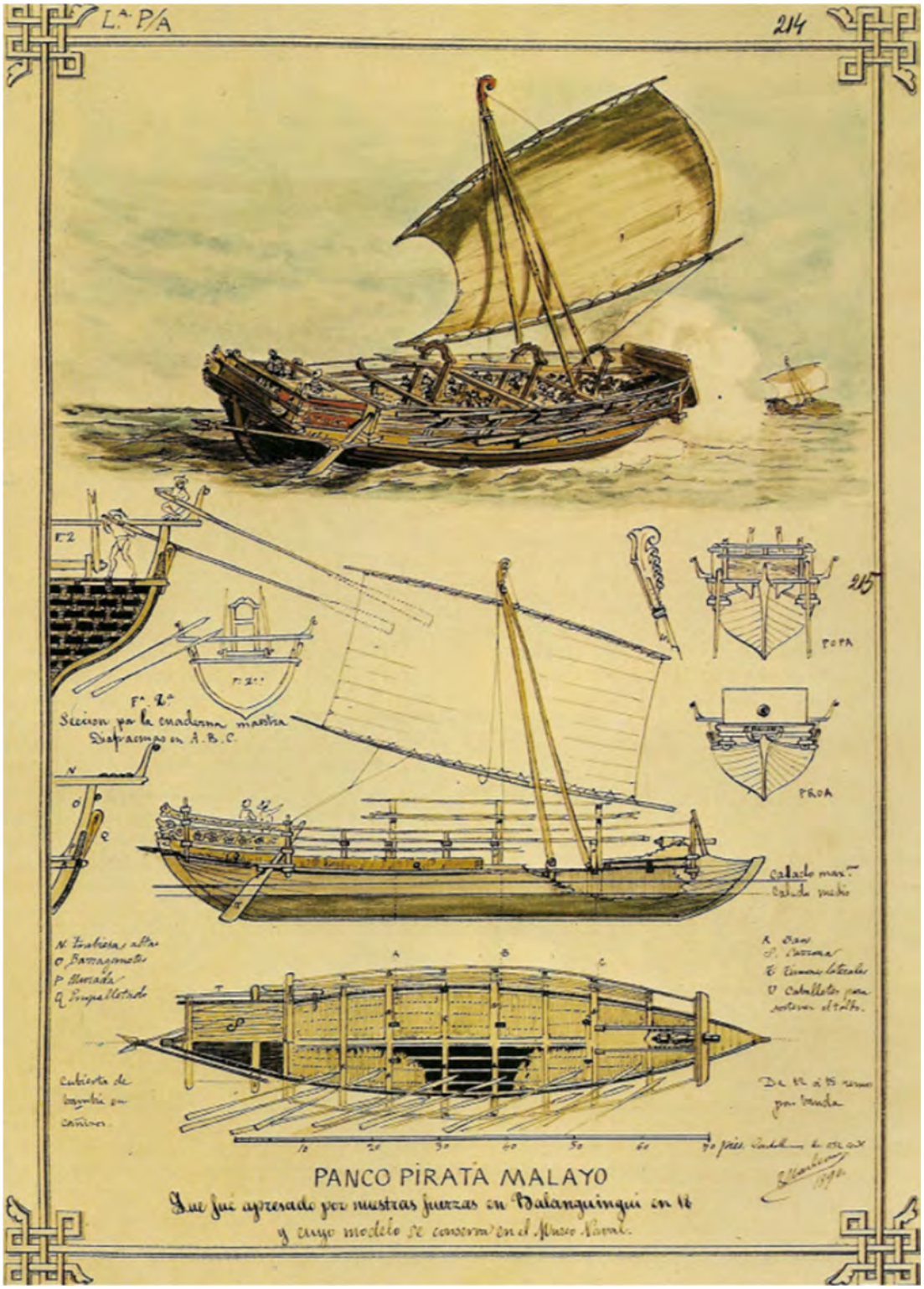


Figure 40 The *panco* used by Balangingi slave raiders of Balanguingui Island (Out of Copyright. Reproduced from WikiMedia courtesy of 'Obsidian Soul', from Monleón 1891:*Panco*). CC-PD-Mark 1.0

Jama Mapun trading vessels (26–32 tons) were built for voyages around the Sulu Sea and north Borneo lasting several months (Casino 1976:71–77); however, the vessel type is not described. They were probably capable of reaching Australia. Mid-twentieth century motored versions were strongly built, taking two weeks to voyage to Sulawesi (Casino 1976:80–81. Figures 41–42). It is unclear when voyages to Sulawesi commenced.

Image removed due to Copyright restriction.

Figure 41 The motorised, 1969 version of a Mapun-built boat (Casino 1976: Plate 10).

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Figure 42 The strong hull of a Mapun-built boat (Casino 1976: Plate 11).

The tripod-masted Moluccan *kora-kora* was probably used in the SLI (Haddon 1920:71). Primarily rowed in the eighteenth century (Figure 43), they were later predominantly sailed (Figure 44). The Djulirri Rockshelter *perahu* has no suggestion of outriggers, oars or rowers.

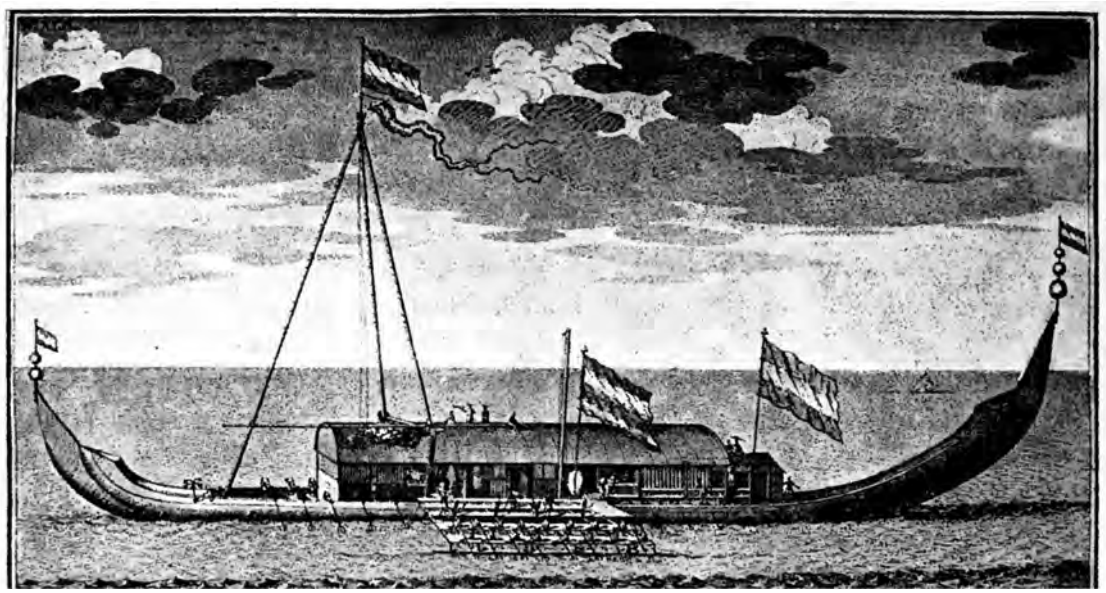

Figure 43 Halmahera Island rowed *kora-kora* of the eighteenth century (Out of Copyright. Valentijn 1724: Plate XLII [184–185]).

Figure 44 Halmahera Island sailed *kora-kora* c.1920 (Out of Copyright. Collectie Tropenmuseum Halmahera Pakata Tobelo [voorgrond] en rorehe c.1920, TMnr 10010571.jpg). This vessel type traded along the coast and between nearby islands.

On Solor, the whale fishermen used their largest double-outrigger, undecked, bipod-masted vessels, also known as *kora kora,* for deep sea fishing and towing whales to land (Barnes 1996:201–372; Horridge 1986:4–7). They were over 10.6 m long, 2.2 m wide with an internal depth of 0.84 m, and accommodated 14 persons (Figure 45). These were coastal vessels, rarely sailing as far as Timor let alone Australia. The Chinese-owned boats used by Kupang-based Solorese on lengthy beeswax and sandalwood collection expeditions in the early-nineteenth century were not documented (Kruseman 1836:7).

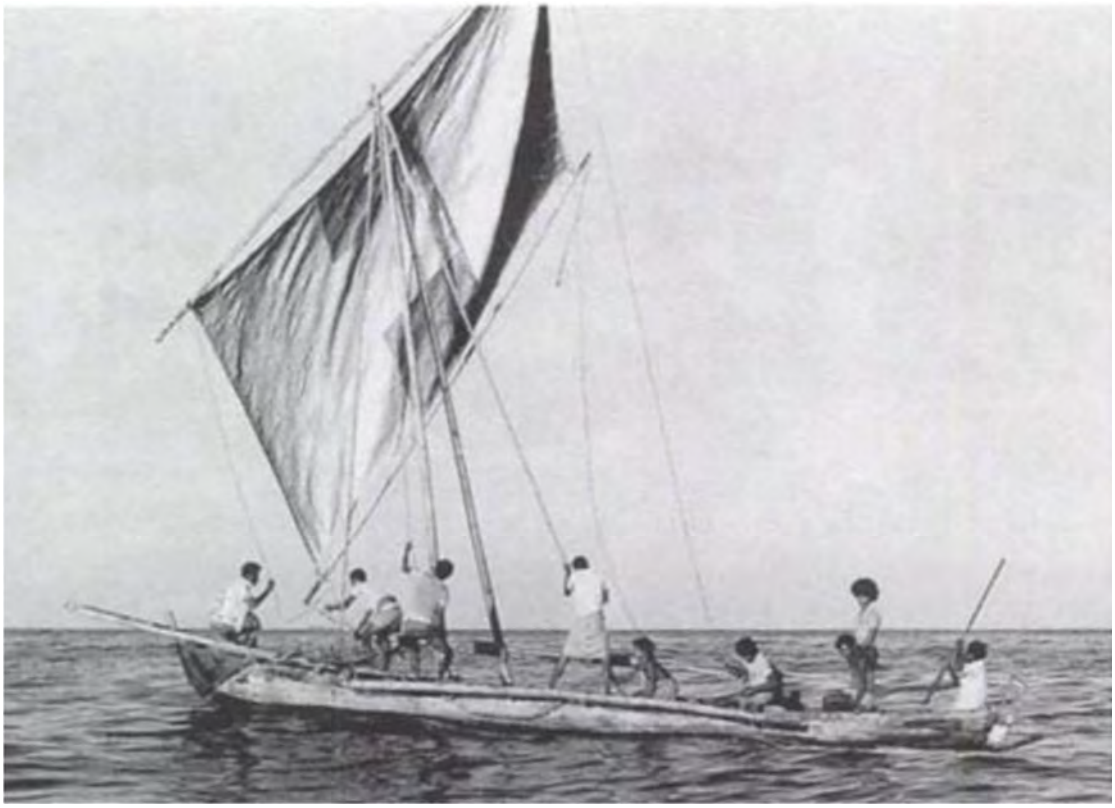

Figure 45 Bipod-masted Solorese coastal whaling boat (Reproduced with permission PLSclear. Barnes 1996:202).

Products sought by the visitors

This section addresses whether the wax taken by 1754 had a forest or sea origin. Also, the range of products sourced, including those obtained by SLI from western NG that may be indicative of TS origins.

In 1754, American, British and Dutch whalers were not yet present in the archipelago (Cumpston 1977; Schokkenbroek 2008). Further, while Solorese traditional whale-hunters were active from the mid-seventeenth century, their *kora-kora* were used locally (Barnes 1996). Finally, contemporary Dutch reports clearly differentiate between whale and forest products (Hogendorp 1779) and would not mistake them. Conversely, the distribution of two genera of northern Australian native stingless bees, *Austroplebeia* and *Tetragonula* (Heard 2016:86), are endemic to the visited areas. They nest in the ground and in hollow parts of trees, including stringybark, ironwood and mangrove (ASRAC 2019; Fijn 2014; PWCNT-TLC 2001; Si and Carew 2018). Trepangers cut swathes of such trees for firewood (Macknight 1969b:98–476, Plate 6.13) and must have discovered native bees' nests, honey and wax. Further details are in Appendix 2.

Table 10 summarises the range of forest and sea products potentially sourced from northern Australia from the sixteenth century and is a culmination of research (detailed in Appendix 3) and informed by SEA trade networks described later in this Chapter. Appendix 3 provides scientific names, Australian equivalents of SEA products, comparative market prices, cases where Makassan pidgin words for a product have been borrowed by Indigenous languages and a brief description of each product and its trade. Finally, it examines the products the SLI obtained from western NG in the nineteenth century (Ellen 2003:135–136), demonstrating at least five (Burmese bloodwood, MOP, pearls, trepang and tortoiseshell) that were also available in TS. Cape York's BoP, and Australian nutmeg and swiftlet nests remain possibilities.

Table 10 Forest and sea products of Maritime SEA interest from the sixteenth century. Prices range from highest to lowest during the POI and rank is generally based on the Singapore price in dollars in 1873 [unless otherwise indicated]. Not all products were tradable by the picul. *Italicised* were included on the Makassar-Amoy, China route. The question mark (?) denotes no proof of the claim. Grey background indicates overlap or possible sustained interest over the long term. Red background = not native to northern Australia. **Bold** indicates potential associated SEA 'loan' words. Scientific name of Australian equivalent in square brackets. NA = Not available.

Scientific name	Common name	'Island of Macassar' (C16th)	Makassar (C17th)	Celebes (C18th)	Celebes & 'eastern islands' (1st ½ C19th)	Northern Australia (C19th)	Singapore $/picul 1873	Rank
Hystrix brachyuran, Trichys fasciculata and *Thecuris crassispinis*	bezoars		✓			✓ [genus *Tachyglossus?*]	42,592–68,146 [1879 Borneo]	1
Pinctada albina	pearls	✓	✓			✓	67,199 [1875 Makassar]	2
Eretmochelys imbricata	*tortoiseshell*		✓	*karet*	✓	✓	301.61	3
Aerodramus fuciphagus and *maximus, Collocalia esculenta*	*bird's nests*		✓	✓	✓	[QLD *Aerodramus terraereginae?*]	186.74	4
P. maxima and *margaritifera; Techtus niloticus*	MOP			✓	✓	✓	107.62	5
Homo sapiens	slaves	✓	✓	✓	✓	✓	5–66.67 (each) [1827–1836]	6
Osteichthyes	fish maw					✓	60.7	7
genus *Apis*	*beeswax*		✓	✓	✓	*[Austroplebeia & Tetragonula?]*	38.76	8
Myristica fatua	wild/long nutmeg		✓ [*M. insipida*?]		✓		<35.84 (*M. fragrans*)	N/A

Scientific name	Common name	'Island of Macassar' (C16th)	Makassar (C17th)	Celebes (C18th)	Celebes & 'eastern islands' (1st ½ C19th)	Northern Australia (C19th)	Singapore $/picul 1873	Rank
various	shell meat (abalone, clam, conch, green snail, pearl, trochus)					✓	29.63 (MOP) [1907–1924 WA]	9
Ceiba petandra	kapok			(Batavia-Canton 1778)		*[Cochlospermum fraseri?]*	22.22 [1904 Java]	10
Selachimorpha	*shark*			*fins*		fins and tails	20.2	11
Holothuroidea	*trepang*			✓	✓	✓	18.23	12
Bubalus bubalis	*water buffalo*			meat		*horn*	9.19 (horn)	13
various	fish, dried					✓ [including eels]	6.54	14
genus *Calamus*	*rattan*		✓	✓	✓	✓ [QLD?]	3.77	15
Santalum album	sandalwood	✓	✓			*[S. album, lanceolatum and spicatum WA, NT and QLD]*	3.43	16
genus *Gelidium* and *Gracilaria*	*agar-agar*			✓	seaweed	?	1.82	17
Diospyros celebica	ebony				✓	[D. *humilis*?]	1.5 [1841 Spanish $]	18
Melaleuca leucadendra and *cajuputi*	cajeput				oil	✓	1.4	19

Scientific name	Common name	'Island of Macassar' (C16th)	Makassar (C17th)	Celebes (C18th)	Celebes & 'eastern islands' (1st ½ C19th)	Northern Australia (C19th)	Singapore $/picul 1873	Rank
Pandanus tectorius	pandan (Jama Mapun), kajang (Bajau)					✓ (QLD) [*P. spiralis* elsewhere]	1.00 ('mats', each)	20
Rhizophora angulata and *mucronata*	mangrove				bark	wood	0.48	21
Sodium Chloride	salt			✓			0.33	22
	amber		✓ [QLD?]				NA	NA
Ptiloris magnificus	(BoP) Magnificent Riflebird					✓ [QLD]	NA	NA
Antipathes grandis and *griggi*	coral					[Queensland *Isis hippuris*?]	NA	NA
Callitris columellaris var. intratropica	cypress pine					✓	NA	NA
hibiscus tiliaceus	beach hibiscus					?	NA	NA
Eusideroxylon zwageri	ironwood					✓ [*Erythrophleum chlorostachys*]	NA	NA
Morinda citrifolia	mengkudu			bengkudu		✓	NA	NA
various	resins			✓		[cypress pine, ironwood, mangrove?]	NA	NA

Scientific name	Common name	'Island of Macassar' (C16th)	Makassar (C17th)	Celebes (C18th)	Celebes & 'eastern islands' (1st ½ C19th)	Northern Australia (C19th)	Singapore $/picul 1873	Rank
Atlas of Living Australia; Australian Plant Name Index; Wikipedia	Sources:	Baker 2005:62–63; Cortesao 1944:216–227; Raben 2008:122–135; Reid 1983a:31, 1983b:158	Andaya 1981; Crawford 1969; Gunn 2016; Knaap and Sutherland 2004; Mahmud 2014:190; McWilliam 2007; Meilink-Roelofsz 1962; Noorduyn 1983; Parimartha 2008; Poelinggomang 1993; Sutherland 2004; Villiers 1990	Coolhaas 1964b:662; 18th century VOC Macassar Harbour-master register data in Knaap and Sutherland 2004	Holloway 1842; Kobayashi 2013:464; Reid 1983a; Sholl 1865.	Bain 1982; Bremer 1843; Brown 2001; Brown 1903; Cense 1952; Crawford 2001; Crawfurd 1820; Dashwood 1901–2; Earl 1837a, 1846a, 1846b; Flinders 1814; King 1827; Macknight 1976; Robinson 1882; Searcy 1909, 1912; Swadling 1996; Vosmaer 1839; WAM 1968; Wilson 1835.	Everett 1879; GoS 1874:304–335; Holloway 1842:32; Northern Territory Times and Gazette Fri Apr 1904:2; Singapore Chronicle and Commercial Register Thu 5 Jul 1827:2, Sat 23 Jul 1836:1; The Straits Times Sat 17 Jul 1875:1; WAM 1968	

Items provided to Indigenous people

Research of historical and linguistic sources (incorporating Tables 5–6) shows that there is a broad similarity in the trade goods received from the visitors by northern Australian Indigenous people and those of other commodity-collecting groups on the periphery of the Arafura Sea, including the Aru Islands and southwest NG, and the Bajau (Table 11). There are also points of difference that may reflect tailoring by the visitors meeting Australian Indigenous people's preference for dugout canoes and associated equipment.

The Macassans hired dugout canoes for the equivalent of 1.14 piculs of trepang, estimated at around $20, each (Macknight 1976:22; GoS 1874). Thus any canoe acquired by Indigenous people was intrinsically valuable to the *perahu* crew. The relative value of eight goods received by Indigenous people can be estimated from Singapore's import data in 1873 (GoS 1874), although key products had no unit price (beads), were too broadly categorised ('hardware & cutlery', 'ironware', 'firearms & gunpowder', 'wearing apparel') or not even specified (belts, blankets, pipes).

Table 11 A comparison of goods received in north Australia as well as by other peripheral trading places in the Arafura Sea, plus the Bajau. Grey back-fill indicates unique items, demonstrating differences in the preferences of SEA islanders and Australian Indigenous people.

Arafura Sea		Bajau	Northern Australia						Equivalent category	Singapore 1873 $/picul *(unless otherwise indicated)*	Rank
Aru Islands	*SW coast New Guinea 19thC*		*Common to northern WA and QLD*	*Common to NW, Tiwi, Arnhem Land and GoC*	*Common to Tiwi, Arnhem Land, GoC and QLD*	*Arnhem Land, Tiwi Islands*	*AL and QLD*	*QLD*			
arrack and jenever (gin)	arrack	alcohol			(glass bottles of) alcohol/arrack/gin /liquor (for scrapers)				arrack	31(UK gallon)–37(US)	2
	armbands										
beads					beads						
						belts					
							blankets				
cash (copper)						cash					
		cassava									
cloth: native Celebes; white English calico; American unbleached cotton	low quality cloth (>1793); cotton cloth (c.1880s)	cloth				calico, cloth for sarongs, linen, wool			cotton goods	1.07/piece	NA
						clothes/trousers					
	copper goods										
				dugout canoes	mast, pandanus sail				Macknight 1976	>20.78	3
	firearms							firearms			

Arafura Sea		Bajau	Northern Australia						Equivalent category	Singapore 1873 $/picul *(unless otherwise indicated)*	Rank
Aru Islands	*SW coast New Guinea 19thC*		*Common to northern WA and QLD*	*Common to NW, Tiwi, Arnhem Land and GoC*	*Common to Tiwi, Arnhem Land, GoC and QLD*	*Arnhem Land, Tiwi Islands*	*AL and QLD*	*QLD*			
fish											
			flour			flour?			cheapest	4.42	6
iron coarse cutlery		iron axes		(iron) axes							
					(iron) fish-hooks						
		iron harpoon points									
	bush knives (>1793; c.1880s)	iron knives			(iron) knives						
		iron nails				(iron) nails for fish hooks			cheapest	4.03	8
				(iron) spear-heads							
					(iron) tomahawks						
	'ironware'										
						lines for fish hooks, or string			NEI twine	3.82	9
		matches			matches	flints?					
				molasses/sugar					jaggery	4.21	7
	opium	opium					opium		Turkish	453.29	1
	porcelain										
rice		rice			rice				cheapest	1.97	10
	sago	sago									
salt											

Arafura Sea		Bajau	Northern Australia						Equivalent category	Singapore 1873 $/picul *(unless otherwise indicated)*	Rank
Aru Islands	*SW coast New Guinea 19thC*		*Common to northern WA and QLD*	*Common to NW, Tiwi, Arnhem Land and GoC*	*Common to Tiwi, Arnhem Land, GoC and QLD*	*Arnhem Land, Tiwi Islands*	*AL and QLD*	*QLD*			
					smoking pipes						
								tea	NEI	20.53	4
tobacco		tobacco			tobacco				NEI	16.06	5
Sources: Brumund 1853:281; Wallace 2014:472–482	Ellen 2003:126–136	Sather 2002:21; Sopher 1965:239–241	Bain 1982:50; Berndt 1965:4; Brady 2013; Chase 1981:10; Crawford 2001:84–87; Duivenvoorde 2019:36–42; Evans 1992; Robert 1973:141; Swadling 1996:155–162; Thomson 1949:72–86, 1957; Tindale 1925–1928; Turner 1974:180; Uznik 2018:23–63; Walker and Zorc 1981; Warner 1932; Worsley 1954:17, 1955						GoS 1874		

Case studies (Who, Where, When, Which and the End)

The problematic islands listed in Table 1 and suggested as the origins of non-Sulawesian earthenware were investigated in Appendix 1, which explains why only Flores remains of interest to this study. While Florinese are not known as seafarers, this study will focus on the trade networks of Bajau, Bugis, Makassarese and Sumbawans who settled on Flores.

Earliest seafaring by Bajau and/or Sulawesians

Archaeological research indicates that, in the first half of the sixteenth century, South Sulawesi probably obtained Chinese ceramics via Java and Sumatra, and from the Moluccas via the Philippines (Bulbeck et al. 2018:275–282; Min 2013:50–51; Pinto 2014:84). However, it is difficult to identify the ethnicity of the SEA traders involved. Around 1515, Tome Pires describes 'the islands of Macassar' as having foodstuffs and trading with Melaka, Java, Borneo and places between 'Pahang and Siam' (Cortesao 1944:147–227, 2010:233). He also refers to the seafarers taking their women to sea, and plundering 'from their country up to Pego (Pegu kingdom, Myanmar) … the Moluccas and Banda, and … the islands around Java'. Duarte Barbosa (1518:204) wrote of South Sulawesi inhabitants' maritime trading with the Moluccas.

Meilink-Roelofsz (1962:102) associated Barbosa's report with the Bugis, and continued to associate Pires' information with the Bugis even though Winstedt (1947:257) noted that Cortesao erroneously translates 'Buju's' (or Bajau) as Bugis. However, Pires himself appears to conflate the two. The Bugis had foodstuffs to trade but the Bajau traded in order to obtain foodstuffs and were known for nomadism and taking their women to sea (Sopher 1965:145). A 1521 Spanish report of people near Zamboanga Island 'mak[ing] their dwellings in boats' has been associated with the Bajau Laut (Nimmo 1968:3; Pigafetta 2007:77). The Bajau of the southern Melaka Straits were the Orang Laut rather than Bajau Laut (Barnard 2007:35; Figure 3).

A proposed chronology for South Sulawesi emphasises agricultural intensification and the conflict associated with polity formation from 1200–1600 (Bulbeck and Caldwell 2000:106–107). In 1545, the 'island of Macassar' reportedly had seed pearls, white cloth and slaves. In northwest Sulawesi, 'the land of sandalwood', Durate, was in rebellion. Suppa(q), South Sulawesi, was without foodstuffs due to drought (Baker 2005:62–63; Druce 2009:327). Rice cultivation in the Binamu and Bangkala kingdoms led to timber clearances, reducing the local availability of forest products (Caldwell and Bougas 2004:501). The above is summarised, and placed in context with northern Australian archaeological research, in Figure 46.

Figure 46 Trade with the 'island of Macassar', 1512–1545, and sixteenth-century northern Australian archaeology.

Bajau (Jama Mapun, Orang Buton and Turijene)

Trade porcelain found on Mapun dates to the ninth and eleventh centuries (Casino 1976:8–9). From 1768, coastal north Borneo Tau Higad people traded externally. In 1783, the British EIC traded at Mapun. Before 1850, Mapun mainly traded with Sulu (Warren 1981:40–137; Wilkes 1844:189). From 1875–1907, Jama Mapun bartered for rice and forest products on Palawan, selling them in north Borneo, British Labuan Island, Kudat and German Elopura (Casino 1976:14–76; Skertchly 1896; Venturello 1907:518–537). According to Table 8, this trade network is a combination of Types II (Palawan=A-to-VC[Mapun]-to-D=Tau Higad) and IV (A-to-VC-to-EC[Labuan]-to-D).

Bajau congregated around Makassar by the early-seventeenth century (Sather 2002:26). Though reportedly more common in the northwest, in 1840 a Bajau Laut *perahu* from near Makassar visited Port Essington for tortoiseshell (Earl 1843:13–45). Some came from Pulau Kudingareng (known for quality trepang) for tortoiseshell (Vosmaer 1839:114–161). Some accompanied the annual Makassar trepang fleets but largely operated alone. These are Type III trade networks (A=Bajau-to-VC[Makassar]-to-EC[Amoy]-to-D=China). Bajau of coastal Borneo also visited Port Essington (Earl 1846a:240) but it is unclear if a separate group is meant. Between 1908–1924, Robin Hilliard at Kupang once engaged Bajau (Orang Buton) from the Tukang Besi Islands at Rote Island to catch turtles at a north-western island (Stacey 2007:15–65; Stacey and Allison 2019:317).

There are two cases of possible borrowing of Bajau words by Indigenous languages and Yolngu people knew the names of two Bajau groups (Evans 1992:67 citing Verheijen's 1986 LSI-based analysis; McIntosh 1995a:15, 1995c:56). A re-examination of Bajau language and trade in the Borneo-Sulu region and Buton is warranted (Earl 1837a:135–336,1837b:179; Dewall 1855:446; Okushima 2003:236–242; Sather 1997:322–327). Bajau visits and products are shown in Figures 47 and 60.

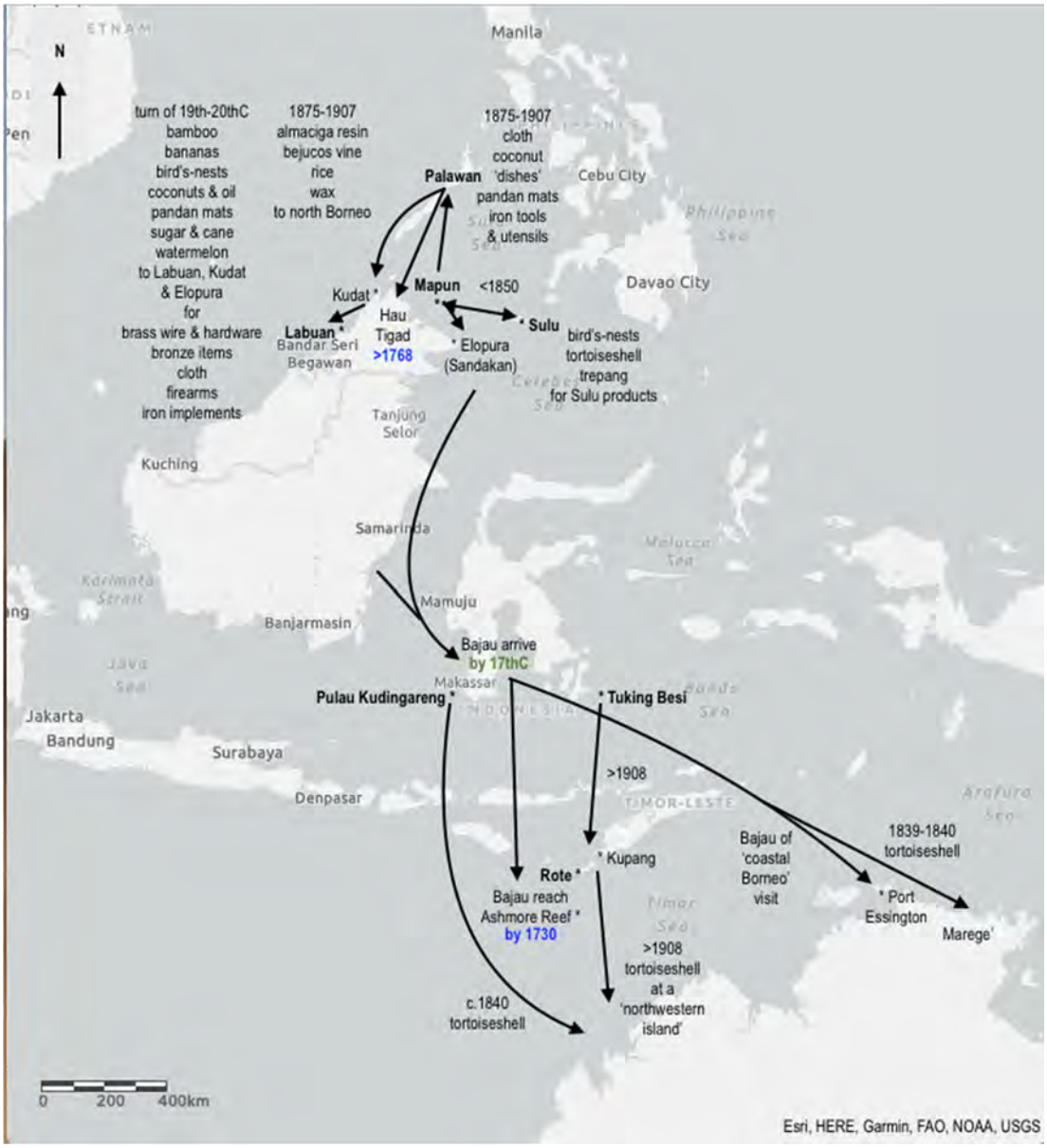

Figure 47 Jama Mapun trade network, with Bajau visits to northern Australia.

Bugis

The Bugis chiefdoms of southeast Sulawesi existed by the thirteenth century, according to archaeological research. Bugis rice and forest products were traded for SEA and Chinese ceramics (Wellen 2014:19). The latter (including Wanli [1573–1620]) were prestige goods in Bugis burials until the seventeenth century (Bulbeck et al. 2018:275–282). Javanese, *en route* to Maluku probably from Melaka, brought ceramics. Sumatra and the Philippines were also sources: the latter due to rising Chinese demand for cheap silver, exchanged for trade wares, during the Wanli period (Min 2013:50–51; Pinto 2014:84). The Winchelsea Island sherd was identified through comparison with a Philippines collection of Chinese porcelain (Macknight 1976:162; McCarthy and Setzler 1960:294).

Data from multiple sources allows reconstruction of Bugis trade in forest and sea products (re-exported from Singapore) as shown in Figures 48 and 60 (Bain 1982:74; Barnes 1996:327–328; Dalrymple 1769:83–92; Earl 1843:443; Ellen 2003:21–143; Figures 34 and 37; Forrest 1792:82–83; Fox 1977:462; Freijss 1859:451–516; Hussin 2007:48–91; Ken 1960:74–77; Kruseman 1836:41; Noorduyn 1987:69–73; Parimartha 2002:138–207; Warren 2013:155 and Wichmann 1891:205). The c.1828 Bugis chart shows five ports on Flores (Figure 49), demonstrating the rise of LSI trade networks (Hagerdal 2017:30–145; Parimartha 2002:195–208). The Bajau, Bugis, Makassarese and Malay settled in at least four of these ports by the early-nineteenth century (Figure 31). The sole mapped Timor port is Pante Macassar (Gunn 2016:137). Parimartha (2002:279) makes contradictory statements about Kupang: that, in 1834, Bugis ‘can’ sell their trepang to Chinese there; yet that Bugis avoid Kupang because of port taxes. Figure 49 also shows that the Bugis traded at Sulu Island, therefore the vessel shown in Figure 39 may actually have been Bugis.

Figure 48 Late-seventeenth- to twentieth-century Bugis trading.

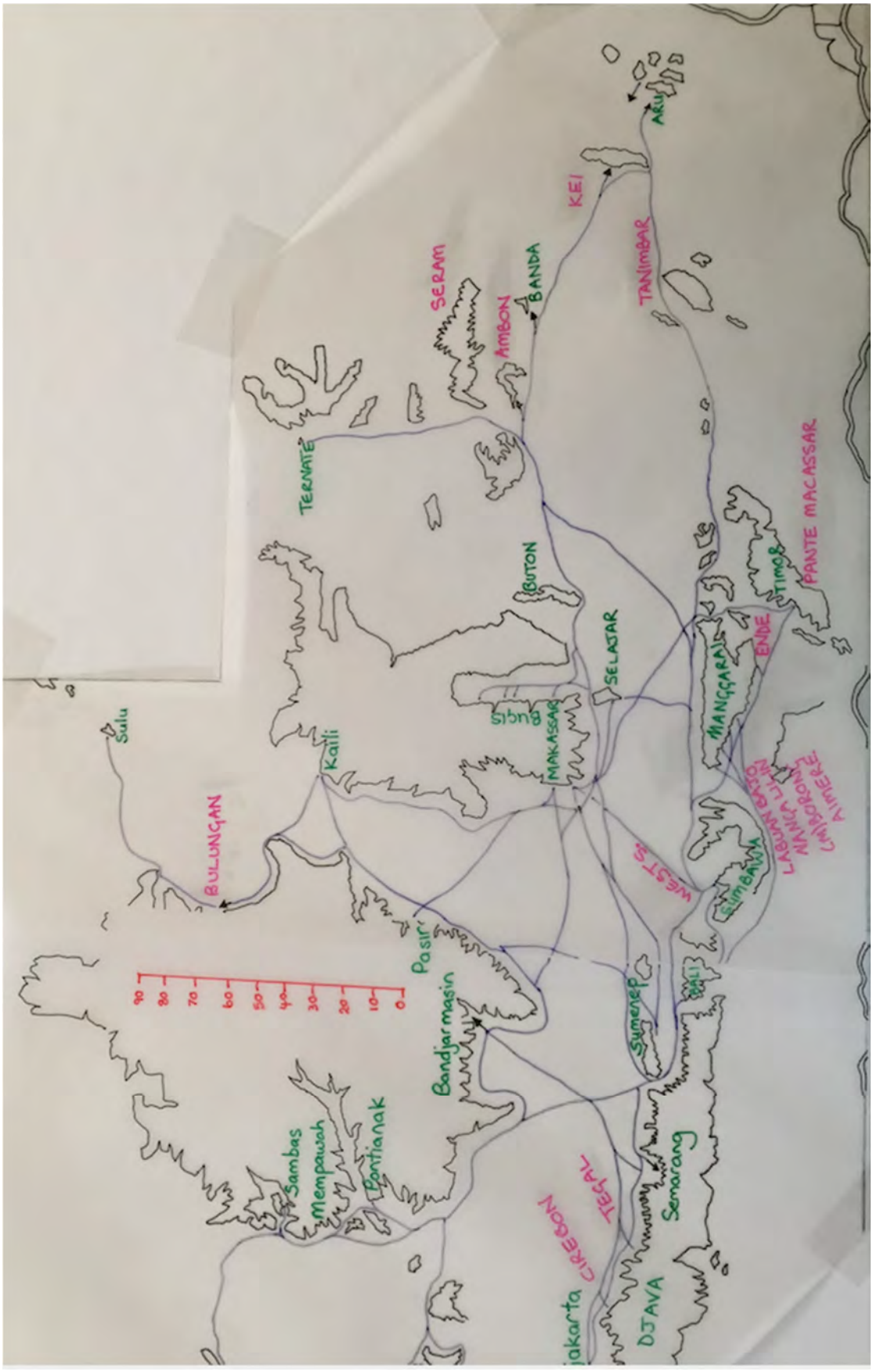

Figure 49 Focus on Bugis freight routes and place names in the LSI (Adapted from Figure 33).

Chinese in Maritime SEA and northern Australia

The fifteenth century Shun Feng Hsiang Sung manuscript shows an eastern route from China to the Moluccas and Donggala, Central Sulawesi, and a western route east of Melaka via Java, Bali and Sumbawa, and around Timor (Mills 1979:70–73. Figure 50). From 1433–1567, Guangdong (Canton port), Fujian (Amoy and Chuan-chou [or Quanzhou]) and Zhejiang (Ningbo) provinces continued SEA trade (Andaya 1999:2–7). In 1567, Haicheng replaced Quanzhou at the center of Fujian's new 'Eastern and Western Seas' trade system (Figures 1 and 26). The early Chinese ceramics whose sherds reached northern Australia probably left China via these routes during these periods.

Figure 50 Fifteenth-century Chinese voyaging (Adapted from Mills 1979:73 with permission from Persée https://www.persee.fr/doc/arch_0044-8613_1979_num_18_1_1502).

The first Chinese junk to Makassar in 1615 carried porcelain and ‘other China commodities’ (Cokayne 1899:137). In 1638, Chinese traders called at Bima, Sumbawa (Hagerdal 2017:51–52). Amoy (Xiamen) was at the center of trade between the mid-seventeenth and eighteenth centuries (Andaya 1999:3–7). Formosa (Taiwan) was key during the 1661–1684 Ming imperial maritime ban (Ku 2018:55). In 1751, a Chinese trader from Timor unintentionally arrived on a ‘southern coast’ (presumably New Holland) after sailing for a ‘sand-plate beyond’ Rote (probably Ashmore Reef) for turtle shell (Fox 2000:348; Robert 1973:146–149. Figure 62). In the eighteenth century, Chinese migrants controlled the China trade and traded in rice, arrack, earthenware, salt and slaves around Java, Makassar and LSI (Knaap 1996:66; Knaap and Sutherland 2004:59–149; Reid 1993b).

In the nineteenth century, immigrant Chinese pursued forest and sea industries across northern Australia. These are shown in Figures 51–53, using new data from Appendix 4. The location of the Chinese fishing station at Daly River was surveyed in 2013 but no substantial surface remains were found (Mirams 2021:184–188). Some immigrant and Australian-born Chinese (e.g. Otto Kong Sing [Appendix 4]), returned to EA or SEA, facilitating Australian commodity exports.

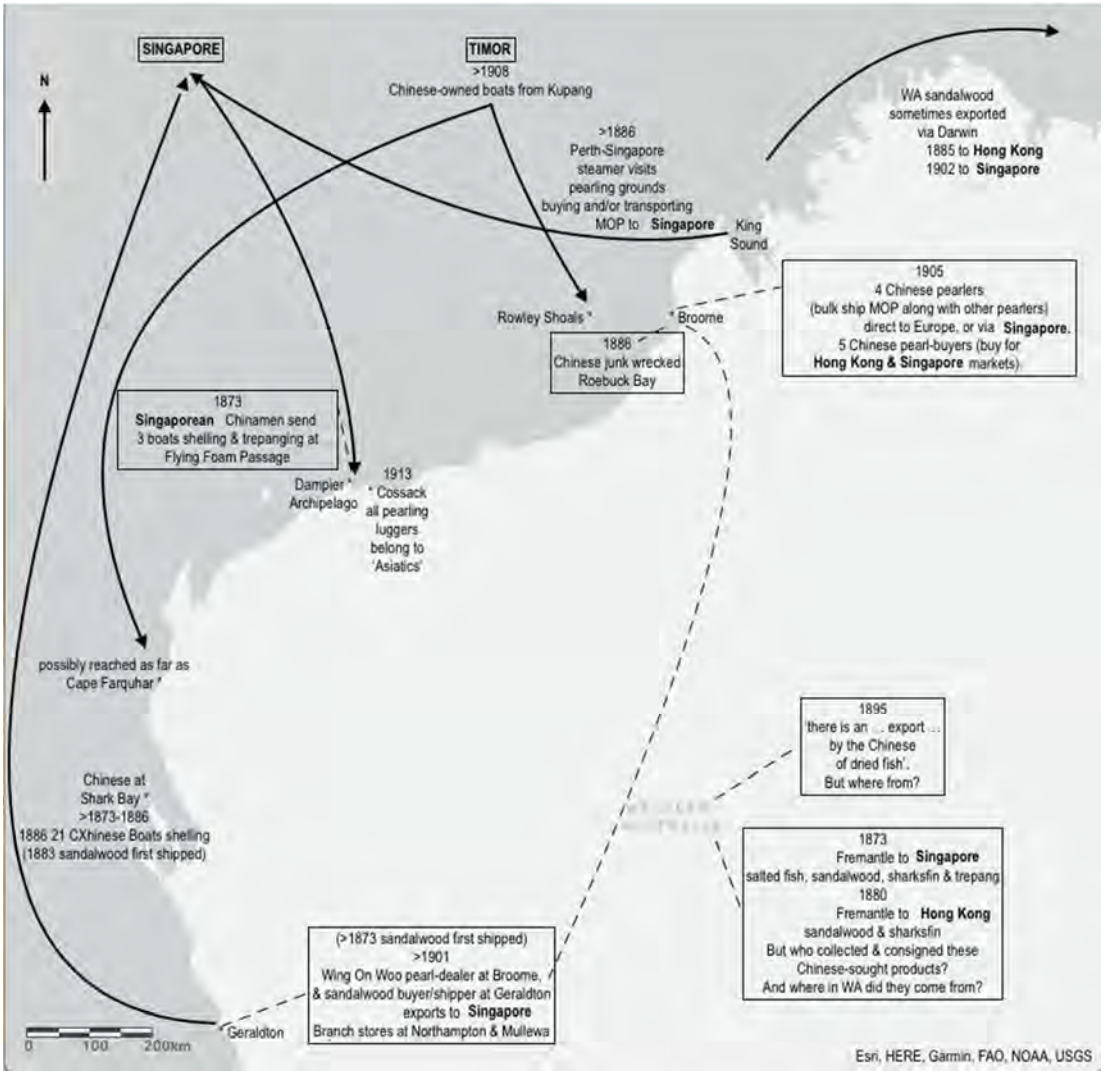

Figure 51 Nineteenth-century Chinese forest and maritime industries in northern WA.

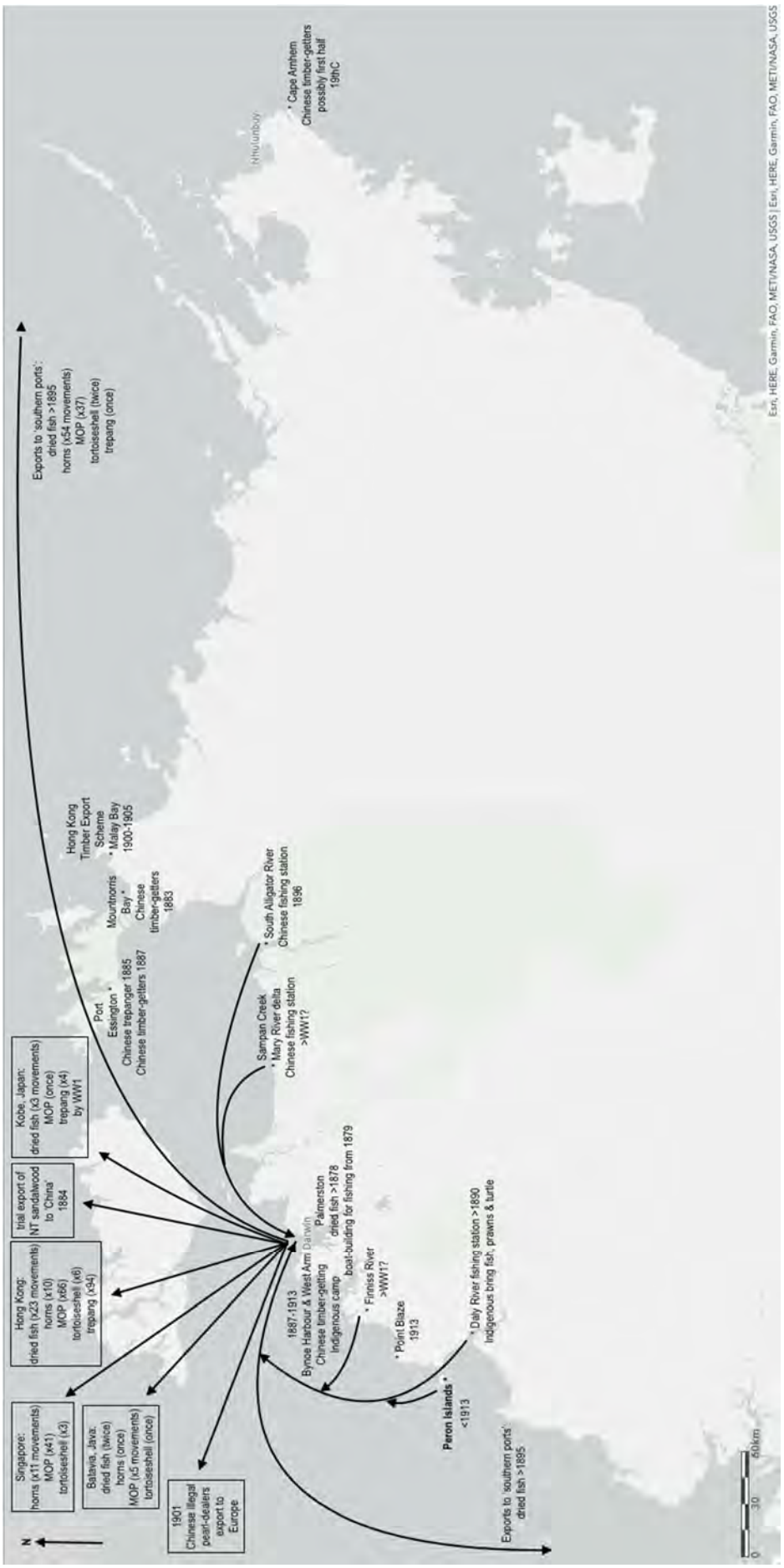

Figure 52 Nineteenth-century Chinese forest and maritime industries in the NT.

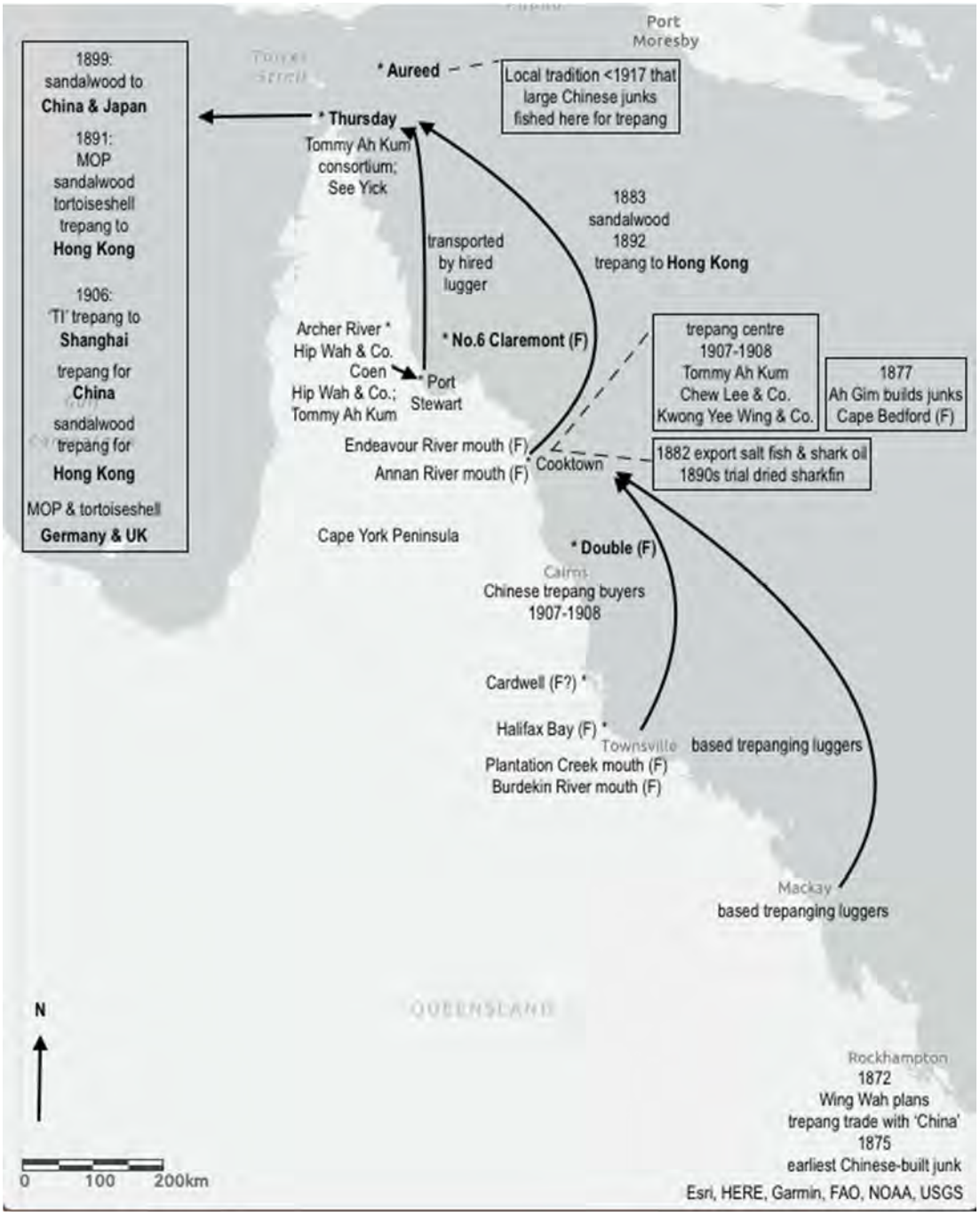

Figure 53 Nineteenth-century Chinese forest and maritime industries in Queensland. 'F' denotes Chinese fishing station.

Makassar

Data from multiple sources allows reconstruction of Makassar's seventeenth-century forest and sea products trade shown in Figure 54 (Andaya 1981:46; Coolhaas 1964b:377; Crawford 1969:99–100; Gunn 2016:133–138; Knaap and Sutherland 2004:18–19; McWilliam 2007:223–227; Noorduyn 1983:119–120; Parimartha 2008:72–73; Poelinggomang 1993:61–63; Sutherland 2004:88–96 and Villiers 1990:160–175). Makassar imported amber, bezoar stones, bird's nests and pearls for local consumption (a Type I trade network). Coolhaas' (1964a:678–680) suggestion that Makassarese sailing beyond Damar Island in 1654 reached Australia contradicts evidence of contemporary visits to the Aru and Tanimbar Islands.

Chinese shipping controlled the China trade in the eighteenth century, bringing earthenware (neither stoneware jars nor porcelain are mentioned) to Makassar that were re-exported (e.g. to Sumbawa) (Knaap and Sutherland 2004:61–105). Sulawesian shipping with Java reduced while increasing with LSI, matching the Chinese and Malay skippers. For example, trepang was shipped from Manggarai, Flores (Nagel 2003:503–593). Data from Barnes (1996:327–328); Ellen (2003:103); Knaap and Sutherland (2004:197–204, 236–249); Parimartha (2002:97) and Robert (1973:146–149) allows reconstruction of Makassar's eighteenth-century forest and sea products trade (Figure 55).

China-Makassar junks continued in the 1820s (Macknight 1976:12). The Inquirer and Commercial News (Wed 12 Sep 1877:2) speculated that Makassar-cleared *perahu* came no further south than King Sound, WA, because trepang quality fell. Makassar's central role declined in the nineteenth century, with Makassarese settling in the LSI (Hagerdal 2017:30–145. Figure 31). After 1815, Makassar transferred its functions as a trading hub to, and thus integrating, the surrounding islands (Nagel 2018:404-414). The combination of Celebes, LSI and Maluku in Singapore's official import data reinforces this (Holloway 1842:32–33; Kobayashi 2013:464). A reconstruction of Makassar's nineteenth-century forest and sea products trade and Singaporean re-export is shown in Figures 56 and 60 (Data from Earl 1843:13–45; Figures 34–37; Macknight 1976:12–135; Parimartha 2002:195–279, Sholl 1865 and Tables 4 and 10).

Figure 54 Makassar's seventeenth-century forest and sea products trade.

Figure 55 Makassar's eighteenth-century forest and sea products trade. Crosses show other trade contacts.

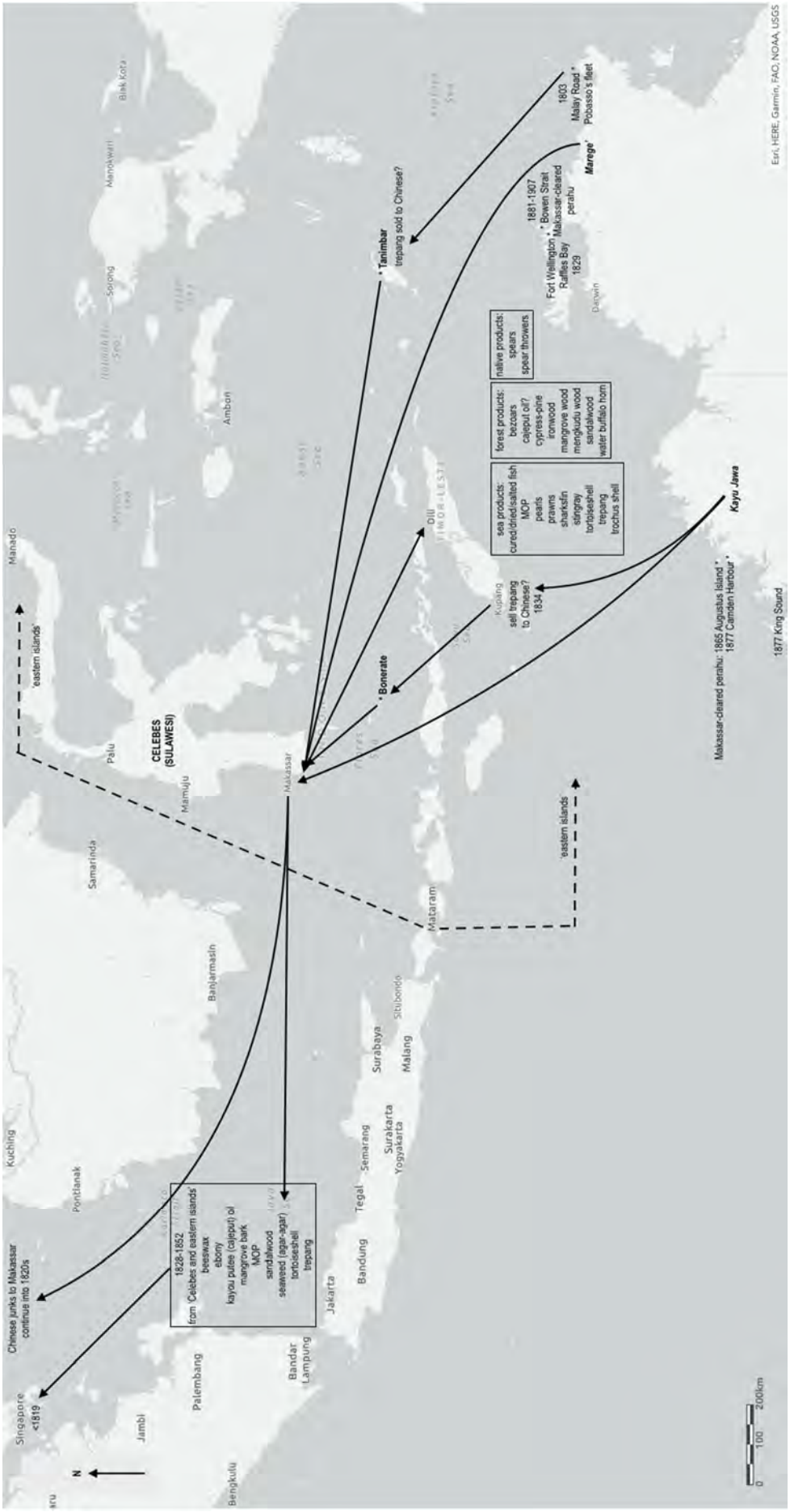

Figure 56 Celebes and 'eastern islands' nineteenth-century forest and sea products trade.

Malays in Makassar and LSI

Before 1530, when South Sulawesi trade was concentrated in Makassar, two southwest peninsula locations (Suppa[q] and Bacukiki) to the north were more important to Malays (Cummings 1998:107–114; Druce 2009:237–241). The first official Malay settlement in Makassar was in 1561. Initially, Malay traders plied between Maluku and the western archipelago.

In 1632, eight Malay ships reportedly smuggled nutmeg (Ellen 2003:86). While Makassar Malay traders were reportedly linked in 1638 to Melaka, Cambodia, Aceh, Johor, Batavia, Banjarmasin, the LSI, Maluku, Manila and Sulu, in reality, in the 1650s, only one Malay merchant had a ship of as much as 3.5 tons (Sutherland 2001:399–419). A Malay trader took slaves from Buton in 1683. Links with Johor were broken by 1709 and Malays were denied access west of Batavia, and to Manila. Nevertheless, in 1715, resident Malays had the most vessels in Makassar.

In the 1720s, Malays brought trepang from 75 km north of Makassar. The Malay traders on Ende, Flores, led slave exports. By 1733–1744, the number of Malay skippers in Makassar was second only to the Chinese (Knaap and Sutherland 2004:57–164). Malays sailed vessels of 3–3.5 tons in the 1760s–1770s. In the latter period, Malays carried 57% of agar-agar import volume, mostly from Bima, Sumbawa, reducing to 41% in the 1780s. In the final third of the century, the LSI became the Malay skippers' mainstay. In 1787–1788, Malays returned from Sumbawa with 'marine produce' (e.g. trepang) and slaves. They returned from Bonerate with agar-agar, beeswax, resin and slaves. By 1869, Malays were residing at Bima (Parimartha 2002:196). This data has been used to recreate the Makassar Malay trading network in Figures 57 and 60.

Figure 57 Makassar Malay trading network.

Seram Laut Islands

The Dutch referred to the islands east of Seram as the Seram Laut Islands (Goodman 2006:72). Serdenha was a major redistribution center before 1500, as was the Southeast Seram archipelago more generally throughout the sixteenth and early-seventeenth centuries (Ellen 2003:79–80). In 1581–1582, Portuguese Miguel Roxo de Brito possibly visited Serdenha, which reportedly had its own fleet of junks and trade network (e.g. bringing amber from Bima) (Boxer and Manguin 1979:179–181 redrawn by Ellen 2003:69–70 as Figure 58. Additionally, beads and ceramics were traded for BoP and nutmeg (Mahmud 2014:190).

At Kulupuari on the Kikori River, PNG, a Murano glass bead, manufactured in Italy between 1650–1750, was excavated from archaeological deposits dated between 1630–1770 (Rhoads 1984). Rhoads suggested that SEA traders connected there with the route by which TS MOP was traded inland to the PNG highlands (McCarthy 1939:181).

Swadling (1996:139–276) proposed that these were SLI traders, synthesizing this from historical and linguistic evidence (specifically Southeast Seram Littoral words for knives, iron and tobacco evident around TS). In 1606, when Spanish explorer Luis Vaz de Torres navigated the Strait between NG and Cape York, there was reportedly no local interest in knives or iron. During the 1645–1790s Dutch trading monopoly of the Aru Islands, SLI traders expanded along the south coast of PNG in search of massoy bark (initially) and damar resin (nineteenth century) reaching the Trans Fly region, opposite TS. SLI visits possibly continued until 1850 when the Sultan of Tidore reasserted his authority over Dutch NG.

Ellen's (2003:138–143) review of Moluccan trading networks accepts Swadling's (1996) interpretations. However, there remains no historical evidence that SLI went further east than Uta in west NG. The Asmat people of the Lorentz River transported their produce to Onin. The capacity of the Indigenous people of the southern NG coast to transport SEA trade goods east towards Cape York needs further research (McNiven 2010). A reconstruction of the SLI trade network south of Onin from the fourteenth century is shown in Figure 59 (Data from Appendix 3 Tables A3.3–A3.4; Earl 1853:11–38; Ellen 2003:100–145; Figures 31, 34–35; Goodman 2006:70–77; Modera 1830:73; Pouwer 1955:215–218 [citing Rouffaer 1908 citing Dutch scholar Rumphius] and Swadling 1996:139–276).

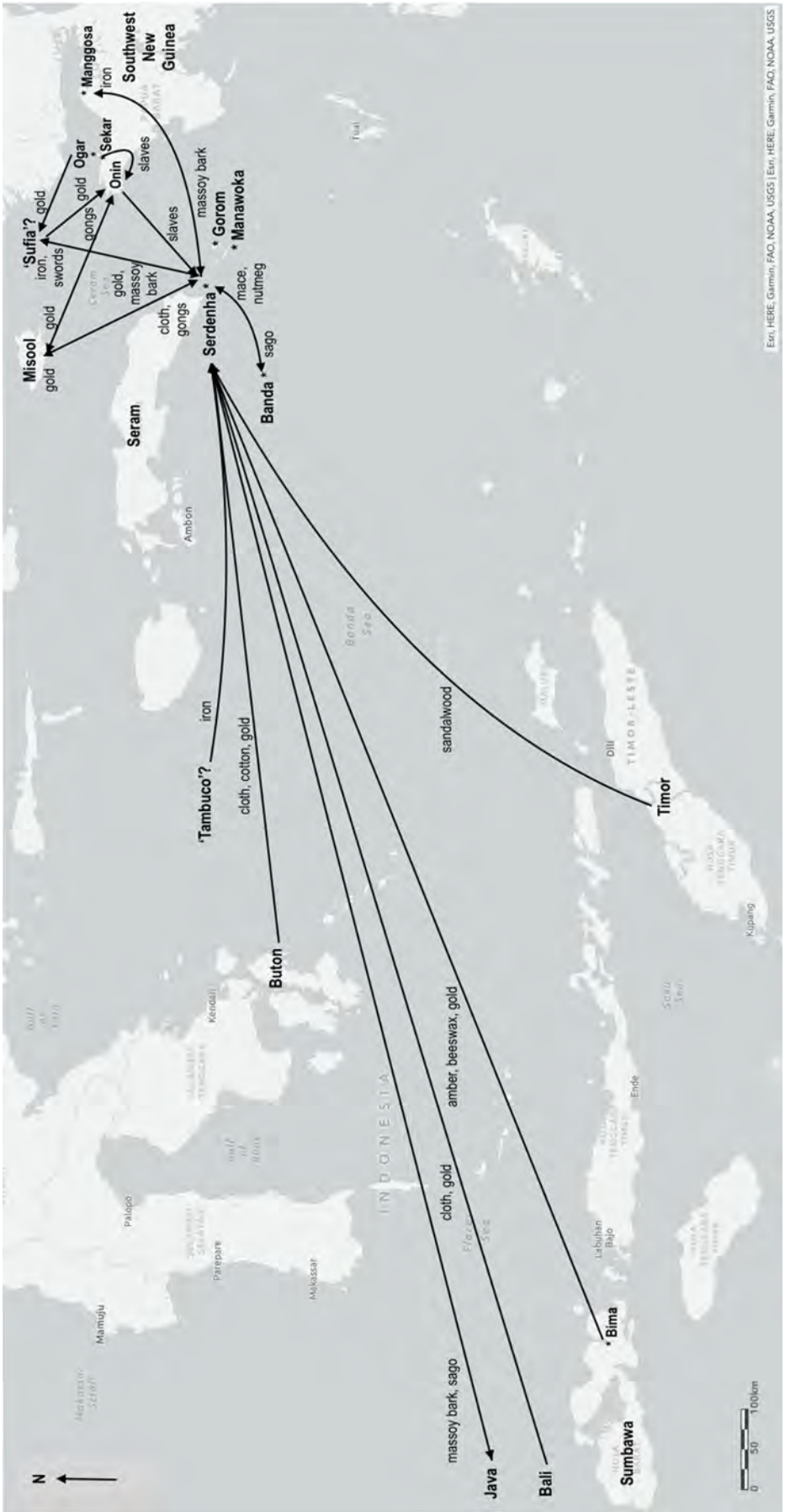

Figure 58 Trade networks of Serdenha (Seram Laut Island) and southwest New Guinea c.1580 (Adapted, with permission, from Ellen 2003:69–70, with data from Boxer and Manguin 1979:181).

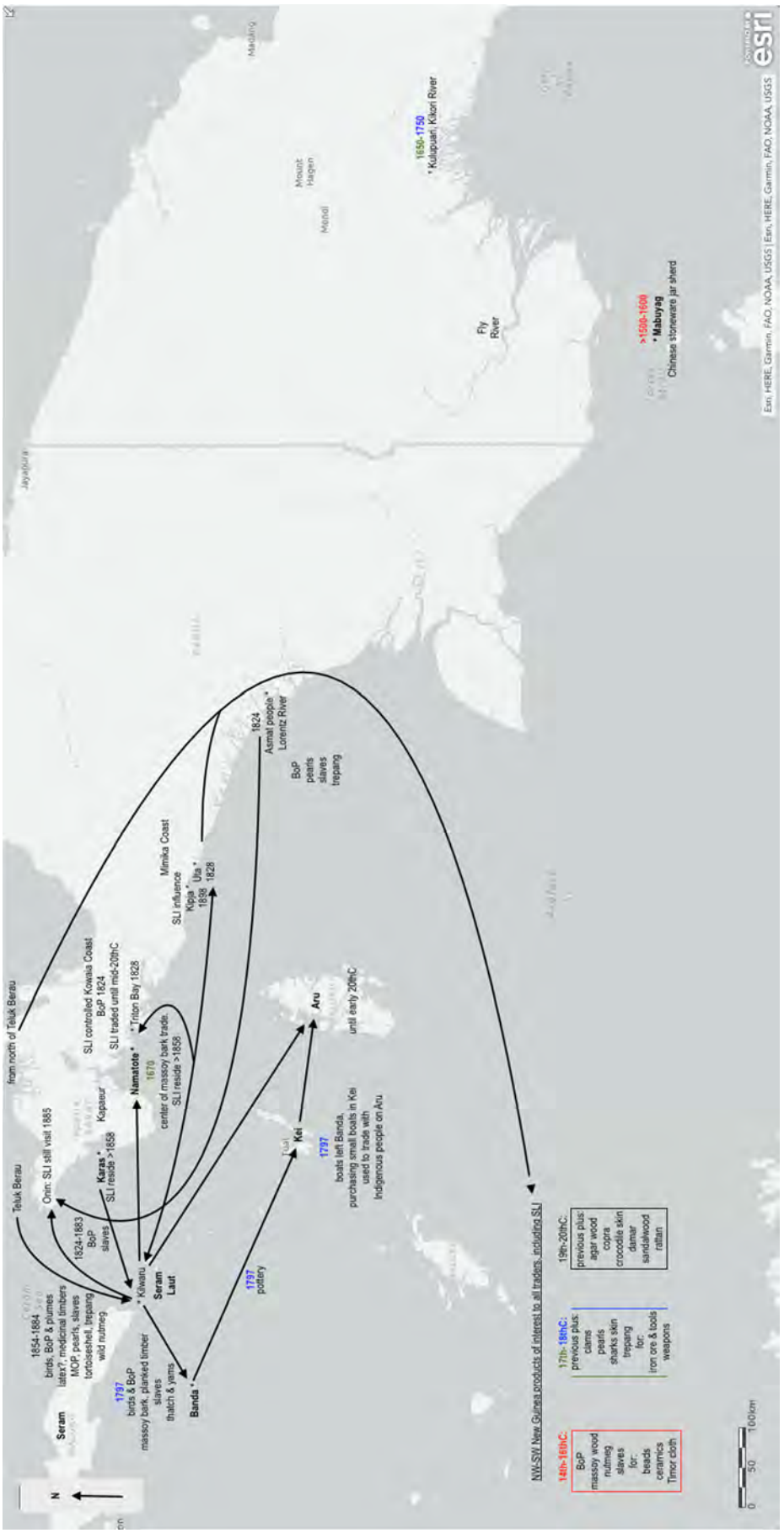

Figure 59 SLI (and others)-west NG trade network, from the fourteenth century.

Singapore's re-exports

Singapore opened in 1819, redirecting eastern archipelagic trade. The Tabular Statements of the Commerce of Singapore from 1828–1852 combine import data from Celebes with 'other eastern islands', not including Sumatra, Java, Bali, Sumatra, Borneo or the Philippines (Figure 38; Holloway 1842:32–33; Kobayashi 2013:464). Figure 60 summarises Singapore's re-export of these forest and sea products in the nineteenth century.

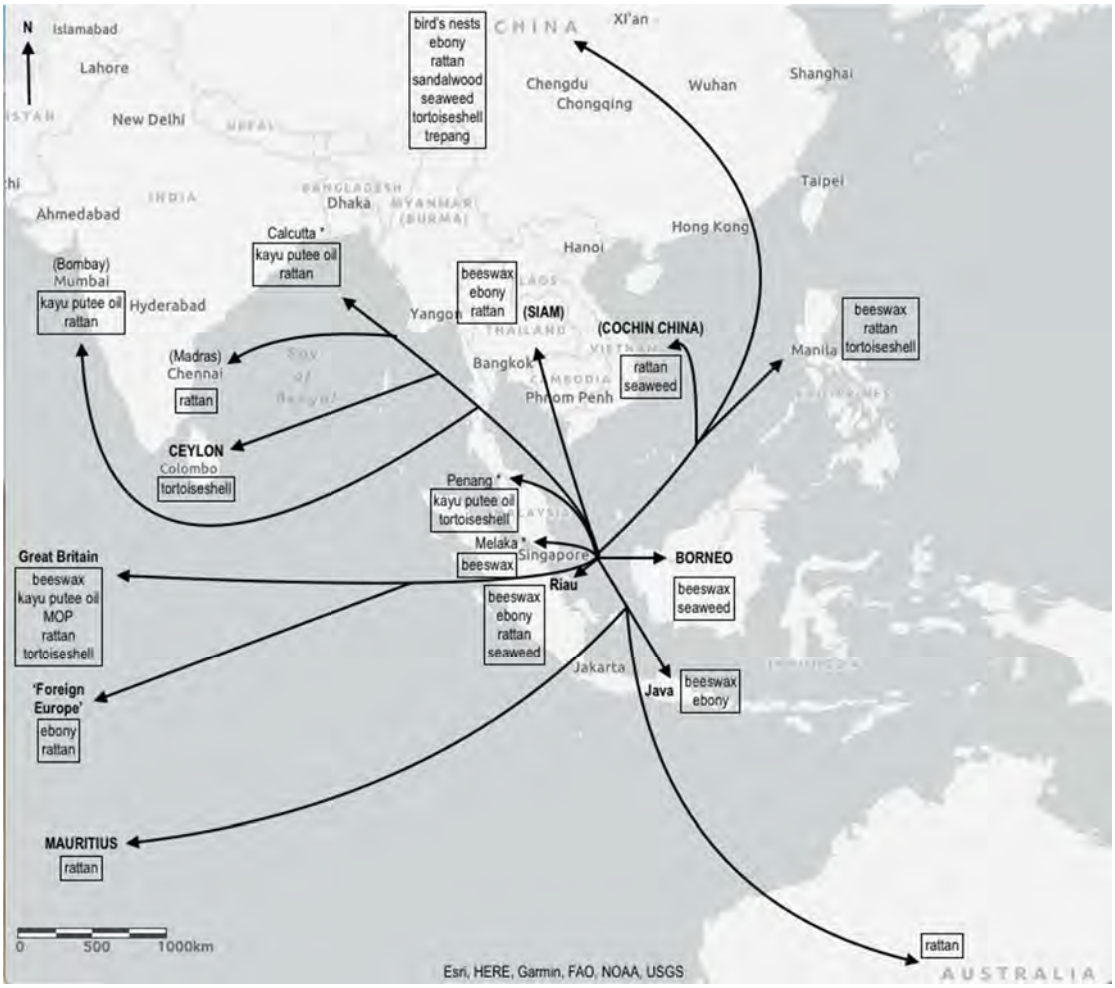

Figure 60 Nineteenth-century re-export by Singapore.

Sumbawa Island (Bima and west Sumbawa)

Historically, Sumbawa Island contained several kingdoms, including Bima in the east and Sumbawa in the west (Hagerdal 2017:12; Noorduyn 1987). It was the only island that exported sappanwood, along with beeswax, honey, bird's nests, salt, cotton and coarse coloured cloth (preferred by east Seramese). Bima was a station on the trade route between Java and Maluku since the fourteenth century.

In the seventeenth century, Bima traders sailed as far northwest as Arakan, Burma, and Chinese traders called at Bima (Hagerdal 2017:30–52). 'Sumbawan' skippers were in the eighteenth-century ports of Java (Knaap 1996:209). At that time, Makassar imported from both Bima and Sumbawa (Knaap and Sutherland 2004:141–246). After the end of the eighteenth century, Bugis traders increasingly used Bima and Sumbawa as outlets (Hagerdal 2017:30–145). Selayar Islands traders brought 'maritime products, textiles … etc.' to Bima. East Seramese traders brought NG products to Sumbawa 'and other places' (Hagerdal 2017:12). It is unclear when the Selayar and Seramese visited.

By 1824, Bimanese had settled on the coast of Flores (Kruseman 1836:41). 'Many products' from the Manggarai area were exported via Bima (Parimartha 2002:195–196). The Chinese financed the expeditions of Sumbawans. In 1840, a *perahu* from the island of Sumbawa arrived at Port Essington along with one Bajau *perahu* and 11 from Makassar (Earl 1846b:65, 1850:249, 1863:182). The Bajau of Sumbawa sailed mainly at their own discretion but also with 'the people of' Gowa (Freijss 1859:451–516). Forest and sea products were in Bima's markets from 1829–1846 (Zollinger 1850:108). The Bima region is described as a 'Bugis, Makasar, Arab' trader zone from 1832–1847, directing shipping largely to Makassar but also Melaka and Singapore, Kalimantan, Sumatra, Java (including Batavia), Madura, Bali, Lombok, Lingga, 'Sumbawa proper', Sumba, Timor and Maluku (Parimartha 2002:193–439). This data (and Singapore re-export) is reconstructed in Figures 60–61.

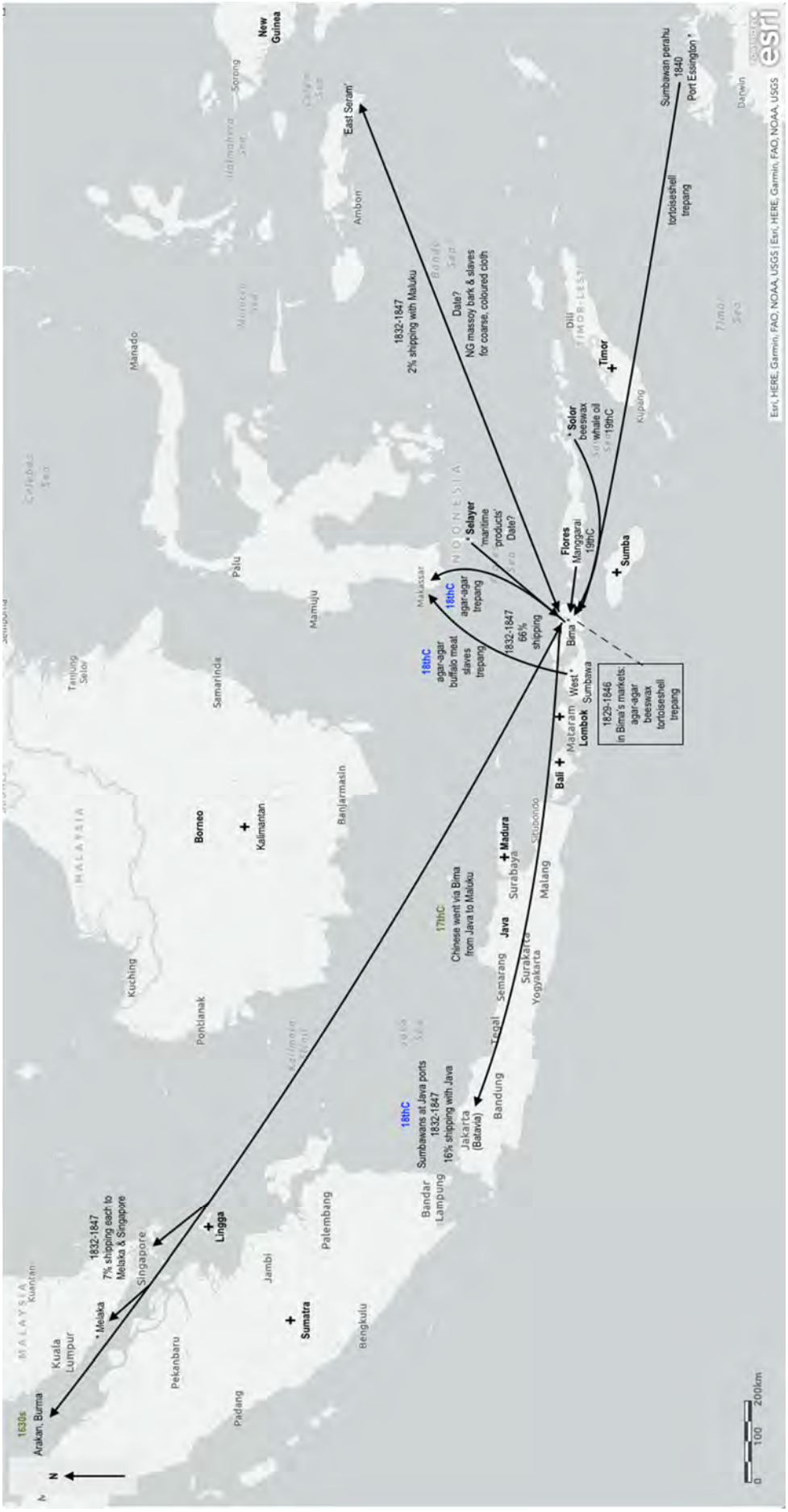

Figure 61 Trade network of Sumbawa. Crosses show other trade contacts.

Timor Island

Between 1751–1754, the Dutch reported of Timor that a Chinese trader sailed for 'the large sand-plate beyond Roti' for tortoiseshell and that 'The Southland … is made now and then … but produces … nothing but trepang … and wax' (Robert 1973:146–149). In the 1750s, the Dutch sent beeswax, sandalwood and slaves from Kupang to Java (Alderwerelt 1904:198–203; Heiden 2019:17).

In the eighteenth century, Solor traded sea products with Kupang and Solorese served as troops there (Barnes 1996:324–328). From 1817–1835, Solorese were at Rote and were Kupang's fishermen, boat builders and sailors (Appendix 1; Francis 1832 cited in Ormeling 1956:132; Kruseman 1836:7–37; Muller 1857:98; Stapel 1955:96–97). A Chinese-owned fleet, crewed by Solorese, collected and transported sandalwood and wax from coastal Timor sites to Kupang.

In 1834, the Dutch considered Timorese poor seamen yet 'Malay' *perahu*, with crews in 'Timorese dress', were observed off Cassini Island, WA, in 1803 fishing for trepang (Balint 2005:8; Freycinet 1815:251). 'Timorians' visited Port Essington and 10 indentured men arrived in TS from Timor after 1908 (Earl 1846a:240; McWilliam 2003:6; Martinez 2012:234–243. Figure 31). Between 1815–1915, vessels from Buton often brought goods to Timor (Parimartha 2002:279). In 1829, the French merchant at Kupang told the Commandant at Fort Wellington, Raffles Bay, that none of the (presumably Macassan) *perahu* called there (Mulvaney and Green 1992:191). Yet Parimartha (2002:279) indicates that the Bugis and Makassarese people 'can sell' their trepang to Chinese in Kupang in the 1830s.

Crawford (1969:115–127, 2001:79–82) describes voyaging by vessels from Timor and nearby Rote Island 'after 1900'. A schooner, built on Semau Island near Kupang, was at Sir Graham Moore Island in 1909 (Crawford 1969:125). The schooner, joint-owned by the skipper's family and a Chinese merchant, sailed from Kupang to fish for trepang on the Long and Holothuria Reefs, then came to the coast to process the trepang. Around 1900, trepang from Kupang was brought to Bonerate (Parimartha 2008:76).

Between 1890–1915, Chinese-owned Kupang-based vessels collected sea products off the WA coast but official export statistics do not mention these (Appendix 4; Parimartha 2002:174–355; Sahaka 2017; WAM 1968). Indonesian' fishermen reportedly transferred their catch to Singapore using Kupang schooners (Bain 1982:187–197). The above and data on Rote from Appendix 1 is summarised in Figure 62.

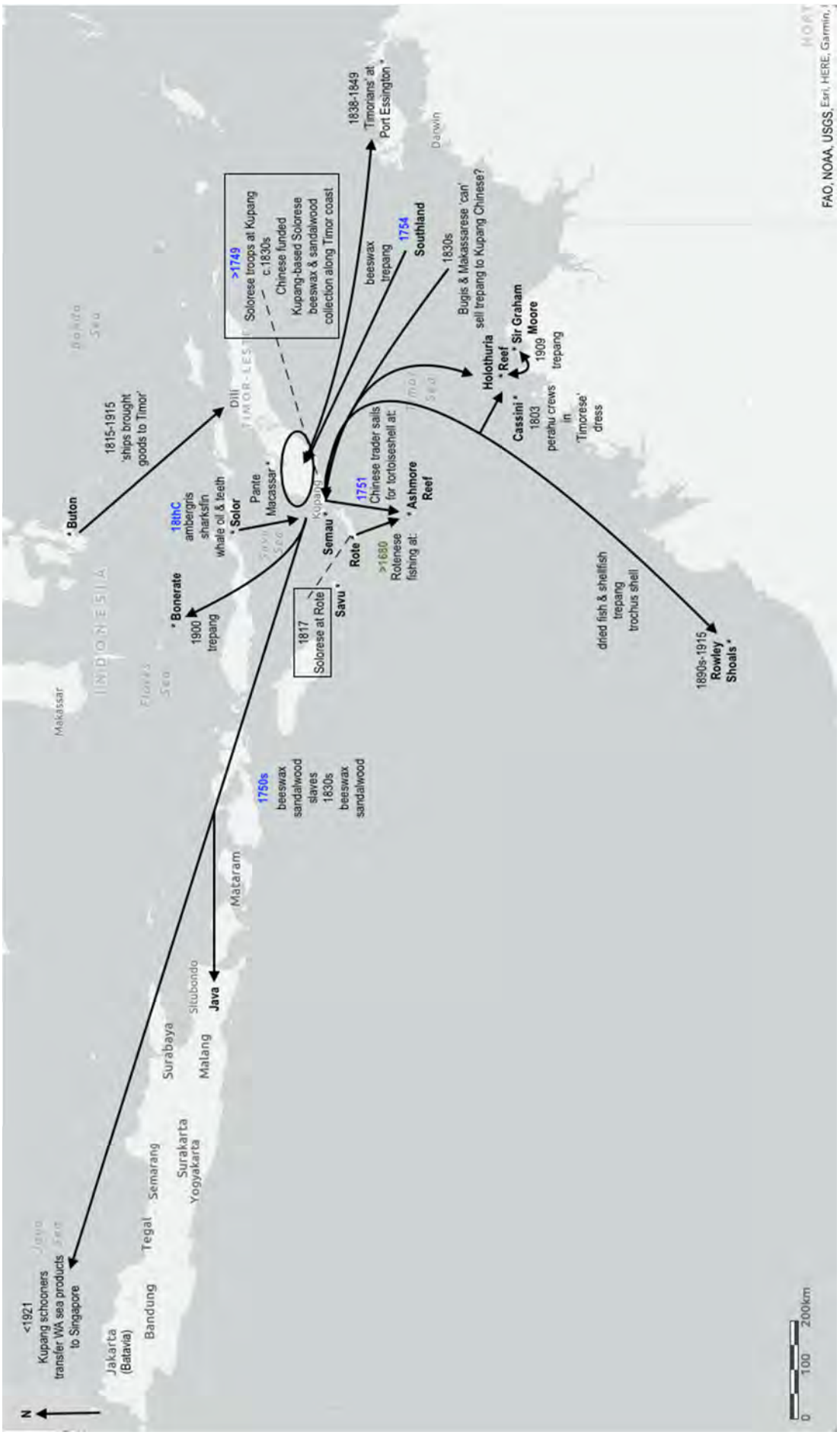

Figure 62 Trade networks related to Timor.

Chapter 5

What is ‘the Malay Road’?

The results show that ‘the Malay Road’ was more than the Chinese financing of the collection and shipping of Chinese-sought northern Australian products to China, involving SEA and Indigenous people to a greater or lesser extent. This chapter discusses the nature of ‘the Malay Road’ and how it connected northern Australia to SEA and EA from the sixteenth century to WW1. Based on new and newly applied data, there are four periods with distinct products and center-periphery links that can be categorised according to Table 8 and mapped using Sakurai’s (1996. Figure 37) approach.

Period One: fifteenth to sixteenth century

Bulbeck provisionally dated six sherds from a coarse stoneware jar surface-collected from SGI to the fifteenth or sixteenth century by stylistic analysis (Rowley 1997:15–80). These sherds were subsequently discussed in a paragraph dedicated to Chinese ceramics (Bulbeck and Rowley 2001:61. Figure 18). Likewise, stylistic analysis indicated that a sherd of blue and white porcelain export ware, surface-collected at a Macassan site on Winchelsea Island, was probably manufactured during the 1572–1620 reign of the Wanli Emperor, Zhu Yijan (Bulbeck and Rowley 2001:61–62; Macknight 1969b:186–387,1976:162[n.22]; McCarthy and Setzler 1960:294; SNMNH 2021. Figure 19). Macknight (2013:26) warned against relying on stylistic analysis alone, however. Compositional analysis of a glazed stoneware sherd from Mabuyag Island has been interpreted as typical of a southern Chinese decorated jar type dating to c.1500–1600 (Grave and McNiven 2013:4538–4547. Figure 20).

Bulbeck and Rowley (2001:61) note that the SGI jar may have been long in use, rather than deposited soon after manufacture. The jar may initially have travelled with southeast Fujian, Guandong and Zhejiang traders along the Northern route, although, as documented for the fifteenth century, this terminates as far south as Timor and as far east as Halmahera in Maluku, after passing Mapun Island (Mills 1979:73. Figure 50). Options for an early re-export in SEA include the Javanese, South Sulawesi or SEA slave networks. From the thirteenth century, the Bugis were trading rice, iron and forest products for SEA and Chinese ceramics that were carried by Javanese *en route* to Maluku (Wellen 2014:19). From the fourteenth century, Javanese traders were visiting southwest NG, where fifteenth-century south China trade ceramics have been found (Swadling 1996:136).

The Chinese western routes included Melaka, which was the key SEA center of the early modern Europe-India-SEA-China trade (Chaudhuri 1985:102–114). In the early-sixteenth century, Melaka was one of the largest importers of slaves and Java the largest exporter, while the LSI was a source of slaves. South Sulawesians were abroad between Borneo and Pegu around 1512–1515, including Melaka, trading foodstuff and slaves, although ceramics are not mentioned (Cortesao 1944:216–227. Figure 46). These slaves either remained in Melaka, mostly working for the ruler and court, or were re-exported to Siam (Table 7). From 1575–1619, Portuguese Melaka was almost entirely dependent on external food supplies (Pinto 2012:175).

From the mid-sixteenth century, the Haicheng-centered Fujian Eastern and Western Seas trade system developed, bringing merchandise, possibly including the Winchelsea Island Wanli sherd, to the southeast region (Figure 26). At this time, the 'island of Macassar' was known for sandalwood, slaves and seed pearls and Makassar Malays brought spices for the western archipelago from Banda, Maluku (Figures 46 and 57). The late-sixteenth-century Serdenha (SLI) network included west NG, trading beads, ceramics, iron tools and Timor cloth for slaves and forest (amber, beeswax, BoP, sandalwood) products (Figures 58–59; Table A3.4). The lack of local interest in knives and iron in 1606 implies that the Mabuyag Island sherd was not an intentional early arrival related to an extension of the Serdenha network along the NG south coast towards TS for BoP or slaves (Swadling 1996:139–276; Table A3.3). Early shipwreck remains a possibility, however.

Although Gunn (2016:137) concluded that the effort outweighed the incentive, the combined archaeological evidence of the late-sixteenth-century ochre painting of a South Sulawesi-style tripod-masted *perahu* at Djulirri Rockshelter (Figure 17) and the South Goulburn and Winchelsea Islands sherds, suggests South Sulawesians sporadically visited the north Australian coast. These visits may have been concurrent with internal conflict, drought and deforestation in South Sulawesi. While slave trading was peaking during this period, there are no such early, negative connotations in Yolngu tradition. Alternative goods sought probably included forest products (e.g. sandalwood) and seed pearls that were traded to Melaka, perhaps via Java, or the Moluccas. Timorese sandalwood had been imported to China from Melaka until the mid-sixteenth century (thereafter via Makassar). As per Table 8, this trade network can be described as Type IV (A-to-VC[Bugis]-MC[native or Portuguese Melaka]-to-D[China]). This is the period when 'the Malay Road' emerges in SEA history (Figure 63).

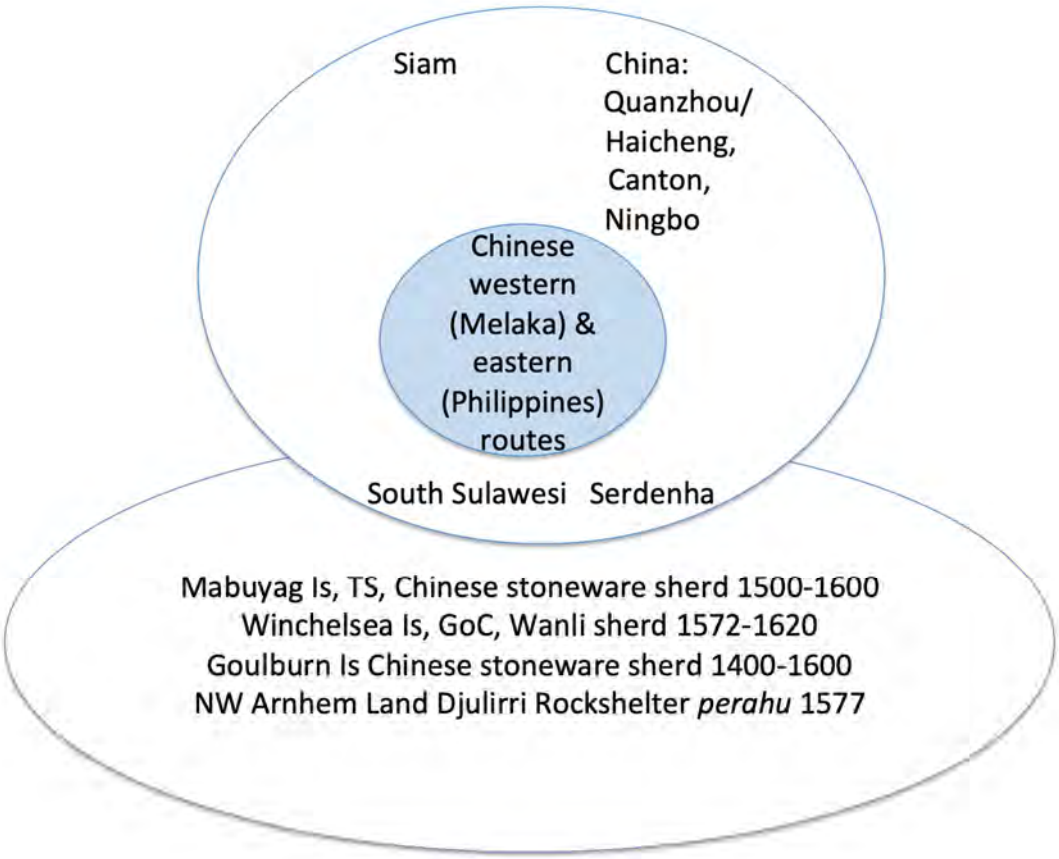

Figure 63 Period One: Fifteenth- and sixteenth-century networks that may have brought Chinese ceramics to the southeast archipelago, and forest products and pearls from northern Australia.

Period Two: 1606–1720

Alternatively, the Mabuyag Island Chinese stoneware jar sherd was associated with intentional Serdenha/SLI trading in the TS after 1606, perhaps during the Dutch monopoly of Aru trade 1645–1790s (Swadling 1996:139–276) and rising demand for NG wild nutmeg and sea products (Table A3.3). In 1615, the first Chinese junk brought 'porcelain' along the Western route to Makassar (Cokayne 1899:137. Figure 26). Chinese junks travelled from Java to Maluku via Bima, Sumbawa (Figure 61). Amoy (Xiamen) became the center of Chinese trade from the mid-seventeenth century, although Formosa (Taiwan) was key during the 1661–1684 imperial maritime ban (Ku 2018:55).

The Makassar Malay trade network reached from Maritime to Mainland SEA but focused on trading, then smuggling, Maluku spices (e.g. nutmeg) west (Figure 57). Sumbawan junks travelled as far northwest as Burma (Figure 61). By 1662, the Bugis were in west NG (Figure 48). Namatote Island, west NG, was a center of the SLI massoy trade and a Murano glass bead may already have been traded as far east as the Kikori River, northeast of TS, in this period (Figure 59). Ashmore Reef is discovered c.1680 and Rotenese start fishing there (Figure 62. Appendix 1).

The Makassar trade network (Figure 54) encompassed South Asia (India); Melaka and Johor, Siam (Thailand) and Cambodia on Mainland SEA; Amoy and Macao in EA; Philippines and Borneo; and the islands of the archipelago from Sumatra in the west to Aru in the east. Makassar sought and traded forest (beeswax, bezoar stones, sandalwood, [if not QLD amber, bird's nests and rattan]) and sea (pearls, tortoiseshell) products, as well as slaves, which were available in northern Australia (at least native beeswax was. Table 10). Tortoiseshell and wild nutmeg were key alternatives to spice, following Dutch monopolisation of that trade. Sumatra, Johor and South Borneo imported slaves from LSI, Tanimbar, Buton, Sulawesi, Mindanao, the Sulu Sea and Brunei via Makassar (Table 7). At this time, the average immigrant-Chinese household had seven slaves.

The Macassan site at Anuru Bay was probably first occupied before the mid-seventeenth century. The Yolngu word *muadak/muwadhak* 'calico or fabric, blankets, string and wool' loaned from the Macassan or Malay word *mupakat* 'consultation/agreement' is a relatively 'early loan predating other borrowings from Macassans' (Figure 24; McConvell 1990:22; Walker 1988:29), suggesting that barter or exchange was already occuring. Cloth, knives and coral beads were key trade goods sought by Tiwi people when visited by the 1705 van Delft expedition (Duivenvoorde et al. 2019:36). These goods were consistent with those of other paid commodity collectors of the periphery of the eastern Indonesian archipelago (Appendix 3 Table A3.4).

Historical research indicates a visitor focus on forest (bezoars, native beeswax, sandalwood and wild nutmeg) and sea (pearls and tortoiseshell) products (Table 10). However, 'linguistic stratification' (Evans 1992, 1997; McConvell 1990) has not specifically addressed the chronology of borrowed words for products. While evidence of the processing of other products has not yet been investigated at Macassan sites, two excavations have recorded the absence of processed turtle at Anuru Bay (Macknight 1969b; Wesley et al. 2016). Mitchell (1994:325) studied turtle exploitation in the Indigenous economy before and after contact in the Cobourg Peninsula and offshore islands (e.g. Copeland) but found only nineteenth-century evidence for Macassan activity. Nevertheless, words meaning 'turtle' in seven Indigenous languages in the NT have possible Austronesian sources (Table A3.2). Tortoiseshell was traded by the north and west coasts of Sulawesi as well as the LSI, particularly by the Bajau seeking tribute items for the Makassar King (a Type I trade network) (Appendix 3). Thus Bajau may have occupied Anuru Bay first, for turtle exploitation. The early borrowing of *muadak/muwadhak* suggests that Indigenous people exchanged tortoiseshell, if not other forest and sea products, for cloth, knives and beads in the early hybrid economy.

Tortoiseshell was traded from Makassar to India (via Banten), Siam, Melaka and Aceh in this period. Tortoiseshell is not specifically mentioned in products for Portuguese Macao (Figure 54) but may have reached China via Batavia or Melaka, which transitioned to the Dutch in 1641, or Johor (Figure 26). Makassar's trade networks can therefore be described as Types III (to Amoy via Batavia; to India via Banten; to Aceh) and IV (to Amoy via Portuguese or Dutch Melaka; and to Siam). 'The Malay Road' (Figure 64) becomes well established in this period. The SEA visitors must seek alternatives, as the Portuguese, English and Dutch dominate and restructure traditional Maritime SEA trade.

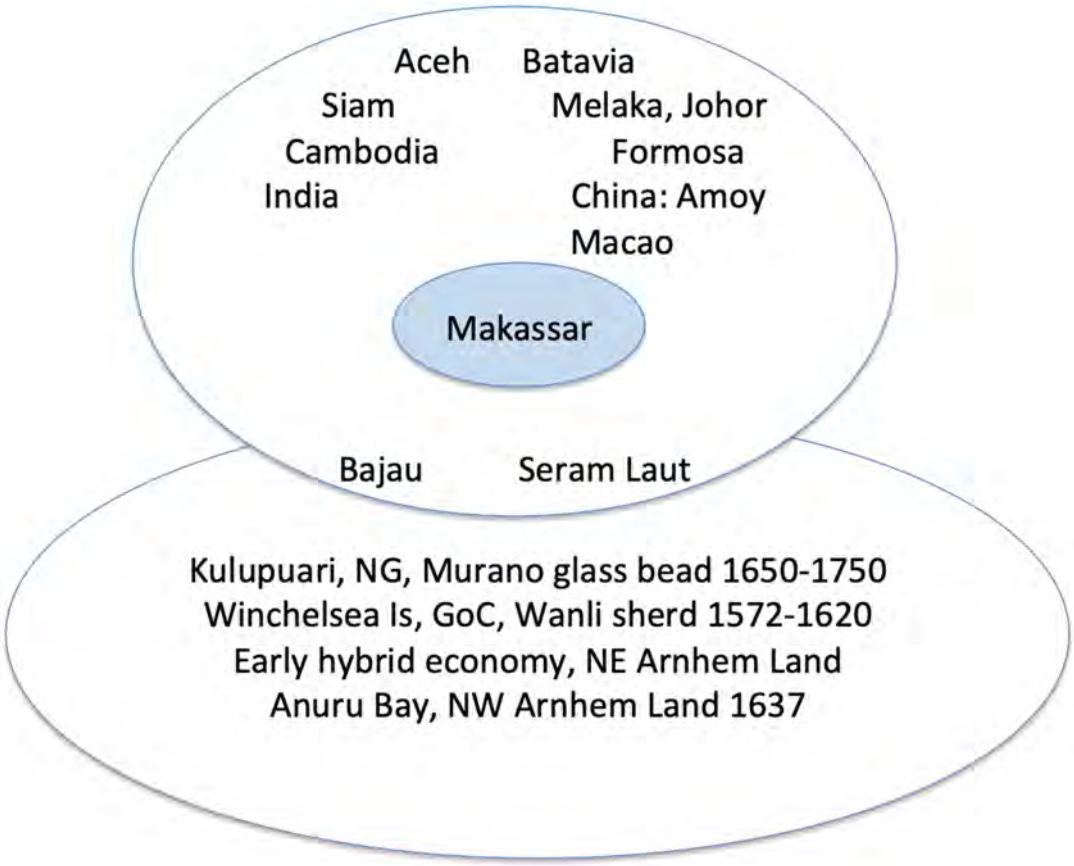

Figure 64 Period Two: Anuru Bay occupied and SLI networks potentially reach TS during the seventeenth century search for tortoiseshell and early hybrid economy.

Period Three: 1720–1819

Trepang exploitation in northern Australia commenced during this period (Table 10). Words meaning 'trepang' that have been borrowed from Macassan by Indigenous Australian languages have been described as late or recent loans (Appendix 3 Table A3.2). However, if the 'vast majority' of Macassan loans into Mawng and Iwaidja are 'late' loans (Evans (1997:251–253), and given that the Yolngu word *muadak/muwadhak* 'cloth' is an early loan, it follows that most Macassan loan words may have been borrowed as early as Period Three

during the late hybrid economy.

By 1730, the Bajau reached Ashmore Reef (Figure 47). After 1768, the Jama Mapun began trading with the coastal Borneo Hau Tigad people. Meanwhile, Iranun and Balangingi slave raiders from Mindanao, Philippines, had bases in the LSI (Figure 28). Bali, Sulawesi, and new sources in Timor, Bima and Nias were exploited. Makassar annually exported 3,000 slaves, many to Batavia (Table 7). Chinese migrants in Batavia bought female slaves as concubines, and the average household had five slaves.

Around 1770, the English report that the Bugis have reached New Holland, possibly the Gulf of Carpentaria (Figure 48). The Bugis also visited Kedah, the Riau Islands, Bencoolen on Sumatra, Berau and Pasir in east Borneo, and the NG west coast. They took bird's nests to Melaka and Penang on Mainland SEA and dye to the SLI, bringing trepang back to Makassar from Banda. New products of interest to Makassar, which were obtainable from northern Australia, included agar-agar from seaweed, *bengkudu* (or *mengkudu*) dyewood, dried fish, shark's fin, kapok, salt and trepang (Table 10).

Around 1720, Chinese earthenware plates and bowls (neither stoneware jars nor porcelain are mentioned) came to Makassar from Batavia and Banjarmasin, as well as the Amoy junk, which visited regularly from 1769 (Knaap 2006:491; Knaap and Sutherland 2004:103-105). Exports of Chinese earthenware from Makassar in the 1770s were to Sumbawa and Buton, and in the 1780s to these and Banda, Ambon and Ternate. Makassar's major sources of forest and sea products and slaves included West Sumbawa and Bima, Ende on Flores, the Banda, Bonerate, Buton and Tanimbar Islands, and the Bugis lands in South Sulawesi (Figure 55). Makassar exported beeswax and slaves to Batavia and Semarang. Agar-agar, beeswax, shark's fins, tortoiseshell and trepang were exported on the Chinese Amoy junk from Makassar, Banjarmasin and Batavia. The origin of the shark's fin is unclear but all these products were obtainable in northern Australia. In 1797, Makassarese are trepanging in the Tanimbars. In 1803, Pobasso leaves the Malay Road in his 25 ton *perahu* carrying at least trepang and 'sharks tails' but without a full cargo hold. He intends to return to Makassar via the Tanimbars, possibly to collect another 1.6 ton of trepang. Trepang continued to be exported on the Amoy junk into the 1820s.

The Makassar Malays brought agar-agar, beeswax, resins, slaves and trepang to Makassar from Bima, Bonerate and Sulawesi (Figure 57). Bima and West Sumbawa also brought agar-agar, slaves and trepang to Makassar, and also travelled to Javanese ports (Figure 61). At the end of this century, SLI traders brought birds (e.g. BoP), massoy bark and slaves to Banda, to which the Kei Islands brought pottery (Figure 59). Solorese, known traditional whalers, arrive

in Kupang, Timor, in 1749. It is possible that interactions with these Solorese the basis for the Yolngu's traditions of pre-Macassan whale-hunters (Figures 31 and 62). By mid-century, the Dutch report that trepang and probably native beeswax has been sourced from the 'Southland', reached from Timor and Makassar. Also, that a Chinese trader on Timor has sought tortoiseshell probably from Ashmore Reef. 'Timorese' are observed fishing for trepang at Cassini Island, WA, in 1803. This is the classic period of Chinese-financed Macassan product collection in northern Australia and export to Amoy, China, which was dubbed 'the Malay Road'. This trade network can be described as Type II (A-to-VC[Makassar]-to-EC=Amoy-to-D=China). This activity, however, reflects the diversification of the established Malay Road into sea products (e.g. agar-agar, MOP and shark's fin) (Figure 65).

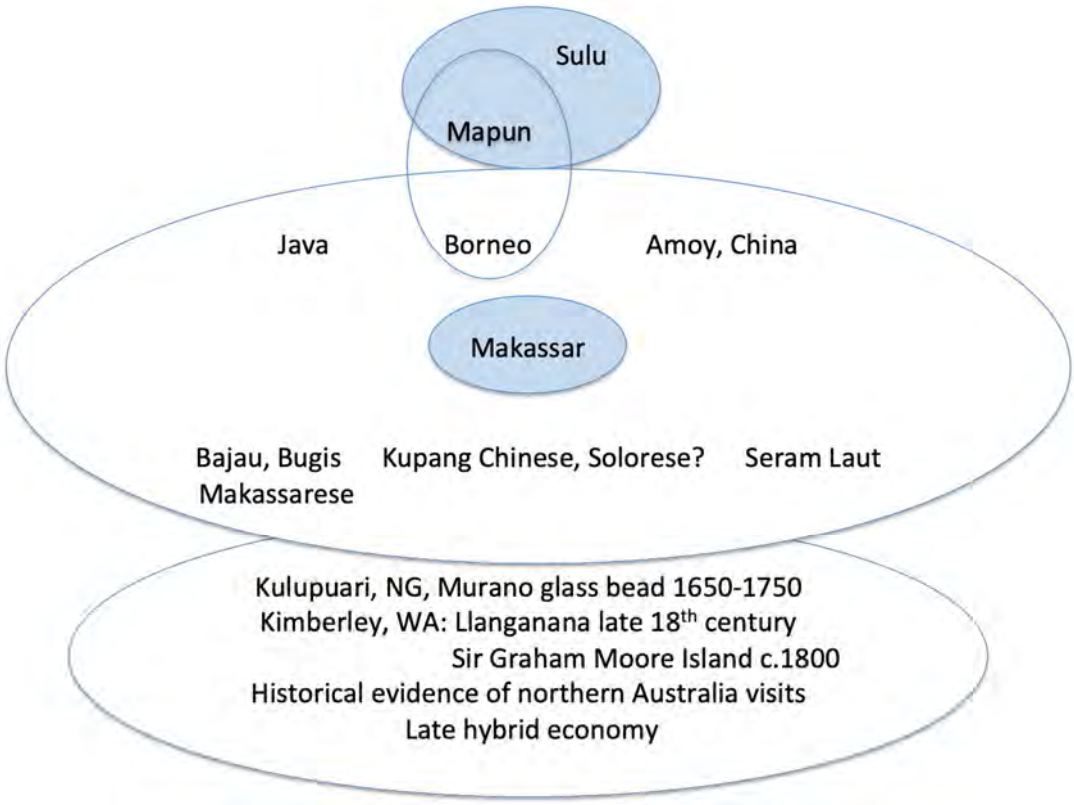

Figure 65 Period Three: The long eighteenth-century networks trading slaves, forest and sea products in the late hybrid economy.

Period Four: 1820–1918

In this final period, 'the Malay Road', and recent hybrid economy, is at it's most complex. There is peak diversification of forest and sea products, and available *perahu* cargo capacity. Visitors start coming from the LSI, probably including Flores, where key ethnicities have migrated and settled.

Cargo capacity and products

From 1881–1907, the average gross tonnage of the Makassar *perahu* on the NT coast is estimated at 46.5 tons, almost twice as large as Pobasso's in 1803. On average, each exported 13.94 tons of trepang, as well as (in 1882) 0.5 ton of water buffalo horn and 0.05 ton of tortoiseshell. This still left 4.05 tons available for unspecified, non-dutiable cargo.

Table 10 lists 31 forest and sea products of commercial interest in Maritime SEA from the sixteenth century to WW1 that were available (or had equivalents) in northern Australia. While prices would have varied over time and place, in 1873 at Singapore more than half of the products were more valuable than trepang. Even a selection of small amounts of these valuable goods would provide profit and economically be worth the effort of filling the spare capacity of the average *perahu*. There was sustained interest in the most valuable products. These, in descending order, were bezoars, pearls, bird's nests (a QLD product was very probably less valuable, however), beeswax, tortoiseshell, slaves, trepang, fish maw, kapok, MOP, water buffalo horn, sandalwood, shark's fins, agar-agar, salt and rattan. The concurrent export from WA of sandalwood, trepang, shark's fin and dried fish (Appendix 4) suggests a China-oriented product line. Other products were intended for local Hong Kong or Makassar consumption, rather than re-export (e.g. building timbers like cypress pine and ironwood).

Regarding possible SLI-TS contact, 15 of the 29 forest and sea products obtained from west NG were available from QLD, including some unavailable elsewhere in northern Australia (e.g. amber, bird's nests, bamboo coral, the Magnificent Riflebird, *Pandanus tectorius* and rattan [Table A3.3]). The potential remains for a unique QLD product line.

Macassan site selection was partly based on proximity to shallow, resource rich waters to procure trepang (Mirams 2021:232–234). However, Table 10 and the relatively poor price for Port Walcott trepang (The Inquirer and Commercial News Wed 12 Sep 1877:2) indicate that the Macassans fished where there were commercial grades of certain trepang species, collocated with other products of interest.

Indigenous slaves, collectors and their recompense

Possibly, some Indigenous people went to slave centres at Labuan Bajo or Ende, Flores, and Makassar, if not the Iranun's or Balangingi's LSI bases (Figures 28 and 31). North Australian Indigenous languages have borrowed Makassan Pidgin words relating to commodities, implying Indigenous involvement in a hybrid economy by commodity collection (Wesley and Litster 2015:3). If so, the Table 10 indicates that Indigenous people were involved in collection and trading of 13–14 products. However, research (Appendix 3 Table A3.2) shows that the

strongest or broadest associations are with kapok, mangrove and water buffalo products, shells including MOP (probably also their meat), trepang and turtle (the last is supported by Mitchell 1994). Associations with pearls (if not bezoars) and seaweed are less widespread. Associations with beeswax, fish maw, native nutmeg or sandalwood, and salt are tenuous, suggesting that the visitors alone collected these. Finally, unlike the case for QLD bamboo coral, no commercial grades of coral exist in the NT, though black coral has cultural significance for Makassarese and, through these visitors, to Goulburn Island men (Appendix 3).

The broad similarity in the trade goods received from the visitors by northern Australian Indigenous product-collectors and those of other commodity-collecting groups on the periphery of the Arafura Sea or the Bajau (Table 11) indicate that northern Australian Indigenous people were another peripheral commodity-collection community. However, only Australian Indigenous people appear to have received (then learned how to make) dugout canoes and associated equipment, which suggests a tailored, albeit self-interested, approach, given that the canoes assisted Indigenous people to collect more sea commodities. The greater meaning was that SEA trade goods allowed coastal Indigenous people to participate in the Arnhem Land ceremonial exchange system (Figure 24). In the nineteenth century, opium and alcohol were the most expensive of 11 goods received by Indigenous people. Tea and tobacco were comforts. Line-fishing equipment was as expensive as basic provisions like flour or jaggery. Rice was cheapest.

Networks and destinations

Before 1850, Mapun traded bird's nests, tortoiseshell and trepang with Sulu, then from 1875–1907, took cargos to Palawan to barter for forest products, selling them in north Borneo, including British Labuan Island, Kudat and German Elopura (Figure 47). There is no historical indication of Jama Mapun links with northern Australia, yet Yolngu people were aware of them (McIntosh 1995a, 1995c), perhaps as visiting 'Macassan' crewmembers. However, from 1840, Bajau Laut *perahu* from 'the vicinity of' Makassar', including Pulau Kudingareng and the Tukang Besi Islands, sought tortoiseshell in northwest Australia and around Port Essington.

By the early- to mid-nineteenth century, the Bugis had settled in the LSI, including Sumbawa and Flores and the Ende slave-trading centre, and became key traders of forest and sea products and slaves at Singapore 1819–1869 (Figures 37 and 48). They continued to trade to their key eighteenth-century destinations as well as Seram, SLI, Aru and west NG. Kei, which exported pottery, was included on freight routes (Figures 33 and 49). They considered settling at Fort Wellington in 1829; possibly sold trepang to Chinese traders in Kupang in the 1830s;

and were reportedly taking MOP at Roper River, western GoC, around 1878 (Figure 48). Further comparison of pottery found at Macassan sites with collections from Flores and Kei Islands is warranted.

In the 1830's, Kupang Solorese sailed Chinese-owned vessels along the coast of Timor collecting beeswax and sandalwood (Figure 62) that was exported to Java, presenting a second opportunity for visits to north Australia, intentional or otherwise. 'Timorians' were reportedly at Port Essington. Around 1900, trepang from Kupang was brought to Bonerate. A schooner, built on Semau Island near Kupang, was at Sir Graham Moore Island in 1909 for trepang. Further research comparing pottery at WA Macassan sites with Timorese pottery collections is warranted.

There is no historical evidence for Makassan Malays visiting north Australia, though they were active traders in the LSI (Figure 57) and had settled at Bima (Figure 31). Nor is there historical evidence that SLI were further east than Uta in west NG, as the Asmat people of the Lorentz River carried their produce to Onin (Figure 59). West NG products fed into local SLI networks, thence into Banda's regional network before joining long distance trade networks further west to LSI and Sulawesi (Figures 34–35 and 59).

Between 1829–1865, Makassar-cleared or -originating *perahu* were reported at Augustus Island, WA; and Fort Wellington, Port Essington and Roper River in the NT (Figures 48 and 56). Makassarese may have sold their trepang to Chinese in Kupang in the 1830s. Celebes 'and other eastern islands' exported forest and sea products to Singapore, after it opened in 1819, though this must reflect Bugis, Makassarese and Makassar-Malay activity. Consistent with Figures 36–38, Singapore re-exported these products widely: to China; Mainland SEA (Cochin China [Vietnam], Siam [Thailand], and the Malay Peninsula); Maritime SEA (Borneo, Java, Philippines and Riau Islands); Australia; India and Mauritius; and Europe (Figure 60).

Nevertheless, Makassar's central role declined as this century progressed (Hagerdal 2017). While two thirds of Bima's shipping went to Makassar, 14% went to Melaka and Singapore on Mainland SEA. The Chinese also financed the trepang and tortoiseshell expeditions by Sumbawans and, in 1840, a Sumbawan *perahu* arrived at Port Essington (Figure 61). By 1824, Bimanese had settled on the coast of Flores and many products from the Manggarai area, as well as Solor Island, were exported via Bima (Figure 31). The degree of Bugis, Makassarese and Malay trading activity in the northern LSI is recognised by the official Singaporean statistics combining the imports of 'eastern islands' with those from Celebes. This reflects the growth of trade from resettled Bugis, Makassarese and Makassar-Malay traders who now exported LSI products direct to Java, Singapore and Melaka rather than via

Makassar (Figure 49). This evidence suggests a significant diversification of northern Australian visitors that may have originated from elsewhere in the LSI, particularly key resettlement locations (e.g. Flores). Further research comparing pottery at northern Australian Macassan sites with Sumbawa and Flores pottery collections is warranted.

Period Four is characterised by distributed 'polyethnic communities' trading via 'polycentric networks' (Nagel 2018:404-414; Parimartha 2008:76–77) within the archipelago, exporting products direct to Singapore or EA (Figure 66). Since Singapore re-exported forest and sea products widely (Figure 60), 'the Malay Road' concept needs to consider the complexity of including all these destinations.

Concurrent colonial Chinese industries from 1873

Appendix 4 provides new data on Chinese-owned colonial forest (sandalwood and cypress pine) and sea (dried fish, MOP, pearls and trepang) industries in northern WA, NT and QLD. Indigenous people were employed in many of these industries, managed (for example) by Japanese skippers of Chinese-owned luggers with indentured 'Malay' crews or by European sandalwood-getters whose product was bought and shipped by Chinese. Even though Chinese in northern Australia began to supply the China market, their reliance on non-Chinese suppliers and British colonial international shipping meant that the trade networks remained cross-cultural.

The majority of these industries exported their products either to Singapore, Mainland SEA (a Type IV or V network), or Hong Kong and Shanghai in EA (a Type VI network), thus meeting the definition of 'the Malay Road' concept, but without any involvement by the SEA archipelago. Case studies (Figures 51–53) include mid- and northern-WA sandalwood and pearls; Perth-Singapore steamer transhipment of MOP at sea and the 1878 Singaporean Chinese Flying Foam Passage trepanging; NT dried fish and trepang; and QLD sandalwood and trepang. One ambiguous case involves a Chinese-Australian expatriate facilitating Hong Kong funding for a European-managed cypress pine export scheme. More NT dried fish shipments were sent to the southern states of colonial Australia than were sent to Hong Kong, for consumption by migrant or indentured Chinese. 'The Malay Road' concept could be extended to encompass these direct exports.

In some cases, products were re-exported elsewhere in, and beyond, Asia (e.g. QLD exports of sandalwood to Japan; QLD and WA MOP and tortoiseshell sent to Great Britain and Germany). 'The Malay Road' concept encompasses these cases because of Chinese and Indigenous involvement and initial routing through SEA.

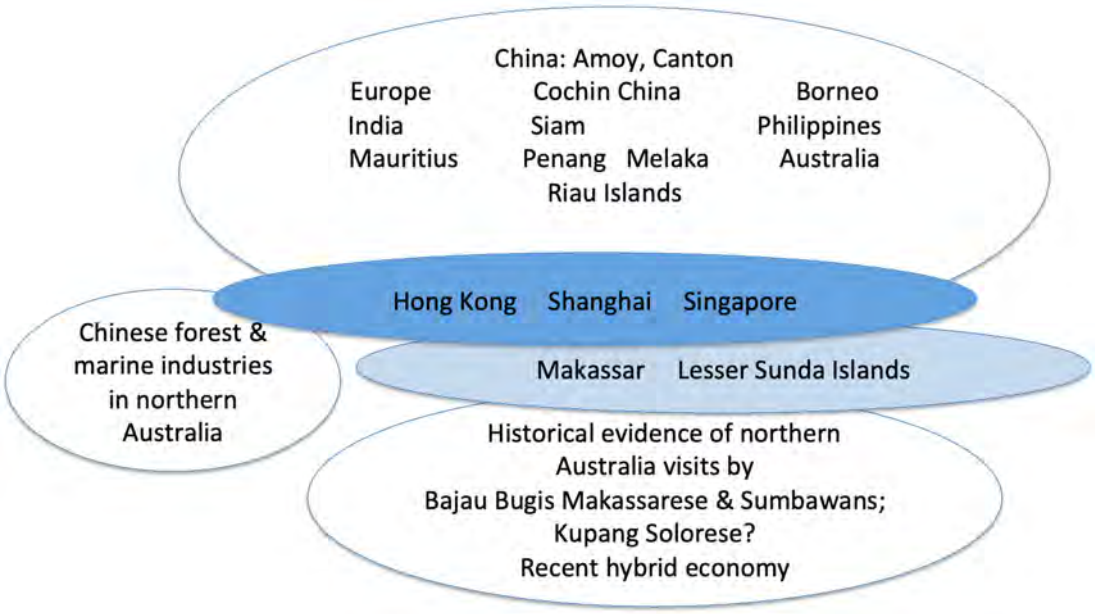

Figure 66 Period Four: Singapore opens, LSI exports rise concurrently with colonial Chinese forest and sea industries in northern Australia during the long nineteenth century and recent hybrid economy.

Chapter 6

Concluding the evolving product range and connectivity between northern Australia, East and maritime Southeast Asia

This thesis has clarified how northern Australia has been the 'final extremity' of SEA through examination of the collection and exchange of Australian products and trade goods with EA and Maritime SEA people along 'the Malay Road' from the mid-sixteenth century to WW1. This contributes significantly to answering fundamental questions about SEA maritime trade (Hall 1999) and the role of cross-cultural trade networks (Blussé 1991). This also provides details supporting a nomination of 'the Malay Road' as a cultural route of outstanding universal value under the UNESCO World Heritage Convention (Blair and Hall 2013a, 2013b).

The study aims outlined in Chapter 1 were successfully addressed, applying the methodological considerations identified in Chapter 3. Contrary to Macknight (1976:18), by differentiating eight ethnic and six SEA islander groups (Tables 1–2; Appendix 1) it was possible to distinguish four periods relating to northern Australian connectivity to SEA and EA. By estimating *perahu* available cargo space and (as recommended by McConvell 1990:20 [Chapter 1]) identifying 31 forest and sea products of interest to Maritime SEA over time that were available in northern Australia (Chapter 4), it was possible to establish a proxy for other export items besides trepang, including native beeswax (Appendix 2). In future, evidence of these products should be looked for at Macassan and post-contact Indigenous and shipwreck archaeological sites.

It was possible to rank about half of the 31 products according to what they were worth to the nineteenth-century Singapore market, and whether SEA interest was sustained or fleeting over time (Table 10; Appendix 3). While QLD has some relatively unique products (bamboo coral, a BoP, the lower quality nest of the Australian Swiftlet, *Pandanus tectorius* and rattan), compared to WA and the NT, there is no evidence that these were actually exported. It is possible that Australian intra-Colonial competition and relative product quality explains the indifference to a NT sandalwood industry.

The local, regional and long-distance EA and SEA trade networks these products probably entered, and product destinations, were illustrated over time. This provided the basis to describe the nature of 'the Malay Road' and how it connected northern Australia with SEA and EA, and beyond, across four distinct periods from the sixteenth century to WW1. Chapter 4's case studies provided examples of how the 'The Malay Road' may be defined more broadly than by Chinese financing of the collection and shipping of Chinese-sought northern

Australian products to China alone, regardless of era and where those Chinese were based, and involving SEA and Indigenous people to a greater or lesser extent. 'The Malay Road' encompassed six different types of trade networks (Table 8). These included local visitor group consumption; trade within the archipelago; trade between archipelagic centers and Mainland SEA or EA; archipelagic trade with Mainland SEA and re-export to EA; and direct trade direct with Mainland SEA or EA.

Chapter 5 showed that these network types played out over four periods with distinct products and center-periphery links mapped using Sakurai's (1996) approach (Figure 37). 'The Malay Road' emerged in Period One (Figure 63). The late-sixteenth-century ochre painting of a South Sulawesi-style tripod-masted *perahu* at Djulirri Rockshelter, Arnhem Land (Figure 17), combined with the Goulburn and Winchelsea Islands ceramics sherds, suggests sporadic South Sulawesian visits to the north Australian coast for forest products and pearls, if not slaves, that were traded to Portuguese Melaka, perhaps via Java, or the Moluccas.

By Period Two (Figure 64), 'the Malay Road' was established. The Mabuyag Island Chinese earthenware sherd arrived with intentional SLI traders soon after 1606, or during the Dutch monopoly of Aru trade 1645–1790s. The Makassar international and archipelagic trade network was extensive (Figure 54). The Macassan site at Anuru Bay, Arnhem Land, was first occupied by the mid-seventeenth century with an initial focus on forest products like bezoars, native beeswax, sandalwood and wild nutmeg, and sea products like pearls and tortoiseshell. The latter was particularly sought following Dutch monopolisation of the spice trade and Bajau provided it as tribute to Makassar's kings. Linguistic stratagraphic analysis suggests the existence of an early SEA visitor-northern Australian Indigenous hybrid economy. Period Three (Figure 65) was the classic, eighteenth-century late hybrid economy trade of northern Australian diversified sea products, including trepang, and native beeswax to China via the Makassar-Amoy junk.

In Period Four (Figure 66), both 'the Malay Road' and the recent hybrid economy reached peak complexity. It was characterised by maximum product and visitor diversification, multiple trade centres and the decline of Makassar's central role. The migration of Bajau, Bugis, Makassarese and Makassar Malays to the LSI, and north Australian visits by Sumbawans, resulted in direct trade from that region to Singapore, the new center on Mainland SEA. From the 1870s, the products of Chinese forest and sea industries in northern Australia were exported direct to Singapore or EA centers (e.g. Hong Kong), and through them, as far as Europe (Appendix 4). Immigrant and Australian-born Chinese continued to supply the China and SEA markets via cross-cultural trade networks. International steam shipping was largely

British-owned albeit crewed by Chinese.

Linguistic evidence (Appendix 3) indicates that, by the nineteenth century, up to nine of the 31 products were collected and processed by Indigenous people who participated in a hybrid economy that drove the eastern Arnhem Land ceremonial exchange system. The trade goods they received in exchange were tailored only to a small degree, giving them broadly equivalent status to other paid commodity collectors of the periphery of the eastern Indonesian archipelago. There was some evidence in tailoring through the (albeit self-interested) provision of dugout canoes and sailing technology for Indigenous people to acquire more products.

In summary, northern Australia was connected to SEA and EA since the mid-sixteenth century through the collection and transportation along 'the Malay Road' of 31 forest and sea products. 'The Malay Road' itself encompassed six types of trade network and transitioned through four distinct periods where the nature and range of the products, the key trade centres and even the visitors/participants evolved until the outbreak of WW1 irrevocably changed Asian trade networks. This chronology of the SEA and EA visitors expands on, but still broadly agrees with, Wesley et al. 2016 (Tables 9 and 12).

Table 12 Revised chronological periods of contact with SEA and EA visitors.

Phase	Date Range	SEA Visitors	Period
1a	'Time immemorial'	South Sulawesi	One: Emerging 'Malay Road'. Djulirri Rockshelter South Sulawesi-style *perahu* painted c.1577. South Sulawesi and Chinese sea faring, delivering foodstuffs, slaves and ceramics (e.g. the Winchelsea Island porcelain and the Goulburn and Mabuyag Islands stoneware) to Melaka. Mabuyag jar traded to Serdenha in Maluku, probably by Javanese. Unintentional Chinese or SLI ship wrecked in TS.
1b	to mid-1600s	Bajau and Jama Mapun whale hunters	Two: Established 'Malay Road' and early hybrid economy. Anuru Bay occupied c.1637; SLI and Bajau networks initially reach TS and Arnhem Land, respectively, during the seventeenth century search for tortoiseshell and wild nutmeg.
2	1650–1820	Bayini; Badu whale hunters;	Three: Classic 'Malay Road' and late hybrid economy. Bajau, Bugis and Solorese (whale hunters) are adjacent or in northern Australia during the long eighteenth century.
		cooperation with Macassans	North Australian trepang and beeswax leaves Makassar for Amoy, China.
3	1820–1850	Deteriorating relations with Macassans	Four: Peak 'Malay Road' complexity and recent hybrid economy. Singapore opens. Bajau, Bugis and Makassarese settlement in LSI underway. Solorese (whale hunters) remain adjacent or possibly in northern Australia.
4	1850–1907	End of Macassan trepang industry	'Polyethnic communities' trading via 'polycentric networks' from 1840. LSI exports rise concurrently with Chinese colonial forest and sea industries in northern Australia during the long nineteenth century.

In conclusion, this thesis demonstrates that the field of study of Indigenous-Asian culture contact in northern Australian has yet to be exhausted. Review in Chapter 2 of the nine themes identified in this study uncovered several knowledge gaps. Future archaeological work on Macassan sites should use methodologies designed to investigate a wider range of forest and sea products. Recommendations for further research include:

- The refinement of forest and sea product habitats, including survey of native beehive density, associated with Macassan archaeological sites;
- A comparison of Internal Colonialism with Hybrid Economic Model approaches to culture contact;
- The capacity of the Indigenous people of the southern NG coast to transport SEA trade goods east towards Cape York, and Japanese and Filipino culture contact;
- A comparison of ceramics at Macassan sites with collections from the LSI, particularly Flores and Timor Islands and the Sulu Archipelago, and technical reassessment of the SGI Chinese stoneware and Dadirringka Rockshelter, Groote Eylandt, 'pottery' sherds; and
- Linguistic analysis:
    - Comparing Makassan Pidgin with the languages of the Solorese and the Bajau Laut people of east Borneo and Jama Mapun, including those who more recently identify themselves as Butonese, that may identify the Austronesian sources of loan words (Appendix 3 Table A3.2); and
    - Implementing a 'stratagraphic approach' that may confirm the chronology of commodities and trade goods included in the hybrid economy.

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Appendix 1

Trade-orientation and endemic maritime capacity of additional island visitors

This Appendix explains why seven of the following eight islands will not be further pursued by this study. The exception is Flores that, while it did not have endemic maritime capacity, received Bajau, Bugis, Makassarese and Sumbawan settlers who may have sailed from there to north Australia for tortoiseshell and trepang, if not beeswax, in the nineteenth century. Thus study will focus on the trade networks associated with the identified ethnic groups that migrated to Flores.

Aru and Tanimbar

Table 1 refers to the possible visit of a *perahu* from Aru. Searcy (1905:42) reported the wreck of a 'strange' *perahu* at Cape Brogden, NT, saying that it 'was not one of the regular visitors'. It was 'as far as we could make out' from the Aru Islands and had been blown south. Crawford (1969:126–127) recorded a *perahu* with an Aru skipper and an Aruese and Timorese crew at 'Alphous' (Adolphus, near Wyndham?) Island, Kimberley, WA, around 1924 but Crawford (2001) does not repeat this observation. Ethnographic research suggests occasional or accidental visitors (including the *Wuramala, Bapayili* and *Gelurru* 'whale/dugong and turtle hunters' from the Maluku region, possibly including Aru, Banda and Tanimbar Islands (McIntosh 1995c:56–58). It is unclear that the ships of endemic islanders visited during the period of interest.

The Dutch had a monopoly on Aru trade from 1645–1790s (Swadling 1996:154). Nevertheless, Chapter 4 shows that the Aru Islands were visited by Bugis, Makassar and Seram Laut *perahu*. Forest and sea products were clearly available there. The impression given is that traders went to the Aru, rather than the reverse. Veth et al. (2007:91–92) noted that Ujir was involved in 'Moluccan' trading networks before the Europeans arrived. Archaeological research also showed that historical sources do not reflect the extent of eighteenth and nineteenth century trade in southeast Aru (O'Connor et al. 2007:311–312).

The capacity of the Arunese themselves as boat owners and sailors is rarely evident in historical documents. Five exceptions were found during this study. In the sixteenth century, the inhabitants of Kei and Aru reportedly brought sago, BoP and parrot skins to Banda (Swadling 1996:62 citing Meilink-Roelofsz 1962:65). In the late-sixteenth century, the Aru village of 'Workey' sent fleets of 70–80 large vessels to work the local pearl banks (Sutherland 2021:186). One junk and two sampans from Aru, with crews from Ujir, were on their way to

Banda c.1619 (Hagerdal 2019:484–486). The Dutch offered the Ujirese permission to bring their trading goods to Ambon and Banda. According to Sutherland (2021:266), writing about the 1784–1819 period, Aru and Kei had 'histories of shared experience in raiding and trading fleets' but does not give specific examples or sources. Traditions of the Poraoka people of the Mimika coast of NG say that traders from the Aru Islands visited the Mimika coast to gather massoy bark (Drabbe 1948:256–257).

In conclusion, the Arunese did have an early maritime capacity that may have waned during the Dutch monopoly. It is unclear that it subsequently revived ('J.F.B' and Earl 1853:68). In any case, it is apparent from historical sources that the Arunese were oriented to their northern trading partners, rather than exploring southern waters towards Australia. The Aru Islands will not be further pursued in this study.

Madura and Ternate

Table 1 refers to Madura and Ternate. Crawford (1969:115–127) describes voyaging by vessels from Madura, nearby Ra(tt)as, Ternate and Bonerate Islands, or with an Aru Islands skipper. These visits commenced 'after 1900' and were observed in 1924, outside the POI of this study. Bain (1982:25–187) uses Crawford (1969) but incorrectly dates these visits to the 1870s. Crawford (2001:79–82) reiterates Bonerate visitors in the 1920s but does not mention Ternate. Correspondence (archived at the Western Australian Museum and State Library of Western Australia) between Bain, Crawford and historian Mary Durack with the pearler H.V. Howe, a common source, does not refer to Ternate. Thus its use in Crawford (1969) was probably a typographical error for 'Bonerate', subsequently corrected in Crawford (2001), which was not available to Bain (1982). None of these islands will be further pursued in this study.

However, any future evidence of Madurese fishing in Australian waters during the POI could indicate long-standing engagement. Madura was the key exporter of dried and salted fish to Java from 1774–1777 (Knaap 1996:17–233). Madurese *perahu* exported dried fish and kapok from 1847–1873 (Kuntowijoyo 1980:123–128).

The four pottery-comparison islands

Table A1.1 refers to four islands (Flores, Kei, Rote and Saparua) whose endemic pottery has been compared with sherds found at Macassan sites in northern Australia. The issue matters because it is assumed that the visitors to northern Australia acquired their pottery from relatively near to their homeports. There is no consensus amongst the researchers about the analysis results and some results (e.g. Rote and Saparua) were inconclusive. Nevertheless,

this study conducted some preliminary research for evidence of the capacity of these islanders as boat owners and sailors.

Table A1.1 Debate over non-Sulawesi origins of ceramics.

Item	Macassan site(s)	Analysis	Island Origin	Sources
pots with calcareous temper	Tamarinda	carbonate lithoclasts versus clay matrix	Kei and Flores (Thies)	Crawford 1969:334–350; Thies '1988' versus/cited in Bulbeck and Rowley 2001:65 re calcareous temper; Thies 1992:13–30
jars with calcareous temper	Tamarinda, Llanganana, Low Island, Parry Harbour, 'Coconut Island', Ashmore Reef	clay matrix	Island(s) *en route* Makassar-WA versus Kei	Bulbeck and Rowley 2001:65 versus Crawford 1969:344–345; Rowley 1997:66–69 and Thies '1988' cited in Bulbeck and Rowley 2001:65; Burns 1990 cited in Morwood and Hobbs 1997:205
fine grained temper	SGI	absence of impurities, limestone or coral; presence of feldspar	Kei (Key)	Key 1969:105–106 versus Rowley 1997:151
A17231	Tamarinda	Mineralogical	Forminifera presence matches Rote and Saparua but the forminifera differ	Smith 1999:50–62
AR2	Ashmore Reef		Kei	

Flores

The earliest record of trading vessels from Manggarai (west Flores) arriving in Batavia with slaves date from the 1660s. This was a time when Manggarai was controlled by the Bimanese of Sumbawa (Erb 1997:50). It is unclear that the boat was crewed by Florinese.

Sutherland (2021:129, 195, 234, 285, 379, 435) reiterates the presence of Bajau, Bimanese (Sumbawa), Bugis and Makassarese settlements on Flores who exported local Floresian products. Writing of the period before 1684, Sutherland (2021:129, 195, 282–285) indicates that six major ethnolinguistic Floresian groups from the interior of the island brought tribute (e.g. slaves) and local products to the coast to be exchanged for weapons and Sulawesi cloth. Writing of the 1784–1819 period, Sutherland (2021:285–379) reported that slaves, forest (particularly beeswax) and sea products were exported from Flores; however the colonial authorities had 'little knowledge' or control of these places. Writing of the 1847–1869 period, Sutherland (2021:379) reported that bird's nests, tortoiseshell, trepang, sharks' fins, whale oil and local cinnamon (*kayu manis*) were exported. By the 1869–1906 period, Floresian 'hill people' brought cotton, tobacco, pineapples and tamarind to exchange for imports at Makassar-controlled Geliting, while the Bugis acquired kemiri nuts and tamarind at Maumere

(Sutherland 2021:435–437). At this time, the main exports from Flores were birds' nests, cinnamon, coconut oil, cotton and cotton cloth, sandalwood, sappanwood, tamarind, tobacco, trepang, turtle shell and 'wax'.

It is clear that there was no endemic maritime capacity on Flores. Though there is no historical evidence that they did so, it seems possible that Flores-based Bajau, Bugis, Makassarese and Sumbawans sailed to north Australia for tortoiseshell and trepang, if not beeswax, in the nineteenth century.

Kei

Chapter 4 shows that Kei Islands were visited by Bugis and Makassar *perahu*. Forest and sea products were clearly available in the Kei Islands, though to a lesser extent than the Aru Islands. These Islands had a reputation for two products. Firstly, boat building (Ellen 2019:146; Sutherland 2021:373; Swadling 1996:33). Secondly, for pottery production. Ethnographic, 'historical, linguistic and archaeological evidence for the period after 1621 supports claims for the relocation and continuation of Banda pottery traditions in the Kei islands, and for the incorporation of Banda-Kei centres of pottery production and export in a reconstituted Banda trading zone' that continued to export northwards (Ellen 2019:153. Figure A1.1).

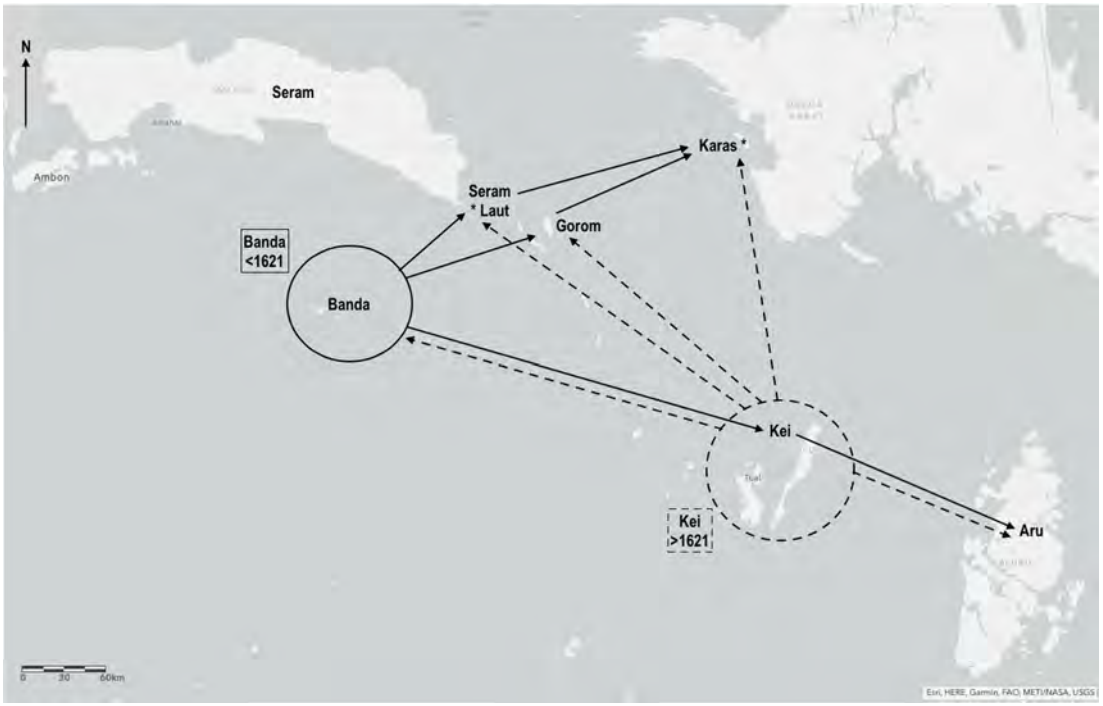

Figure A1.1 Banda-Kei pottery production and export (Adapted with permission. Ellen, R. 2019 Pottery production and trade in the Banda zone, Indonesia. *Indonesia and the Malay World* 47:152, copyright © Editors, Indonesia and the Malay World, reprinted by permission of Taylor & Francis Ltd, http://www.tandfonline.com on behalf of Editors, Indonesia and the Malay World.)

As was the case for Aru, in the sixteenth century, the inhabitants of Kei reportedly brought sago, BoP and parrot skins to Banda (Swadling 1996:62 citing Meilink-Roelofsz 1962:65). Again, Aru and Kei had 'histories of shared experience in raiding and trading fleets' (Sutherland 2021:266). In the nineteenth century, 'J.F.B' and Earl (1853) and Sutherland (2021:373) give the impression that traders went to Kei, rather than the reverse. Ellen (2019:146) states that 'Kei islanders had developed … as traders by the mid 19th century, [and] there was a transport infrastructure through which pots moved around the archipelago'. Bik (1928:104–105) reports that Kei islanders brought pottery to Banda by the early-nineteenth century. A major problem with identifying Kei with pottery found at Kimberley sites is that the former were usually painted while the latter examples are not (Crawford 1969:233; Ellen 2019:143–144). The Kei Islands will not be further pursued in this study.

Rote

That fishermen reached Ashmore Reef from Rote is generally accepted (Balint 2005; Benu et al. 2018; Dwyer 2000; Fox 1988). However, the year of first arrival and the ethnicity of the visitor varies. Balint (2005:30–37) reports that the Pepela fishermen have a unique culture of sailing, fishing and trade in the Timor Sea. Rotenese fishermen favoured the modern *lambo* type of *perahu* built from 'hardwood'. The fishermen traditionally caught skipjack tuna and small mackerel 'to supplement their frugal diet'. Cakes of palm sugar were Rote's primary export. It is unclear from Balint which type the Rotenese used prior to the *lambo*. It should be noted that the lontar palm (*Borassus flabellifer*), which is the source of the exported sugar, is native to Southeast Asia.

Benu et al. (2018:66 citing the traditional narrator S.H. Ardani of Pepela [also a source of Balint]) report that a Captain Rohi discovered Ashmore Reef in 1680. The year was calculated based on a story that in 1817 some fishermen from Solor Island arrived in Pepela. The Solorese related a story by the fifth generation of descendants of Rohi about their ancestor's voyage. Rohi had apparently been fishing 'in and around' the Timor Sea. Note that it is unclear whether Captain Rohi himself was Solorese. This would support Figure 31 be of interest to this study. In any case, Benu et al. go on to say that, since 1680, Rotenese (not Solorese) fishermen, from Pepela in particular, regularly sailed to Ashmore Reef. There is no indication that they went to the Australian mainland.

Dwyer (2000:116–117) tells three traditional tales. The first involves a vessel carrying palm sugar from Pepela to Timor, nine generations before. He does not mention the vessel/crew ethnicity nor Rohi by name but the description of the initial search for water is similar. The second tale involves a group of Rotenese elders setting out by outrigger for Java in the first

quarter of the eighteenth century. In contrast, Fox (1988:118–120) notes Dutch reports of Bajau arrival in the Rote area, concluding that they rather than Rotenese discovered Ashmore Reef. The third tale is the one Pobasso told Flinders (1814:257) in 1803, that Macassans had been trepanging south of Rote 20 years before. The Bajau and Macassans are already being investigated by this study.

It is likely that Rotenese exports during the POI would have been directed to nearby Dutch Kupang. Writing of the 1683–1784 period, Sutherland (2021:245) reported that the Dutch at Kupang depended on support from the nearby 'friendly' islands of Rote and Savu. The Dutch collected tribute (beeswax, millet, rice and slaves) from Rote. Sutherland adds that 'we know very little of the trade in local products'. Research on Kupang trade from 1815–1915 does not mention fish (Parimartha 2002; Sahaka 2017). It is concluded that, while Rotenese were clearly fishermen, fish was a subsistence or local consumption product (reflecting a Type I trade network as per Table 8) and not exported during the POI while local beeswax and slaves were tribute items. It was not until the end of the study POI that Rotenese fishermen were engaged as indentured labourers and later again that they commenced illegal commercial fishing, in some cases funded from Hong Kong (Balint 2005:27–63), which might be considered as an evolution of 'The Malay Road' into a fifth Period. Therefore, Rote will not be further pursued in this study.

Saparua

Saparua was one of the islands to which the Dutch restricted clove production. Pottery was a specialised type of goods also produced there by 1621 (Swadling 1996:33–41). The villages of mainland east Seram have historically obtained pottery from Ambon-Lease, mainly from the village of Ouh on Saparua (Ellen 2019:149). Otherwise, and unlike the case in the western archipelago, there here is no mention of trade in earthenwares in the eastern archipelago (Ellen and Glover 1974:367–368). However, 'it appears likely that certain earthenware types … were included with the material goods which accompanied Javanese, and later Malay and Makassarese trade in the eastern archipelago. That there is no mention in the historical documents consulted of such trade does not mean that it was necessarily non-existent. Rather the conclusion should be drawn that the quantities were relatively small and were carried primarily for the convenience of the traders themselves and not for exchange.'

Chapter 4 shows that nearby Ambon and Seram were included in Bugis, Makassar and Sumbawan trade networks. However, the Island of Saparua, and information about its maritime capacity, never came to attention during research for this study. Therefore, Saparua Island will not be further pursued.

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Appendix 2

Which wax was sourced from northern Australia?

This appendix researches the question of whether the wax taken from Australia by 1754 had a forest or sea origin.

Whaling and whale products

Both ambergris (*ambar* in Indonesian) and spermaceti from the sperm whale are generally described as wax-like substances. While northwest Australia was included in the Southern Whale Fishery, European ships were not authorised to work the 'New Holland' ground by the British East India Company until 1798 (Chatwin 2016. Figure A2.1), and the Dutch did not whale in the southern seas before 1827 (Schokkenbroek 2008:68–92), years after the 1754 Dutch reference.

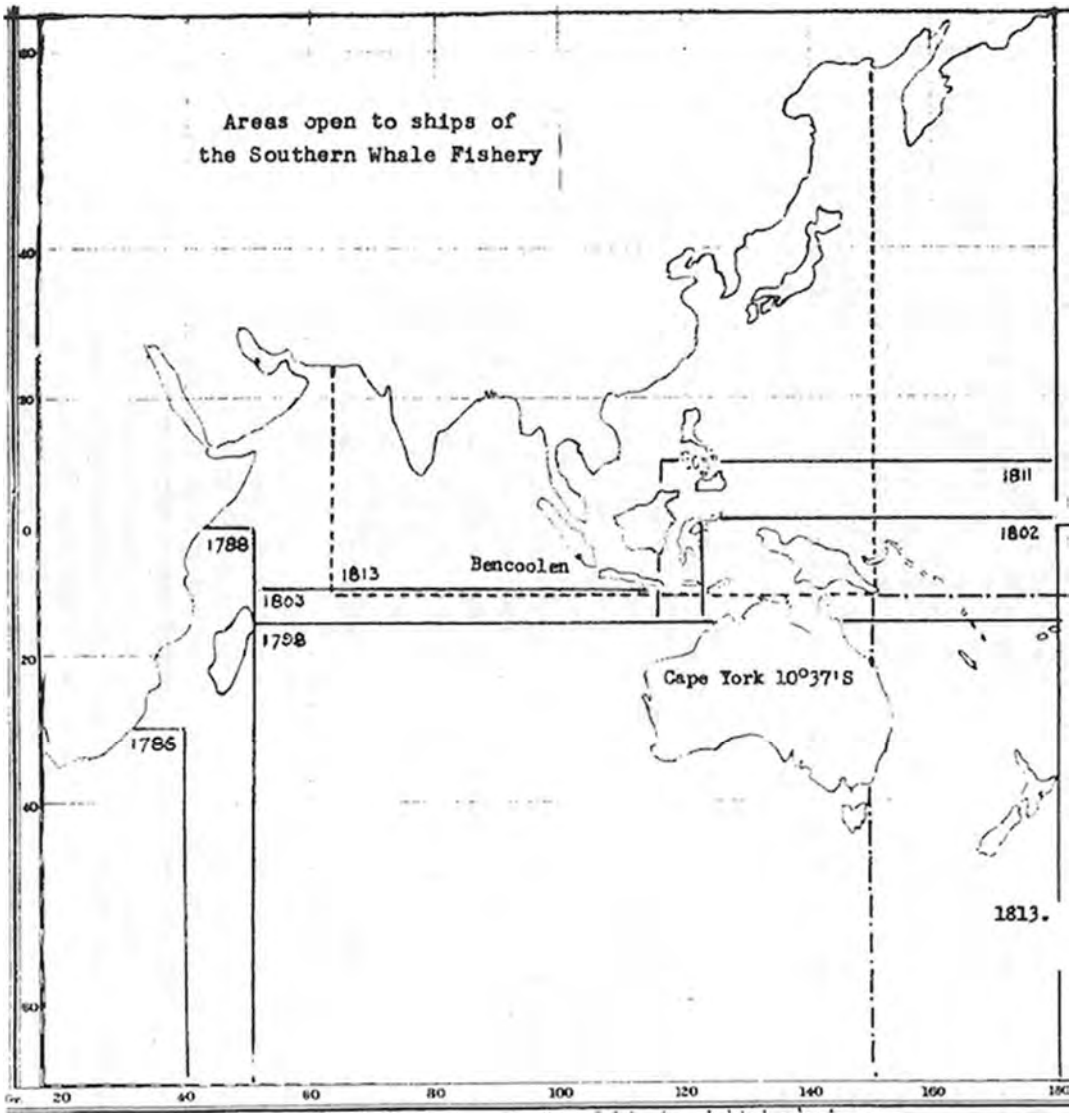

Figure A2.1 Excerpt of 'Areas opened to ships of the Southern Whale Fishery', by years (Reproduced with permission Navarine Publishing. Cumpston 1977:17).

Alternatively, fishermen of the Lembata and Solor Islands have traditionally hunted whales, including sperm whales, since the mid-seventeenth century, but they fished in their local (Java or Sunda Sea) grounds. Occasionally, they took whale oil to Kupang for sale (Hogendorp 1779). There is no indication that the Solorese were deep-sea fishing for whale in the Timor Sea between Timor and Australia (Barnes 1996:307–325). Earl (1853:178) agreed that the Solorese hunted the 'black-fish, a small variety of the … sperm-whale' but in no previous account did Earl note that Solorese visited north Australia. No sightings of whales were logged close to the north Australian coast, between the Java Sea and Torres Strait grounds, by American whalers from 1780-1920 (Figure A2.2). However, they were logged south of Timor, and possibly in the vicinity of Ashmore Reef.

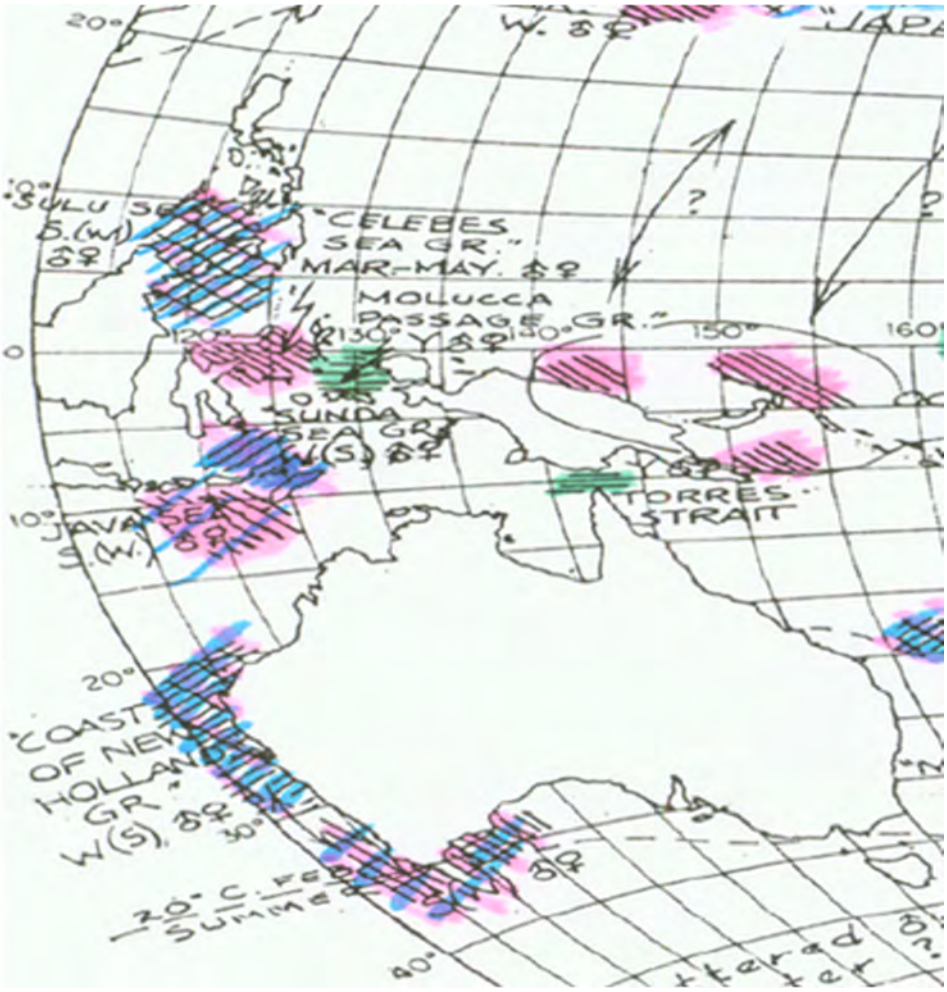

Figure A2.2 Sightings in the regional whale fishing grounds 1780–1920, in the southern winter (blue) or summer (pink) or year-round (green) (Smith et al 2012:20). CC BY 2.0

Further, though the Solorese sold whale oil, spermaceti and probably ambergris during the seventeenth to nineteenth centuries to Bugis and Macassar traders (Earl 1853:178), Barnes (1996:326–329) cites Callbrooke (1812) that, as they were not good at processing spermaceti, it had little more value than the whale oil sourced from the blubber. Finally, and most

importantly, Hogendorp (1779) differentiated between whale ambergris and oil, and wax products.

In conclusion, the European whalers were not yet present, the Solorese whaling *kora-kora* was not capable of reaching Australia safely, and contemporary Dutch reports differentiate between whale and forest products.

The case for beeswax

The archaeological and historical evidence suggests that the Macassans, if not the Dutch, should have been interested in northern Australian wax as a commodity. There is extensive evidence of a SEA bulk beeswax trade between the sixteenth to eighteenth centuries that stretched from Cambodia and Amoy, China, in the northwest across the Pacific to Acapulco, New Spain, in the east. Beeswax was imported to China from Aceh and Java in the sixteenth century (Chang 1991:176) and 'from Celebes & other eastern islands' to Singapore in the nineteenth (GBHoC 1842:32).

The Dutch were transporting wax from Kupang, Timor, by the mid-eighteenth century (Alderwerelt 1904:202–203). The Spanish in the Philippines paid for goods from Siam and Cambodia in gold and island produce including white and yellow wax in cakes (Villiers 1986:150). According to VOC sources, exports of forest products from Pontianak, Borneo, from 1778–1780 included 'Yellow Wax' and beeswax. Chinese traders came annually from Canton to purchase gold and beeswax and barter for other products (Atsushi 2010:75). McKinnon (2000:221) states that beeswax, in the early-nineteenth century, was sent in vast quantities to Cebu, Philippines, where the Cambodians purchased it at high prices. He cites a Mr Dalton, whose *Journal of a tour up the Coti River* was published in 1831, who remarked that beeswax is an 'excellent article of trade. The quality found here is very superior; … being perfectly white and of a beautiful transparency'. Despite the industrialisation of wax manufacturing in Europe from the mid-nineteenth century, in 1856 British naturalist Alfred Russel Wallace (2014:121–145) recorded that beeswax was one of the most valuable products of Borneo, sold by locals to traders for brass wire, earrings and gold-edged handkerchiefs.

Sumatra was also a producer in this international beeswax trade network. According to the British orientalist William Marsden (1811), who pioneered the scientific study of Indonesia, 'Beeswax is a commodity of great importance in all the eastern islands, from whence it is exported in large oblong cakes to China, Bengal, and other parts of the continent'. Exports of wax on the annual Amoy junk from Makassar, for the period 1774–1777 alone, totalled 133 picul or over 8,200 kg (Knaap and Sutherland 2004:246).

Timor is closest to northern Australia. Wallace (1869:250–441) recorded that Makassar receives trepang from the Gulf of Carpentaria, and sandalwood and beeswax from Flores and Timor, where beeswax is a 'still more important and valuable product.' Timor was a hub for the lucrative trade in sandalwood and probably beeswax from the twelfth century onwards (Yoder 2011:11). Local kings were involved in beeswax collection in western Timor, with some of the same exclusive rights to trade sandalwood applying also to beeswax as a tribute item. In 1522 Venetian explorer Antonio Pigafetta refers to the significant wax trade out of Ambeno (Oecusse). Timorese beeswax made a significant contribution to colonial Portuguese income. From 1858 to 1865, beeswax provided 47–63% of Portuguese Timor's customs export earnings. Raw wax was exported to Macau to be refined, and the Timor government made some payments in beeswax to Macau for its sporadic administration of Timor under Portuguese rule (Yoder 2011:14–15).

Beeswax survives in the archaeological record. Large, rectangular blocks of beeswax, each up to nine kg weight, were found in two Spanish galleons, wrecked on route from Manila, Philippines, to Acapulco in the late-sixteenth and late-seventeenth to early-eighteenth centuries (Junco 2011; La Follette et al. 2018). McKinnon (2000:221) notes that, if the archaeological sample of beeswax in Istana Sultan Siak museum in Riau, from the site of a former sixteenth-century palace, is any guide, beeswax was produced in massive, rectangular slabs weighing some tens of kilos.

Turning to northern Australia, Australian native stingless bees belong to the family Apidae, tribe Meliponini, and are represented in Australia by two genera: *Austroplebeia* and *Tetragonula* (Heard 2016:86; Houston 2018:227–228). Their distribution in northern Australia encompasses visitor areas (Figure A2.3). They nest in the ground and in hollow parts of trees of 'certain eucalypts', including stringybark, as well as ironwood (*Erythrophleum chlorostachys*) and mangrove (*Rhizophora*) (ASRAC 2019; Fijn 2014:47; PWCNT-TLC 2001:131–144; Si and Carew 2018:526–527). Trepangers cut swathes of such trees (Macknight 1976:48–73) and must have discovered native bees nests, honey and wax.

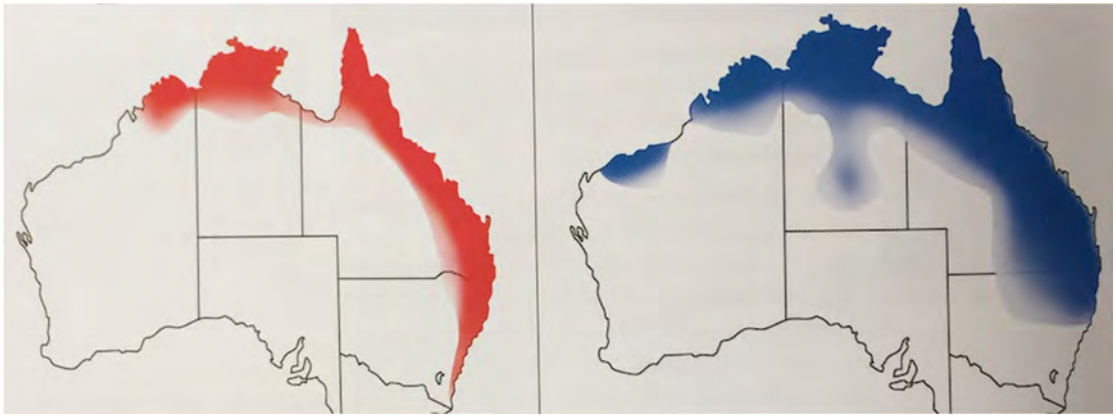

Figure A2.3 *Tetragonula* (red) and *Austroplebeia* (blue) native bee distribution in Australia (Reproduced with permission T. Heard, Sugarbag Bees. Heard 2016:86).

Only about 200–400 grams of wax are produced in commercial hives per year Heard (2016:175). The longest recorded nest in a hollow branch was six meters (Houston 2018:229). The quantity of honey stored in a nest varies with bee species. *T. carbonaria* on the east coast normally store one to two kg of honey and *T. hockingsi* may store even more. *A. australis* and *cassia* can store large quantities but *A. essingtoni* and *T. mellipes, saiens* and *clypearis* normally store less. The bees mix wax with resin to form cerumen, also known as propolis, to contruct brood cells and honey pots in combs (Heard 2016:160–161; Houston 2018:228). Heard (2016:162) says that *Austroplebeia* species such as *australis, cassia* and *essingtoni,* are stored in lighter coloured wax pots containing sweet honey, whereas *Tetragonula* species are stored in darker coloured propolis pots containing sour-tasking honey (Figure A2.4). Nest density per hectare has been estimated at 0.6 for *A. australis* nests in southeast QLD, though in Sabah, north Borneo, Malaysia, it has been estimated up to 16 nests per hectare in a coastal forest fringed by mangrove where mangrove pollen was a major food resource for the *Trigona* and *Tetragonula* bees (Eltz 2001:93–118; Heard 2016:112). The lighter wax can be separated from the heavier resin by melting and floating it (Heard 2016:176).

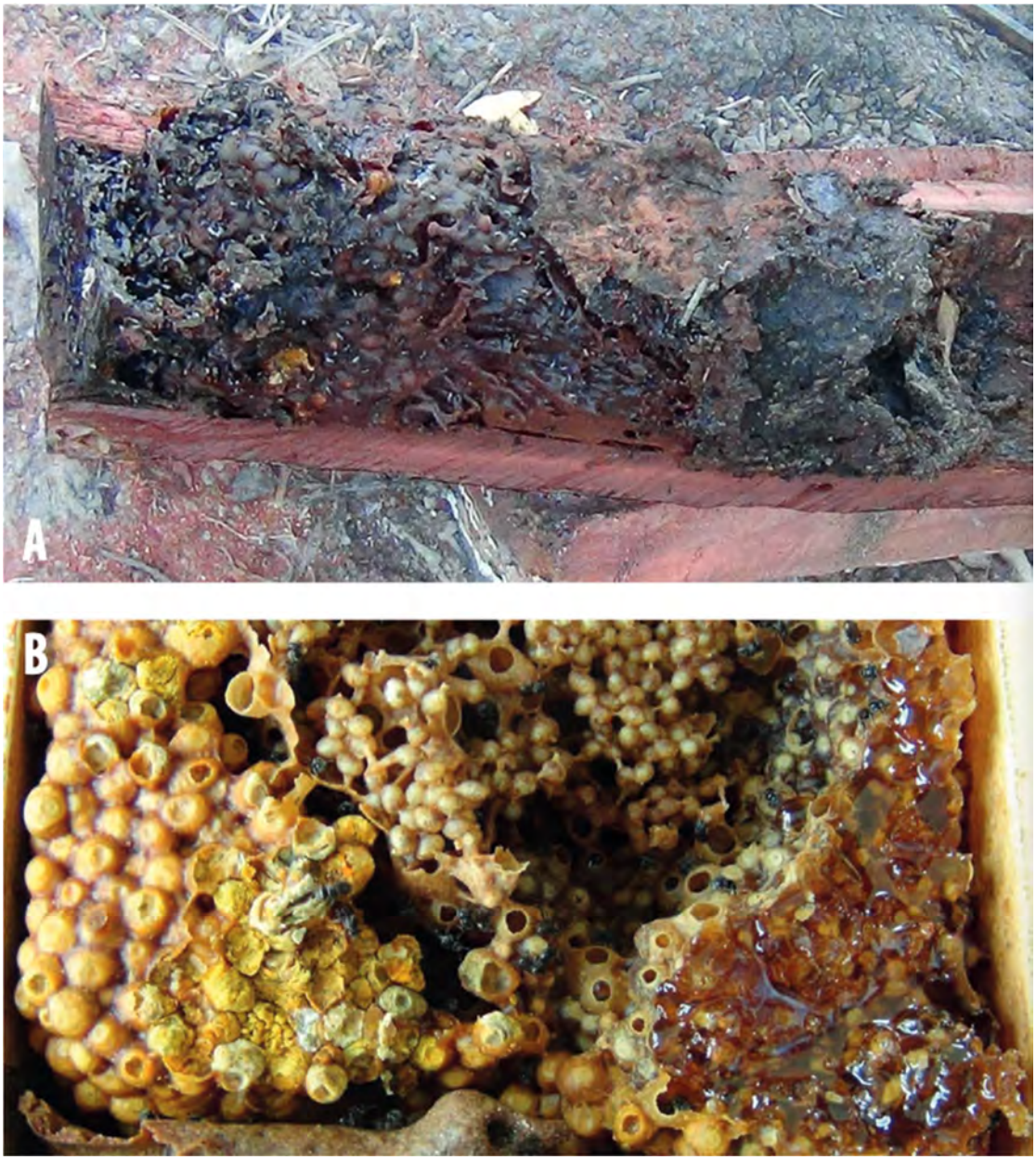

Figure A2.4 A *Tetragonula* nest (A) constructed using cerumen rich in black plant resin, compared with an *Austroplebeia* nest (B) constructed with relatively little resin in the cerumen (*Tetragonula* image taken by Tim Heard. *Austroplebeia* image taken by Claudia Rasche. Reproduced with permission T. Heard, Sugarbag Bees. Dollin et al. 2016:109; Heard 2016:87).

The Yolngu of east Arnhem Land, who continue traditional practices of collecting 'sugarbag' honey in the late dry season [August to October], had prolonged contact with trepangers (Fijn 2014:41–50; McIntosh 2008, 2013; May et al. 2017:65). The Ndjebbana word *taruppu* 'grog/honey' container was probably Makassarese (Evans 1992:82), though this may reflect an Indigenous application rather than Macassans using bamboo containers to collect honey themselves. Besides being an important food source to the Yolngu, the practice of searching for sugarbags is integrated in ceremonies, linked with Ancestral beings and empowerment of

body parts (Fijn 2014:42–50; May et al. 2017:65), which may have prevented its use in exchange.

Alternatively, since the cerumen wax produced by *Tetragonula* genus northern Australian native stingless bees is relatively dark, subjective judgements as to wax value (given Mr Dalton's comments) may have been relevant. According to Bradbear (2009:103–105), the colouration of beeswax (near white, through shades of yellow, orange and red to brown) is due to the presence of various substances, especially pollen, or overheating during processing. Wax produced by the Asian species of honeybees differs in chemical and physical properties to the European honeybee (*Apis mellifera)* and is less acidic. Pure waxes from different species of stingless bees are also very different from the other types of beeswax and much darker in colour, to dark brown. Colour difference is of no significance for wax quality but, subjectively, light coloured wax is more highly valued than dark coloured wax. However, this may not be true in all cultures. The highly valued beeswax of East Timor has several colours (white, yellow, pink and dark brown) depending on the type of tree flowers the bees visited (Yoder 2011:17).

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Appendix 3

Northern Australian products of Maritime SEA interest

With the exception of slaves, metals and stone, 31 of the 38 products that Southeast Asians may have looked for in northern Australia during the period of interest are forest or sea commodities. Each is listed in alphabetic order (Table A3.1), and discussed in descending order of value (if available) below.

Table A3.1 Products of Maritime SEA interest. Prices range from lowest to highest during the period of interest and are generally based on the Singapore price in dollars in 1873 [unless otherwise indicated]. Not all products were tradable by the picul. *Italics* were amongst 'selected commodities' on the Makassar-Amoy, China route. The question mark (?) denotes no proof of the claim. Grey background indicates overlap or possible sustained interest over the long term. Red background = not native to northern Australia. Scientific name of Australian equivalent in square brackets. NA = Not available; NPF = Not to be Further Pursued.

Scientific name	Common name	'Island of Macassar' (C16th)	Makassar C17th	Celebes (C18th)	'Celebes & eastern islands' (1st ½ C19th)	Northern Australia (C19th)	Singapore $/picul 1873
genus *Gelidium* and *Gracilaria*	*agar-agar*			✓	seaweed	?	1.82
	amber		✓ [QLD?]				NA
Actinopyga lecanora	anchor stone					?	NPF
Pimpinella anisum	anise			✓			NPF
hibiscus tiliaceus	beach hibiscus					?	NA
genus *Apis*	beeswax		✓	✓	✓	*[Austroplebeia* and *Tetragonula]*	38.76
Hystrix brachyuran, Trichys fasciculata and *Thecuris crassispinis*	bezoars		✓			✓ [genus *Tachyglossus?*]	42,592–68,146 [1879 Borneo]
Ptiloris magnificus	(BoP) Magnificent Riflebird					✓ [QLD]	NA
Aerodramus fuciphagus and maximus, Collocalia esculenta	*bird's nests*		✓	✓	✓	[QLD *Aerodramus terraereginae?*]	186.74
Melaleuca leucadendra and *cajuputi*	cajeput				oil	✓	1.4

Scientific name	Common name	'Island of Macassar' (C16th)	Makassar C17th	Celebes (C18th)	'Celebes & eastern islands' (1st ½ C19th)	Northern Australia (C19th)	Singapore $/picul 1873
Antipathes grandis and *griggi*	coral					[Queensland *Isis hippuris*?]	NA
Callitris columellaris var. intratropica	*cypress pine?*					?	NA
Diospyros celebica	*ebony*				✓	[D. *humilis*?]	1.5 [1841 Spanish $]
Osteichthyes	fish maw					✓	60.7
various	fish, dried					✓	6.54
	gold dust				✓	speck	NPF
	iron			✓	✓		NPF
Eusideroxylon zwageri	ironwood					✓ [*Erythrophleum chlorostachys*]	NA
Ceiba petandra	kapok			✓ (Batavia-Canton 1778)		*[Cochlospermum fraseri]*	22.22 [1904 Java]
	lead			✓			NPF
	manganese					manganese	NPF
Rhizophora angulata and *mucronata*	mangrove				bark	wood	0.48
Morinda citrifolia	mengkudu			bengkudu		✓	NA
Myristica fatua	wild/long nutmeg		✓ [*M. insipida*?]		✓		<35.84 (*M. fragrans*)
P. maxima and *margaritifera; Techtus niloticus*	MOP			✓	✓	✓	107.62
Pandanus tectorius	pandan (Jama Mapun), kajang					✓ (QLD) [*P. spiralis* elsewhere]	1.00 ('mats', each)

	(Bajau)						
Scientific name	Common name	'Island of Macassar' (C16th)	Makassar C17th	Celebes (C18th)	'Celebes & eastern islands' (1st ½ C19th)	Northern Australia (C19th)	Singapore $/picul 1873
Pinctada albina	pearls	✓	✓			✓	67,199 [1875 Makassar]
genus *Calamus*	*rattan*		✓	✓	✓	✓ [QLD?]	3.77
	resins			✓		[cypress pine, ironwood, mangrove?]	NA
Sodium Chloride	salt			✓			0.33
Santalum album	sandalwood	✓	✓			*[S. album, lanceolatum & spicatum WA, NT* and *QLD]*	3.43
Selachimorpha	*shark*			*fins*		fins and tails	20.2
various	shell meat (abalone, clam, conch, green snail, pearl, trochus)					✓	29.63 (MOP) [1907–1924 WA]
Homo sapiens	slaves	✓	✓	✓	✓	✓	5–66.67 (each) [1827–1836]
	tin			✓		?	NPF
Eretmochelys imbricata	*tortoiseshell*		✓	*karet*	✓	✓	301.61
Holothuroidea	*trepang*			✓	✓	✓	18.23
Bubalus bubalis	water buffalo			meat		*horn*	9.19 (horn)

Scientific name	Common name	'Island of Macassar' (C16th)	Makassar C17th	Celebes (C18th)	'Celebes & eastern islands' (1st ½ C19th)	Northern Australia (C19th)	Singapore $/picul 1873
Atlas of Living Australia; Australian Plant Name Index; Wikipedia	Sources:	Baker 2005:62–63; Cortesao 1944:216–227; Raben 2008:122–135; Reid 1983a:31, 1983b:158	Andaya 1981; Crawford 1969; Gunn 2016; Knaap and Sutherland 2004; Mahmud 2014:190; McWilliam 2007; Meilink-Roelofsz 1962; Noorduyn 1983; Parimartha 2008; Poelinggomang 1993; Sutherland 2005; Villiers 1990	Coolhaas 1964b:377; 18th century VOC Macassar Harbour-master register data in Knaap and Sutherland 2004	Kobayashi 2013:464; Reid 1983a; Sholl 1865; Tabular Statements of the Commerce of Singapore, 1828, 1835, 1842, 1844, 1852	Bain 1982; Bremer 1843; Brown 2001; Brown 1903; Cense 1952; Crawford 2001; Crawfurd 1820; Dashwood 1901–1902; Earl 1837, 1846; Flinders 1814; King 1827; Macknight 1976; Matthes 1885; Robinson 1882; Searcy 1909, 1912; Swadling 1996; Vosmaer 1839; Wilson 1835.	Everett 1879; GoS 1874:304–335; Holloway 1842:32; Northern Territory Times and Gazette Fri Apr 1904:2; Singapore Chronicle and Commercial Register Thu 5 Jul 1827:2, Sat 23 Jul 1836:1; The Straits Times Sat 17 Jul 1875:1; WAM 1968

Bezoars had medicinal use and those from porcupines in SEA, including Sumatra, were most valuable, selling for 100 rixdollars, while the Sarawak, Borneo product sold for $2.50–4.00 per *amas* which is 3.55g and the average bezoar is 7g (Duffin 2013:17–18; Everett 1879:56–58; Reyes 2015:108). Macassans sought Australian bezoars, potentially targeting the similar-looking echidna (Cense 1952; Tindale 1925–1928:80). The Yolngu probably borrowed the Makassarese word *kulau* 'anything hard including bezoars' and MOP (Walker and Zorc 1981:121).

In 1809, Javanese pearls brought 35 rixdollars per catty (Schwerdtner Manez 2010:371). In 1883 the sub-collector of customs at Darwin recorded that one *perahu* had one catty of pearls worth 1500 rupees (estimated by Macknight [1976:44] at about £120) in Makassar (Searcy 1909:32). Historically, Aboriginal oyster-eaters would encounter pearls (Szabo et al. 2015). The Yolngu word *mutiyara* 'pearl' is possibly loaned from the Makassarese *mutiara* (Walker and Zorc 1981:121–127). The gold-lipped pearl oyster *Pinctada maxima,* and the black-lipped pearl oyster *P. margaritifera* have been key to the Australian industry. Other commercial species of lesser importance include *Pinctada albina, P. chemnitzi, P. fucata* and *P. maculate* (Saenger and Stubbs 2012:3).

Arnhem Land people hunted the hawksbill turtle and a 'barter trade … [was] carried on' with the Macassans, for China's market (Earl 1846:250; Knaap and Sutherland 2004:234; Macknight 1976:30–43). In 1903, each *perahu* reportedly had only a few pounds of tortoiseshell, instead of the hoped-for one hundredweight (Brown 1903 cited in Macknight 1976:43–154[n.38]). Seven Arnhem Land languages use words meaning turtle shell, including Hawksbill, that are probably loaned from Makassarese or may have an Austronesian source (Evans 1992:87; Walker and Zorc 1981:121). Zalewski (2013) clarifies the range of species available in Australian habitants in which trepang and MOP was also common. She suggests that Macassans returned to previously visited tortoiseshell grounds to obtain trepang and MOP. Chinese historical records show that tortoiseshell was traded or sent as tribute to China from the thirteenth to the early-seventeenth centuries; however, only one tentative source in northeast Sulawesi was identified (Ptak 1991:205–219). In 1618, the Malay-Portuguese Godinho Eredia associated four locations on the west and north coast of Celebes with the native tortoiseshell trade, including Mandar (Mills 1997:246–254). Further, nine of the LSI produced or traded in turtles and carapaces. The Bajau may have originally commenced turtle collection in the seventeenth century to pay as tribute to the King of Makassar (Reid 1983:126). Tortoiseshell also had a product range based on turtle species and shell colour (Ptak 1991:199–201; Vosmaer 1849).

Aerodramus fuciphagus (White-nest Swiftlet) and *maximus* (Black-nest Swiftlet) construct their nests mainly from saliva. However, that 'every feather, stick or impurity' needed to be carefully removed following purchase indicates that commercial nests were not completely made of saliva (Blussé 1991:320–325). The Australian Swiftlet (*A. terraereginae*) nest is made from saliva mixed with grasses, casuarina needles, twigs and feathers. Halfway between Melville Island and Timor, Lieutenant Phillip Parker King (1827:124) on HMS *Mermaid* reported catching two Glossy Swiftlets (*Collocalia esculenta*) whose nests were 'a great delicacy', traded between the 'Malays and Chinese'. As the report doesn't associate the Glossy Swiftlet with Australia, and the Australian Swiftlet is endemic to Queensland, this commodity will not be pursued further unless there is evidence of Seram Laut Islanders trading the latter (Macknight 1976:155).

Indigenous people traded *Pinctada* shell to trepangers, who also collected trochus shell for MOP (Cense 1952; cited in Macknight 1976:44 contra Brown 1903; Saenger and Stubbs 2012; Szabo et al. 2015). 'Pearl-shell' in eight Aboriginal languages reflects the Makassarese word for 'pearl' (Evans 1992:76; Walker and Zorc 1981:121). The earliest reference by the Dutch to MOP being 'previously' obtainable from Makassar was in 1723 (Coolhaas 1964b:377). In the nineteenth century, MOP was imported to Singapore from 'Celebes & other eastern islands' (Fox 2009:210; GBHoC 1842:32; Sutherland 2015:78).

In the eighteenth century, Makassar annually exported 3,000 slaves, with girls most valuable (Knaap and Sutherland 2004:18). The Portuguese were partly driven, 'like the Moors of Macasse', by the slave trade and slavers stopped at the Tiwi Islands until the 1800s (Earl 1853:210; Kammen 2003:73; Morris 1961:1; Powell 1982). Aboriginal women sometimes were items of exchange in Macassan trading (Swain 1993:164).

Bony fish control buoyancy using swim bladders, also known as fish maw. In China, dried fish maws are called `fish stomach' (Clarke 2004:59). In 1848–1851, fish maw was imported to Canton from 'India and other countries' (GBHoC 1849:505–506; 1851:1000). The Yolngu *bula* 'dugong-stomach' is probably Makassarese but may describe the 'moon' (Walker and Zorc 1981:119).

Banda Islands, Maluku, was originally the primary source of Frangrant or True Nutmeg (*Myristica fragrans*). In the late-nineteenth century, the London market recognised Penang, Dutch or Batavia, and Singapore nutmeg, in decreasing order of value. It also recognised the 'very inferior' and less fragrant yet still commercial 'long' or 'wild' nutmeg, *M. fatua*, which was also endemic to Maluku, New Guinea and the Philippines (Pereira 1872:561–563). Also less fragrant is *M. insipida* (native, QLD or Australian nutmeg), endemic to the Moluccas, New

Guinea and northeast QLD. *M. insipida var. insipida* was native to northeast WA, northern NT and northeast QLD. Robert Brown, accompanying Matthew Flinders, recorded the 'nutmeg tree' at several locations, including Cotton Island, English Company Islands; Chasm and Groote Eylandt; and Vanderlin Island, Sir Edward Pellew Group, GoC (Morgan 2015:2–297). It was also reported on Melville Island (Northern Territory Times and Gazette Thu 17 Sep 1914:13). It can be seen from Figures 54, 57 and 59 that nutmeg (including long or wild nutmeg) was sought and traded, then smuggled, by Makassarese, Makassar Malays and Serdenha/SLI. Long or wild nutmeg may particularly have been sought as a lower price alternative to true nutmeg immediately following Dutch monopolisation of the Maluku spice trade. While there is no clear evidence that Australian nutmeg was commercial, it may have been (albeit temporarily) of interest to diversifying South Sulawesians visiting Anuru Bay and to SLI visiting TS in the seventeenth century.

For details on beeswax, see Appendix 2.

WA pearler H.V. Howe, active from 1907–1924, indicated that the trepang *perahu* collected anything commercial, including sun-dried meat from abalone, clam, conch, green snail, pearl and trochus shell (Shaw 2001; WAM 1968). Dried MOP meat sold for 'about a shilling a pound' to the Chinese stewards of the Blue Funnel steam ships. *Talimpu,* 'baler shell' in Yanyuwa, is a probable Makassarese word; and *munan*, used in two Indigenous languages to refer to shell, was possibly borrowed from an Austronesian source (Table A3.2). Besides traditional uses, and pearls (Neo and Todd 2012:68–69; Nijman et al. 2015:2; Van Wynsberge et al. 2015:2), giant clams were food sources. East Indonesians collected them offshore of the Kimberley in the twentieth century (Crawford 2001:79–91; Firdausy and Tisdell 1992:95–107). *Mamina,* 'clam shell' in two Aboriginal languages, may be Austronesian (Table A3.2).

Linguistic evidence (Table A3.2) suggests interest in the cotton wool tree. Kapok (*Ceiba petandra*) is common in the islands of Java, Sumatra and Madura (Fanti 1943:96–102). The Dutch have a long association with kapok trade: exporting 53,932 pounds to Canton from Batavia in 1778 (Liu 2007:192). Its value was reported in Australia as early as 1871 (Sydney Mail and New South Wales Advertiser Sat 18 Nov 1871:1190). In the early-twentieth century, a price of nine pence per pound was quoted for Dutch kapok (Northern Territory Times and Gazette Fri Apr 1904:2). The local equivalent (*Cochlospermum fraseri*) in the NT was not exported until early in the twentieth century (Northern Territory Times and Gazette Fri 16 Jan 1903:3, Fri 11 Nov 1910:3).

Robert Brown (2001), accompanying Flinders in 1802–1803, saw dried 'sharks tails' hanging on a Macassan *perahu*, 'to be sold to the Chinese'. At that time, fins sold for 15 Spanish

dollars per picul in Canton (Crawfurd 1820). Shark's fin soup uses the cartilaginous dorsal, pectoral and caudal fins from various shark species (Fox 2009:206; Tagliacozza 2004:20; Yifeng 2012). There are different commercial grades of shark's fin (Balint 2005:62).

Trepang, along with fish maw and shark's fin, was one of the four key banquet menu items for Chinese weddings (Blumenfeld 2011:30). *Trepang Marege* and *trepang Kayu Jawa* were distinguished in markets, with the latter being more valuable. Macassan dyeing of trepang ensured the desired (if fraudulent) product range (Macknight 1976:40–51). The collection and processing of trepang by Southeast Asian visitors to northern Australia is already well documented (Manez and Ferse 2010; Macknight 1976, 2008, 2011, 2013; Sultani et al. 2019). This commodity will not be pursued further.

After water buffalo's introduction into northern Australia from 1824, the average *perahu* exported half a ton of horn (Robinson 1882 contra Brown 1903 cited in Macknight 1976:45). The Yolngu *dandarun* 'horn' may be loaned from the Makassarese *tanru*. Words meaning water buffalo in eight Aboriginal languages may be Makassarese or Austronesian (Evans 1992:74–87; Walker and Zorc 1981:119–132).

Macknight (1976:45) acknowledged that dried fish products might be under-reported. Howe indicated that, prior to 1885, Cossack pearling schooners would call at Rowley Shoals to pick up a load of 'trepang, dried fish etc. before returning crews to their homes in Indonesia' (WAM 1968). After the 1890s, the Hilliard-managed Kupang schooners spent about six weeks at Rowley Shoals fishing for trepang and trochus. Each crewmember was entitled to catch and dry one fish per day: 'large eels were the most popular – then worth about one pound each' in Kupang. Dried fish was the most important product to the Bajau Laut who supplied the northeast Borneo and Mindanao, Philippines, coasts (Sather 2002:21). In 1775, Bajau at Pasir caught shrimps to make *belachan* (Sopher 1965:297). For details on colonial Chinese dried fish industries in northern Australia, see Appendix 4.

Rattan is a climbing palm. As Australian rattan species are endemic only from Cape York half way down the Australian coast, they will not be pursued further unless there is evidence that Seram Laut Islanders traded this. Rattan was traded through Singapore in the nineteenth century.

Regarding timbers:

- Australian sandalwood was taken possibly from the Pellew Islands, in the GoC, by Macassans (Earl 1846:77–78; Flinders 1814:171; Wilson 1835:81) but northern Australian stands of *S. album* were apparently never great and, in Cape York,

sandalwood grew 30–50 kilometres inland (Statham 1990:26; Wharton 2009:24–25). The Portuguese seized sandalwood stocks when capturing Melaka in 1511 and Timorese sandalwood was exported to Fukien, China by 1617. Traders sailed to Timor via Makassar instead of Melaka from the mid-sixteenth century (Chang 1991:162–166; Gunn 2016:129–133). The product range and value of sandalwood related to the strength of fragrance produced from the oil the heartwood oil and log size (Guoth 2017:190).

- *Kaju Jawa*, the Macassan name for the Kimberley region, derives from mangrove bark, which was exported to Singapore (Crawford 2001:76; Kobayashi 2013:464);
- *Mengkudu* traded in Makassar (ATS 2019; Earl 1846:77–78; Knaap and Sutherland 2004:108–164; Kolff 1840:173; Macknight 1976:43–51; Vosmaer 1839:169);
- Ebony exported to Singapore: there is an Australian species (Kobayashi 2013:464);
- Australian ironwood and cypress pine taken to market (Earl 1846:77–78; Robinson 1882 cited in Macknight 1976:44);
- Burmese bloodwood endemic in TS, and exported from western NG (Ellen 2003:135–136); and
- Words in three Aboriginal languages for stringybark, mangrove and bark were probably Makassarese or Austronesian (Evans 1992:86; Walker and Zorc 1981:121).

Two genera account for most agar-agar (the Malay name for red algae) production (FAO 2019). While Australian production is recent (Haven 1942:12), Indonesian seaweed farming is common (Firdausy and Tisdell 1992:88). The Bajau prepared agar-agar to obtain goods to exchange for textiles (Sutherland 2000:452). *Pukupatu,* 'seaweed' in two Arnhem Land languages, may have an Austronesian source (Evans 1992:86).

Cajeput oil is distilled from the leaves of *Melaleuca* species found throughout Maritime SEA and hotter parts of Australia. Indonesian for 'white wood', the majority is produced in Sulawesi. 7,227 Spanish dollars worth was imported from Celebes to Singapore in 1844 (Kobayashi 2013:464). In 1829, a Javanese reportedly produced cajeput oil in Port Essington (Macknight 1976:147).

Two very important economic plants (i.e. commodities) to the Bajau (Moken and Orang Laut) were *Pandanus tectorius* and *Hibiscus tiliaceus* or beach hibiscus (Sopher 1965:44–251). The former was used for manufacture of mats known as *kajang* that were important trade items, as well as baskets and sails. Men collected the fronds of *Pandanus* on foraging trips and the women prepared the mats on their return. *P. tectorius* is native to QLD but another species (*spiralis*) is most common in the NT and Kimberley. The latter can be similarly used, as the

Bardi people of Dampier Peninsula weave shoes and baskets from the leaves (SKIPA 2021). In 1884, Macassans brought 80 catties of *kuwal* (probably palm fronds) on the voyage, probably for repairing *kajang* (Macknight 1976:20). The fibrous bark of hibiscus is commonly used for the manufacture of rope and cordage. Beach hibiscus is native to northern Australia. Robert Brown, accompanying Flinders, may have meant Beach hibiscus when he noted a tree whose bark is good, and in common use in 'the east', for making small rope (Morgan 2015:55–119). Indigenous people at the Goulburn Island Mission reportedly wove Macassan-style rope from local fibres (Wesley et al. 2016:174).

In 1775, Bajau at Pasir produced salt (Sopher 1965:297). Makassar produced and exported salt but trepangers didn't carry it to Australia (Knaap and Sutherland 2004:96; Macknight 1976:20). Yet, Makassarese loan words in nine Arnhem Land languages refer to salt or saltiness and seasoning (Evans 1992:73; Walker and Zorc 1981:121). In the Moluccas and Sumatra, salt was processed from timber impregnated with seawater (Knaap and Nagtegaal 1991:129): might this have happened in Australia?

The final seven commodities are listed in alphabetic order, since there is no detail available about their relative value. Matthes' 1885 dictionary (cited in Macknight 1976:45) mistakenly defines *batu Marege* as 'stone anchor'. The Makassarese for 'stone' is *batu*' but 'anchor' is *balan*' and the latter probably acquired by three Aboriginal languages (Evans 1992:71; Walker and Zorc 1981:117–124). *Batu trepang* is marketed as 'stonefish' reflecting its appearance (Ellen 2003:109–110; Setyastuti and Purwati 2015:22). This will not be pursued further.

SEA amber was sought in the seventeenth century (Noorduyn 1983:119–120). Amber is not common in Australia, although an amber-like fossil resin has been found at Cape Waymouth on the east coast of Cape York, QLD (Colchester et al. 2006).

Anise was imported from Batavia to Makassar (Knaap and Sutherland 2004:240–248), possibly flavouring alcohol subsequently given to Aboriginal people. Words meaning 'liquor' in seven AL languages are probable loans from the Makassarese *anisi* 'anisette' liqueur (Evans 1992:70; Walker and Zorc 1981:123). As anise is not native to Australia, this commodity will not be pursued further.

A single Bird of Paradise, the Magnificent Riflebird, occurs in Cape York. According to Swadling (1996), skins of this bird were obtained for collectors in the nineteenth century but no price was provided.

Linguistic evidence (Table A3.2 below) suggests that coral was of interest in the NT. Only three historically commercial coral species dwell at accessibly shallow depths: Mediterranean

red (*Corallium rubrum*), Black (*Antipathes grandis* and *griggi*) and Bamboo (family Isisidae) (Tsounis et al. 2010:167–186). Red coral was a major export to China, in the eighteenth century (Van Dyke 2011:21–364). Black coral jewellery has traditional significance in Indonesia, and Bamboo coral is still harvested in Sulawesi; however, Australian waters are not known for its commercial coral, with the exception of *Isis hippuris* from the Great Barrier Reef, QLD (Cooper et al. 2011:35), so this commodity will not be pursued further without evidence of its trade by Seram Laut Islanders.

Iron was mined and traded in Makassar, along with tin, lead, copper and gold (Andaya 2015; Knaap and Sutherland 2004:96–108). Gold dust was exported to Singapore between 1835–1852 (Kobayashi 2013:464). Trepangers collected gold, antimony and manganese specimens, believing *Marege'* had 'minerals [including] tin' (Earl 1842; Searcy 1909:94). Makassarese loans to Aboriginal languages describe manufactured goods (Evans 1992; Walker and Zorc 1981). Metals will not be pursued further, as they are a land rather than forest product.

Makassar traded 'resins' including shellac, which, not being secreted by any Australian insect, will not be pursued further (Knaap and Sutherland 2004:102). Native ironwood, mangrove and cypress pine, taken by Southeast Asians, exude resins (ANBGES 2000:6; Matheson and McCollum 2014; Maloney et al. 2015:37). There were other Indigenous Australian sources (Hamilton et al. 2017:1; Pitman and Wallis 2012).

A chronology of Makassar Pidgin words for commodities borrowed by Indigenous languages

Borrowed Makassar Pidgin words

Evans (1992) and Walker and Zorc (1981) identified probable Makassarese and possible Makassarese and Austronesian words used in the Macassan pidgin that have been borrowed by 13 Indigenous languages between Melville Island and the western coast of the Gulf of Carpentaria (Figure 22). Words that are possibly or probably related to commodities are listed in Table A3.2. This study posits that borrowed words are a proxy for commodities involved in a hybrid economy. A similar analysis should be undertaken for the trade goods identified in Tables 5, 6 and11.

Table A3.2 Loan words in Indigenous languages relating to forest and sea products. Grey back-fill indicates recurring or sustained interest, including across a wide geographical area, with lighter grey indicating more tenuous evidence of commercial products.

Word meaning	Indigenous word	Indigenous language(s)	Linguistic analysis	Comment
Buffalo	*ditun*	Yolngu-Matha	probable Makassarese	
Buffalo	*gatabana*	Yolngu-Matha	possibly Austronesian	
Buffalo	*miwun*	Yolngu-Matha	possibly Austronesian	
Buffalo	*nanaparu; nanapparu; manaparu*	Iwaidja, Mawng, Mayali; Rembarrnga, Ndjebbana; Yanyuwa	possibly Austronesian	
horn (buffalo?)	*dandurun*	Yolngu-Matha	possibly Makassarese	
container, bamboo (for grog/honey)	*taruppu*	Ndjebbana	probable Makassarese	An Indigenous application of a Macassan article used to store water, not necessarily associated with honey in Sulawesi. Note that the Port Essington dialect(s) word for honey/sugarbag (Evans 1997:259) is not of Macassan origin (Nicholas Evans, pers. comm. 2021).
).coral	*garan*	Yolngu-Matha	possibly Makassarese	
coral	*gadara*	Yolngu-Matha	possibly Austronesian	
coral	*muwun*	Amurdak, Iwaidja	possibly Austronesian	
cotton wool, -tree	*kapatan; kapata*	Garig, Iwaidja; Amurdak, Mawng	probable Makassarese	*Cochlospermum fraseri:* local equivalent of Indonesian *Ceiba pentandra* or kapok, a commercial fibre.

Word meaning	Indigenous word	Indigenous language(s)	Linguistic analysis	Comment
fragrant, good smell	*baw*	Yolngu-Matha	possibly Makassarese	Native nutmeg or sandalwood?
mangrove bark (red)	*panku*	Amurdak, Iwaidja, Mawng, Mayali	possibly Austronesian	
mangrove tree	*kurinkurin*	Burarra	possibly Austronesian	
mattress, mat	*tapiri*	Amurdak, Mawng	probable Makassarese	*Aleurites moluccanus*, the kemiri or candlenut tree; *sapiri* in Makassarese. The genus is native to India, China, SEA and PNG. *A. rockinghamensis* occurs in QLD. Appears to be a case where the function rather than source has been loaned.
moon, dugong stomach	*bula*	Yolngu-Matha	probable Makassarese	fish maw? Tenuous
(mud) crab	*jikuyu; tikuyu*	Yolngu-Matha; Yanyuwa	probable Makassarese	
pearl, bezoar	*gulawu*	Yolngu-Matha	probable Makassarese	any stone-hard substance, including bezoar-stone, seeds in fruit
pearl shell (MOP)	*mutiyara; mutara; muttara; mwitiyara; mutiyara*	Yolngu-Matha; Tiwi, Mawng, Garig/Iwaidja, Amurdak; Burarra; Anindilyakwa; Nunggubuyu	possibly (Walker and Zorc 1981) / probable (Evans 1992) Makassarese	
perfume, aromatic / good smell	*buna; pwinapwina*	Yolngu-Matha; Anindilyakwa	possibly (Walker and Zorc 1981) / probable (Evans 1992) Makassarese	sandalwood?
potatoes, vegetables (*Allium* species)	*bawan*	Yolngu-Matha	least likely to be Makassarese	association with onion or garlic
potato, wild	*anpatu; patun*	Mayali; Mawng	probable Makassarese	*Microstemma tuberosum*: local equivalent of Indonesian taro *Arum colocasia*?
salt	*jila*	Yolngu-Matha	probable Makassarese	salt(y), brackish
seaweed	*pukupatu*	Iwaidja, Garig	possibly Austronesian	
shell, baler	*talimpu*	Yanyuwa	probable Makassarese	
shell, clam	*mamina*	Amurdak, Iwaidja	possibly Austronesian	
shell type; or mussel	*munan*	Iwaidja; Amurdak	possibly Austronesian	
stringy-bark	*gulikayu*	Yolngu-Matha	probable Makassarese	A source of sugarbag honey and wax
Word meaning	Indigenous word	Indigenous language(s)	Linguistic analysis	Comment

syrup, treacle	*gula*	Yolngu-Matha	possibly Makassarese	an association with molasses rather than honey
tree, wood, stick	*gayu*	Yolngu-Matha	possibly Makassarese	
trepang	*daripa; taripa; taripan; taripan*	Yolngu-Matha; Amurdak, Garig, Iwaidja, Anindilyakwa, Mara, Yanyuwa; Mawng; Ndjebbana	possibly (Walker and Zorc 1981) / probable (Evans 1992) Makassarese	A recently introduced Macassan loan word (Evans 1992:65). In Iwaidjan, *taripa* has undergone consonant adaptation (Evans 1997:242–243) but this consonant dropping is a separate phenomenon to lenition and not necessarily indicative of the loan age (Nicholas Evans, pers. comm. 2021).
turtle	*miyapunu; Kunparlang matinti; mati(n)ti; mattinti*	Yolngu-Matha; Amurdak, Garig, Iwaidja, Mawng; Tiwi; Ndjebbana	possibly Austronesian	Word relating to turtle species, including Hawksbill (Ndjebbana). In Yanyuwa, while the re-duplicated word *wuruntulpuruntul* 'tail piece of the sea-turtle along with the fat and meat' derives from the older loan words *parapara* (Makassarese or Malay 'raised grill' or 'rack, shelf') and *puru-puru* (Makassarese 'pimples, pustules') (Evans 1992:64), it is an example of an Indigenous word that has undergone change (Nicholas Evans, pers. comm. 2021).
turtleshell	*jici*	Yolngu-Matha	probable Makassarese	
Sources: Evans 1992, 1997; Walker and Zorc 1981				

A chronology of borrowed words

Table A3.2 shows that coral was of interest to three NT Indigenous groups. Wesley et al. (2016:174) found that traditional totemic motifs of the Goulburn Island clan groups, which were incorporated into body painting designs, had Makassarese names. These included a design for a sea-tree motif named *Bungabaju,* a loan word from Makassarese for black sea coral. Wesley et al. (2016) concluded that the merging of a Makassarese loan word with an Indigenous customary totemic species 'must reflect considerable depth to both the cross-cultural relationship and possibly time, supporting McConvell's (1990) theory of the length of the linguistic time-depth in cultural contact'.

McConvell (1990:3) proposed that two linguistic tools might assist archaeology in developing chronologies for the late Holocene, including the Macassan contact period. 'Linguistic palaeontology' might reconstruct the culture of a proto-language. 'Linguistic stratigraphy', by studying the 'time-depth' of loan words, might provide a chronology of cultural diffusion. Lenition, the process of palatalizing or weakening pronunciation of consonants, is stronger in words that were borrowed earlier than other loan words (McConvell 1990:20–23). For example *puru-puru* 'pimples, pustules' was borrowed from Makassarese or Buginese in the lenited form *wurruburru* 'prickly heat' by the Maung/Mawng language (Figure 22). In other words, the loan words, and 'therefore probably the things that they originally named', were diffused into north Australia earlier than unlenited ones. This would provide a basis to develop a chronology of trade goods entering north Australia, if not commercial products gathered by Indigenous people participating in a hybrid economy with the Macassans.

Evans (1997:244) adds that lateral or l-flapping (associated with words beginning with the sound of the letter 'L', which are relatively few) and initial mutation (the hardening of a consonant sound) are also useful for linguistic stratigraphy. However, a chronology of loan word introduction based on lenition, l-flapping and mutation would necessarily be temporally imprecise and binary, with words being identified as 'old'/'early'/'recent' versus relatively 'new'/'late' borrowings (Evans 1997:239–254, 2002:73). Evans (1997:251–253) concluded that the 'vast majority' of Macassan loans into Mawng and Iwaidja are 'late' loans but provides only selected examples of possible trade goods rather than the commodities for which they were exchanged.

Berndt and Berndt (1954:36) reported that pre-Macassan Bayini women wove and dyed cloth they named *jalajal*. This cloth was reportedly known as *liba* by the Macassans and as *dumala* during the European period. Wesley and Viney (2016:58) interpreted this observation as meaning that the 'Yolngu people differentiated between pre-Macassan, Macassan and European types of textiles and cloth, with different language terms for each period'. However, more work is needed to confirm this chronology. Neither Evans nor Walker and Zorc list the word *jalajal*, although there are two possible Macassan or Austronesian words related to clothing that begin with the letters 'jal' (Walker and Zorc 1981:126–129). *Lipa* 'sarong or material' is a Macassan word, while *dumala* 'sail' is borrowed from the Macassan word *sombala* having the same meaning (Evans 1992:76; Walker and Zorc 1981:120–122). Cloth intended for clothing and sails would appear to be quite different things.

West New Guinea products as indicative of Torres Strait?

According to Mahmud (2014:190), from the fourteenth to sixteenth centuries, which includes the pre-SLI Serdenha period, there were only four products of interest (birds, massoy, nutmeg and slaves) to traders from Java, Makassar and Maluku, as well as Arab and European traders (marked in Table A3.3 with '+'). Of these, wild nutmeg (*Myristica insipida*) and the Magnificent Riflebird (*Ptiloris magnificus*), a minor Bird of Paradise (BoP), was available in northern QLD. The sustainability of bird capture in west NG was unlikely to be an issue at this time. We have seen in Chapter 2 that SEA slavery peaked between 1500–1650. The motivation for any intentional travel to TS in this period could only have been for slaves, if not the minor BoP Magnificent Riflebird, yet there is no clear tradition that TSI people were so targeted.

Swadling (1996) proposed that the Dutch monopoly of Aru trade diverted SLI traders along the south coast of NG in the seventeenth to eighteenth centuries. At this time, Mahmud (2014:190) lists eight main export products from west NG (marked in Table A3.3 with '+' and '#'). Even after discounting slaves, five (over half) of these products were available in northern QLD. However, was the loss of access to these products in the Aru Islands sufficient motivation to travel to TS to acquire them?

Archaeological and historical research indicates that SLI and other traders exported 29 forest and sea products, and slaves, from west New Guinea in the nineteenth century (Table A3.3). Besides slaves, 14 (or half) of these products were available in northern QLD. According to Mahmud (2014:190), the traders were Bugis, Butonese, Chinese, European, Javanese, Makassarese and Malay, and from LSI and Maluku. Table A3.4 shows the products imported from the eastern archipelago into west NG, from the fourteenth to the nineteenth centuries (Mahmud 2014:190). After 1900, the pattern and volume of exchange shifts radically, particularly after bird hunting was opened to everyone from 1914.

Table A3.3 Nineteenth-century products obtained from west NG, if not PNG, by Seram Laut Islanders. For comparison with northern Australian products (gray back-fill). There is no mention of coral or pandanus. The species of the bird's nests and BoP are unclear.

Products	NS-SW NG (19–20thC)	West coast New Guinea / Onin	South and southeast of Onin		Comments
			Karas Island, Kowiai coast and Asmalas (Lorentz River)	*Triton Bay, Kowiai coast*	
agarwood	✓				
belisha(r)y wood		✓		✓	apparently medicinal & aromatic but finding a scientific name is not straightforward.
bird's nests		✓		✓	QLD's Australian Swiftlet?
Birds of Paradise	'beautiful bird' +	and plumes	□	skins	QLD's Magnificent Riflebird?
clams	✓#				
cockatoos	'beautiful bird' +			✓	e.g. Sulphur-crested cockatoo, endemic to PNG-QLD, was traded to Italy (Dalton 2014).
copra	✓				
crocodile skin	✓				available in QLD
damar	✓		✓		dammar gum is a resin. First time mention from NG. The papuan product is also known as black East India damar from *Agathis alba*. Originally used for torches, later used as varnish.
dye woods			✓		
karet		latex? vice tortoiseshell			
lawan (C*innamomum culilawan*)			✓		
lories	'beautiful bird' +	✓		✓	such as the QLD Rainbow Lorikeet?
massoy wood	✓+	✓	✓	✓	massoy trade relatively unimportant by mid-19thC
MOP		✓			available in QLD
nutmeg	✓+	long/wild	long	✓	Wild nutmeg (*Myristica insipida*) is native to northeast QLD. *M.i.* var. *insipida* is native to northeast WA, northern NT and northeast QLD.

Products	NS-SW NG (19–20thC)	West coast New Guinea / Onin	South and southeast of Onin		Comments
			Karas Island, Kowiai coast and Asmalas (Lorentz River)	*Triton Bay, Kowiai coast*	
pearls	✓#	✓	✓		available in QLD
pigeons	'beautiful bird' +	Imperial		Crowned	e.g. Torresian Imperial Pidgeon
pulasari wood		✓			or liquidamber (*Altingia [excelsa?]* Noronha) according to Ellen (2003) but finding a scientific name is not straightforward. It may be *Caesalpinia sappa*n or sappanwood.
rattan	✓				available in QLD
ra/osamala wood		✓		✓	finding a scientific name is not straightforward. It may also be known as Senggani wood, an Indonesian driftwood used in aquariums
sago		✓			
sandalwood	✓				available in QLD
shark's fin	✓#				available in QLD
slaves	✓+	✓	✓		
turtleshell		✓			available in QLD
trepang	✓#	✓	✓		Sought by mid-19thC; available in QLD
wortelhout' (root wood) or Burmese bloodwood (*Pterocarpus indicus*)			✓		from NG c.1907; common on Keriri Island, TS (Atlas of Living Australia) but also at Darwin Airport and the Litchfield region, NT. Root wood is also described as complex-grained growths from the trunks of 'some', rather than any specific, tree species (E. 1856:86; Sutherland 2021:84–364).
Sources:	Mahmud 2014:190 (+ denotes also available from the 14–16thC; # from 17–18thC)	Ellen 2003:126–136 (covering sources from 1824–1907)	Beccari 1924:79; Bik 1928 [1824]:38; Van Hille 1907 cited in Ellen 2003:135–136	Earl 1853:58	

Table A3.4 Products imported to west New Guinea, fourteenth to nineteenth centuries.

Trading phase	Period	Imports
1. Emergence of satellite ports	14–16thC	earthenware ceramics beads iron tools Timor cloth
2. Local industry growth and central barter/meeting *place*	17–18thC	earthenware ceramics beads iron tools Timor cloth weapons iron ore
3. development phase of local trade	19–20thC	earthenware ceramics beads iron tools Timor cloth weapons iron ore

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Appendix 4

Chinese involvement in Maritime SEA slavery, and forest and marine industries in Colonial northern Australia

Chinese in Maritime SEA slavery

In 1694, there were on average seven slaves per Chinese household, while in 1730, there were on average five (Knaap and Sutherland 2004:18; Raben 2008:127–133; Sutherland 1983:269–270). From 1746–1780, Chinese in Batavia bought female slaves as concubines and from 1827–1831 brokered the export of 400 slaves annually from Bali to the Dutch (Reid 1983a:27; Kraan 1983:334).

Colonial industries

The following is based on digitised historical newspapers accessed via Trove during January and February 2021. NT and QLD follow data for WA. No shipping report analysis could be done for northern WA and QLD, because many historical newspapers were not accessible digitally.

Pearling, trepanging, sandalwood and dried fish export from WA 1873–WW1

Chinese were at the Dampier Archipelago as well as Shark Bay in 1873. The Inquirer and Commercial News (Wed 3 Dec 1873:3, Wed 17 Dec 1873:2, Wed 31 Dec 1873:3) reported that three Chinamen from Singapore were equipping craft with Malay divers for shelling and trepang fishing, two already having arrived in 'Flying Foam Passage', with 'several other craft in course of despatch'. The reporter speculated that the Chinese intended to supply the Chinese and Japanese markets, noting that prices at Singapore were higher than London and Paris. However, all imports of MOP into Singapore were re-exported to Europe, not China (GoS 1874:375). The identity and tonnage of these boats is not known. In 1873, three vessels of between 22–56 tons carried eight boats to Shark Bay and Port Walcott (The Herald Sat 8 Mar 1873:2, Sat 18 Oct 1873:2; The Inquirer and Commercial News Wed 6 Aug 1873:2).

Chinese pearlers and trepangers appear to have used locally-built luggers, rather than Chinese-built craft, with two possible exceptions: the wreck of a Chinese junk was reported in Roebuck Bay in 1886, with one sailor surviving, and a possible Chinese sampan in Wyndham (The West Australian Fri 4 Jun 1886:3, Wed 9 Nov 1892:4). At one time, John Chi owned a fleet of eight pearling luggers and a schooner (Nor-West Echo Sat 29 Oct 1921:1). He owned the 50 ton schooner "Harriet" from 1890–1894, using it on the pearling grounds west of Cossack (The Daily News Mon 28 Apr 1890:3; Nor'West Times and Northern Advocate Sat 13

Jan 1894:3). Chi's other luggers were named "Andrew" (1913), "Dreadnought" (1900), "Malena" (1908–1915), "Rose" (1900) and "Su Who" (1889) and he continued to operate luggers until WW1 (BHSM 2021; The Daily News Tue 12 Mar 1889:3; Nor-West Echo Sat 27 Sep 1913:3, Sat 20 Dec 1913:3).

By 1905, the lugger "Rose" reportedly belonged to Yee Ah Chun, a Broome storekeeper, who died in 1915 (The West Australian Fri 1 Sep 1905:5, Sat 2 Oct 1915:5). By 1909, there were two other Chinese pearlers in Broome: C. Kong and See Sing. The former had a store in Broome and was accused of stealing pearlshell (MOP) that he sold to buyer C. Chan (Broome Chronicle and Nor'West Advertiser Sat 16 Oct 1909:2, Sat 8 Oct 1910:2, Sat 24 Dec 1910:2). The latter was a storekeeper with branches in Cossack and Roebourne since 1891 and a schooner or lugger named "Rosa" by 1905 (Broome Chronicle and Nor'West Advertiser Sat 16 Oct 1909:2; Kalgoorlie Miner Thu 28 Sep 1905:6, Thu 30 Apr 1908:5; The Daily News Thu 30 Apr 1908:3; The Nor'West Times and Northern Advocate Sat 8 Aug 1891:1, Sat 16 Apr 1892:2, Sat 3 Feb 1894:4). The Sun (Sun 23 Mar 1913:5) reported that all the pearling luggers at Cossack belonged to 'Asiatics'.

There is no evidence that Chinese pearlers disposed of their MOP in any different way to other pearlers. A report on a meeting of pearlers in 1913 indicates that bulk-purchase by buyers occurred. Multi-year (e.g. three or seven years) agreements were made that provided certainty and smoothed volatility in the European MOP markets (Nor-West Echo Sat 28 Jun 1913:3).

The WA State Records Office (AU WA S946- cons477 1922/0001, 1919/0012, 1921/0025) confirms that Sam Sue, Fong Hong, Fong Joe, Fong Lim and Louey Ling Tack (Melbourne-born partner of A. or Sydney Fong & Co. who was based in Geraldton in 1913) had pearl dealer's licences. Joe Fong's licence was initially under the name of Thom Fong, of Wing Lee & Co, who was Broome-based in 1918 (Nor-West Echo Sat 20 Jul 1918). Fong Hang traded as Wing On Woo and Co. in Geraldton (see below), at least from 1904–1910 (The Daily News Mon 31 Oct 1904:4; The Geraldton Express Wed 19 Jan 1910:3). Sam Sue is in Broome by 1911, paying rates on a store (Broome Chronicle and Nor'West Advertiser Sat 1 Apr 1911:2). When he temporarily left Broome on the "Paroo", heading to Singapore, for a holiday, he referred customers to Andrew Fong (Broome Chronicle and Nor'West Advertiser Sat 16 Mar 1912:2). It is probable that Sue took pearls with him to Singapore. Sue was called to give evidence at the Pearling Commission (The West Australian Thu 4 May 1916:5). Sue's store was searched, Ang Qua arrested and 27 pearls seized, which reportedly caused 'a stampede' among all other snide pearl buyers (The Pilbarra Goldfield News Tue 18 Dec 1917:2).

Chinese-owned vessels from Kupang, Timor, operated as far south as Rowley Shoals from 1908. The West Australian (Sat 10 Oct 1908:4, Sat 9 Jul 1910:7) reported that a fleet of Chinese-owned boats had been working the Rowley Shoals, possibly as far south as Cape Farquhar, under the supervision of Harry Hilliard, a pearler. In particular, the schooner "Concordia" from Kupang belonged to a Chinaman in that town. Hilliard represented 'various Chinamen whose headquarters are in the Dutch East Indies'. As per Chapter 2, Crawford (2001:80–315) reported that schooners, based in Kupang, visiting in 1915, were owned by Dutch, Arab and Chinese merchants, specifically the "Joker" owned by Ah Kit, and the five schooners managed by Hilliard owned by Tokubaru (alias 'the China Captain').

Bowen's (2012) review of the Chinese fishing industry in colonial Australia does not provide any evidence for WA. Europeans were engaged in the cured/dried fish industries in southwest WA from at least 1846–1872, exporting to Mauritius and Batavia (The Inquirer and Commercial News Wed 2 Apr 1862:2, Wed 19 Feb 1868:2, Fri 14 Oct 1898:14; Sunday Times Sun 21 Mar 1915:20; The Herald Sat 20 Jan 1872:2; The West Australian Times Thu 30 Jun 1864:2). Whale oil, MOP and cured fish were reportedly established industries in WA fisheries in 1870 (The Herald Sat 15 Oct 1870:3). The value of exported preserved/cured mullet in 1872 was £351 out of the total value of £208,000 (The Herald 7 Jun 1873:2). By 1898, the value of preserved fish exported from WA was £278 (The West Australian Mon 8 May 1899:3).

In the only explicit reference to Chinese competition in this industry, at an unstated location, the Western Mail (Sat 2 Feb 1895:22) reported that 'there is a not inconsiderable export from this colony by the Chinese of dried fish — chiefly schnapper and mullet — to Singapore which is said to be very profitable to the few engaged in it'. The chartered schooner "Laura Gertrude" left Fremantle for Singapore with 146 tons sandalwood, 230 bags of trepang, 950 lbs shark's fins and 5 tons salted-fish (The Herald Sat 16 Feb 1878:2). Two years later, the schooner "Janet" was chartered to carry sandalwood and 1 bag of shark's fin from Fremantle to Hong Kong carrying (The Herald Sat 10 Jan 1880:2). Licences for fish curing were reportedly expensive (The West Australian Wed 7 Mar 1888:3).

Guoth's (2017) review of the WA sandalwood industry 1860–1880 does not mention Chinese involvement. Gold prospectors were known to gather sandalwood as a sideline; however, Chinese were prevented engaging in goldmining in WA since 1886 and occupations officially recorded from 1891–1901 showed only two to nine Chinese in the Forestry industry (Atkinson 1991:122; Stratham 1990). The first sandalwood shipment from Geraldton was in 1873 (Perth Gazette and West Australian Times Fri 5 Dec 1873:2), while the first from Shark Bay was not

until a decade later, for Thomas and Butcher (The West Australian Fri 22 Jun 1883:3). Northampton, north of Geraldton, had a sandalwood industry (Victorian Express Wed 18 Jan 1882:3, Fri 7 Apr 1893:2). At the back of Northampton and Shark Bay and the lower Gascoyne there are a few cutters (The Inquirer and Commercial News Fri 2 Feb 1893:32). Soon, there were nine sandalwood cutting licences between Champion Bay and Shark Bay, 1,000 tons of the wood stored (The Inquirer and Commercial News Fri 2 Feb 1894:4). Putting this in the context of Geraldton's overall trade: in 1896, the first meeting of the Geraldton Chamber of Commerce reported that the town's major exports were wool, sandalwood and gold (Morning Post Wed 1 Apr 1896:2).

The pearl-buyers Wing On Woo and Co. were established as a general store in Geraldton in 1888 and dealt in tailoring, drapery, ironmongery, produce, boots and shoes. By 1900, there were two branch stores in Northampton and Mullewa, to the east of Geraldton (Atkinson 1991:170–181). In 1901, Wing On Woo and Co. was one of four buyers (along with Dalgety and Co., Burns Philp and Co. and Ainsworth and Pope) of sandalwood for 'Mr Guthrie, the largest dealer in sandalwood in the Singapore and China trade' (Geraldton Advertiser Tue 14 May 1901:2, Tue 17 Sep 1901:3). In that year the barque "Rose" and steamer "Richmond" loaded possibly 400–500 and 1,000 tons respectively, of sandalwood, from the supplies at Geraldton, including from the stocks of Wing On Woo and Co., for export to Singapore. By 1903, Geraldton exported £4,410 worth of sandalwood (Geraldton Advertiser Mon 7 Sep 1903:3).

Chinese build boats, monopolise fishing and participate in trepang, pearl-buying and timber export in the NT, 1878–WW1

At Fort Dundas (1824–1829), Melville Island, 20 timbers were found to be suitable for furniture, boat building, joiner's work, girders and piles (NTT&G Thu 17 Sep 1914:13). There are records of Chinese boat building at Port Darwin from 1879, when four large sampans were being built to work the 'fishing and drying trade on a greater scale' (South Australian Register 31 Mar 1879). Chinese were later building a large fishing junk, about 30 tons, at their yard 'near the hospital' (Northern Territory Times and Gazette [NTT&G] Sat 29 Dec 1888:2). Junk tonnage varied from eight to 40 tons. Four sampans were reported returning from Daly River for the Daly River Copper Company at a freight of £1 per ton, the largest carrying 25 tons of copper ore (NTT&G Sat 31 Jul 1886:2, Sat 14 Aug 1886:2, Sat 23 Oct 1886:2, Sat 13 Nov 1886:2). C. E. Gore, trepanger, and a competitor in the dried fish and prawn industry, indicated there were eight Chinese junks in Port Darwin in the 1880s, mostly of eight to ten tons but one of 40 tons, engaged in timber-carrying and copper-lightering from the rivers. There were also 40 'small sailings and pulling boats' (NTT&G Thu 16 Nov 1916:9). Chinese boat builder Ah Young used imported timbers as well as cypress pine (NTT&G Sat 4 Feb 1888:2).

Chinese fishing boats at Palmerston were photographed around 1890 (Figure A4.1). A moored boat photographed in Port Darwin is consistent with these and but described by Methodist Minister Fred Greenwood as a Chinese junk (Figure A4.2). A Chinese net-fisherman and his sampan were photographed around 1910 (Mirams 2021:242).

Figure A4.1 Palmerston. Chinese fishing boats in foreground c.1890 (Out of Copyright. State Library of South Australia [SLSA] Darwin Collection, 1860–1940 B 9755).

Figure A4.2 Negative of Chinese junk, Darwin c.1900–1904 (Out of Copyright. NLA PIC P870/72 LOC Row 52/5).

By 1879, 'boating [was] run heavily' by Chinese. They were engaged in the passenger and other traffic inside Port Darwin harbour, and four or five sampans traded regularly between Palmerston and Southport, the then depot for the goldfields trade (Daly 1887:256–345; NTT&G Thu 16 Nov 1916:9; South Australian Register Mon 31 Mar 1879:6). Chinese junks and sampans (including Sun Kwong Shing's cutter) were reported carrying passengers to the West Arm and Bynoe Harbour tin fields (NTT&G Fri 1 Sep 1905:2, Fri 29 Sep 1905:2). A large Chinese junk was reported temporarily stranded on the sandbank between Point Emery and East Point, before anchoring off 'Little Mindel' Beach (NTT&G Fri 10 Feb 1911:3). Further afield, the earliest report of a Chinese junk sailing from Daly River to Palmerston was in 1886 (North Australian Fri 17 Sep 1886:3). Sampans brought stores to the Daly River Copper Company (NTT&G Sat 23 Apr 1887:2). An old Chinese captain, killed when a sampan (owned by Man Fong Lau and with a crew of three) wrecked, was well known by the various tribes, and had fished and sailed the Daly River coast for 20 years (NTT&G Thu 12 Apr 1917:12).

Compared to WA, Chinese had a monopoly on the dried fish industry in the NT. The customs returns for the NT first mention 'preserved' fish as a staple export in 1890 and dried fish was routinely listed from then (NTT&G Fri 18 Jul 1890:3. Table A4.1). The product was variously referred to cured/salted/dried fish but the newspaper Shipping reports always referred to the export of the latter. The first reported export of dried fish to EA (Hong Kong) was in 1890 on the "Chingtu" (NTT&G Fri 13 Jun 1890:2). It was later reported that the Chinese were 'determined to work up a trade with their native land' in NT dried fish, noting regular shipments, and that fishermen around 'our bay' make large hauls with their nets and might make a substantial annual income (NTT&G Fri 29 Aug 1890:2). The first reported export of salt fish to the southern ports of Australia was in 1895 (NTT&G Fri 3 May 1895:2). Of 87 movements of fish reported in the NTT&G from 1890–1914, 50 went to southern ports; 23

went to Hong Kong, three to Kobe by WW1; two to Batavia, Java; one to the 'East' while the destination of eight was not identified.

Table A4.1 Preserved/dried/'nei.' fish exports from NT from 1890–1905.

Year	Amount (tons)	Value (£)	Comments	Source (NTT&G)
1890	3.36	95	Described as 'preserved fish'	Fri 18 Jul 1890:3
1894	25.89	492		Fri 11 Jan 1895:2
1897	10.25	250		Fri 14 Jan 1898:3
1898	19.72	521		Fri 27 Jan 1899:3
1899	NA	603		Fri 26 Jan 1900:2
1901	12.60?	212?	or £342? The text is hard to read	Fri 24 Jan 1902:2
1903	17.9	581		Fri 5 Feb 1904:3
1904	13.25	428	Described as 'fish nei.'	Fri 26 Jan 1906:3
1905	25.3	1,046	Described as 'fish nei.'	Fri 26 Jan 1906:3

As early as 1877, NT Chinese should reportedly 'stick to … catch[ing] and cur[ing] fish': some four or five were constantly engaged in fishing and were supplying fish and prawns (NTT&G Sat 25 Aug 1877:2, Sat 2 Mar 1878:2, Sat 1 Jun 1878:1). The NT dried fish industry was recognised as being 'a local production', worth £20 per ton, and largely a monopoly by 'a few' Chinese (NTT&G Fri 6 Oct 1893:3, Fri 18 Dec 1903:3). Named Chinese involved in dried fish industry included Man Fong Lau and Yet Loong and Company (NTT&G Fri 14 Jun 1901:2, Fri 18 Oct 1901:2, Thu 12 Apr 1917:12). However, it was noted that Chinese engaged in catching and curing fish for export would have to discontinue when their current licence lapsed due to the SA Act which prevented Chinese engaging in the fishing industry (NTT&G 18 Feb 1910). Besides Gore, there were other European competitors in Port Darwin and E. O. Robinson had a fishing station at Bowen Straits (NTT&G Fri 24 Nov 1899:2, Fri 18 Dec 1903:3, Fri 16 Sep 1904:3). However, Europeans who tried the industry reportedly failed (NTT&G 18 Feb 1910:3).

As per Chapter 2, the first Chinese fishing station was noted at Palmerston in 1878. A Chinese employee at this station was recorded as a witness at a court trial in 1879 (Sat NTT&G 9 Aug 1879:1). Fishing and drying fish had proven so successful in 1878 that the Chinese reportedly intended to work the trade on a greater scale (SA Register Mon 31 Mar 1879:6). Chinese fishermen cast nets at Lameroo Beach (NTT&G Sat 13 Apr 1889:2). There was a Chinese fishing village below the hospital (NTT&G Fri 18 Dec 1891:3). Chinese were reported still curing fish near the Fort Hill jetty in 1909 (NTT&G Fri 26 Mar 1909:2). There was also a Chinese fish trap at Mindil Beach (NTT&G Thu 14 Jun 1917:13).

By 1890, it was reported that, 'for some time past', Chinese fishermen at Daly River 'obtained supplies of fish for export to China' (Figure A3.2). Aboriginal men of the 'Agraguilla' tribe had attacked nine Chinese in two fishing boats 'some 60 miles above the steamer landing' around the junction of the Katherine and Daly Rivers (NTT&G Fri 17 Oct 1890:3, Fri 1 Sep 1893:2). Fish were also caught at Point Blaze and the Peron Islands (NTT&G Thu 18 Sep 1913:6). A Chinese sampan brought 4.5 tons dried fish from the Daly River in 1912, resulting from a month's work, at a value of £40 per ton (NTT&G Fri 14 Jun 1912:3). At Bamboo Creek, Daly River, Aboriginal people brought fish, prawns and turtles to exchange for tobacco (however, it is not stated who with) (NTT&G Fri 30 Dec 1910:3). Historical newspapers do not report when this station opened, nor when Aboriginal people started to be employed there. However by 1913, the Chinese reportedly employed Aboriginal people at the Daly River fishing station, despite *The Aborigines Act* preventing their employment by Asians, and *The Fisheries Act* preventing fishing licences to 'Asiatics' and their employment in fishing (NTT&G Thu 18 Sep 1913:6).

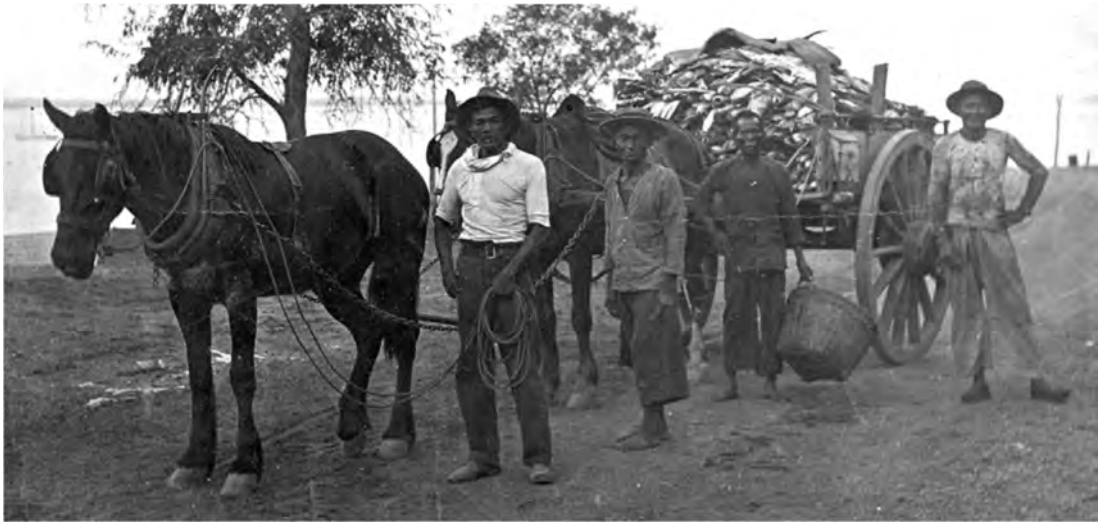

Figure A4.3 Chinese men with horse drawn cart of dried fish, Daly River, 1914 [Out of Copyright. SLSA Searcy Collection PRG 280/1/13/195].

According to George Haritos (a pioneer of the NT barramundi fishing industry born around 1920, whose father had started the salt works, making salt for Vestey Meatworks during WW1, the buffalo hunters and bakers of Palmerston), the Chinese were the original fishermen of the barramundi areas (FRDC:46–47). They focussed on small threadfin salmon, packed them in salt, with salt rammed into the stomach, then brought them to Darwin from the Finniss River and Sampan Creek on the Mary River delta. They sold it for local Chinese consumption, as well as exporting it to China. The Finniss River and Sampan Creek fishing stations may have been post-WW1 developments. Historical newspapers do not mention a Sampan Creek

fishery at all but do mention that the oil launch “Don” arrived from Finniss River with a consignment of salt and dried fish ‘for the East’ (NTT&G Tue 1 Jun 1926:2).

There is some information about Chinese in the trepang industry. Fifteen bags were exported to Hong Kong by Gee Gwi (NTT&G Sat 13 Dec 1884:2). Ah Sing, owning a sampan and with six Chinese crew, was engaged in the trepang fishery, and camped, near Port Essington (NTT&G Sat 2 May 1885:2). Forty-eight bags were exported by ‘various Chinese shippers’ to Hong Kong (NTT&G Fri 24 June 1892:2). Five exports of trepang by steamer for Hong Kong and ‘China ports’ from 1885–1886 involved the Europeans C.W. Hughes, and Jolly and Luxton. E.O. Robinson reportedly brought 50 bags of trepang from Port Essington for export in February 1885 (NTT&G Fri 27 Feb 1885:2).

In the only evidence of Chinese pearl-sellers, if not buyers, in the NT, it was reported that Mr Farquhar arrived from TI by “Guthrie”, departing after four to five days on “Airlie” after having purchased parcels of pearls, a considerable number bought from Chinese and other ‘Asiatics’ who do not have boats or any legal right to possess these gems (NTT&G Fri 12 Jul 1901:3).

By comparison, timber does not figure in NT export staples from 1880–1905. Despite the NT’s ‘well-timbered plateaux and plains’, it was importing timber for jetty construction and Millar Bros. mining company (Daly 1887:272). There is evidence that Chinese were involved in timber-getting. While Berndt and Berndt (1954:31–96) record Chinese timber harvesting at Cape Arnhem, ‘possibly during the first half of the nineteenth century’; the Liverpool River area; and, in 1883, at Mount Norris Bay), the industry was not explicitly controlled by Chinese: in the latter case, they were transported, and presumably employed by, the colonial government. The mining industry also employed Chinese timber getters and cutters. The Chinese had ‘long since denuded’ Bynoe Harbour and Port Essington of cypress pine (Daly 1887:272). There were complaints about Chinese timber cutters destroying forests near Palmerston, bringing in cargos of ironwood, paperbark and cypress pine by junks (NTT&G Sat 7 Apr 1888:2). Chinese had reportedly cut cypress pine ‘years ago’ along a creek 16 miles upriver from Harvey’s Lagoon on the South Alligator River, then rafted it down to the mouth, where it was shipped to Palmerston in junks (NTT&G Fri 27 Nov 1896:3). There was a large Aboriginal camp on Indian Island in West Arm employed by Chinese in cutting timber, despite the Aborigines Act preventing their employment by ‘Asiatics’ and Indian Island being a reserve for cypress pine (NTT&G Thu 18 Sep 1913:6). However, it is unclear that Chinese people owned any of these concerns, nor, if they did, that they intended foreign export.

There was a short-lived Hong Kong Timber Export Syndicate operating from 1900–1905. Expatriate Sydney-born Hong Kong solicitor Otto Kong Sing visited Darwin, representing a

Hong King syndicate of Chinese merchants funding a scheme to export cypress pine from Malay Bay to the order of their local railway for sleepers (NTT&G Fri 22 Apr 1904:3; Fri 6 May 1904:3, Fri 19 Aug 1904:3; Fri 6 Dec 1907:2). Sing, the son of miner, store-keeper and merchant Lee Kong Sing and Ellen Ann Mann, was the first Chinese-Australian lawyer in 1895 but moved to Hong Kong before 1904, becoming a barrister (Bagnall 2006:232–325; Osmond and McDermott 2008).

The 'prime mover' in the scheme, Mr Hamilton, came from Manila to survey local sources, deciding on Malay Bay (NTT&G Fri 18 Dec 1903:3; Fri 8 Jan 1904:3; Fri 4 Mar 1904:3, Fri 27 May 1904:3, Fri 17 Jun 1904:3, Fri 5 Aug 1904:3). A Mr Cooper established a sawmill for the timber in the Bowen Straits (NTT&G Fri 27 Jul 1900:2). At least four deliveries were made from Malay Bay to Port Darwin, including via the schooner "Essington" (NTT&G Fri 5 Apr 1901:2; Fri 16 Aug 1901:3; Fri 11 Oct 1901:3; Fri 22 Apr 1904:3, Fri 19 Aug 1904:3). Three thousand logs were waiting on the shore at Malay Bay and no more timber was to be cut at this location (NTT&G Fri 3 Jun 1904:3). Some of this was shipped from Malay Bay to Hong Kong via Manila by the specially chartered "Carl Menzell" (NTT&G Fri 17 Jun 1904:3; Fri 8 Jul 1904:3; Fri 5 Aug 1904:3). The scheme did not continue because an application to renew the licence to cut timber was refused 'by the authorities' and there were subsequent creditor claims (NTT&G Fri 19 Aug 1904:2, Fri 14 Oct 1904:2). The remaining 1,100 cypress pine logs and hardwood timber lying at Malay Bay was auctioned in Palmerston next year (NTT&G Fri 28 Jul 1905:3). Later on, a trial shipment of NT ironwood was despatched 'East' from Port Darwin on "Changsha", possibly for Chinese railways (NTT&G Thu 21 Aug 1913:7) but the consigner is not identified.

In the only explicit reference to NT-based Chinese in the timber export industry, sandalwood from near Palmerston was to be shipped to China as an experiment (NTT&G Fri 28 Nov 1884:3). The only other (three) references to sandalwood leaving Port Darwin for Hong Kong or 'the markets of the East' via Singapore involved WA timber and shipping services (Bach 1976:167; NTT&G Sat 7 Feb 1885:2; Fri 8 Jul 1892:3; Fri 14 Feb 1908:3). The sale of one-year leases, giving the right to remove timber from a block of land under the NT Crown Lands Act 1890, commenced in 1904 for £500. The high price reportedly dampened any further attempt to establish an export industry in NT timber (NTT&G Fri 5 Aug 1904:3).

By way of context, between 1875–1914, according to reporting of the Northern Australian and the Northern Territory Times and Gazette, water buffalo horns, MOP, tortoiseshell and trepang were all exported from Port Darwin:

- Of 76 movements of horns from 1889–1910, 54 were to southern ports, 11 to Singapore including via Java, 10 to Hong Kong (including via Timor, Manila, Java and Singapore), and one to Batavia, Java.
- Of 150 movements of MOP from 1884–1913, 66 were to Hong Kong, including via Timor or Manila, 41 were to Singapore, including via Java, 37 were to southern ports including Melbourne, five were to Batavia, and one was to Japan via Hong Kong.
- Of 12 movements of tortoiseshell from 1895–1914, six were for Hong Kong, 3 for Singapore, 2 for southern ports, and one for Batavia.
- Of 100 movements of trepang from 1875–1914, 94 were to Hong Kong including via Timor and/or Manila, four were to Kobe, Japan by WW1 (including one via Hong Kong), and one was to Melbourne.

Chinese fishing and sandalwood shipping north of Rockhampton, QLD, 1875–WW1

In possibly the earliest record of a Chinese junk in Queensland, a junk 'built, rigged out and manned by' Chinese was reported at Rockhampton (Gympie Times and Mary River Mining Gazette Wed 24 Mar 1875:4).

Bowen's (2012) review of the Chinese fishing industry in colonial Australia does not provide any evidence for QLD. In MacKay, the amount of revenue from fish curing in Australia by Chinese was reportedly expected to be considerable: it better paid Chinese to cure their best fish and send it to their countrymen 'in the back country than to sell it fresh to white people' (Daily Mercury Wed 5 Apr 1916:2). There are examples of Chinese curing, drying and/or salting barramundi, bream, jewfish and mullet in southern Queensland and sending it inland to Stanthorpe and 'up north wherever a Chinese population are to be found'. Reported locations (from south to north) included Hamilton and Moreton Bay; the Burdekin River; and possibly Cardwell (Cairns Post Thu 30 Jun 1910:6; The Brisbane Courier Thu 12 Jul 1888:5, Tue 22 Dec 1891:5; The Telegraph Sat 24 Nov 1906:3, Sat 2 Mar 1907:11; Townsville Daily Bulletin Sat 19 Sep 1908:4). The Queenslander (Sat 10 May 1879:591) describes how Chinese processed salt fish, as part of an article on sports fishing for whiting. In 1882, it was largely the Chinese who exported salted-fish and shark oil from Cooktown. Many of the Chinese were fishermen, using whatever they caught in their nets, and providing fresh fish to the residents of Cooktown (The Queensland Times, Ipswich Herald and General Advertiser Thu 4 May 1882:3).

As late as 1890, a trepang curer at one of the curing stations in the Great Barrier district had experimentally sent some dried shark's fin to Cooktown which readily realised the equivalent of £8/cwt or £177/ton among the Chinese residents (The Queenslander Sat 27 Dec 1890:1226).

Historical newspapers also provide evidence of Chinese fishing stations located (from south to north) in/at Plantation Creek on the lower Burdekin River; Halifax Bay; at the mouths of the Annan and Endeavour Rivers; Cooktown North Shore; 'up the Inlet' at Cairns; Double Island; and No. 6 Claremont Island (Morning Bulletin Fri 25 Oct 1878:2; Queensland Figaro Sat 27 Jun 1885:19; Rockhampton Bulletin Fri 22 Dec 1876:2; The Brisbane Courier Fri 10 Nov 1882:4; The Capricornian Fri 24 Dec 1880:12). The Morning Bulletin reported that the number of men engaged at Double Island indicated that the industry, including 'purveying fresh fish to the townspeople', must be profitable. At least one European, Charles Beckman, produced dried, preserved and salted fish and potted shrimps at a fishing station at Cape Upstart (The Brisbane Courier Mon 3 Sep 1894:7). Other European fishing/trepanging stations were

located at Cooktown's North Shore, Lizard Island and Three Islands (James Smith album of photographs 1900?–1915, Fryer Library, University of Queensland; The Queenslander Sat 29 Oct 1881:550; The Telegraph Tue 15 Nov 1881:2).

Turning to trepang, British anthropologist Alfred Haddon recorded a tradition, documented after 1917, that Chinese used to come in 'big junks' to Aureed Island and other nearby islands among the western islands of Torres Strait, working for long periods, for trepang. Because he had not uncovered any other reference to Chinese, Haddon (1935:15–88) suggested that they were 'Malays'. There is evidence of Chinese trepangers in Queensland besides Ah Gim of Cooktown, previously mentioned in Chapter 2, who also had a fishing station near Cape Bedford (Rockhampton Bulletin Wed 10 Aug 1877:2). Mr Wing Wah of the eponymous mercantile company at Rockhampton was reportedly attempting to open a trepang trade with China (Northern Argus Wed 20 Nov 1872:2). Burns Philp's "Guthrie", proceeding to Hong Kong, shipped 18 tons of trepang from Cooktown for Chinese merchants (The Brisbane Courier Wed 19 Oct 1892:5). The chief exports of Cooktown for 1891 included trepang. For the September quarter of 1891, by comparison, TI's main exports were MOP, guano, trepang, tortoiseshell, gold and sandalwood (The Queenslander Sat 3 Oct 1891:665). In 1913, Cooktown exported trepang and sandalwood valued at £8,037 (The Telegraph Thu 19 Mar 1914:2). In 1914, trepang and sandalwood, £292 and £33 per ton respectively in China, were 'booming' in Cooktown (Darling Downs Gazette Sat 14 Feb 1914:5).

Evidence at the *Royal Commission appointed to enquire into the working of the Pearlshell and Bêche-de-mer industries* (hereafter Royal Commission) in Queensland (QPP 1908:235) indicated that two boats owned by Tommy Ah Kum consortium were operating out of Cooktown. By 1911, the consortium owned five vessels when Lai Fook, managing partner of Tommy Ah Kum in Cooktown, certified that he was the sole owner of four luggers ("Lucky", "Keats", "Beatrice" and "F.L.J.") and the ketch "Pheonix" at TI for the MOP and trepang fisheries (Cairns Post Fri 2 Jun 1911:3; Townsville Daily Bulletin Sat 13 Apr 1912:1). The yacht "Pheonix" was previously owned by the Ford Brothers, intended to work the TS pearling grounds, so Tommy Ah Kum cannot have owned the boat before this (The Brisbane Courier Tue 6 Dec 1892:5). In a rare reference to the west coast, Mr Hermann sailed Mr Wing, 'an American visitor to TS' down the west coast of Cape York on the ketch "Maori Girl" (The Queenslander Sat 18 Jun 1910:38). The other luggers reportedly cruised the Barrier Reef for trepang (there is no mention of MOP), bringing between 0.5–2.25 ton of trepang each to MacKay, Townsville and TI (Daily Mercury Sat 9 Nov 1907:2, Fri 12 Jun 1908:3, Mon 20 Jul 1908:3, Wed 26 Aug 1908:3, Thu 10 Dec 1908:3; The Brisbane Courier Fri 25 Feb 1910:6, Mon 28 Feb 1910:4; The Telegraph Wed 18 Mar 1908:7). "Keats" and "Lucky" were reportedly

captained by Japanese and crewed by Japanese and Aboriginal men. “Lucky” and “F.L.J.” were associated with Aboriginal deaths and desertions.

No further information on Chew Lee & Co or Kwong Yee Wing & Co. As per Chapter 2, in 1899, merchant Gee Kee bought the pearling ketch “Yarce” from the pearl fisher Ah Wong. This is possibly the same person as one described from 1893–1902 as a ‘Malay diver’, pearl-seller and trepanger, selling trepang at Geraldton (Innisfail), working on the Barrier Reef for the Arab trepanger Habbee and an illegal employer of Aboriginal people (Morning Bulletin Thu 5 Jan 1893:6; The Telegraph Mon 22 Dec 1902:3).

Wharton (2009:39) indicates that a ‘P. Seekee’ was associated with the TI sandalwood agent See Yick and Co. The 1908 Royal Commission investigated whether Chinese provided credit to people in these industries. ‘See Kee’ reportedly provided credit to the South Seas Islander owner of a boat to such an extent that it could be considered his property (QPP 1908:538). Other evidence given in TI indicated that, in one case, an unnamed Chinese owner was a naturalised British subject. In another case, the owner had sold his boat to a Chinaman but the Chinaman’s name did not appear on the licence (QPP 1908:201).

The Royal Commission also asked witnesses whether the whole of the trepang obtained in MacKay, Cairns, Port Douglas, Cooktown and TI was sold locally or is it shipped to other places for sale (QPP 1908:64–278). It heard that some come in direct to the Chinamen in Cooktown and Cairns, who buy it from the boat and supply stores in return. All that comes from QLD and New Guinea waters is sold in Cooktown, except in earlier years when Burns Philp shipped the fish to Hong Kong for their customers. The Chinese did not buy trepang in Port Douglas. There were about three buyers of trepang (it was unclear what location is meant) but the Chinese are not eager to buy trepang in TI but take a lot of pressing. It was accepted that Cooktown was the export hub, reporting that 3,438 cwt was exported from Cooktown from 1901–1908, a total value of £19,328 (QPP 1908:278).

Turning to the timber industry, while Queensland cedar, hoop pine, maple and silky oak were also commodities in the period of interest, in 1902 these were exported to other Australian states while 25,987 feet of sandalwood worth £2,230 was exported ‘to China’ (The Telegraph Tue 25 Aug 1903:7). In fact, sandalwood was being cut and exported from Cape York as early as 1883, when the Morning Bulletin (Fri 20 Apr 1883:3) reported that sandalwood was ‘coming to the fore’ as an item of commerce. In his review of the Queensland sandalwood industry of Cape York, Wharton (1985; 2009) never mentions Chinese sandalwood-getters or carriers and neither do digitised historical newspapers, which confirm that the Chinese were largely buyers and shippers. By 1908, Hip Wah & Co also had a store on the Archer River (The

Evening Telegraph Wed 8 Jan 1908:4). At the Coen, the chief buyers remained Hip Wah & Co and Lai Fook & Sons, with over 60 tons waiting transit to Port Stewart (Cairns Post Thu 1 Oct 1914:7).

Table A4.2 The place of marine and forest products in QLD's exports in 1906 (QPP 1907:54).

Article	Value (£)
gold, dust and bars	1,983,784
wool, greasy	1,923,667
sugar	1,615,689
wool, clean	1,465,262
other	1,213,487
livestock	1,123,401
copper ore	765,689
preserved and frozen meat	674,624
hides and skins	458,018
tin ore	430,407
gold ore, concentrates	228,174
tallow	181,388
grain & pulse	121,268
fruit	120,147
timber	105,528
specie	86,126
silver bullion, silver lead bullion, silver gold	81,537
drapery and apparel	70,887
MOP and tortoiseshell	61,856
oysters and trepang	34,771
silver ore	4,346
rum	4,233
total	12,754,289

TI reportedly exported 44 tons of sandalwood (The Queenslander Sat 13 Oct 1883:589). For the September quarter of 1891, TI exported £25 value of sandalwood (The Queenslander Sat 3 Oct 1891:665). The following Table shows the place of marine and forest products within QLD's exports in 1906 (QPP 1907:54). By the end of the first decade of the twentieth century, 320 tons of sandalwood valued at £6,500 was exported from TI, described along with MOP exports as 'another industry that has sprung up' (The Week Fri 22 Jul 1910:25). The next year, it was 480 tons valued at over £8,000 (Cairns Post Thu 27 Jul 1911:5). Increased sandalwood exports from TI in 1915 were associated with declining value and fewer Aboriginals were getting timber because most Europeans had gone to the lower Gulf district (Daily Standard Wed 27 Sep 1916:7; The Telegraph Fri 25 Aug 1916:7). Only about 20% of the sandalwood shipped from TI was cut in that district – the balance was cut in the Normanton district and sent to TI for shipment (The Telegraph Thu 12 Jul 1917:3–20).

While no comprehensive shipping report analysis could be done for Cape York, QLD, there is some information on the shipping of sandalwood once brought to the port, coast or river landing. Regarding Cooktown: the Morning Bulletin (Fri 20 Apr 1883:3) reported that 41 tons of sandalwood with a value of £1,200 was exported from Cooktown in the last quarter, 'so that several fishing boats have gone into this line of business'. "Guthrie" arrived at Cooktown from the south and shipped for Burns Philp & Co. 43 tons of sandalwood and 11 cases of MOP (The Brisbane Courier Wed 19 Oct 1892:5). During 1913, Cooktown exported 148 tons of sandalwood (Daily Mercury Thu 1 Jan 1914:3).

A passenger reported that the Japanese steamer "Kasuga Maru", bound for Japan via the Philippines and China, shipped MOP 'by our boat' and trepang and sandalwood 'for John Chinaman' (Gympie Times and Mary River Mining Gazette Tue 7 Oct 1902:3). Six thousand pieces, and a further five tons, of sandalwood were exported from Brisbane on the "Changsha" and the Eastern & Australian (E&A) line's China and Japan service, "Empire", for Hong Kong in August 1909 (The Brisbane Courier Wed 4 Aug 1909:3, Wed 18 Aug 1909:11). In 1902, the 'China boat' in Cairns port had to be lightered by a Chinese junk (Morning Post Fri 14 Feb 1902:3). It was reported from Coen that sandalwood in Port Stewart awaited shipment to TI, to then be taken by eastern lines 'to China' (The Evening Telegraph Sat 1 Jul 1911:3). During 1913(?), large quantities also find their way from Port Stewart to TI for trans-shipment to [word missing!] (Daily Mercury Thu 1 Jan 1914:3). Four hundred cases of MOP and 150 tons of sandalwood at TI, were awaiting E&A's "Menmuir" to go to Hong Kong (The Queenslander Sat 1 Apr 1893:577). Hardcopy annual statistics for Queensland in 1906 allowed identification of the destinations of exported forest and sea products (Table A4.3). The ships were mostly British-owned (Table A4.4).

Table A4.3 QLD marine and forest product exports to SEA and EA in 1906 (QPP 1907:235–257).

Article	Amount	Value (£)	Country
fish - smoked or preserved by cold process	10,653 lbs	138	United Kingdom
	124 lbs	2	Hong Kong
fish – 'N.E.I.' [presumably includes trepang]	2,880 cwt	15,175	Hong Kong
	115 cwt	780	China
horns	1,750 No.	25	Japan
kapok	120 lbs	3	Dutch New Guinea
MOP	6,821 cwt	35,786	United Kingdom
	22 cwt	185	Germany
	768 cwt	4,487	USA
sandalwood	40 cwt	30	Hong Kong
tortoiseshell	4,443 lbs	2,258	United Kingdom
	392 lbs	249	Germany

Table A4.4 Vessels cleared at QLD ports in 1906, to selected destinations (QPP 1907:44–45).

Country	Australian	British	Foreign
Hong Kong, direct	0	11	0
Hong Kong, via other States	0	15	0
India, via States	3	8	0
Straits Settlements, direct	1	3	3
Straits Settlements, via other States	12	1	1
Japan, direct	0	0	14
Java, direct	0	0	2
Philippines, direct	0	7	0
Philippines, via States	0	1	0

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