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The Macassans
A study of the early trepang industry
along the Northern Territory coast

by

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Two volumes and a case

Volume 1

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PART I: THE VOYAGE TO MAREGE'

Chapter 1

The Context of the Industry

A factor of striking importance in the history of island Southeast Asia has been the export of various commodities to places far beyond the boundaries of the region. The gathering and processing of trepang on the north coast of Australia and its transport to the main point of demand in China forms only a part in the total story, but one which cannot be understood except in terms of the larger whole. It is the purpose of this chapter to set the industry in its context.

Trepang is the most convenient term for a range of edible Holothurians. The name is derived from the Malay (and now Indonesian) teripang, and similar forms are found in some related languages such as Macassarese and Buginese. The spelling, trepang, is preferred over several others by the Oxford English Dictionary, and the word in this form can be taken as accepted English usage. However the term, bêche-de-mer, derived from the Portuguese bicho da mar, meaning sea worm, is a common alternative. More prosaically the animal is known as sea slug or sea cucumber.

1 The Oxford English Dictionary derives the term from the obvious French meaning of 'sea spade', but the Portuguese derivation is to be preferred on grounds of sense and historical probability. It is certainly accepted by most writers on the subject. In view of the apparent lack of remark on the industry during the sixteenth century, it would be of some interest to be able to show precisely how the term originated.
A further English term, now obsolete, is swallo.\footnote{2} Other languages employ various cognates, and yet more separate terms. The most useful of these are the Malay gamat (gamah, gamēt) or beronok and the Chinese hai-sen, meaning 'sea ginseng'.

Although often used more loosely, the word trepang is best reserved for those species which have been found suitable for use as food. These belong, probably without exception, to the families Stichopodidae and Holothuriidae of the order Aspidochirotia (class Holothuroidea, phylum Echinodermata).\footnote{3} Various genera of these families occur on the seabed throughout the world, though naturally only those found in reasonably shallow waters have been exploited as a source of food. The best description of the animals, covering all aspects and listing the extensive literature, is given by Hyman (1955). Considerable confusion still exists concerning the systematic description of particular species, though it is clear that the greatest diversity and abundance of the animals occurs in the Indonesian archipelago and adjacent waters. Clark (1946) has a useful treatment of this subject and much information on the distribution and other matters relating to the Australian forms. The taxonomy of older works such as Saville-Kent (1893) or Koningsberger (1904) cannot be taken as reliable.

\footnote{2} The Oxford English Dictionary derives this from either of two forms of Malay, suwala or suwāla. Yule and Burnell (1903:883) say the latter is 'Bugi (Macassar)'. Aard. en Stat. Woordenb. (1869:1124) perhaps following Crawfurd (1856:440) also gives soeala as a name from Celebes for trepang. However I cannot find this word in Matthes. Koningsberger (1904:30) says the term soewaloe is used for trepang on the south and west coasts of Sumatra.

\footnote{3} The other family in the order, Synallactidae, is found mainly in deep waters.
A wide range of names, often overlapping and certainly not coinciding with the systematic distinction of species, are applied to various types of trepang by different cultural groups. Koningsberger (1904:31-4) gives a long list of these names. However the actual number of types distinguished for purposes of trade by any one group is very much less. Crawfurd (1820,3:442) says that 30 varieties are distinguished by the Chinese in the market at Macassar, and this is perhaps a maximum. Matthes (1859:336-7) lists 20 names of the more important types in Macassarese, while Kolff (1840:172-4) gives a similar list of 19 names from the Aru Islands, many of which are clearly related to those in Macassarese or Buginese. About a dozen varieties are generally recognized today in Australia and New Guinea.\footnote{Information from Mr V. Wells, (Fisheries Branch, Department of Primary Industry, Canberra) and from Department of Agriculture, Stock and Fisheries, Port Moresby.}

Clark (1946) links many of these names, at least as they were known to him in Torres Strait, with particular species. For example, the type of trepang known as 'prickly red' is Thelenota ananas. These colloquial names, or their cognate forms in other languages, probably refer to roughly similar types of trepang throughout the Indonesian archipelago, though in detail the picture is very confused, especially if one attempts to particularize species. Thus when Clark says that Actinopyga lecanora is known as 'stone fish', the cognate trepang batu is recorded by Kolff (1840:173) in the Aru Islands. Matthes (1859:336) following Vosmaer (1839:162) gives taripang batu as 'black reef trepang'. This identification is confirmed by Flinders (1814,2:231) who
describes the *baatoo* that he was shown by the Macassans on
the Arnhem Land coast as black trepang. A similar line of
identifications can be followed in reverse. The white or
grey trepang which Flinders says was called *koro*, appears
as Kolff's *trepang corro* and Matthes' *taripang koro*,
meaning 'white reef trepang'. The species is difficult
to determine, but Clark's 'curry fish' or *Holothuria scabra*
is possible. The specific preparation of both *trepang*
*batu* and *trepang koro* is described by Vosmaer (1839:165-6).
These two series of identifications are also acceptable in
terms of the known distribution of the species and some
additional details given in some of the sources concerning
the relative prices of the processed animals. However it
must be emphasized that they are by no means certain.
Koningsberger (1904:26-54) for example, lists many names,
including the two given above, under the same species on
several occasions. Also, on the prices he gives, *koro*
is more valuable than *batu*, and not the reverse as in the
previous sources. In 1969 I collected similar information
(and samples) on the island of Barrang Lombo off Macassar.
This island is a modern (and perhaps traditional) centre
for trade in various local products. *Taripang koro*, a
white variety, was quoted in three size grades (the largest
being the most valuable) at 400-500 rupiah per kilogram,
Rp. 250 and Rp. 150. *Taripang batu*, a black variety, was
quoted similarly at Rp. 250, Rp. 150 and Rp. 100.
*Taripang bangkuli*, also in three sizes, was a little cheaper
still, and *taripang pandang* came in only one quality at
Rp. 25. *Taripang passir* was also known at about the price
of *taripang bangkuli* (there is further discussion of types
and prices in chapter 3).

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5 See Matthes (1859:43) for the literal meanings of *koro*. 
The main features of the industry and resulting trade are relatively simple, and can be set out here as a preliminary to later, more detailed discussion. The various varieties of trepang are usually clearly visible, lying apparently inert, on the sea floor or in areas exposed at low tide. The various terms applied to them adequately describe their appearance - slugs, cucumbers, worms are polite names. In natural conditions, they are about 10 to 50 cm. long, though larger species grow up to a metre or more. The colour of different species varies widely, some being black, other white, or grey, or brown, or even blue or red, and many variegated species occur. They are seldom attractive. When collected, the catch is immediately cleaned, eviscerated and placed in boiling water. After this boiling, the 'fish' may be buried in sand for a period before being thoroughly dried and perhaps smoked. By this stage it should be quite hard and needs to be kept completely dry if serious damage is to be avoided. It is then sorted, if need be, and sold.

The use of trepang is almost entirely restricted to the Chinese, who eat it prepared as a soup, or braised or fried. The culinary art which converts an item so unpromising in its appearance, either in its natural state or as processed, into an acceptable food is indeed remarkable. Among Chinese communities, it is extremely popular, perhaps largely because of its reputation as a general stimulant and aphrodisiac. The European palate finds the taste quite

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There is a good summary of the industry in Indonesia and a bibliography of the Dutch sources on this in Enc. Ned.Ind., 2:437-40. Fuller information on various methods of collecting and preparing trepang used in different parts of the archipelago is given by Koningsberger (1904:55-62).
pleasant, though this is usually derived more from various subtle spices used in the cooking than from the trepang itself. Sopher (1965:244) lists the evidence for its very limited use by other groups.

The origin of the Macassan trepang industry presents a number of problems, which are discussed in chapter 12. However it is convenient to set out here certain general background information.

The earliest references to trepang in the Chinese sources are listed in appendix 1. From this evidence, it would appear that the Chinese first learnt of trepang as a source of food from northern waters and that it most probably came into common use about the seventeenth century. On this hypothesis, it is not difficult to explain the entry of Southeast Asian trepang into the market. There was already a substantial trade between this area and China, and significant numbers of Chinese were beginning to establish themselves in various ports. The great abundance and variety of this new delicacy in these regions presented an obvious opportunity. Nor need there have been any difficulty in imparting the relatively simple technology involved in preparing the animal to the various native peoples.

Birds' nests and sharks' fins are other unusual items of food which seem to have been first consumed by the Chinese at about the same time as, or perhaps even a little earlier than trepang. This taste for exotic foods in the late Ming period can be related to many wider cultural manifestations.

The direct documentary evidence from Southeast Asia confirms this approximate date for the beginning of the industry in that region. Although the source material on sixteenth and early seventeenth century trade is both
extensive and detailed, there does not appear to be any mention of the trepang industry during this period, and there is certainly no major treatment of the subject as exists for so many other items of trade. It is difficult to be sure of such a negative conclusion, but several sources, particularly Pires and Erédia, are so detailed on matters of trade that the omission of a major item seems most unlikely. Furthermore, there have recently been a number of large scale studies of early Indonesian trade and none of these mention trepang in exhaustive lists of trade items. The most directly relevant works are that by Meilink-Roelofsz (1962) who covers the period 1500 to about 1630, and those mentioned below on Macassar in the seventeenth century. The only specific discussion of this question is by Sopher (1965:244) who has similarly failed to find any documentary evidence of the industry at this early date.

There is no evidence to support the statement of Burkill (1935,1:1181), relying on Hornell, that the Chinese were collecting trepang in Ceylon a thousand years ago. This appears to be a gratuitous explanation of the possible presence of the Chinese there at such a date (see Sopher 1965:244). Similarly the suggestion of Crawfurd (1856:349) that there was a pre-Spanish trade from the Philippines to China in trepang, birds' nests and mother-of-pearl appears to be merely an assumption that those items of trade exchanged in the past were the same as those current at the time of writing. There is, of course, no doubt of the antiquity of this contact in other forms.

In itself, this negative evidence is impressive, but it is made more so by the frequent mention of the industry in the sources from the eighteenth and nineteenth centuries.
If it existed in earlier times, there is no reason why it should have been less obvious. It must be understood very clearly that this silence on the industry in the sixteenth and seventeenth centuries, and to some extent even earlier, is not just a lack of documents. The much earlier carbon dates described in part II, must be seen against this background.

However, irrespective of the problem of dating, the trepang industry needs to be seen in the wider context of events in island Southeast Asia, particularly those in the eastern part of the archipelago, and of the general pattern of trade and commerce in the region. The daunting prospect of attempting to summarize this in a few pages is somewhat alleviated by the fact that, at least in historic times, our interest can be concentrated on the Macassarese and Bugis of South Celebes. It is one of the main conclusions of this thesis that the majority of the Macassan trepangers in the Northern Territory belonged to one cultural group which can be identified as Macassarese-Buginese.

The eastern archipelago, and by this term is meant all the islands to the east of the straits of Macassar and Lombok, is screened from China on the north and India and the Europeans on the west, by the Philippines and the large islands of western Indonesia. As Wolters (1967) has shown in such detail, the latter area was trading with China from the early fifth century A.D. and even earlier with India. In the Philippines, there is ample evidence of Chinese pottery dating probably from late Tang and early Sung times (perhaps ninth and tenth centuries A.D.) (Locsin & Locsin 1967:6). There is little similar evidence of 'foreign' trade behind the screen in the first millenium, but even at this early date it is possible that goods from the eastern regions were being brought to the emporiums of the 'favoured coast' of southeast Sumatra or to the points
of contact in the southern Philippines. Even the comparatively limited archaeological work that has so far been done in this area has shown that metal in various forms and perhaps other 'imports' such as the goat had reached Timor and elsewhere long before this (Glover 1969; forthcoming).

The documentary references to the eastern archipelago in the centuries before the arrival of the Portuguese are extremely slight, but they do confirm that the highly developed cultures of the western archipelago and the wider world with which they were in contact, had some knowledge of, and commerce with the area long before that date. In 1225 a Chinese writer gives a list of names which may refer to Timor, Banggai (off the east coast of Celebes) and the Moluccas (Vlekke 1965:51). Over a century later in 1365, the Ngarakertagama includes a similar list, and whatever view is taken of the precise relationship between these outlying places and the various kingdoms of Java and Sumatra, there can be no doubt that even the claim of vassal status implies a considerable amount of contact, and probably the settling of traders from western areas. Vlekke (1965:52-3) dates the development of this contact from the twelfth century. The strongest evidence for this trade lies in the fact that spices from these areas did reach the farthest corners of the globe. An extremely productive source of enquiry might be to examine the records for the appearance in India, Europe and China of goods which can only have originated in the eastern archipelago. It must be realized though that this contact was the result of traders from the west, whether Javanese or Arab or Indian, visiting the eastern islands. Voyaging by people from the east itself probably began rather later.
From the arrival of the Europeans at the beginning of the sixteenth century, events can be followed in some detail. Tomé Pires, writing between 1512 and 1515, gives an account which enables us to see fairly clearly the position at that time. It is worth quoting at some length a passage relating to Celebes and its inhabitants.

'The islands of Macassar are four or five days' journey beyond the islands we have described, on the way to the Moluccas. The islands are numerous. It is a large country. One side goes up to Buton and Madura and the other extends far up north. They are all heathens. They say that these islands have more than fifty kings. These islands trade with Malacca and with Java and with Borneo and with Siam and with all places between Pahang and Siam. They are men more like the Siamese than other races. Their language is on its own, different from the others. They are all heathens, robust, great warriors. They have many foodstuffs.

These men in these islands are greater thieves than any in the world.... The Javanese call them Bugis (Bujuús), and the Malays call them this and Celates. They take their spoils to Jumaia (?) which is near Pahang, where they sell and have a fair continually.

Those who do not carry on this kind of robbery come in their large well-built pangajavas with merchandise. They bring many foodstuffs: very white rice; they bring some gold. They take bretangis and cloths from Cambay and a little from Bengal and from the Klings; they take black benzoin in large quantities, and incense. These islands have many inhabitants and a great deal of meat, and it is a rich country. They all wear krisses. They are well-built men. They go about the world and everyone fears them, because no doubt all the robbers obey these with good reason (Pires 1944,1:226-7).
The rise of Macassar as a trading emporium and the assumption of a major rôle in maritime activities throughout the archipelago by the Bugis and Macassarese can be directly linked with specific Dutch policies of the seventeenth century and their effects. When the Dutch began to establish themselves in the archipelago at the beginning of the seventeenth century, they adopted a very different policy from that of the Portuguese in respect of native trade. A constant pre-occupation of Dutch policy was the attempt to obtain an exclusive monopoly of any trade in which they were involved, and the most important aspect of this was to control completely the spice trade from the Moluccas. Only two consequences of this need concern us here.

Firstly, the Dutch did succeed in effectually eliminating the native trade between the Moluccas and the western archipelago. The maritime interest of the Javanese in particular never recovered from this disaster, just as the prosperity of the Moluccas was permanently blighted by the Dutch control.

Secondly, Macassar found itself chosen by those in opposition to the Dutch as the most suitable port through which they could continue to work. No doubt there had been a settlement in the vicinity of the modern city long before the Europeans arrived, and in the sixteenth century this was already involved in some trade, though still on a small scale. By 1605, when the ruler of Goa was converted to Islam, Macassar was clearly the most import centre, though not the capital, of the joint Macassarese states of Goa and Tallo'. From that time until its final capture in 1669, the commerce of the city
flourished to an extent which could not fail to provoke the Dutch.\footnote{There has been a great deal written on various aspects of the history of Macassar in the seventeenth century, though as yet there is no study which integrates all this work. Schriek (1955), van Luer (1955) and Meilink-Roelofsz (1962) have some information about commercial matters. Boxer (1967) supplies a detailed picture of Portuguese activities and Bassett (1958) has worked on the very useful English material. The political history has been most recently studied by Skinner (1963) who provides full references to the extensive previous publications on the Macassarese and Dutch sources. The variety of the references well illustrates the diverse nature of society in Macassar at this period. Further references to specific matters will be found in the relevant chapters of Soedjatmoko (1965), an indispensable guide to any study of Indonesian history.}

The main natural advantage possessed by the port is its central position at the intersection of shipping routes to the east across the Banda Sea, to the west across the Java Sea, to the south across the Flores Sea and to the north through Macassar Strait between Celebes and Borneo. However a much more important factor was the welcome given to foreign traders. Under the protection of the expanding Macassarese political and military power, a diverse community of Malay, Portuguese, English, Danish and other native traders began to visit or even settle in Macassar. The fact that this was a new development is well illustrated by the statement of an English merchant that a Chinese junk which arrived in 1613 was the first which had ever arrived direct from China (Foster 1897:32). It is significant though, that even then the Macassarese, with the exception of their ruler, were slow to enter trade on this new scale. Schriek (1955:66) quotes a source in 1625 as saying 'few Macassarese travel by sea to distant places, but busy themselves with proas and small ships in places lying around Celebes.' However the situation was changing and by the middle of the century, the Macassarese were playing a larger part in the new trade which had grown up around them.
After a prolonged and complicated struggle, culminating in the treaty of Bongaja (1668) and the final occupation of Macassar by the Dutch (1669), the political power of the Macassarese was effectively broken. The commerce of the city was hindered by the expulsion of the Portuguese and other traders in the interests of the Dutch monopoly. Up to 1820, the direct traffic of the port with China was limited to one junk per year (van der Capellen 1855:375). For example, Forrest (1792:72) saw a single junk of about 600 tons in the harbour during a visit in 1763.

However the Dutch had had as their allies in the struggle with Macassar the Bugis states and particularly Bone under its leader Arung Palacca. The development of Bugis commerce centred on Macassar offset to some extent the effect of the Dutch restrictions. Throughout the eighteenth century the Bugis often proved troublesome to the Dutch, and not only in Celebes. In its heyday, Macassar had extended some sort of political control over islands to the south and east. The Bugis however, now expanded mainly westwards, establishing settlements and sultanates independent of their original home. Their most important sphere of direct influence was in the Riau Islands, but their trading settlements were scattered throughout the whole archipelago and their honesty, business sense, seamanship and sometimes their fighting ability are commented on by many detached observers throughout the eighteenth and nineteenth centuries. Indeed they are still famous as sailors today.

In addition to this historical outline, some knowledge of Buginese-Macassarese culture and society is also needed to understand the background of the Macassan trepang
industry. For those unfamiliar with the area, it must be emphasized that the culture is highly developed and the society tightly organized. The two groups are mainly distinguished on linguistic grounds and to some extent on former political grounds. In other ways they are very similar. The strong feudal character of society, with numerous ranks of nobility, probably pre-dates the introduction of Islam at the beginning of the seventeenth century, and its expression in terms of a number of coherent states may be associated with the evolving political situation of the previous century. Since its introduction, Islam has been a powerful force in the area, though many pre-Islamic beliefs and practices have persisted, particularly among the lower classes of society.

Even the relatively lowly crew members of the trepanging fleets - or at least their captains - were very much aware of the wider context of their culture. Many of them were literate and their culture possesses a not inconsiderable written literature. Their society was governed by the rule of adat law, of which the maritime code is the best known section. Certainly many individuals were widely travelled, a trait encouraged by their religion as well as by reasons of trade and employment.

Although the agrarian resources of the area are far from limited, a substantial part of the population has developed an orientation towards maritime affairs - shipbuilding, voyaging and trading. Some groups seem to have specialized even further on the trepang industry. In

9 There is no modern account of the Bugis and Macassarese in English, but full bibliographies of the literature are given in Chabot (1950) and Kennedy (1955). Kennedy (1953) and Collins (1937a; 1937b) give good circumstantial accounts.
seeking to explain this specialization in the Northern Territory, it is only necessary to state that it was a viable economic proposition overall and that there were relatively few other valuable commodities to be collected or traded for on this coast.

However, to understand the rôle of the Australian trepang industry in the maritime activities of the people from South Celebes will involve a brief review of wider trading patterns throughout the eastern archipelago. Though much work has been done on European trade in the area, the subject of non-European trade is as yet very imperfectly understood (Tan in Soedjamoko 1965:402). In terms of function, the trading activities relevant to our subject may be divided into three loose categories. It must be stressed that these are not exclusive categories and often captain and prau might engage in differing activities in various years, or even on one voyage, though naturally there was some specialization (Sydney Monitor 1838). Similarly although the Macassarese and Bugis have long been dominant, they were not alone. They shared these waters not only with various varieties of bickering Europeans, but also with Ternateans, Tidorese, some settled Chinese, sea nomad peoples and the like.

Firstly there was the long distance carrying trade particularly between the eastern and western parts of the archipelago. The specifically Bugis interest in this was no doubt stimulated by their dispersal in the eighteenth century, but as Pires shows, it did not begin then. It was this form of trade that the Dutch tried hard to suppress, and with considerable success except in the case of the Bugis.

Davidson (1846:56-7) writing of a period about 1830 describes the Bugis trade with Singapore. 'On an average, two hundred of these boats come to Singapore in the fall of
of the year, each manned by about thirty men.' They came from 'the different ports on the islands of Celebes, etc., but principally from Macassar.' Their cargoes included coffee, gold-dust, tortoise-shell, native clothes, trepang, deer-sinews, and rice, in exchange for which they obtained items such as opium, iron, steel, cotton yarn, cotton goods, and gold thread.

Secondly there was the distribution of trade goods throughout the eastern islands and the corresponding centralization of their products for sale. Bassett (1958:19) mentions Macassarese collecting voyages to the islands east of Timor in the 1640s, and the products obtained there led the Dutch to set up a factory on Damar (Coolhas 1960). However unlike the position in many parts of the Pacific, Europeans never managed to capture more than a fraction of this type of trade. An outstanding example of a voyage of this type is that described by Wallace (1869, 2:157-284). In 1856 he travelled on a prau from Macassar to Dobbo in the Aru Islands, where a considerable number of traders gathered for several months and bartered their outward cargo for the goods collected by the local inhabitants.

In 1825-6, about 30 praus were said to visit the Arus each year (Kolff 1840:155), and by 1841 the trade had considerably increased. On this latter occasion, Owen Stanley gives some idea of the variety of people involved. When he arrived at the end of June, the main fleet had left about two months previously. This consisted of 'four or five ships and brigs, with a number of Macassar and Bughis proas, whose united crews were said to have amounted to 5,000 persons.' They had left behind 'a few Dutch traders from Macassar, some dozen Chinese, and about 300 Bughis and Macassars' together with 'two large Macassar proas and a Ceramese junk' (Stokes 1846,2:335-7).
Kolff at Larrat in the Tanimbar Islands during June 1826, gives a glimpse of an individual trading transaction. 'I had given permission to one of my interpreters to take on board a quantity of tortoise-shell and trepang, to purchase which he had brought from Banda a quantity of goods suited to the taste of the natives. I had thus an opportunity of witnessing closely the manner in which the trade is conducted. He purchased a picul...of trepang, for goods worth twenty-two guilders (£1.17s). These consisted of two Javanese dresses, two pieces of lining chintz, two red karwasses, two parangs or chopping-knives, two plates, two combs, two handkerchiefs for the head, and two catties...of copper wire. According to an old custom, the articles they receive for their produce must always be in pairs, except if they consist of valuables, such as gold, elephants' tusks, etc., which are valued and paid for accordingly' (Kolff 1840:362-3).

From the seventeenth century on, a common impediment to this trade arose out of the Dutch attempt to keep a tight monopoly on the production and distribution of the more important spices. The simplest way to control 'smuggling' was to control all forms of trade. Thus Forrest, who was spying out the possibility of circumventing the monopoly, noted in 1775 that Dutch trusted only the local Chinese at Ternate and Tidore to trade with New Guinea. The 'burghers' of those ports were suspected of wanting to deal in nutmegs. However he gives a full list of the other items of exchange at Dore Bay in New Guinea, which shows the permissable alternatives. The Chinese provided iron tools, chopping knives, axes, blue and red cloth, china beads, plates, bowls, etc., in return for Misoy bark, slaves, amber gris, trepang, tortoise-shell, small pearls, black parrots and large red parrots, birds of Paradise and other dead birds dried (Forrest 1779:106).
The third and final form of trade practised was the actual collection of goods by the crews of the vessels involved, though it is perhaps rather misleading to regard this as trade since no exchange occurred. The trepang industry proper in Australia falls into this category, though such activity was certainly not restricted to this area. Dalrymple (1769:91) records that 'a very sensible old man, whom I met at Sooloo in 1762, informed me that he had, many years ago, made seven voyages to Papua for sea-slug, or becha-de-mar, which they do not purchase, but gather themselves.' The area referred to was probably around the western extremity of New Guinea. In a sense, the local inhabitants of the Kei, Aru and Tanimbar Islands, who collected goods for the Bugis and other traders, can be said to have been engaging in this sort of activity. However it was not necessary to go so far afield to find opportunities for collecting. The coasts of Celebes produced excellent trepang and other items. An important group exploiting these resources were the sea nomads, or Turijene, as the particular section of these people in the vicinity of Macassar were called. Sopher (1965:239-40) indicates the range of items available in the strand environment which could be collected for trade. In addition to trepang and tortoise-shell, which are the most important, there is mother-of-pearl, pearls, sea-shells, coral (akar bahar), agar-agar, dried oysters and snails, birds' nests, mangrove bark and wood, dye-yielding roots, honey, beeswax, eaglewood, and dammar.

The distinction between the various forms of trade, as well as the Dutch attitude to the first two, is seen in a passage by Earl. 'The Dutch settlement at Macassar is small and of little importance, except that it acts as a check on the commercial enterprise of the Macassars, who are even more skilful navigators than the Bughis. The trade of the
eastern islands was once chiefly in their hands, but the prohibition on the importation of British calicoes at Macassar, together with the great discouragement given by the authorities to intercourse with Singapore, has enabled the Bughis successfully to rival them in all branches of the eastern trade, excepting that with the north coast of Australia, which being a fishery and not requiring articles of European manufacture, the Macassars still retain' (Copies or Extracts 1843:44).

Although our quantitative information is in many respects defective, some attempt must be made to indicate the scale of the Macassan trepang industry in the Northern Territory in the context of the commerce of its time. This is only really possible for the nineteenth century and for the sake of simplicity, items of trade other than trepang can be ignored.

From the more detailed figures presented in chapter 3, the annual production from the Northern Territory in the early nineteenth century can be estimated to be in the order of at least 200 or 300 tons, and perhaps more. Even in the last years of the Macassan industry, for which reasonably accurate figures are available, a production of more than 100 tons was maintained until 1891 (see chapter 13).

This made up a large part of the total export of trepang from Macassar. Crawfurđ (1820,3:443) says the annual export of trepang from Macassar to China was 7,000 piculs (416 tons), though there seems to have been considerable variation. For example, Vosmaer (1839:180-1) says that the annual export in 1832 had declined from Crawfurđ's figure to 4,900 piculs (288 tons) and in 1833 to only 2,500 piculs (147 tons) and even less the next year. He attributed this decline to competition from Singapore and a run of low prices. In the middle of the century, Lion (1855:2), a not
altogether reliable source, gives a higher figure of 8,000 or 9,000 piculs (475 - 534 tons),\(^{10}\) and in 1915, the export from Macassar was 569,000 kilograms (559 tons) (Enc. Ned. Ind., 2:440). In 1969, the annual production from a wide area which passed through the island of Barrang Lombo off Macassar, was said to be about 600 tons.

This annual export of about 500 tons of trepang from Macassar during the nineteenth century was of considerable importance in the area's economy. Unfortunately Crawfurd (1820,3:441) contents himself with saying that trepang 'constitutes, in quantity and value, the most considerable article of the exports of the Indian islands to China, unless, perhaps, we except pepper.' However in 1824, after confirming that trepang holds first place in the trade of Macassar with China, van der Capellen (1855:375) quotes its value for that year as about 350,000 guilders. This is about 140,000 dollars, or £28,000.\(^{11}\) In comparison, Crawfurd's figures for tortoise-shell indicate a total value for it in China of about 60,000 to 70,000 dollars, and for pearl shell, mainly from the Sulu archipelago, a value of another 70,000 dollars, which he estimates as £15,750 (Crawfurd 1820,3:444-5). These figures confirm the impression of Dumont d'Urville (1844:219) in 1839 that the trepang industry and the getting of tortoise-shell were almost the only activities of the maritime population around Macassar.

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10 In 1869, the figure is said to be 8,000 tal ponden, but I do not know what is meant by this measure (Aard. en Stat. Woordenb. 1869:1125). Perhaps it is about a picul or a hundredweight or 100 Dutch pounds.

11 This is allowing 2.5 guilders to the dollar (Lion 1855:4). A similar rate is obtained for 1826 by using the equation by Kolff (1840:362) who says £1.17.0 is equal to 22 guilders, in association with a value of 4 shillings to the dollar. The latter is approximately that used by Crawfurd and is given as a fair estimate by Barnes in 1823 (HRA III, 5:738).
But if the proceeds of the trepang industry were of importance to native commerce in the eastern archipelago, they pale into insignificance beside the sums of money involved in the European directed trade of the western area. For example in 1823, only 4 years after its foundation, the value of imports and exports for Singapore totalled well over 13 million dollars (Hall 1964:478). Van der Capellen's estimate of the total trade in trepang from Macassar in the following year is only about one hundredth part of this.

It would appear however, that as far as the trepang trade specifically was concerned, Macassar, and through it the Northern Territory, supplied a large proportion of the total Chinese market. Vosmaer (1839:178) mentions that trepang Marege' (from the Northern Territory) and trepang Kayu Djawa (from the Kimberleys) was particularly intended for the Canton market and was almost unknown except at Macassar, where it was shipped on Macao vessels.

No figures are available on the quantities of trepang gathered along the coast of China itself, but some idea can be obtained of the size of imports both directly and by the production figures for other areas. For the 1850s, Dodge (1966:4) estimates a total annual import of only some 400 tons. While this is almost certainly too low as an average, we can confidently disregard Lion's (1855:2) wild guess of 90,000 piculs (5,340 tons).

The Indonesian archipelago was almost certainly the main source of trepang, and all authorities agree that Macassar was the chief market in that region. In 1915, for which our figures are probably reasonably accurate, 86% of the total export of trepang from the Netherlands Indies passed through Macassar (Enc. Ned. Ind., 2:440). The Philippines are another obvious source of supply and there was certainly some market at Manila, but it is
difficult to determine the size of this branch of the industry.

Other regions from time to time supplied small quantities. Thus, for example, the Fiji Islands produced a total of about 600 tons between 1828 and 1835, the first period of trepangning there, and another similar quantity in the 1840s (Ward n.d.). Another area of temporary importance was the Queensland coast and Torres Strait. Some trepang was being sent from here surprisingly early, but it was not until the 1880s that the quantities were substantial (Bolton 1963:76). Saville-Kent (1893:231) gives the figures for this decade which range between 160 tons per annum and 255 tons per annum, with some additional coming from New Guinea. However these quantities were not maintained.

Allied with the question of quantity is that of quality. The quality of the trepang found on the Northern Territory coast is discussed in chapter 3, but whatever conclusion is reached on that question, there is no doubt that the Northern Territory industry played a major rôle in the total production,

12 The earliest reference known to me of trepang being collected in Torres Strait and along the Queensland coast dates from 1827, when a catch of 10 tons was brought to Kupang (HRA III, 6:689). In 1829, a vessel from Sydney 'employed in the Trengang fishery, in which she had been pretty successful', arrived at Raffles Bay (Wilson 1835:95). Regular activity on the Queensland coast began in the 1840s. There are however numerous references in Abbott & Nairn (1969) to an awareness of trepang as a possible export item from the Pacific and Sydney as early as the first decade of the nineteenth century. Dr J. S. Cumpston tells me that the industry was actually carried on at this early period, but it seems to have been on a very small scale. The party left at Wreck Reef in 1803 tried cooking trepang soup, but from the wry comment of Flinders (1814, 2:332) it was not a success. Was this attempt inspired by Pobassoo's information? It would be interesting to discover more definitely how the knowledge of trepang and its processing reached Sydney.
particularly since it continued regularly over a long period. In the early nineteenth century, perhaps something of the order of a third to a half of the China market may have been supplied from this source.

A circumstance which resulted in the recording of much valuable information about the industry, yet in itself had little effect on it, was the establishment of a series of abortive British settlements in northern Australia during the early nineteenth century. These were Fort Dundas (1824-9) on Melville Island, Fort Wellington (1827-9) in Raffles Bay and Victoria (1838-49) in Port Essington. Since the rôle of the trepang industry in the formation and progress of the settlements has been fully described by Howard (1933) and more recently by Allen (1969), it is only necessary here to reiterate the main points.

The most important motive in the foundation of Fort Dundas was the hope that British commerce would be thus enabled to capture what was called Dutch commerce in the archipelago. In effect, it was an attempt to compete in the first form of trade distinguished above, the import and export of goods from the eastern islands. The collection and distribution of goods within the region was to be largely effected by the Macassans. This aim was frustrated at Fort Dundas by its totally unsuitable location. The lack of practical experience was further demonstrated by the loss of two European ships which attempted to enter the second or distributive form of trade.

Fort Wellington was established in Raffles Bay to overcome the problem of location, and though a position a little further east (perhaps on South Goulburn Island or at the Liverpool River) might have been even more advantageous, this was probably good enough. Friendly relations were begun with the Macassans in 1828, and there
is evidence that a number of merchants arrived with the fleet at the end of 1829, only to find the site deserted.

The reasons for the foundation of the Port Essington settlement were more complex, and trade, though much flaunted, was possibly only a subsidiary motive. In practice, its encouragement and even the provision of a reasonable opportunity were studiously neglected by the government, though the small exchange of goods that did take place offered some promise of greater things (Earl's evidence in Overland Route Minutes 1843).

It is difficult to say whether the possibility of establishing a 'second Singapore' in northern Australia really existed, since the scheme was never given a proper trial. Certainly it is possible to see a pattern of trade into which it might have fitted quite easily. Jukes (1847, 1:363), who dismisses the idea by stressing the Dutch control of trade at Macassar, rather misses the point, which has also eluded Gibson-Hill (1959:118). This is really whether a trading system of sufficient size and vigour could have been built around an entrepôt in northern Australia which would overcome the problems of establishment and competition from the existing centres. Thus McArthur at Port Essington was unconcerned when he encountered some hesitancy in Macassan trading because of contract provisions, since he foresaw the Macassan financiers themselves coming to the settlement (Copies or Extracts 1843:38). Naturally the Dutch, with their traditional policy of monopoly, could be expected to oppose any change in the existing pattern of trade. In fact they did show considerable interest in New Guinea about this time, possibly with the intention of frustrating the trading possibilities of the British settlements (Thomson 1917:308). However, even without such competition, it is difficult to see how the comparatively small population of the eastern archipelago
would have been able to support a trade of sufficient magnitude to meet the cost of an establishment of any size in northern Australia. Even the wildly optimistic dreams of the propagandists for the scheme fall far short of the soaring volume and infinite variety of the commerce on which the prosperity of Singapore was founded. Furthermore, it has now been shown with depressing regularity over more than a century, just how difficult an environment is that of northern Australia.

Because the modern international boundaries in this region, the result of more or less arbitrary colonial activity, obscure the continuities and similarities which exist between the eastern archipelago, western New Guinea and northern Australia, it is necessary to stress the fact that the Macassan trepang industry in Australia fits very naturally into a much wider context of activity. Within that context, it forms a distinct unit which it is the purpose of the following chapters to describe.
Chapter 2

The Voyage and its Organization

In this and the following two chapters, the Macassan trepang industry is described in general terms. This is based on the assumption, which appears to be justified by both the documentary and archaeological sources, that the industry was essentially similar throughout its history. The use of the archaeological evidence is reasonably straightforward, and the only point worth noting is the difficulty of establishing even an approximate date for any given assemblage. However, the documentary sources describing the industry present a number of special features. To begin with, they nearly all date from the nineteenth century when, on any account, the industry was well established and latterly declining. More importantly, many of the descriptions are based on no more than a few days' or even hours' observation. Thus the observer is often rather unaware of what is really going on - to say nothing of having a normal share of prejudices and preconceptions depending on his background and relation to the Macassans - and he has no way of distinguishing any unusual event as such. Certainly with the numbers of men involved over even one century, there would have been many exceptions to any general statement, not least because of the European presence on a particular occasion. Therefore, when in the following pages a reference is given in support of a statement, this involves not only the fact that a particular practice is recorded there, but also, unless specifically excluded, the assessment that this practice was probably normal.

All sources agree that the chief point of origin for the praus on the Northern Territory coast was Macassar.
In 1803 the first six praus met by Flinders are specifically stated to come from Macassar (Flinders 1814,2:229). In the 1828-9 season, all the 34 praus that called at Raffles Bay gave their home port as Macassar (appendix 4). At the end of the century, not only do all the surviving papers of the praus indicate the same port of origin, but all the praus still engaged in the industry appear to have been covered by the approaches made by the South Australian government to the authorities at Macassar.

The evidence for the identity of the crews on the praus is not so categorical, but in general it is clear that they were chiefly, though not exclusively, Macassarese or Bugis. The complete crew lists for two praus survive. The first is mentioned by Kern (1933:245,248), but it is necessary to refer back to Matthes (1883:310-11) for the original, which dates it from before 1860. Some idea of the origin of each individual can be got from the form of his name. The captain and one other of the 34 crewmen have the Macassarese or Buginese title Daeng; two names have the prefix Bapa, meaning father and another two the prefix Uwa, meaning uncle; twenty eight have the Macassarese-Buginese prefix i and there is one papua. The second is a list preserved in SAA 790/1903/438, of the 51 people on the paduwakang bondeng Mannongkoki (prau L) when she left Macassar on 21 November 1902. The master, i Oenoesoe daeng Rimba (Unusu daeng Remba), has in his crew 5 men with the title Daeng, 2 called Bapa, 5 called Uwa, 21 with the prefix i to their name and 17 with no prefix to their name. It would be unwise to place too firm a dependence on the form of the names as evidence for the background of any particular individual, but the overall predominance of Macassarese-Buginese is clear.

Frequently, the historical evidence does not really allow any certain distinction between Macassarese and Buginese individuals, or even groups. Even if an observer
got past the approximation of 'Malay', there is no certainty that he was aware of the precise implications of the terms used. For example, can we be sure that Dalrymple was able or bothered to distinguish between Bugis and Macassarese? Another danger is that of reading too much significance into the point of origin of a prau. In the most common case, both Macassarese and Bugis seamen (as well as many others) were available in Macassar.

However, there is some evidence which suggests a predominance of Macassarese. In the only specific discussion of the point by a knowledgeable contemporary, Earl is clearly of the opinion that the Australian trepangers are Macassarese, rather than Bugis (Copies or Extracts 1843:44 - quoted in chapter 1). Various informants in Macassar also emphasize the rôle of the Macassarese. Furthermore, the source of linguistic borrowing by Aborigines, including the Macassan place names in Australia, seems to be largely the Macassarese language (see chapter 11).

It would be wrong though, to discount all references to the Bugis in Australia. For example, when Pobassoo told Flinders in 1803 that part at least of the fleet belonged to the 'Rajah of Boni' (Flinders 1814,2:230), it is reasonable to assume that a considerable number of Bugis were involved, though the precise implications of 'belonging' are not quite clear.¹

In a few cases, quite definite information is available. Thus Daeng Sarro, the old man interviewed by Cense and who came to Australia about the turn of the century, was

¹ Flinders, both here and in his log book says that the whole fleet of 60 praus belonged to the Rajah of Boni. However Brown (1802-3), who seems to have written his journal actually on the Macassan prau or immediately afterwards, and is probably more reliable on the exact details of the conversation, only says that the original 6 praus 'belong to the Rajah Bone.'
definitely Macassarese (Cense 1952; pers. comm.). In 1969, I met in Macassar Mangngellai daeng Maro, the son of Using daeng Marangka (master 15 in appendix 8), a famous captain in the final period of the industry. Mangngellai, who had himself come as a young boy in the very last years, said that his father was part-Macassarese and part-Bugis.

The actual appearance of a Macassan is perhaps best shown in Westall's sketch of Pobassoo (plate 2.1), though the portrait of Remba (plate 2.2) and the photograph of Mangngellai (plate 2.3) are also of interest.

Though Macassarese and Bugis made up the majority of the crews, they were not alone. In the first crew list given above, there was one papua, though it is possible that this term applies to an Aborigine. The name of one of the captains who called at Raffles Bay in 1829, Boodieman, almost certainly indicates that he was Javanese (Dr Sutjipto Wirjosuparto pers. comm.). There were probably few crews that did not include some variety.

More significantly, a few praus seem to have been quite different. Earl (1846:65) says that of the 13 praus which visited Port Essington in 1840, 'eleven ... were from Macassar, the remaining two being a small Prahu from the island of Sumbawa, and a vessel belonging to that singular people the Badju.' He noted that the Bajaus concentrated on hunting turtles for their shell, and also that the prau came from 'the vicinity of Macassar' (Copies or Extracts 1843:13). It is difficult not to identify this prau as one of the Tau-ri-djene (Turijene) vessels which Vosmaer (1839:161) says were coming only a year or two earlier. He also mentions their concentration on tortoise-shell, though the group were famous for their trepanging. Sopher (1965:135,212) includes the Turijene among the Sea Nomads and describes their connection with Macassarese and
Bugis communities. In 1969, his description still applied to a small group living among the islands off Macassar. In the case of the prau from Sumbawa, it is uncertain whether this came directly or via Macassar. In either case, there was a substantial Macassarese population on the island, so that the difference may have been more apparent than real.

Even if we could ascertain that an individual was Macassarese or Bugis, that does not mean that his experience was limited to Celebes. For example, the servant whom Wallace took with him to the Aru Islands in 1856 had been to Australia several times (Wallace 1869,1:336). More surprisingly, Searcy mentions 'a man on board one of the proas, who had been at Port Darwin' (SAA 790/1886/356), and a few years earlier, the boatswain or serang on the government cutter was 'not only a native of Macassar, but actually had a brother in one of the proas' (SAA 790/1884/177).

However the crew was made up, it was bound together by the operation of a strict maritime code. This has mainly been studied in relation to trading voyages (Tobing 1961), but enough evidence survives to show how this operated on an essentially collecting voyage. There can be no doubt that such a system was in operation on the praus that came to the Northern Territory. Brown (1802-3) saw some of the documents relating to this and gives a vague account of their contents.

Pobassoo shewed us a written order from the Raja addressed to Salloo directing him to return to Macassar with the fleet under his command by a certain time. It would seem that the commander of the Prao furnishes his crew with necessaries & (? later) deducts it from their pay or charges it to the Raja. They shewed us an account (?-- ) with some of the crew.

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In 1835 Earl (1837:335-6) had planned to go trepanging with these people to the Arus and northern Australia, but the scheme fell through. He also says that they went to the Kimberley coast more often than to Arnhem Land (Copies or Extracts 1843:45).
In the case of the Macassan trepanging praus the most important document was a contract between the outfitter of the prau and the master. Two of these have been published. The Macassarese original of the first, dating from before 1860, is to be found, with a few notes, in Matthes (1883:310, 66). This contract was translated into Dutch with further notes by Kern (1933). The second which was produced in court on 27 November 1886, is translated and annotated by Nederburgh (1896-8). In the notes on this, some details are given of a third contract dating from 1851. The first and second contracts specify the Northern Territory coast as a destination, and it is probable that the third also did. Both the prau (W) and the master (25) mentioned in the second contract appear in the South Australian records (appendix 8). This is unlikely to date from the season just beginning, and for three of the previous four seasons we have complete lists in which this combination of prau and master does not appear. It may therefore, date from the remaining season in 1884-5. The basic provisions of these contracts are very similar. In fact, they are probably drawn up from a common model. The following pattern of arrangements is clearly normal.

To begin with, the owner of the prau had to find an outfitter and a master, though in many cases two, or even all of these rôles were filled by the same individual. Some idea of the possible combinations can be gained from the table in appendix 4 where the three rôles appear to be separated. Thus the prau Mannarima was owned and outfitted by Daeng Manye, while the master was Pua Atye. However, Pua Atye also owned the Kadarou which was outfitted by Daeng Manye and captained by Pato. Although the two praus left Macassar on different days, they were together by the time they reached Raffles Bay. On the other hand, a number of masters own their praus and the fact that no consignee is given perhaps indicates that they also outfitted them themselves.
probably from 1884, includes a list of these supplies which shows what was needed.

77 piculs and 22 catties of rice
120 kadjang (awning mats made of palm leaves)
and 250 ataps (similar roofing mats made of nipal palm leaves)
350 catties of rattan
60 pieces of karoro' (palm leaf sailcloth)
12 iron pots of cooking trepang
150 parring bamboos (a strong type for building) and 2 pattung bamboos (another type)
8 baskets (krandjang)
100 catties of tamarind fruit
Anchor rope for towing the vessel (the Macassarese for towing rope is otere' parenreng)
80 catties of kuwal (probably leaves from kuwal palms)
16 piculs of rice (Rangoon rice) to pay as tribute
20 sovereigns
Cost of this contract and hire of a dogcart

Total expenses

(after Nederburgh 1896-8 (1919:145))

3  
1 picul = 133 lbs = 100 catties
1 cattie = 1.3 lbs

4  
In a note Nederburgh says that this rice is to be given to the local inhabitants in return for permission to collect the trepang. He may have had Aborigines in mind, but from the South Australian records we can be quite sure that it was intended to supplement the 20 sovereigns paid to Robinson. The point is confirmed by the price for the rice. That for general consumption cost 8 guilders per picul: the Rangoon rice cost 9 guilders.

5  
Thus 1 sovereign costs 12.5 guilders. Searcy (1907:68) says that in 1883 the Macassans claimed that they had had to pay 14 guilders.
Secondly, the outfitter advanced to the captain and crew individual sums of money. In the second contract again, a few figures are given: 513 guilders for the master; 100, 80 and 54 guilders for three crew members. A full list is given by Matthes (1883:310-11) for the pre-1860 contract where the figures range from 10 to 25 reals (20 to 50 guilders)\(^6\) for ordinary crew members, though the master got 100 reals (f.200) and the *papua* only 8 reals (f.16). The purpose of these advances is not absolutely clear. Ostensibly they are to cover expenses, but it is hard to see the need for such substantial sums. For example the 80 guilders advanced to one man in the second contract would have bought the equivalent of 10 piculs of rice, enough to feed one person for 2 to 3 years. The most likely explanation is that they were a means of taking over the debts, at least in part, incurred either in previous voyages or in the months since returning from the last voyage. In point of fact, because of the expectation that succeeding voyages would be made with the same master (see below), these advances may often have been made soon after the return from the previous season's voyage. Perhaps it was also necessary to provide in some way for dependants and there would naturally have been some small personal expenses such as new clothes. Seen in this light, these advances are a functional equivalent of wages. More explicitly, they are a form of mortgage - and often a second mortgage if the borrower were already in debt - against the labour to be provided on the voyage.

\(^6\) Using the figure 1 real = 2 guilders given by Nederburgh (1896-8 (1919:148)).
This is an important point which has been missed by previous writers. It does not deny that most crew members were permanently in debt - but it does show how such a system worked. It is also vital for an understanding of the specific articles in the contracts. These relate to procedure on the return of the prau, but need to be described here as they reveal the expectations governing crew members starting out.

The first matter to be settled on return was the sale of the official cargo. Article 8 in both the first and second contracts states that the outfitter, master and crew must all give permission for this vital sale, except when the master and crew cannot be found, or do not wish to be found, the outfitter may proceed alone. In many cases, the outfitter may actually have bought the cargo himself or at least received a selling commission. The lump sum thus obtained is then divided into fixed proportions. First, one sixth goes directly to the owner of the prau and another sixth goes to the outfitter. These two parts would often have been combined where the same individual was both owner and outfitter. They are clear profit, though the size of this depends on the success of the voyage. From the remaining two thirds, the food and equipment expenses of the outfitter are then refunded in full, but without interest. Next, the remainder is handed over to the master, who takes over the responsibility of repaying to the outfitter the advances for general expenses made to the crew. If these have not been met by the money available, the outfitter has thus consolidated his debt on to one man. In any case the master is left with the task of distribution to individual

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It also escaped some contemporary observers. Cadell, for example, clearly misconstrued the whole situation in his letter of 23 December 1878 from Macassar (SAA 790/1879/83), though his figures, when interpreted, confirm those suggested elsewhere in this and the following chapter. Perhaps it is easier to understand this system in the light of modern economic theory than it was for such a paragon of Victorian enterprise.
crew members. This he does by dividing the sum available into equal parts, one for each crewman and three for himself. If a share is larger than the expenses advance made to a crewman, he will therefore receive a cash payment; alternatively, if it is smaller, he will incur a debt to the master, but not to the outfitter. Naturally at this stage of the division, the sums involved are not large. The profit (or loss) by the individual crew member is in the nature of a bonus (or penalty) for a successful (or unsuccessful) voyage.

Various clauses cover possible difficulties. A crewman in debt to a master is required to go on a further voyage with that master unless he can pay his debt by obtaining an advance from another master. However the 1851 contract includes a provision that if the outfitter is unwilling to finance another voyage, the master and crew are not obliged to pay a previous loss. Presumably this also cancelled the debt of the crewman to the master.

In the event of any deception by a crewman, either by decamping with his advance before the voyage or by obtaining a second advance in the same season from another master, the debt of original advance is doubled. Again the 1851 contract has an article releasing the crewman from an untrustworthy master.

Should an ordinary crewman die during the voyage, the master takes over his interest, whether it be profit or loss. However in some cases, the original advance to a crewman has been made to another person, who then maintains his interest in the event of death. There are rather different notes by Kern and Nederburgh on this last provision, which is essentially the same in both the first and second contracts. Kern says that it refers to cases where a man is not a good credit risk and is looked after by some other person or his karaeng, but he does not know exactly what is meant by this.
Nederburgh however thinks that it refers to slaves or indentured labourers, and quotes the 1851 contract where no euphemism is adopted. If this is correct, it confirms the fact that the crew members' main return was in the original advance.

Another article covers a whole range of possible disasters: wreck, fire, capture by pirates, or the death of either master or outfitter. In the latter two cases, matters are to proceed as normally as possible and the contract is not broken. If the prau is completely lost however, and this was no rare occurrence, the loss is borne by the outfitter (and presumably the owner). However, if the voyage does not take place at all, then advances must be refunded.

Finally, there are a number of minor points in connection with any cargo collected by the crew independently of the official cargo. This extra cargo is called pabisa-lima in Macassarese, or literally the 'washing up.' The captain has to share this out fairly. In the second contract of 1886, certain supplies are to be paid for directly in trepang. A picul of tobacco costs a picul of trepang and the hire of 4 dugout canoes comes to 4.6 piculs of trepang. The equivalent cash value is small (between about 70 and 150 guilders), and the quantity of just over $\frac{5}{2}$ piculs would have been only 5 per cent or less of the total trepang cargo.

There are no accounts preserved for an actual voyage, but it is interesting to apply this formula to the fleet as a whole, assuming that all praus worked under a similar system. On this basis, the figures given in the South Australian records may be used, bearing in mind that they represent certain approximations. From table 13.1, we see that for the 1885-6 season, 16 praus, carrying 457 men collected 200 tons of trepang worth $9000 (53/5\$ per picul). The price is rather high, but the quantity per prau relatively moderate. All this trepang can be taken as the official
cargo, though it must be remembered that any which was
pabisa-lima gave a slightly greater rate of return to the
crew, and this takes no account of any other commodity.
Firstly, one third must be taken out for the owner and
outfitter, leaving £6000. Using the rate of £1 = 12.5
guilders, this comes to 75,000 guilders. In the second
contract from 1886, the advances for supplies to one prau
totalled 1365.76 guilders plus a small repayment in kind.
From the quantity of rice, this prau seems to have been of
about average size and 1500 guilders as an average total for
supplies is reasonable. This leaves 51,000 guilders to be
divided among 441 crewmen and 16 masters. A single share
for a crewman therefore would be just over 104 guilders and
a triple share for a master 313 guilders. The agreement of
these very approximate figures with those actually given in
the second contract is extremely close. The three crew
members mentioned there would have received cash payments of
4 guilders, 24 guilders and 50 guilders, while the master
would have suffered a loss of 200 guilders. Of course these
figures do not represent the actual result of that voyage,
but they do confirm our understanding of the operation of
the system. Various features of this system require comment.
Firstly, it is remarkably sophisticated. Earl (1846:84)
first drew the comparison with the system of lays operating
on contemporary European whaling ships. A good description
of the variations of the system used on mid-nineteenth century
sandalwooding vessels in Melanesia is given by Shineberg
(1967:85-6). However, the Macassan system goes rather
further than these by the integration of credit into the
contract.

From this passage, it is clear that Earl understood the
outline of the Macassan system, though assuming that the
system was the same as later, it seems unlikely that the
price of the trepang was determined before the voyage. A
pre-arranged price would remove an important stimulus to
maintaining quality.
Secondly, it is a misunderstanding to regard the ordinary crew members as oppressed, exploited and ground down by a perpetually increasing burden of debt. In fact despite their debt and certain resultant liabilities, they enjoyed an annual income in the 1880s at least of about 100 guilders (£8 sterling) plus a basic food ration for nearly half the year. Indeed the man most worried about debt was probably the master. In addition to his own indebtedness even before setting out, he had a direct interest in the behaviour of a crew of gambling sailors, probably no more responsible than their colleagues in any port.

Thirdly, there is the striking feeling of interdependence between the various parties. All bear some risk, even the outfitter and owner stand to lose their whole investment in the event of disaster. Similarly, all benefit in fixed proportion from a successful voyage. As Tobing (1961) points out, this spirit of co-operation has deep roots.

Finally, there is the quite remarkable equality of all members of the crew under the master. From the contracts, the only apparent advantage of seniority is the right to a larger credit, but then this privilege rebounded at the end of the season with a smaller cash payment or yet larger debt. On a legal basis, all the crewmen or sawis as they are called, stand in the same relationship to each other and over them is the master or punggawa (the Malay term nachoda is also commonly used to refer to the master). It is difficult to believe that the actual situation on board a prau was so simple. Certainly the maritime code for trading voyages as described by Tobing envisaged a number of men with special functions and special privileges under the master. Similarly, on the prau described by Wallace (1869,2:159-75), there was a range of distinctions. It might be argued that these were not collecting voyages,
and certainly the term *djuragang* or sea-going merchant (Matthes 1859:418) which applied to a distinct individual on Wallace's prau, is used more loosely to describe the master in some documents actually carried on Macassan praus (SAA 790/1884/177). However, even with the Macassans there is some evidence of special functions, if not special rewards. In 1828 at Raffles Bay, Smyth visited a prau with its master 'and personally presented the whole of his crew with a cotton handkerchief each, and to the Officers (Durumoodies) a pair of scissors' (HRA III, 6:803). *Djuru-mudi* in Macassarese means steersman. Searcy mentions 'the Serang's houses' on a prau at Mallison Island in 1884 (SAA 790/1884/445). From the context it is quite certain that the master is not meant, and the term usually means a boatswain. The next year he describes a man as 'second in command', though this is not a good example as the individual had previously been a master (Searcy 1907:121). From appendix 10 it is clear that Aborigines were aware of terms for some specialists. Indeed it is hard to imagine that any crew of perhaps more than thirty men could function without specialization and delegated responsibility. It would be remarkable if this did not involve some form of differential return, however disguised.

One possibility is suggested by a comment of Searcy's that 'each prau carries two serangs and they each carry their own stores and trade upon their own account' (SAA 790/1883/3 319). Perhaps this was a privilege only permitted to certain members of the crew. This point is further discussed in chapter 3.

In addition to those already mentioned a number of other people had some interest in the trepanging fleet. Most obviously there were the Aborigines, particularly those who travelled back to Macassar (see chapter 11). Perhaps they can be best regarded as passengers paying their way with a certain amount of work.
Then there were various officials. The second contract from 1886 was signed by the Captain of the Macassarese, the harbour-master and an interpreter, presumably for the latter. The function of the first official is made clearer in the first contract discussed above. This is signed by the gallarrang or headman of Maloku, a kampong on the outskirts of Macassar. He certifies that he has examined the crew members in respect of moneys received and expenses incurred. In other words, there was a trustworthy witness to the agreement between master and crew, which was no doubt all the more necessary when many of the individuals were illiterate.

The harbour-master signed the contract as evidence that it had been registered at his office. By this device, the voyage was officially brought to the notice of the Dutch administration. In the nineteenth century at least, the masters were very conscious of their Dutch registration. This was very clear at the end of the century when they carried various ship's papers for the South Australian officials who met them, but even in 1803, when there was no prior expectation of meeting anyone on the Northern Territory coast, one of the praus met by Flinders first answered the English colours with a Dutch flag (Brown 1802-3). There are various other references to praus flying Dutch colours, though sometimes they also displayed other additional flags such as the blue one seen by King (1827,1:74) or the red flag, edged with a double border of blue and white noted by

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9 It is just possible that records from this office still exist, but brief searches in Macassar, Djakarta and the Netherlands have not located them. They would provide most valuable information not only on the Australian trepang industry but on all native trade. See chapter 12 for those records of ship movements which are known.

10 Another useful addition to Flinders' account.
Dumont d'Urville (1884:29) (cf. Dumont d'Urville 1846: plate 114). Forrest (1792: preface) observed that 'the Buggess flag is generally blue, with deviations according to what district it belongs.'

The praus of the Macassan trepanging fleet were described and drawn by many of the early Europeans in northern Australia, who, very often seamen themselves, were intrigued by these unfamiliar craft. In the context of native shipping in Indonesia, they are easily recognizable. The general appearance of a prau is seen in the sketch by Westall in 1803 (plate 11.2), and a list of the most important illustrations of praus as seen in Northern Territory waters is given in appendix 10. A useful verbal description is that of Roquemaurel describing those seen in Raffles Bay in 1839.

The praus used for trepang fishing are large vessels, fifty to sixty meters long [?, perhaps 50 to 60 feet is meant] with a quite well built bottom. However, the upper works or superstructure are so high out of the water and so overloaded with decking, cabins and huts that at first glance the vessels appear much larger than they really are. The most notable feature is a rather large poop, crossed at deck height by a strong beam or member which projects three or four feet on both quarters of the prau. A circular groove cut in the after portion of this beam contains on either side a rudder, held up by a loop of rattan around the thwart. Straps of the same material keep the rudder straight in the water for sailing, or draw it up out of the water for anchoring. Thus each vessel has a rudder on either side which is adjusted by means of a tiller pointing backwards, in front of a large hole or port cut in the poop. The pilots or helmsmen, seated in their cabin, adjust the tiller of each rudder with the foot. A compass no larger than one of our pocket instruments is fixed between the two rudders.

The prau has no deck but above the water hold and trepang bunker, from the poop up to the foremost, there is a floor of bamboo rods, covered with a mat roof, thus forming a sort of between-decks for the 30 or 40 sailors. Forward of these quarters there is the captain's cabin, where it is only possible
to sit or lie. Above the roof are further cabins that one would easily take as chicken roosts. Add to all this a multitude of small packages, bags of rice, chests, etc. and you will perhaps get an idea of such a vessel. The prau has two masts with stays, but no shrouds. These are replaced by long bamboos which, resting on the site of the boat and tied to the top of the mast, act as sheel legs. These legs are bound together in five or six places which provides rungs for climbing in the rigging. The masts are not stepped in the hold. They rest on a strong timber or beam with two blocks rising up like bitts in order to steady the foot of the mast. A linch-pin which can be withdrawn at will, allows the mast to be lowered on to the deck.

The anchors are made of two pieces of wood put together with a tenon and mortise joint so as to form the shank and one fluke of an anchor. Several bands of iron, or more often of rattan, strengthen the arrangement. A stone fixed at the junction of the two pieces acts as a weight. The ropes are of rattan or gomotou. It is quite impossible for vessels like this to take to the great oceans, but the Timor, Molucca and Sunda Seas are veritable lakes where the frailest of vessels can venture without great danger (after Dumont d'Urville 1844:259-60; cf. 51-2).

As this prau was at anchor when Roquemaurel visited it, his description omits the feature which most impressed other observers, the great rectangular sails. Searcy (n.d.: 17-8 n.1) for example, in one of his descriptions, gives the following details.

The sail is of matting stretched on two bamboo yards of immense length and of such girth that a section would make a fair-sized bucket. These yards are suspended in a manner that admits of their being inclined in any direction - straight up, slanting or horizontal - whichever suits best for the wind. At the end of the lower yards is fitted a cross handle, so that when it is desired to furl or reef this can be done by its aid. There is a sort of bowsprit upon which two or three small sails can be set.

Whatever impression European observers obtained, there is no doubt that these vessels were very seaworthy, though it would be easy to imagine from the mention of bamboo,
rattan and other local materials used in the rigging and superstructure that they were insubstantial. Certainly this was not true of the hulls. As long as they were given a regular coat of a lime preparation to check worms, they remained sound for many years (Collins 1945; Harney n.d.: 118). Collins (1937 b:20-1) says that the life of a prau in the nineteenth century was between thirty and forty years.

A major change in the design of the praus, which can be followed throughout the nineteenth century, was the replacement of the rectangular sail or sails by schooner rig.

As early as 1838 we are told that:

...improvements in their [Bugis] naval architecture are being gradually introduced; and many of the merchants engaged in the trade with Java possess topes, or luggers of 100 tons burthen constructed after a European model (Sydney Monitor 1838).

The first sign of this change on Macassan praus is the addition of a proper bowsprit and several jib sails. A single jib appears on the praus seen by Dumont d'Urville's artist in 1839 and one of the models of praus made for Matthes before 1859 includes two jibs. More recently praus such as those shown in appendix 11 (p.9) have had full schooner rig with three jibs. However there is no record of such a complete transformation on any of the Macassan praus. From my observation of South Celebes praus in 1969, only the very largest have full schooner rig even now. The term for these, pinis (derived from pinnace, or one of its cognates), is not found in any Australian records. Medium sized praus, like those used by the Macassans, still retain the traditional rigging.

Naturally, there were minor variations between different praus and some indication of these is evident in the names and tonnages given in various sources. Just as with European vessels, each prau had properly a name consisting
of a generic description and a particular title. The latter were usually florid or romantic such as the Ta-malate, or Never-fading One, mentioned in a contract. Kern (1933:245, 247) notes that this was also the name of a former royal palace of Goa. The prau in the contract published by Nederburgh (1896–8) sounds even more alluring, as it was called the Suruga, or Heaven. The generic names were more prosaic. A term for a rather large prau was paduwakang, while a palari, or racer, seems to have been a little smaller, though it still had a poop deck. Collins (1937 a: 40 and plate opposite 32) describes a padjala, which is a low, undecked prau without a poop or bowsprit. The praus drawn by Westall who was with Flinders in 1803, seem to have been of approximately this type.\footnote{In 1969, I spent a day sailing on the padjala Galesong (master, Muis daeng Tarrang), a fishing prau from near Maros, just north of Macassar. This fitted Collins' description and looked remarkably similar to those drawn by Westall. This prau, which had on one occasion sailed to Borneo, was impressively efficient and seaworthy.} According to Collins (1937 b:12) a padjala can be converted into a palari by raising the sides and adding a deck and poop. He suggests that these features were copied from European models. Two other words refer to the relative proportions of a prau: a bondeng is short and wide, while a lambere is long and narrow (Collins 1937 b:19). The way these names were used is seen in the lists in appendices 4 and 8.

The question of tonnages is more difficult, perhaps partly because of various conventions used by different observers, as well as the problem of making an accurate assessment of an unfamiliar craft. Flinders (1814, 2:230) estimated that the praus he saw were of about 25 tons and King (1827, 1:74) gives a similar guess of 25 to 40 tons. Earl (Overland Route Minutes 1843:4) gave a range of 20 to 70 tons with an average of 50 to 60 tons. The convention
in all these is probably gross tonnage. The largest figure
given as the result of direct observation of a specific
Macassan prau is that of about 60 tons, estimated by Robinson
for a prau in Port Essington during 1882 (SAA 790/1882/346).
This is clearly a guess at gross tonnage. The figures given
for the praus listed in appendix 8, give a more exact idea
of the size of the praus. These range from 9 tons to 38
tons, and as they were being used for the assessment of
licence fees, they probably refer to registered tonnage, that
is the cubic capacity available for cargo. As the sources
often give a very precise figure, it is possible that some
form of registration paper was consulted. In a general way,
and allowing some increase from registered to gross tonnage,
these figures agree with the estimates of Flinders and King.

It is difficult to see any pattern of change in the
size of praus from the evidence available, though Collins
(1937 b:211) thought that there had been some reduction in
the size of Macassarese - Buginese praus in general since
the mid-nineteenth century. However, he may have been
misled by taking Wallace's figure of 70 tons for the prau
he sailed in to the Aru Islands, as an average figure,
since even if this tonnage was correct as the gross figure,
that was clearly a particularly large, trading vessel, as
were those of 100 tons mentioned above as trading with Java.

A question of the first importance is to determine how
many praus were engaged in the Macassan trepang industry at
various periods. Again Flinders has the earliest useful
information. In 1803, he was told by Pobassoo that 'there
were upon the coast, in different divisions, sixty prows'
(Flinders 1814, 2:229). Brown (1802-3) only says 'about
60.' Of these, eleven were definitely sighted. There is no
reason to doubt Flinders' figure, since the other figures in
his account are clearly correct. Pobassoo was very much
aware of his part in the total fleet and it is difficult to
find any reason why he would mislead his guest.
Less than three months later, Baudin's vessels near Cassini Island off the Kimberley coast discovered a fleet of 24 or 26 praus from Macassar. They too said that they were only one of several such fleets which came to these coasts (Freycinet 1816:247).

It is uncertain how these two accounts relate to each other. Possibly the fact that the 60 praus reported by Flinders were said to be under one commander makes it unlikely that a part of it would have gone to what was later regarded as a very different destination. This figure may therefore only apply to the Northern Territory coast. On the other hand, since both groups came from Macassar, it is possible that the informants on the Kimberley coast, when they referred to other fleets, had in mind the Northern Territory and other destinations.

No first-hand source suggests any greater number of praus visited the Northern Territory then the fleet reported by Flinders. Thus, although King (1827,1:135) was told in Kupang that 200 praus came annually, he himself doubted this figure. Another visitor to Kupang in 1826 was told that 200 or 300 praus annually leave Macassar, but this may include those going to other destinations (HRA III, 6:683). Even Earl (1837:390) before he had any personal experience of the area, says that there were from 80 to 100 praus. Two very different estimates of about the same period, but which pose problems as to what exactly they refer to, are Barnes' figure in 1823 of 30 to 40 praus going to the Gulf of Carpentaria (HRA III, 5:738) and the statement of Daeng Riolo to Smyth in 1828 that he had left Macassar with 41 other praus of whom 14 were bound 'thro' "Bowens" Straits and to the Eastward' (HRA III, 6:790). There are in fact surprisingly few direct estimates of total numbers, since most observers contented themselves with describing the group of praus they actually saw. However, the numbers are
still quite large. In 1829, a total of 34 praus visited Fort Wellington (appendix 4) and there is no reason to suppose that this constituted the total fleet on the coast, though it may have been a large proportion of it.12 Earl asserted that in 1842 the Cobourg Peninsula was visited by 'upwards of forty prahus, which is the largest number I have known to visit ... during one season' (Overland Route Minutes 1843:4). Bearing in mind the length of the coast and the concentration of observers at the western end of this, an estimate for an average season during the first half of the nineteenth century, of between 30 and 60 praus on the Northern Territory coast, seems reasonable and may even be rather conservative.

By the 1870s there had been a slight decline. 'About thirty proas' were reported in 1876-7 (SAA 790/1877/435), and two years later Cadell stated that the fleet comprised 23 praus (SAA 790/1879/83). The next year Foelsche 'obtained from the natives [at Port Essington] the names of the Captains of 21 proas, who are regular visitors to this coast' (SAA 790/1880/371). In December 1881, Robinson expected 30 praus (SAA 1374/A5167) but it is unlikely that so many arrived. The decline thereafter is set out in table 13.1, and discussed in chapter 13.

There is some extremely tenuous archaeological evidence to support this picture of decline throughout the course of the nineteenth century. This assumes some positive correlation between the number of fireplaces on a site and the size of the group using that site, and between the size of a single group and the size of the total fleet. Thus apparently later sites such as Dhudhuninya in Arnhem Bay

12 In his journal for 1.4.1829, Barker (1829) mentions that 60 or 70 were involved in the industry that year, but the context is very vague.
(site 20b) or even the north beach orientation at the Anuru Bay site (site 9), are rather smaller than apparently earlier sites such as Waminari Bay (site 10bi) or the south front orientation at the Anuru Bay site. The same conclusion emerges from the comparison of the sites in area 32 (chapter 7).

At least before the imposition of South Australian dues, there is no obvious cause of this decline, and it is perhaps best seen as part of a slow stagnation of native shipping in Indonesia in the face of increasing European dominance. At all events, the reasons are likely to be very complex.

Considerable detail is available on many other aspects of life on the praus. Next to the untidiness, perhaps the most obvious feature would have been the crowd of men on board. The size of an average crew was about 30 men, though this varied considerably. Earl (Overland Route Minutes 1843) estimated the range as being between 25 and 50, but some cases are known even beyond these limits. The main determinant was the size of the prau, though as suggested in chapter 13, a larger crew may have been thought to ensure a larger cargo.

From the size of the crew and the number of praus it is possible to estimate the total number of men visiting the Northern Territory in a year. For most of the nineteenth century, this cannot have been less than about one thousand, which is a considerable figure. This estimate can be checked against the figure of 1056 men entered on the list of praus that visited Raffles Bay in 1829 (appendix 4). It is possible that in some years up to almost double this number of men came.13

13 One important source is rather contradictory on this matter. Flinders (1814,2:230) reports about 20 to 25 men on 60 praus making a total, according to what he was told, (continued on p. 51)
There are no documentary references to women ever travelling on Macassan praus.\textsuperscript{14} However Berndt & Berndt (1954:214) claim, apparently from information supplied by Aborigines, that a few women did come. (This is quite separate from the question of Baiini women, discussed in chapter 11.) This evidence, though necessarily rather vague, cannot be ignored, but it must be pointed out that such a practice was very untypical. Perhaps some non-Macassarese-Buginese crews were involved, such as the Bajaus, though even with these people, Sopher (1965:145) says that one group of Turijene, influenced by Macassarese practice, left their women at home on long trips.

Many of the crew were probably quite young, and this is specifically confirmed by Brown (1803), as well as by Aboriginal stories (e.g. Berndt & Berndt 1954:41).

The clothing worn by the crew was relatively simple. If the crew of Wallace's prau can be taken as comparable, they wore trousers only, with a handkerchief to protect the head, and at night added a thin cotton jacket (Wallace 1869, 2:163). Plate 2.2 illustrates the general effect. Few changes were needed when trepanging began. Dumoulin (in

\textsuperscript{13} (continued from p. 50)

of about 1000. Yet Brown (1802-3), who also has these figures, once more adds further information. On Pobassoo's prau he observed 26 men, and he thought some of these might have come from other praus. On the other hand, Pobassoo stated that his crew consisted of 40 men. This figure is more consistent with the 300 men who, according to Brown, were on the original six praus. Brown does not say how this figure was obtained, but he is well aware that it is wildly inconsistent with the total figure of 1000. Both these figures were probably obtained from Pobassoo or one of the other masters. Clearly there is some confusion, but it is impossible to tell which figure is wrong.

\textsuperscript{14} Earl (1837:443) says that some of the 'Bugis' who were induced to come and settle at Fort Wellington in 1829 (only to find the settlement deserted), brought their families. The fact that this is mentioned shows that it was exceptional.
Dumont d'Urville 1844:52) describes some divers as almost naked. Clothing ashore was more varied. Searcy (1907:21-2) gives details at a camp in Bowen Strait early in 1883.

Of Malays there were about one hundred ... Some had only scant clothing, others wore their gay sarongs, and all had gaudy handkerchiefs twisted round their heads. A large number of aborigines ... most of them in a state of nature, were also present ... One of the masters ... was, for a Malay, a tall, broad, well-built man, and very stately ... his brilliant sarong hanging from his shoulder across his chest added to the magnificence of the man.

There are many other records of the masters dressing to impress, and succeeding.

Some idea of the food carried on the praus can be gained from the list of stores given above. The staple is clearly rice, and this is confirmed by observers of the Macassans at work. Vosmaer (1839:156) gives a figure of 2 piculs per man, which is reckoned to keep him comfortably for six months. This agrees very well with the estimate from the figures in the early 1880s (see chapter 13). The only other food item mentioned in the list above is tamarind seeds. These were no doubt used to flavour the rice, and would have proved a useful anti-scorbutic. The most apparent evidence for their widespread use are the many splendid tamarind trees marking Macassan processing sites around the Australian coast. Another possible use for such quantities was to preserve fish (Forrest 1792:129-38). Flinders (1814,2:232) also saw coconuts, dried fish and fowls on the praus. Some of the dried fish was probably collected for sale, but no doubt a considerable quantity of fish was consumed as well and would have provided a useful supplement to the diet. King (1827,1:95) observed a canoe fishing rather unsuccessfully, but nonetheless was presented with two small fish. As Flinders notes, the fowls were probably kept for the masters (though see also chapter 4).
Other food resources of the sea seem to have also been used where offering, and in this respect there would have been little that was unfamiliar to the Macassans in the environment of northern Australia. Some of the shell-fish on processing sites may have been eaten by Macassans rather than Aborigines, though the quantities are not substantial when the numbers of the former are recalled. Similarly the bones of dugong on various sites suggest an occasional feast. The evidence for turtle is a little less certain as no remains have been found in a Macassan context. Flinders (1814, 2:232) says they were eaten occasionally and three were presented to Smyth at Raffles Bay in 1829 (HRA III, 6:800). Yet most of the turtles caught for their shell, were hawksbill and not the more palatable green-back turtle. Moreover they were often obtained by Aborigines. Forrest (1779:119) mentions that the Muslims in his crew did not eat turtle, and the same prohibition may have been observed by the Macassans.

It is reasonable to assume that various other minor food items were brought on the praus. For example, Aborigines particularly noticed various sweet preparations. Thus Moyle (pers. comm.) has recorded the Indonesian word wadjik, meaning a sweet, sticky rice cake, on Groote Eylandt. The basic ingredient was probably gulah or syrup derived from the nipa palm. Similarly the use of betel, if one can regard that as a food, was probably common and it is not surprising to find traces of this on the teeth of a Macassan (appendix 9:220-1). There is only one reference to Aborigines using betel (SAA 1374/A755). The case with tobacco is very different. This is one of the most popular items which Aborigines obtained from the Macassans. The case of the prau mentioned in the contract of 1886 which carried a picul (133 lbs) of tobacco has already been mentioned (Nederburgh 1896-8 (1919:146)). However, this is rather in excess of the average amount for which duty was
paid. Thus in 1885-6, 16 praus carrying 457 men imported 1144½ lbs or an average of 2.5 lbs per man. In 1887-8, the figure is 3.2 lbs per man and there is no great change in the succeeding years (see appendix 7 for the source of these figures). This quantity of tobacco could have been entirely used by the crew in the time available, but it would seem that a considerable amount was given to Aborigines.

Cooking facilities on a prau were limited to 'a large iron pan with a quantity of sand in it' carried on the stern (Searcy 1907:25). The most obvious use for the globular earthenware pots found on campsites is boiling rice, and it would have been rather easier here than on a crowded prau.

Some pots, particularly the large stoneware jars, might also have been used to store water. However, Flinders (1814,2:232) noted that joints of bamboo were used to carry a month's supply. There is unlikely to have ever been much difficulty in replenishing this on the Northern Territory coast, though it was a major consideration in the Kimberleys (FREYCINET 1816:247).

A final item of consumption carried on the praus was a quantity of spirits. This is not commented on very much by early observers, perhaps because it was an all too familiar commodity. Moreover, its importation was discouraged even at the Port Essington settlement. McArthur (Copies or Extracts 1843:21) thought that 'the only mischief they [the Macassans] may ever do us will be by landing their arrack, which is of a most pernicious quality; but they have strictly complied with my interdict.' Searcy (1907:35) also thought it 'awful stuff.' In the documents from the end of the nineteenth century, the most common description of the liquor is arrack, which probably indicates a native spirit derived from palms. Some brandy is also mentioned. Most of the bottles found on Macassan camp sites originally contained
Dutch gin, but of course that does not mean that they necessarily contained this when brought to Australia. However, it was, no doubt, not unfamiliar as the chief drink of Europeans both throughout the archipelago and in the Northern Territory. Both Flinders (1814,2:229) and King (1827,1:94) noted that the Macassans they met were ready enough to partake of their wine.

The word remembered by Aborigines on Groote Eylandt for liquor is *anidja* (Worsley 1954:16), but although clearly derived from the Macassanese *anisi* meaning anisette, it may not have been used very precisely.

Even the approximate quantity of spirits carried on a prau cannot be estimated with much certainty, and there was probably great variation. One estimate was about six cases (probably each of a dozen bottles) per prau (SAA 790/1883/698), but in next season the quantities shown in the manifests for 3 praus vary between 84 bottles of arrack, 72 bottles of arrack and 15 bottles of arrack together with 12 of brandy (SAA 790/1884/177). What the distinction drawn between crew supplies and export is in this context, or how the quantities relate to what was actually on board, is difficult to say. The estimate by Robinson of 200 gallons on one prau in 1882 can be confidently ignored (SAA 790/1882/346). Certainly in the few years during which duty was collected on spirits there was trouble with smuggling (see chapter 13 and Searcy 1907:97). Although the official records are less informative than they might be, Brown, the Customs Officer dealing with the praus from 1900, is said to have received a 'gift' of 'a case of gin' (Harney n.d.:121).

The incidence of disease among the crews would no doubt shock our more modern experience, but in its context, it does not seem to have been particularly high. Earl (1846:98) mentions a few places where the Macassans suffered from malaria (now non-existent in the area), but otherwise lists
only minor colds and some ague. Skin disease however was probably fairly common, and aggravated for some by constant diving (Searcy 1907:28). Evidence for more serious infectious diseases is given in chapter 11, and some idea of the mortality from these can perhaps be obtained from the number of men listed in the table in appendix 4 who just 'died on the passage.' It is unlikely that the 'reputed Doctor' from one of the praus, who was permitted to treat a sick child at the Raffles Bay settlement in 1828, could do much to protect or cure his colleagues (HRA III, 6:801).

However it was possible to guard oneself against more apparent attack. Flinders (1814,2:230) noted that each man 'wore a short dagger or cress by his side', though these may have been of as much magical as practical reassurance and it is not surprising that Searcy (1907:25) was unable to buy any. Muskets of a rather primitive type were also carried (see plate 2.2). Brown (1802-3) remarks that they 'had the appearance of large French pieces and seemed in tolerable order.' It was presumably for this that Pobassoo requested and obtained of Flinders some powder and flints (Brown 1802-3). Even the crewmen that King talked with, borrowed a musket to attract the attention of their companions, and asked for gunpowder (King 1827,1:95), which Cunningham (in Lee 1925:375) says they were given. On occasion these were used with effect against Aborigines. Searcy (1907:46) records the case of the master of a prau wrecked on Melville Island in December 1886 who 'kept the niggers at bay with an old carbine while four canoes were launched and fitted out.'

The pride of the praus of the more important captains were the small cannon mounted in the bows. Among the praus seen by Flinders (1814,2:229) only 'that of Pobassoo carried two small brass guns, obtained from the Dutch.' King (1827,1:94) obtained similar information but failed to see the actual cannon, and there are occasional further references throughout
the century. The only account of their use is rather circumstantial. Searcy (1907:83) was told of an incident in which shots were fired at Aborigines from the cannon.

There are two guns extant which may conceivably have come from Macassan praus, though the evidence is extremely tenuous. They have been designated S127 and S128 in the list of miscellaneous Macassan artefacts and are described in chapter 10.

The annual fleet prepared to leave Macassar during the month of November, with the onset of the northwest monsoon. Thus the papers relating to the voyages of three praus preserved in SAA 790/1884/177 were signed by the harbour-master of Macassar on 27, 28 and 29 November 1883. However, the actual date of departure was usually in December or even early January (appendix 4). When forwarding a list of praus on 8 January 1885, the Dutch authorities pointed out that it could not be compiled earlier (SAA 1374/7826).

It is apparent that at least the masters of the praus were aware of the remainder of the fleet setting out at about the same time for the Northern Territory, and probably for other distant and exotic destinations as well. Such information was no doubt the subject of a good deal of gossip. Indeed, there may even have been a more or less formal command over the fleet as a whole. Pobassoo, who was in charge of one group of praus, told Flinders (1814,2:229) that he had a commander in chief named Salloo. In his log, Flinders (1801-4) adds that Salloo 'held a rank next to that of rajah.' Perhaps he was a Karaeng. Brown (1802-3) was also shown by Pobassoo 'a written order from the Raja addressed to Salloo directing him to return to Macassar with the fleet under his command by a certain time.' King (1827,1:136-7) obtained essentially similar information at Kupang in 1818, though in this case the arrangements for returning were more informal.
There is little mention of such extensive organization in later sources. Thus Wilson (1835:82) describing the situation only a decade after King, writes that:

...a considerable number of proas commonly proceed in company, under the command of the most experienced chief, whom they recognised as a leader only while it suits their convenience, as they disperse whenever they consider it more conducive to their advantage. When they are in the fleet, however, they all follow the motions of their leader.

This agrees with the general impression given by Earl of the control exercised by Bapa Padu over five proas at Port Essington in 1839 (see appendix 4).

At the end of the century, masters seem to have been almost entirely independent, though naturally several proas often worked together. It is possible that there had been some changes since Flinders' observations, but the sources are really too fragmentary and unreliable to be sure. What is certain however, is that at all periods there was a general atmosphere of co-operation among the masters and crews. For example, wrecked crews were picked up by other proas and when in 1839 three proas arrived in Raffles Bay only to find other Macassans at work (as well as the French expedition), they moved on after exchanging pleasantries (Dumont d'Urville 1844:51).

The area of the Northern Territory visited by the Macassans was known to them as Marege'. The origin of this name is obscure, though it is recorded in many sources. Matthes (1859:255) says that it really applies to the Aborigines and this usage is recorded by direct observers (King 1827,1:138). Wilson (1835:319) gives two variations of the word: one applying to the Aborigines, the other being the place name. Searcy (1907:26) says the word means 'blackfellow's country or unknown land.' Crawford (1920,3:441) gives the Chinese equivalent as Lam-hai.
Marege's was clearly distinguished from the Kimberley coast, which was known as Kayu Djawa (Vosmaer 1839:154; Earl 1842:139; Cense 1952:252-3). However the route to both was rather similar. From Macassar it lay around the southwest corner of Celebes, down past the island Salajar and then southeast towards Timor and the islands fronting it. Vosmaer (1839:156-7) notes that the dugout fishing canoes were often obtained from the island of Tanahdjampea, which was passed on the way. The anchorage on the south of this island is still known as Labuan Marege'. The usual route to the Northern Territory passed around the northeast end of Timor, where the praus sometimes called to fill up with fresh water (Earl 1853:122), or to collect from the neighbouring island of Kisar, a supply of bamboo and rattan (Searcy 1907:25). Evidently they could stay some time as Searcy was told that some had planned to spend at least six days there (SAA 1374/A6591). It was very important before setting out on the next long stage across the open sea to ensure that the northwest monsoon was blowing constantly. Thus in 1839 which seems to have been a remarkably late season, several praus were reported to have passed through between Leti and Moa, presumably having just left Kisar, as late as the end of February (Earl 1846:55). Even with due care, one could never be quite sure what would happen.

Vosmaer (1839:157) says that sometimes praus making for the Kimberley coast around the western end of Timor were blown eastwards to the Northern Territory. In fact, he gives the

15 Vosmaer (1839:158) says that the Aborigines in the Kimberley were also called Mareges. It is possible that if, as seems likely, this word has a primary meaning of 'uncivilized' or something similar, Vosmaer's informant was using it rather loosely. A similar situation arises with his account of the route as discussed below. Stokes (1846,2:185) records the use of the name for an Aborigine he took to Kupang. He was told there that the word meant man-eater, though he was sceptical of this being its literal meaning.
regular route to both destinations as lying around this end of the island, but is almost certainly generalizing from a few cases only. Several later instances are mentioned in chapter 13. Another prau in January 1901 reported that due to the light and variable winds experienced, it had sighted the Point Charles lighthouse, on the western side of Port Darwin (SAA 1374/10241).

However there were more serious dangers than being blown off course. Probably the most feared was attack by pirates. Earl (see appendix 4) quotes a case in 1840 and elsewhere notes calmly that the Macassan praus 'are cruised for [by pirates] in the neighbourhood of Timor, where, owing to the contraction of the channel, they are picked up more easily [than further north]' (Earl 1853:120). This danger may have decreased towards the end of the nineteenth century with growing European control.

Once clear of Timor, however, there were other risks. There are many accounts of praus foundering in rough weather, many of them being driven on to Melville Island. Jukes (1847,1:358) mentions that four vessels were lost outside Port Essington in 1845 and later examples are listed in chapter 13. Nor was the danger restricted to the outward trip, as a prau was wrecked in 1899 when about half way back to Timor (SAA 1374/9505). In the following season, we hear of the possible loss of a prau by fire (SAA 1374/9505). Things could be serious enough, even without the total loss of the prau. On the outward voyage at the end of 1889, prau B, a very regular visitor, was struck by lightning which broke the mast, killed one man and injured three others. The prau is not heard of again in later years (appendix 8; SAPP 1890/28:18).

One constant fact was the help that any other crew would offer to those in distress. Even the most arrogant Europeans would do what they could in case of disaster, though the Aborigines were not above taking advantage of the situation.
Daeng Sarro says that the crossing from Timor to Melville Island, just over 300 miles across the open sea, took four days (Cense 1952:262). Given no unusual circumstances, the most frequent landfall was somewhere along the north coast of Melville Island or the Cobourg Peninsula. From here the praus turned eastward with the wind still well behind them. The location of the Revenue Station in Bowen Strait was thus remarkably suitable to catch the praus as they passed through the channel between Croker Island and the mainland. Even if they made the outer point of Croker Island or further east, it was still not impossible to beat back into the strait.

At this point, and for the British settlements nearby in Raffles Bay and Port Essington, there are many exact dates of arrival. The earliest is 14 December 1889, which Robinson particularly remarks on as the earliest in his experience to date (SAPP 1890/28:18). A more normal time was towards the end of the month or into January. Jukes (1847,1:358) records two praus in Port Essington at the end of January 1845, one of which had taken ten days to arrive from Macassar, the other fifteen days. The total distance could not be less than 1000 miles, giving an average speed for the faster prau of almost 4 knots, and that assumes no stopping at all. This must be regarded as an exceptionally quick trip and the average was perhaps more like a fortnight. It is interesting to note that the prau on which Wallace (1869,2:159-75) travelled to the Aru Islands maintained a similar speed for some days.

Speed over short distances and under favourable conditions was naturally somewhat greater. The best documented example is given by Cunningham (in Lee 1925:362-3) who records a fleet of praus sailing from Sims Island to Malay Bay, nearly 40 nautical miles, in about 5 hours. This is a speed of about 8 knots. Although his account differs in detail, Roe (1817-18) confirms these calculations.
groups in which they worked and what was actually done are considered in chapter 4. However, it is relevant to consider here the limits of Macassan activity.

It will be seen from the gazetteer that Daeng Sarro's account of the route followed around the coast agrees remarkably well with the other archaeological, documentary and ethnographic sources available. Even in a fairly restricted area such as Groote Eylandt, his route around the north and east coasts leads past the areas of greatest archaeological interest and agrees with Aboriginal traditions (Worsley 1954:15). There are naturally some exceptions, among which the lack of documentary references to the Anuru Bay site (site 9) is perhaps the most important, but there can be no doubt that virtually the entire coast between the Cobourg Peninsula and the Pellew Group was visited regularly. The adjacent areas on either side, that is on the west, Bathurst and Melville Islands and on the east, the Wellesley Islands or even slightly beyond, also saw some activity. In Western Australia, the area visited is to the south of Cape Londonderry. Indeed the coast immediately east of that cape is particularly inhospitable.

This leaves a gap of some 300 miles across Joseph Bonaparte Gulf, or approximately the area under the lee of Timor, which was not visited. This is not to say that other vessels, or even an occasional Macassan prau caught in a storm, were not cast up in the area, but it did not form part of the regular trepanging ground. In 1889 Searcy conducted an unsuccessful search from Darwin to the Fitzmaurice River with the specific object of discovering whether the area was visited. He points out that Anson Bay and Port Keats are 'the only two practicable fishing places upon our west coast', but like Mulvaney who visited the area in 1965, his only discovery was that 'right from Cape Ford to Port Keats is a forest of old tamarind trees.'
From this evidence, Searcy wonders whether the coast 'had perhaps seventy or eighty years ago been visited' (SAPP 1890/28:12; see also Searcy 1907:188-99). In the absence of any detailed work on the regeneration of these trees in this area, it is impossible even to hazard a guess as to the time needed to account for the spread of these trees, but Searcy's estimate seems far too short. Nor are they necessarily the result of a trepanging voyage from Macassar. In the absence of other evidence, it would seem easier to account for them by far earlier and far more casual contact, perhaps not even involving man.

The eastern shore of the Gulf of Carpentaria is even more unpromising as a trepanging ground, and there is no suggestion of Macassan activity there. However there are four pieces of evidence which could be interpreted to imply that the Macassans visited the Torres Strait area. The first three can be summarily dismissed. Cense (1952:254) has already shown that the statement by Lion (1855:5), that the Macassans visited various localities on the east coast of Queensland, is based on a misreading of Flinders. Secondly there is a statement by Davidson (1846:58) that the Bugis visit 'Torres Straits, and numerous islands in that neighbourhood, for the purpose of gathering beche-de-mer and tortoise-shell.' However this passage was written from memory many years after Davidson's contact with the Bugis in Singapore and is certainly not based on first hand observation in the area. In context, it could well be a mistake for the Gulf of Carpentaria. Thirdly Wilson (1835:82) says that the Macassans who called at Raffles Bay in 1829 'proceed, according to their own report, as far east as Cape York.' However this detail is not mentioned by anyone who actually met these people. Wilson probably meant the base of Cape York Peninsula. Finally there is the evidence of the Badu song cycle collected by Berndt from the
Aborigines of northeast Arnhem Land. As pointed out in chapter 11, this awaits further work before a proper assessment can be arrived at.

On this very limited evidence, it appears improbable that Torres Strait was visited, even sporadically, by the Macassans or people similar to those who came to the Northern Territory. If it were, then this would be a considerable extension of Macassarese-Buginese voyaging.

Another similar matter is the question of whether the Macassans sometimes came by a more easterly route via the Aru Islands and then south to the Wessel Islands. Berndt & Berndt (1954:54-5) relate a strange account by an Aborigine of a voyage from the Wessels to perhaps the Arus and back again on a Macassan prau, and Barnes in 1823 says that he was able to obtain information about the Australian industry 'in consequence of their vessels being obliged to go to leeward, and to proceed to the Aroos' (HRA III, 5:738). However a glance at the map will show how far this is out of the regular route, and it is difficult to know how to assess these two pieces of evidence. Even if one prau did sail north from the Wessels, its landfall is highly dubious and it returned the way it had gone. Barnes evidence is more puzzling, but it is possible that he did not understand that the fleet for the Arus, and the fleet for Marege' were distinct from each other. Certainly he might have heard of the latter among the crewmen in the Arus. On balance, this route seems unlikely to have been used.16

Little need be said about the return voyage. When the wind changed to the southeast in about April, the praus began to move back along the coast and then retraced their

16 There is also a comment by Laws in Wilson (1835:155) saying that 'Malays of Macassar and Arroe Islands' come over to Port Essington. In context, this is clearly just casual writing.
outward route through the islands to Macassar. Cadell (SAPP 1868-9/24:10) remarks that a prau he saw on 18 May 1867 off De Courcy Head, heading westwards at great speed was 'evidently the last of the fleet.' Once the wind was right, the date of leaving the coast probably depended largely on the success of the season.

With the work of the voyage over, there would be no reason to delay returning home as quickly as possible.¹⁷ No doubt the return voyage was as dangerous as the outward one, but at least the comparative security of Macassar lay ahead. This was a return to civilization. In the 1851 contract mentioned above, there is a clause prohibiting the crew from dispersing about their own business until the prau was actually laid up (Nederburgh 1896-8(1919:149)). The procedure, which is probably unchanged, is described in detail by Collins (1945). With the trepang sold and the accounts settled, this was the last duty of the voyage.

¹⁷ The only evidence for Macassan praus camping on the Australian coast over a dry season is Warner's (1937(1964: 448)) statement, based on Aboriginal information, that occasionally a prau remained behind to reap the benefit of the first harvest of trepang and Aboriginal trade in the following season. While not impossible, there is no recorded example, and there would seem to be considerable logistic, economic and perhaps contractual difficulties in the undertaking.
Chapter 3

The Economics of the Industry

It cannot be emphasized too strongly that the purpose of Macassan visits to Australia was commercial. The chief hope of profit lay in the trepang industry and it is this which must be first examined in order to understand the economic basis of the voyages.

The return on a voyage for trepang depended upon the quantity obtained, its grade or quality and the price at which it could be sold. Each of these will be treated separately.

The question of the quantity of trepang collected is best looked at on the basis of a single prau. In 1803, Flinders (1814, 2:231) was told that 100 piculs make up the cargo for a prau. The French expedition at Raffles Bay in 1839 was given figures which work out to a similar quantity per prau (Dumont d'Urville 1844:55). However many estimates are somewhat larger. The most egregious error is that of Barnes who estimates the average burthen of the praus to be 100 tons (HRA III, 5:738), a mistake which did a great deal to inflate the value of the supposed trade for a British settlement. Earl (1846:84) is perhaps a more reliable witness, though he also had reasons to maximize his estimates. He hazarded one guess of 20 tons (340 piculs) per prau. This figure seems large, but is not beyond the range of those recorded towards the end of the century.

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1 On page 260 of this work, the figure of 1000 piculs is given. That this is a misprint for 100 piculs is suggested both by the former passage and by the equivalent which is given as 6,259 kilograms (c. 104 piculs).
The average figures per prau for most of the years 1885-1905 are given in table 13.5. They range from 8.5 tons (c. 145 piculs) per prau in 1884-5 to 22.7 tons (c. 386 piculs) in 1887-8. A few particular cases confirm these figures. For example, a prau lost in 1889 is said to have carried more than 300 piculs of trepang (SAA 1374/9505) and Robinson estimated the joint cargo of two praus in 1895 as about 500 piculs (SAA 790/1895/175). The conclusion from these figures is that the original estimate of 100 piculs is rather conservative and although great variation occurred, the expectation for a voyage would often have been rather higher, particularly later in the nineteenth century.

Although to combine these figures with those for the annual number of praus as discussed in chapter 2 may seem like compounding uncertainty, the result is of some interest. If one assumes that 40 praus each collected 150 piculs of trepang, the total production for a season would be 6,000 piculs (c. 353 tons). The same result is obtained from Flinders' figure of 60 praus each with 100 piculs. This would seem to be a reasonable estimate, or at least in approximately the correct order of magnitude, for the first half of the nineteenth century. Later, the increase in the size of cargoes was not offset by the decline in the number of praus, so that the total production fell. However, as shown in table 13.1 it was still about 200 tons (3,400 piculs) in the late 1880s.

It is necessary, before leaving this theme, to stress the great variability of seasons and the decidedly doubtful nature of the early figures. As an example of the variation between directly comparable sources, one can take Earl's statement (1846:84), using his estimate of 20 tons of trepang per prau, that 600 tons was annually exported. Only a few years later, and presumably on more or less the same
evidence, McArthur at Port Essington writes, 'we have sixteen praus here with about four hundred men - and they expect ten more vessels in a few days: Mr Earl's statement in his last publication, of the quantity of Tre pang annually conveyed from this coast is so inconsistent with the fact that I conclude there must be some typographical error: something above one half of his calculation may be true for this very successful season - He says 300 tons - I made particular enquiry and find 150 tons the utmost to be arrived at' (McArthur 1849).  

Before discussing the price of tre pang, something must be said concerning the quality of Northern Territory tre pang. As mentioned in chapter 1, there are a very large number of types of tre pang, both on scientific distinctions, and more importantly in this context, in the categorization of buyers. At first sight, the evidence on this point appears to be rather contradictory. Early in the nineteenth century, the types of tre pang collected by the Macassans appear to have been quite high on the list of preferences. Flinders for example seems to have actually handled both koro and batu, which are both relatively valuable (Flinders 1814, 2:230-1). About 1826, a prau captain in Kupang declared Australian tre pang to be 'of the best kind' (HRA III, 6:689), while in 1839, Stanley was told that Australian tre pang was better than that from the Aru or Tanimbar Islands (Stokes 1846, 1:463). Yet by the end of the century, the tre pang being collected was clearly of rather lower quality. Dashwood (1902:13-4) declared that the Bowen Strait tre pang was of inferior quality and valued it at between £40 and £50 a ton, compared with tre pang of about three times that value from Torres Strait.

2 I have to thank Dr F.J. Allen for this reference. I have not seen the publication of Earl referred to.
However, further investigation removes some of this difficulty. In the lists of Crawfurd (1820, 3:442-3), Kolf (1840:172-4), Vosmaer (1839:162) and Matthes (1859:336-7), which are all basically similar, a variety called *trepang Marege*' or Northern Territory trepang appears in about the middle range, below both *batu* and *koro*. Vosmaer (1839:171) in more detailed notes mentions that *trepang Marege*' is very similar to other forms of white trepang, and elsewhere (p.161) even says that the *Marege*' fishermen themselves assert that only white trepang is found in Australia. While this is not absolutely true, all authorities agree on the preponderance of 'chalkfish' in Northern Territory waters. Mr Fred Gray, an experienced trepanger from the 1930s, remarked on this in conversation, and certainly most of the trepang I have seen, particularly around Groote Eylandt, was of this type. Searcy (1907:27) also comments that 'grey' trepang 'is the only variety found on our coast.' As an example of an exception to this general statement, Ana, an old Japanese trepanger from the 1930s, told me of a small patch of better trepang (worth about £200 per ton at Thursday Island) located in the vicinity of McCluer Island.

However the quality of the finished trepang is not determined solely by the size and species: the method of preparation can also be a significant factor. At the simplest level, it would appear from the sources quoted in chapter 4, that Australian trepang was often dyed. Just as important probably was the care taken to ensure thorough processing and uniform grading. This was an art at which the Macassarese were masters (Vosmaer 1839:154), and it seems to have been largely this skill which led to the early accounts of higher quality trepang. Whether the apparent decline at the end of the century represents a real falling off in the quality of preparation, perhaps
associated with larger cargoes, or whether it is only a product of the inability of European trepangers to match Macassan skill, it is difficult to decide.

It is now possible to discuss the actual price of trepang. The prices that Flinders (1814, 2:231) was given by Pobassoo, 40 dollars a picul for baatoo and 20 dollars for koro, are rather high, but then one would expect that for these grades, or at least the better sizes in these grades. Flinders also gives us some idea of the increase in value after one stage of marketing, when he records (p.257) that the corresponding prices in Canton are 60 dollars and 40 dollars. King also seems to have been given top prices when he was told that trepang was worth 40 to 50 dollars a picul in 1818, and even his revision to 25 dollars in 1822 is quite high (King 1827, 1:138). It is worth noting in passing however that these are more or less average figures. For the highest grade Kolff gives a maximum value of 120 dollars per picul in China (Kolff 1840: 174; cf. Crawfurd 1820, 3:444).

However, a feature of the market was the wide range of prices. The lowest average price recorded for Northern Territory trepang appears to be that quoted to the French in 1839. They were told that the price in Macassar was 15 rupees per picol or about 6 dollars (Dumont d'Urville 1844:260; for exchange rates, at 1836 levels, see Earl 1837:61n., 432n.). This is within the range of prices quoted in many other sources and some even go considerably below this. The lowest figure of which I am aware, is MacGillivray's (1852, 1:117) minimum price in China of £5 per ton or about 1.3 dollars per picul. His maximum price is £200 per ton or about 53 dollars per picul.

The majority of trepang, though, fell somewhere between these extremes. It has already been noted that Crawfurd places trepang Marege' about half way down his
list of grades and this is priced at 19 dollars a picul. His trepang batu ranges from 54 to 14 dollars depending on size (Crawfurd 1820, 3:443). Vosmaer (1839:178-9) gives very similar figures and he infers the value of trepang Marege to be about 14 to 16 dollars per picul. These prices can be compared with those Kolff observed in the 1820s at various places in eastern Indonesia. In the islands east of Timor, traders were buying trepang at 20 to 25 guilders (8 to 10 dollars) per picul and mixed grades were available in the Arus at 10 to 15 dollars per picul (Kolff 1840:122, 175). Even Barnes when writing up the trade potential of the area only uses the figure of 14 dollars per hundredweight or about 15.5 dollars per picul (HRA III, 5:738). Lastly there are the average prices from the end of the century, as set out in table 13.1. Allowing about 5 dollars or 12.5 guilders to the pound sterling, these figures are very similar. For example the average price per picul in 1891-2 was 40/7½ or about 10 dollars or 25 guilders.3

On the basis of these figures for quantity and price, it is possible to approach the problem of what return could be expected from a voyage. For the sake of simplicity, this is best restricted to the return from the trepang covered directly in the contract. Returns from the pabisa-lima may have increased this by a few percent and, as discussed below, other items besides trepang may have added somewhere between 10 and 20 per cent.

3 In 1903 Brown stated that 'the price of Trepang per picul is 32 dollars, equal to two pounds eleven shillings in English money; this is not a good price by any means, but it is a general one' (SAA 790/1903/438). The word 'dollars' is either a mistake for 'guilders' or the dollar had suffered a rapid devaluation.
On a rather gloomy basis, one might take the example of a cargo of 150 piculs of trepang sold at an average price of 10 dollars per picul, making a gross return of 1500 dollars. Applying the system outlined in chapter 2, this means that the owner of the prau and the outfitter would receive 250 dollars each, or 500 dollars if the one individual. From the remainder, perhaps 600 dollars can be deducted for equipment expenses. Assuming a crew of 30, this means that each crewman would receive 12.5 dollars (c. 31 guilders) to meet his advance, and the captain 37.5 dollars (c. 94 guilders). It is clear that even allowing for other supplementary income, many of the crewmen who had received advances of the size suggested in the previous chapter, would have incurred a slight debt.

However, if one increases the assumed cargo to 200 piculs selling at 15 dollars the picul, the gross return per prau is doubled to 3000 dollars. Because the cost of equipment is the same, the return to a crewman is more than doubled to 44 dollars or 110 guilders, which would certainly mean a handsome surplus over any advance. If one averages the prices given to Flinders at 30 dollars a picul combined with his quantity of 100 piculs a prau, the same result ensues.

These hypothetical cases can be checked against a few direct estimates. In June 1888 Robinson estimated that the 8 praus which had worked that season in the Gulf of Carpentaria had averaged a cargo of trepang worth about £1000 (or about 4500 dollars), 2 at Goulburn Island could each hope for £700 (c. 3150 dollars) while the cargo of a prau which had stayed at Croker Island was valued at only £400 (c. 1800 dollars). It had been a good year indeed (SAA 790/1888/165). As shown in table 13.6, the average annual figure at the end of the century rarely dropped below £400, though perhaps rather larger crews than those
indicated above had to receive their share. The prau for which the French explorers give figures in 1839 appears to have been singularly unsuccessful, with a cargo worth only about 3000 francs (c. 562 dollars), but it has already been mentioned that this gives an unusually low price for trepang, so perhaps there is an error.

At this stage of calculations, there are too many imponderables to be able to come to any firm conclusions on the total value of trepang exported each year from the Northern Territory, before the first direct figures in 1885. It has already been pointed out that the estimate of Barnes in 1823 can be safely ignored, but it is worth calculating the result using Earl's very generous figures. He suggests 600 tons of trepang at just under £7 per picul, a total of about £70,000 (Earl 1846:84). Alternatively, the figure of 1500 dollars suggested as a conservative return for a prau would mean that a fleet of 30 praus, the same number as used by Earl, would only earn 45,000 dollars or about £10,000. This is, in fact, the maximum figure given in the South Australian figures, but it was earned by only 11 praus in 1887-8. It would be surprising if the average annual gross return earlier in the century was not somewhat greater. It is of interest here to recall that in 1824 van der Capellen estimated the average annual export of trepang from Macassar to be worth about £28,000 (chapter 1).

Up to this point, the discussion has been confined to trepang. However money was also to be earned by a number of other pursuits, the most important of which was the collection of tortoise-shell. This comes from the hawks-bill turtle which is relatively common around the coast. The turtle is hunted by Aborigines for the sake of its meat and although Macassan-derived dugout canoes have usually been employed during the period of ethnographic observation, other methods were probably used before the introduction of these canoes. A good description of
Aborigines capturing turtles is given by McCarthy & McArthur (1960:185). Today, the turtles are often shot.

Tortoise-shell has been an object of commerce much longer than trepang, and often appears in early trade lists. For example Schrieke (1955:68) quotes a 1625 source referring to the tortoise-shell being brought to Macassar from the eastern islands. It appears to have been used always for small personal items such as combs.

No doubt some turtles were caught by the Macassans themselves, whenever the opportunity offered. Vosmaer (1839:161) even says that as a result of good prices for tortoise-shell, a few Tau-ri-djene (Sea Nomad) praus came with the specific intention on concentrating on this (see chapter 2). However the bulk of the tortoise-shell seems to have been obtained initially by the Aborigines and bartered to the Macassans. Searcy (1907:26) mentions that 'the natives who procured the shell saved it all for the Malays, because they could always get spirits in payment.'

The actual quantity obtained is difficult to estimate. The South Australian figures at the end of the century are probably not very reliable, and in later years none at all is reported. However, for the first decade of this period about 2500 lbs per year is usually recorded in the Customs figures, worth about £1000. (These figures are in the same lists as those for the export of trepang, discussed in chapter 13 and appendix 7.) In 1839 Bremer noticed that 3 praus in Port Essington had on board 'as much as will in all probability fetch £500 at Singapore' (Overland Route Report, 1843). Even compared with trepang, tortoise-shell was extremely valuable for its size and weight. Crawfurd (1820, 3:444) gives the price in Macassar as from 300 to 350 dollars the picul. Earl (1837:432n) says that in 1836 it was quoted at 700-1000 dollars per picul, but this
astronomical price may have been due to the fact that, as he notes, none was available. The South Australian valuations work out at about 8 shillings per pound or 120 dollars per picul. The general picture is confirmed, though rather late, by Brown in 1903. 'The captain of each Proah thinks himself fortunate if he obtains in the season one hundred-weight of turtle shell, which is worth in London from four shillings and sixpence to fifteen shillings per pound. This year each proah has only a few pounds weight' (SAA 790/1903/438). In 1969 the price of tortoise-shell on Barrang Lombo near Macassar was said to be about Rp. 3,000 to Rp. 4,000 per kilogram, or roughly ten times the value of good trepang. It was sold there in bundles consisting of the shell from one turtle.

Although no specific figures are available, apparently another relatively large item of export was timber. Earl has a passage which lists some of the various uses. 'The Macassar trepang-fishers find that the timber [of the Cobourg Peninsula], generally is well adapted for repairing their Prahus, and also for the construction of masts and wooden anchors. The latter are made from a tough and heavy description of timber that has received the name of iron-wood, and these are so highly prized at Macassar, that many are carried away by the Prahus every year. The bark obtained from the roots of the mangkudu (Morinda Citrifolia;) which yields a red dye, together with an inferior kind of sandal-wood found upon the coast, are also exported by the Macassars whenever their Prahus are not too deeply laden with trepang' (Earl 1846:77-8; see also J.F.B. & Earl 1853:68). As discussed in chapter 4, the mangkudu bark was used for dyeing trepang, but it was also used to preserve fishing nets and lines. Searcy (1907:28) records that the lines were boiled with the trepang, and in 1969 at BantaEng', South Celebes, all
fishing nets seen had been, or were being boiled with the bark. The mention of sandalwood is intriguing. At Raffles Bay, Wilson (1835:81) had already heard from the Macassans of an island in the Gulf of Carpentaria 'abounding with sandal wood' and the botanists with Flinders found two species of Santalum in the Pellew Group (Flinders 1814, 2:171). Two species are also recorded for northern Australia by Specht (1958b:453) but both are unique to the area. Australian sandalwood is of very low quality.

In 1882 Robinson confirmed that wood was still being taken. 'All the best timber fit for jetties or building purposes is cut and taken to Macassar, where there is a ready market for it' (SAA 790/1882/552). Searcy suggests that much of this was cut by Aborigines (SAA 790/1883/319). At Djalan Ali Malaka 27, in Kampong Maloku, Macassar is a two-storey house in which the main posts, about 15 cm. in diameter and at least 5 m. in height, are reputed to be from the Northern Territory. They are said to be over a century old and may first have been part of the house at Djalan Maïpa 18 referred to in chapter 11. The wood appears to be cypress pine (plate 3.1).

More glamorous commodities were pearl shell and even pearls. Searcy has a number of references to Macassans taking these, or procuring them from Aborigines. However, when looked at closely, it would appear that often his most telling information was, at best, second hand. For example in 1883, he actually saw a bottle containing one catty (1.3 lb) of pearls which was said to be worth 1500 rupees (c. £120). He was only 'informed that last season one prow had eleven catties of pearls' (SAA 790/1883/319). In the published account, his information extended to 35 catties in the previous season (Searcy 1907:32). Similarly, he never actually saw any large quantity of shell, though at Mallison Island in 1884 he records having 'procured a fine pair of
pearl shells found here by one of the malay drivers' (SAA 790/1884/445). (These might even be the very fine pair still in the possession of his daughter, Miss C. Searcy.) Daeng Sarro remembered obtaining pearl shell and other commodities from Aborigines near Cape Wilberforce in return for tobacco and strong drink (Cense 1952:263).

No such quantities of pearls or large amounts of pearl shell are recorded earlier. In fact Crawfurd (1820, 3:444-5), who gives some details of the trade in these items at Macassar, specifies the Sulu archipelago as by far the most important source of supply. A direct rebuttal of the importance of pearl shell is provided by Brown who points out that there was little value in most Northern Territory shell. 'Also there are tons of it lying on the beach and the Macassars won't pick it up' (SAA 790/1903/438). In more recent years, there has been some pearling around the coast of Arnhem Land, but it has never been a major ground and the balance of the evidence suggests that the Macassans never entered the industry very seriously, either by diving themselves or by buying from Aborigines.

There are two puzzling references to the Macassans taking metal ores. Earl (1842:141) says that part of the coast in eastern Arnhem Land 'is apparently the termination of a granite range, and is said by the Macassars to be abound in minerals, among which they mention tin; the only specimen I have ... appears to me to be antimony-ore, which will yield perhaps two-thirds of its weight in metal.' In 1884 at Melville Bay, Searcy (1907:94) records that 'at the smoke-house we found specimens of quartz and ironstone, in one of which a speck of gold could be distinctly seen... There was also a stack of manganese, which commodity for some reason the Malays took to Macassar.' Recent mineral prospecting has demonstrated that much of this information is very possibly correct, though the discovery of these minerals by the Macassans
seems incredible. The recognition and use of manganese is particularly puzzling. It seems most unlikely that any great quantities of minerals were shipped.

An item which from its present importance might be expected to take a larger role than appears from the sources, is dried fish in various forms. Brown (1802-3), accompanying Flinders on Pobassoo's prau 'observed dried sharks tails hanging on board these they told us they sold to the Chinese.' Crawfurd (1820, 3:440-1) mentions fish-maws and shark's fins as well as common dried fish as being articles of commerce, though only the first two, together with trepang, were exported. One difficulty was the high duty at Macassar on 'the most insignificant articles, even the salt fish brought from Port Essington' (Earl in Copies or Extracts 1843:44). Today dried fish is one of the staple items of trade on Barrang Lompo near Macassar. However there is no further evidence that it was prepared by the Macassans, though a small quantity might have been neglected by observers.

A number of other commodities can be passed over briefly, as they were clearly of minimal importance. In 1882, Robinson lists 10 hundredweight of buffalo horn valued at £12 as part of the average cargo of a prau (SAA 790/1882/552). Again this commodity seems to be mentioned by Daeng Sarro (Cense 1952:263). However Brown attacks the suggestion that either buffalo horns or hides were being taken (SAA 790/1903/438). A further item in Daeng Sarro's account is bezoar stones (Cense 1952:263). These are 'hard concretions found in the bodies of animals, to which antidotal virtues were ascribed' (Yule and Burnell 1903:90). Mills (1930:117) and Burkill (1935, 1:1182) mention a type derived from trepang, which is perhaps that meant here, though there is so much curious information on the subject that one hesitates to express an opinion.
Lastly, in the 1885 edition of his Macassarese dictionary, Matthes lists *batu - Marege*' or a sort of stone from which anchors were made in South Celebes. Certainly stones were used, and still are, to weight anchors and perhaps a special variety was collected in the Northern Territory.

One further activity which may occasionally have yielded a little profit was direct trading with the early British settlements or later with the South Australian Customs officers. Both the apologists and detractors of the Port Essington settlement mention that a little trade in rice, fowls and a few other items was actually carried on. (Letter of Bremer dated 2 January 1842 in Overland Route Report 1843; Earl 1846:66; Jukes 1847, 1:363). In 1882, Robinson noted that a prau which 'had some things for me' had been wrecked (SAA 790/1882/346).

The evidence relating to Aborigines working for the Macassans in collecting and preparing trepang, is discussed in chapter 11, but if only from the size of Macassan crews, this cannot have been very great. However the Aboriginal involvement in the collection of other items, particularly for barter, was much greater. No doubt the amount of this trade depended greatly on the degree of Aboriginal acculturation, as well as the particular relations existing between the parties on any given occasion.

From the contracts discussed in chapter 2, it is clear that the proceeds of a season's trepang were shared among the crew. The position with other items, acquired either directly or by trade, is not specified. One might expect this also to be a co-operative venture, but Searcy states that at least the two serangs on a prau 'carry their own stores and trade upon their own account' (SAA 790/1883/319). Furthermore, in the trading contracts discussed by Tobing (1961), the idea of individual trade is certainly present.
This point is important in assessing the relative value of these supplementary items, compared with trepang, and its effect on the total budget for the voyage. On a subjective impression of the evidence, I would guess that these smaller items were usually worth about \(1/5\) of the trepang cargo, perhaps a little less if one includes those items communally collected or bought with general stores in the official contract cargo. If the profit from this were available to the master and senior members of the crew alone, it would help to offset the apparent disadvantage suffered by them in taking comparatively large advances. In fact, perhaps the large advances were needed to buy the stores for trading. However if this situation did pertain, and the evidence is very tenuous, it means that the majority of the Macassans had no interest except the collection of trepang. This serves to emphasize yet again the central importance of trepang.

Observing two Macassan praus in Port Essington at the end of January 1845, Jukes (1847,1:358) surmised that 'the voyage can hardly be a very profitable one.' Yet others wanted to found a second Singapore upon it. The actual figures we possess on the value of the industry and associated trade are again and again incomplete or unreliable. However, despite all limitations, enough exists for us to be able to perceive the underlying economic rationale. A trepanging voyage to the Northern Territory was unlikely to yield vast riches, but with good luck and hard work, all members of the crew, as well as the owner and financier at home, could expect to receive a very reasonable income. It is instructive to compare the suggested income for an ordinary crewman of very approximately 100 guilders or about £8 and considerable keep with other nineteenth century figures. For example, a European shepherd in the Western District of Victoria about 1841
could be paid as little as £20 (Kiddle 1961:135). Given his very different circumstances, a Macassan was not a poor man.

Yet neither was he necessarily a wise one. 'The time that these men spent on shore after returning from the regular voyages entailed by this fishery, is used by them to gamble away the little money that they have amassed' (after Dumont d'Urville 1844:219).
Chapter 4

The Camp on the Beach

In February 1885, the government steamer Palmerston was threading its way through the Pellew Group towards the mouth of the McArthur River. 'As we rounded one of the islands, we suddenly opened out a very charming picture. Four praus were at work, on the shore were the usual smoke-houses, backed up by high hills covered with deep green foliage. Between us and the Malay vessels were a number of dredging canoes at work, all under sail' (Searcy 1907:120). What more detail can be found to fill out this picture?

The reasons for choosing a particular site at which to work can only be inferred from observing the features common to those archaeologically located. In practice, it is now relatively simple to predict from aerial photographs or a detailed map where archaeological remains are to be expected. The first essential is a sheltered beach, protected either from the northwest monsoon as on Copeland Island (site 7a), or more frequently from the southeast monsoon as on the north beach of Entrance Island (site 13b). In fact, most sites receive some shelter from either monsoon. Secondly the site must not be too far from the relatively shallow water in which the trepang could be collected. In most cases, the collecting ground associated with a particular site or group of sites is quite apparent. For example the sites on and near Hardy Island (sites 20a-d) clearly depended on the shallow water between them and the mainland to the west. Another important resource was an adequate supply of firewood, notably mangroves. However there are cases such as Wobalinna Island (site 25a) or Äningmerrunguwa
Island (site 32g) where the bulk of the timber must have been brought from elsewhere. The last important criterion was that the site should be to some extent isolated, or at least have clear approaches. Presumably this was for reasons of security. The best solution was a small island as in Raffles Bay (site 5a) or Mungaruda sandbank (site 8b), but a promontory as at Braithwaite Point (site 12a) or an open beach as at Gunjangara in Melville Bay (site 23c) was also satisfactory. It is worth noting that in the abundance of the wet season, the availability of fresh water does not seem to have been a relevant factor.

The more important Macassan camp sites, such as that at Anuru Bay (site 9) or those discussed in chapter 7 (area 32), show an almost ideal combination of the features listed above. However, the wealth of smaller sites around the coast demonstrates just how often an acceptable situation could be found. In fact this provides a clue to understanding why people came so far and in such numbers to find trepang. As has been pointed out to me by Mr Sambono, now a resident of Darwin but originally from the Tanimbar Islands, the Northern Territory coast offered a long series of suitable anchorages conveniently parallel (more or less) to the direction of the monsoons and relatively free from unwelcome government control. It was a fortunate co-incidence that the area around Darwin and to the west, which was least suitable geographically (though there is some trepang there), was also the area of initial interest by the South Australians.

In general, praus worked in small groups of between 2 and 6 vessels, though later in the nineteenth century single praus are often reported. At the end of the season, as the fleet sailed westwards, rather larger grounds formed. This would seem to be the explanation for the fleet of 15
or 16 praus seen by King (1827, 1:74-95) in April 1818, or the 20 praus Dumont d'Urville (1844:29) observed leaving Raffles Bay at the end of March 1839. No doubt specially favoured anchorages also accommodated some larger groups. However, at a typical camp, about three or four praus, containing upwards of 100 men, might be found together.

On arrival in a bay, the first thing to be done was to set up the camp for processing the trepang. The most convenient site was often distinguished by stone fireplaces remaining from a previous camp and either known to some member of the crews or easily found. Tindale (1925-8:131) mentions that some of the old anchorages were marked with stakes, and these may have been sailing guides like those in Cadell Strait (see under site 16).

To collect the trepang, each prau carried a number of lepa-lepa, or dug-out canoes. There were six of these belonging to a prau visited by the French expedition at Raffles Bay in 1839 (Dumont d'Urville 1844:52). For a number of years at the end of the nineteenth century, canoes were individually licensed, and exact figures are available. About half a dozen is the average number per prau. The estimate of fifteen canoes by Howard (SAPP 1866-7/79:1) is clearly impossible if, as he says, each was manned by a crew of six or seven men.

There were three common ways of collecting the trepang; spearing, diving and dredging. The first merely entailed walking around in shallow water or on areas exposed at low tide and collecting what was available by hand or with a short spear. The most commonly reported method of collection was by diving. Flinders (1814, 2:231) mentions only this method and says that where the trepang is abundant, a man might bring up 8 or 10 trepang at a time. Vosmaer (1839:155) even says that owing to the dirty water found in Australia, diving was the only practicable method
here. He also (p.161) estimates that a good catch per dive was 8 to 10 animals. The observation of Dumoulin that divers brought up one or two in each hand was perhaps more realistic (Dumont d'Urville 1844:52). The estimates of the depth reached by diving range up to about 10 fathoms, but half this depth was more normal. Searcy (1907:28) describes how many of the divers suffered from the attacks of small fish and Vosmaer (1839:153,161) confirms that it was a highly dangerous occupation. One possible compensation is hinted at in a not very reliable source. In 1883, when the Dutch consul was making a case to the South Australian government that Customs duty should not be charged on rations (see chapter 13), he said that 'spirits are drunk when fishing whilst in the water' (SAA 790/1883/698). Certainly the suggestion is not unreasonable. However the most spectacular method of collecting was with a dredge. McAthar in 1849, the last year of the Port Essington settlement, says that this method was newly introduced, and attributes to it great success (McArthur 1849). Searcy (1907:23) saw 'twelve large dredging canoes coming down before the wind, and hauling the great trepang dredgers. What a chance that would have been for a marine artist. The twelve canoes, which were almost in line, had their immense mat sails hoisted on the triangular mast, and were gliding through the rippling water ..., while just beyond the canoes were four proas at anchor, close to the beach, on which the Malay camp was formed.' It is probable that these larger canoes are more accurately described as balolang or even soppe', rather than the smaller lepa-lepa. These larger types of vessel commonly have double outriggers, while a lepa-lepa usually has only one or none at all.

A fourth method of collecting trepang which may sometimes have been used, particularly by any Bajau trepangers, was with the ladung. This is a heavy weight with spikes projecting below and is let down on a rope from a canoe
over the trepang. However this method is not specifically mentioned in the sources for the Australian industry.

Some idea of the conditions of work was given to me by Mangngellai. About 5 a.m. a meal was served on the prau or nearby on the beach and then the canoes set out, each containing about 4 men of whom one was in charge. These returned around the middle of the day, when the cooking process began. This was carried out by a separate set of about half a dozen men. Dumoulin (in Dumont d'Urville 1844:54) describes how the Macassans he saw started early and finished diving at about 2 p.m., (though perhaps this is not quite a typical situation). Jukes (1847, 1:359) at about the same period, describes how the canoes returned at sunset, which sounds rather late. No doubt the brightest part of the day was best for diving, but spearing or hand collecting could be done at any time. In 1828 at the Raffles Bay settlement, the Macassans gathered trepang from the shallows at night (HRA III,6:801). Vosmaer (1839:153) also records this as fairly normal elsewhere.

However it was collected, the trepang had to be processed within an hour or so at the most. For this it was brought back to the camp. The actual process used to preserve the trepang has been described by numerous observers of the Macassans, as well as by those dealing with the industry in other areas. Much useful information can also be obtained from more recent trepangers and their Aboriginal assistants in the Northern Territory. All these accounts differ in detail, but the main principles are quite clear. Furthermore, the three major phases of the process leave highly distinctive archaeological manifestations.

The first of these phases involves placing the trepang in boiling sea water and usually gutting the animals with a longitudinal cut. There are many variations on the exact
procedure. Jukes (1847,1:360) says the trepang were first cut and gutted before any boiling, though it then required a preliminary boiling before the main period. A more common procedure was to boil it for a short time first. Yet the estimates of the time of this preliminary boiling range from about 2 minutes (Dumont d'Urville 1844:53) to about half an hour (Earl 1846:83). Alternatively, my informants Mangngellai and Ana both said that the trepang were cut after one or two hours boiling and that was all which was required. Saville-Kent (1893:233) writing of the Queensland industry, advocates a similar procedure with only 20 minutes boiling. At Port Essington, McArthur (1849) observed a method which increased the individual weight by not cutting the animal at all. Under such a system, however, most of the trepang would probably have exercised their remarkable ability to expel their own intestines.

The greatest estimate of total boiling time is that by Jukes (1847,1:360) who continues his account (after describing the gutting and preliminary boiling): 'having thus prepared [the trepang], they boil the whole in the iron pans in salt water, together with pieces of red mangrove bark. Two men are kept constantly at work, attending to eight or ten pans, stirring up the trepang with wooden ladles, adding fresh water, and feeding the fire. It is boiled in this way the whole night, or from eight to ten hours."

The addition of mangrove bark is frequently mentioned. An Aboriginal informant indicated the right type of tree for this near the Anuru Bay site (site 9) and a specimen from it was identified as Ceriops sp. Kolff (1840:173) specifically mentions this procedure in connection with trepang Marege', and says that the bank of the kayu bankudu (Morinda citrifolia) was used. Vosmaer (1839:169) also includes trepang Marege' in his types which are boiled with the bark.
The purpose of this staining is usually said to be to deceive the Chinese buyers as to the grade of trepang. (Searcy 1907:27; Harney n.d.:136). A more probable reason given by Kolff (1840:173) is to assist preservation by a degree of tanning. As some confirmation, Searcy (1907:28) notes that fishing lines were also boiled with trepang. (See also the remarks on Morinda citrifolia in chapter 3.) Harney (n.d.:135-6) mentions that he dyed the trepang in a final boiling after smoking.

The rows of stone fireplaces constructed to support the cauldrons in which the trepang was boiled are the most outstanding archaeological witness to the Macassans. A very great number of these stone lines, as they are called, have been recognized on the sites described in part II, and several excavated. The usual number of bays for the individual cauldrons ranges from about 3 to as many as 7 or 8. An excellent description of these stone lines, with details of the wooden framework to give added support to the cauldrons, is given by Brown in 1802 and quoted in chapter 5 under site 36. The only direct illustration of the stone lines in use by Macassans is the engraving by Le Breton (Dumont d'Urville 1846: plate 115; reproduced in appendix 11:13 and Mulvaney 1969: plate 6). However, a photograph by Dr Mervyn Holmes of what is almost certainly a European trepanger's stone line, also gives a reasonably accurate impression (plate 4.1). An idea of the shape and size of the cauldrons can be obtained from the one described as S 129 in chapter 10 (plate 10.3). The stones used to construct the fireplaces always appear to have been collected in the immediate vicinity, a principle clearly illustrated on Aningmerrunguwa Island (site 32g). In some cases, such as the Mungaruda sandbank (site 8b), they must have been brought in canoes from a nearby reef or South Goulburn Island with considerable labour. The
concept in the mind of the builders appears to have been remarkably constant, though differences arise from the various material at their disposal. For example the plates in chapters 6 and 7 show the differences between stone lines built from the roundish lumps of dark brown sandstone or ironstone at the Anuru Bay site (site 9), and those constructed from flat slabs of paler sandstone at Lyäba (site 32a). Rather rarely, a form is also found in which each bay is made up of a separate 'horse-shoe' arrangement. Examples occur at Ngugarud (site 10a) and Junction Bay 2 (site 12b). A feature which sometimes occurs is a mound, containing a great deal of charcoal, backing against the rear wall of the stone line. A section through such a mound is conveniently shown in section 2 on Wobalinna Island (site 25a) (plates 5.9 and 5.10). A somewhat similar phenomenon is seen in stone line 1 at the Hardy Island West site (site 20d) (plate 5.6). Here two rows of fireplaces are separated by a kind of platform. These mounds may be the result of cleaning out the fireplaces by shovelling the accumulation of ash and charcoal over the rear wall.

The great importance of stone lines on Macassan sites is emphasized by the fact that they were modelled by Aborigines at both the stone picture sites described in appendix 10. It is also suggested there (p.7) that a possible Macassarese name for these stone lines was taring. Although Matthes (1859:329) seems to be describing a much simpler arrangement of three stones, this word was invariably given by informants in Macassar when shown either the illustration in Dumont d'Urville (1846) or photographs of stone lines in Australia. The name of the cauldrons is quite clear. Aborigines usually refer to them as gawa, which is the Macassarese kawa, and Matthes (1859:62) in his note on this word, specifically says that such cauldrons were used for cooking trepang.
The second major stage in the preparation of trepang is to bury it for some time in sand. However, this whole phase is often omitted, and many informants do not know of it. Vosmaer (1839:169) mentions it only in connection with white trepang, though he seems to include Australian trepang in this category. The most detailed description of this phase is that given to me by Mr Fred Gray. After being boiled for about half an hour, the trepang is placed in a pit and the hot water poured over it. About a foot of sand is then piled over it. When a pit is first used, the trepang is not ready to be dug up for about 24 hours, but this time is subsequently reduced until a new pit has to be dug. When the trepang is removed from the pit, it must be washed in salt water to remove a chalky skin. A very similar account was given by Philip Mugulnir when discussing the pit between stone lines 1 and 2 at the Anuru Bay site (site 9).

The only direct historical reference to the Macassans burying trepang is by McArthur (1849). He says that it was buried for '4 or 5 days, when the skin will scrape off,' though it has still to be boiled again. However Kolff, describing the procedure used in the Aru Islands, says that the skin is removed by boiling the trepang with pawpaw leaves and that the trepang is only buried overnight. When dug up 'it is washed repeatedly to deprive it as much as possible of the disagreeable taste of coral which it possesses' (Kolff 1840:174).

The exact reason for the burying is not clear, but it may be associated with removing the small carbonate spicules found in the flesh of the trepang.

No surface indication of the burying pits has been observed on Macassan sites, but a total of at least seven has been revealed by excavation (site 9 has 3, site 32a has 3 and site 32f has 1). They consist of a trench, roughly a
metre wide and several metres in length, usually lying parallel to the back of a stone line. The depth is between about 30 cm. and 80 cm. In section or plan, the dark deposit filling the pit stands out against the original clean sand (e.g. plate 7.5). It is difficult to explain in detail how the lenses of dense ash and charcoal in the pit have been formed. They are certainly not in position of burning and perhaps the best explanation is a combination of throw-out from nearby fireplaces and the effect of heavy rain in transporting light material into a hollow.

The final stage in preparing trepang is thorough drying, often associated with some smoking. The simplest form of drying is to lay the trepang out on mats in the sun. However, at some point in the process, most accounts also include some smoking over a slow fire. The fullest description of a smoke house temporarily erected for this purpose and the drying itself is given by Jukes at Port Essington early in 1845.

'The Macassans] erect, a little behind the beach, a shed, made of bamboo and "attop" mats, about sixteen feet long and eight feet wide; this is covered by a gable-shaped roof of attop mats, the eaves of which are about five feet from the ground, at which height a stage or platform of split bamboo is spread from one end of the shed to the other. The ground inside the shed is excavated to the depth of two or three feet, so that the flame of the fire lighted in it may not catch this bamboo platform nor the sides of the shed... [After boiling, the trepang] is spread out in a single layer on the platform of split bamboo, and the fires being lighted below, it is then dried and smoked till ready to be packed away. Each piece is then much shrivelled and shrunk up, and has acquired a dirty, reddish hue. The whole shed is kept carefully covered in during the process, the only entrance being by a small door at one corner, and each end of the gable is protected
earth. Beneath the centre of the depression is a thick band of pale grey ash. Perhaps the clearest example is that excavated at the south end of Yaranya Island (site 31a), though many others such as that sectioned at Galuba (site 23a) or smoke houses A and F at the Anuru Bay site (site 9) have been used for a greater period of time. The discovery of several large lenses of grey ash at Lyāba (site 32a) which are interpreted as smoke houses, suggests that on some sites at least, there may be no surface indication of where the smoke houses once stood. More detailed descriptions of the excavations on smoke houses are given in chapter 5, 6 and 7. It is unfortunate that with a few doubtful exceptions, no post holes could be recognized. Perhaps this is not particularly surprising given the usual nature of the ground and the fact that the bamboo posts would have been withdrawn when the camp moved on, but it would be a worthwhile archaeological exercise to excavate a site which would reveal a pattern of post holes.

When finally dried, the trepang had to be kept in that condition, by no means an easy task at sea in the wet season. There are several references to the need for re-drying. For example, Flinders (1814,2:231) was told that it required 'frequent exposure to the sun.' On some occasions it may also have been convenient to postpone a really thorough drying until a more suitable camp was reached, or to redry the entire cargo before the voyage home.

From the variety of methods mentioned above and from the final unprepossessing appearance of the dried trepang, it might be thought that considerable latitude was possible in its preparation. However, this appears not to be the case. Considerable skill and judgement were needed to produce the best quality possible. Vosmaer (1839:165-73) gives precise details for preparing the various types he
distinguishes. Mr Fred Gray has also recounted to me how he experimented for some time to find the best possible methods and at last was shown by Aborigines who remembered Macassan practices. It has already been suggested in chapter 3 that the skill of the Macassans in preparing trepang was an important factor in ensuring the profitability of the Australian industry.

As well as considering the various different features and their particular functions, it is necessary to take an overall view of a site as a unit in itself. Although in practice, each particular location, or the circumstances under which a site was occupied, have resulted in many variations, an ideal pattern of site can be distinguished. It is possible that this standard concept was even more or less explicit in the minds of the Macassans. The first aspect of this, that is the position of the site itself, has already been discussed. A more regular aspect is the relative disposition of the various features. Thus with few exceptions, stone lines are arranged in a row along the beach, each line of fireplaces being at right angles to the beach. Trepang pits, where they have been observed, run parallel with and behind the stone lines. Further back from the beach are the smoke houses. Pottery is found in the greatest concentrations between the features and to some extent in the trepang pits, though this may only be a function of the greater depth of deposit in the pits. In the 1820s, several camps in Port Essington are described with a light fence defining their perimeter (see under sites 3 and 3c). The suggestion that the fence was intended as defence against Aborigines (HRA III, 6:712-13), seems a little improbable, but it may have served to limit their approach.
A number of questions arise from this overall view. The first is the relationship between the various complete sequences of units - stone line, perhaps trepang pit, and smoke house - found on most sites. For example, on the Junction Bay 1 site (site 12a) there are four pairs of stone line and smoke house. The most plausible explanation of this situation is that each set of features was used by the crew of a single prau, though this principle cannot be applied at all rigidly. For instance, on many sites there appear to be more stone lines than smoke houses and the frequency of trepang pits is unknown. An indication of an actual situation is provided by the information that the prau mentioned in the 1886 contract carried 12 cooking cauldrons (Nederburgh 1896-8(1919:145)). This suggests the use of at least two stone lines. My informant Mangngellai suggested about 6 cauldrons as a more usual number.

Thus a site with about 5 or 6 stone lines, such as Äningmerrunguwa Island (site 32g), was probably used by at least 3 or 4 praus at one time. This agrees, in general terms, with the evidence mentioned above relating to the number of praus working together.

Secondly there is the question of the re-use of sites. There can be no doubt that most sites were frequently re-visited, perhaps even several times in a season by different groups of Macassans. For example, the French visitors to Raffles Bay in 1839 specifically record seeing praus leaving the bay as they themselves arrived, and while they were there, another group of Macassan utilized stone lines which may have been erected by the previous prau, but were probably older. Finally yet more prau arrived, but passed on when they found others at work (Dumont d'Urville 1844:29, 48-9, 51). Extensive re-use of sites can also be inferred from archaeological evidence such as
the build up of deposit on Wobalinna Island (site 25a) or the complex section of the smoke house at Galuba (site 23a). However some sites, such as that at the south end of Yaranya Island (site 31a), appear to have been only briefly occupied. The relative poverty of the surface collection from this site serves to emphasize the amount of activity that the major archaeological sites must have witnessed.

The first limiting factor in the time for which a site could be occupied by one group was probably the supply of trepang. Indeed, the only other important consumable resources were wood and fresh water, both of which were often in almost infinite supply. Some estimates are made by Daeng Sarro of the time spent at various camps: one or two days at Mooroongga Island (site 14f); about a fortnight at Takkerena (site 16b) to process trepang; a few days to a fortnight or longer at Manunu (site 22); five to ten days outside Melville Bay (site 23); and a fortnight on Isle Woodah (site 28) (Cense 1952:262-3). The picture of moving up and down the coast, stopping for a few days or weeks in each anchorage until circumstances suggested a move, is clear from many sources.

If the supply of trepang was the main limiting factor on the time for which a site could be occupied, then its rate of regeneration determined when the site could be revisited. Unfortunately very little is known about this subject, even at the most basic biological level (Hyman 1955:236-7). The opinion of practical men is divided, and Dashwood was given conflicting replies when he asked them about the danger of over-fishing. For the Torres Strait area, one witness thought the trepang very scarce and advocated closure of the grounds for several years to allow recovery: another asserted that the trepang returns after only 3 or 4 days (Dashwood 1902:77-9, 62; see also Qld Report 1908:lxiii-467). Brown and Tingha, who both worked at Bowen Strait, gave rather equivocal answers; the trepang in their area was decreasing,
perhaps because they worked it for most of the year, yet the Macassans further along the coast were now collecting greater quantities per prau than previously, and even in the Bowen Strait area, there was room for a few more European trepangers. Tingha thought the trepang increased quickly (Dashwood 1902:42-3). Nonetheless, these opinions did not prevent Brown from using the argument of over-fishing to secure a two year closure of an area in 1903 (see chapter 13).

In this uncertainty, a number of points are clear. The most important is the vast amount of trepang around the Northern Territory coast. Even if a figure such as 6,000,000 animals exported per year, which is what the statistics given by Flinders (1814,2:230-1) represent, sounds large, this is unlikely to have made much impression on the total population. No doubt some effect was noticeable in a small, heavily-worked area, such as Bowen Strait, but as an example of the quantities available from one limited situation, Harney (n.d.:131) says that he has seen 25 tons of dried trepang come off one bank in Port Bradshaw. In fact the very continuation of the industry at a more or less consistent level for such a long period confirms that over-fishing cannot have been a serious problem. Perhaps a limited area might be cleaned out for a season by several weeks work, but it seems likely that by the following year it would repay another visit, and thus another reoccupation of the nearby site.

From the account given above of the process for preserving the trepang, there was an obvious need for large quantities of firewood. Both the boiling and the smoking process required fires to be maintained for long periods. The most apparent result is the vast amount of ash and charcoal on Macassan sites, both in specific lenses and in widespread dark sandy deposit. To fully
appreciate the extent of this burning, it is necessary to return black from a day's digging and regard the modest outcome of a large camp fire maintained for several weeks. The firewood was, if possible, obtained in the vicinity of the site, although occasionally it had to be brought some distance. For example, Searcy found on Entrance Island (site 13a) 'large stacks of timber ... brought from the mainland' (Searcy 1907:82). The most suitable wood, particularly for smoking, was various species of mangrove. Saville-Kent (1893:233) mentions *Rhizophora mucronata* and Burkill (1935,1:1182) notes that 'mangrove wood is preferred for the fires.' There are many comments on the excellent firewood obtained from mangroves (Searcy 1907:82; Sopher 1965:41). This is doubtless the explanation for the repeated observations of cut stumps at various places around the Australian coast. The most detailed description is that by Brown, quoted under site 36, who found about 1\(\frac{1}{2}\) to 2 acres of cleared mangrove in the Pellew Group.

Fieldwork has produced further possible confirmation. In chapter 6, an area of what appears to be mangrove clearance is described. Some pieces of charcoal were also collected from the hearths of several stone lines, particularly stone line 8 at Lyäba (site 32a), and it was hoped that it would be possible to identify the species of tree from which these had come. Although some cellular structure can be distinguished and it is possible to say that at least the pieces examined come from relatively thin branches, no specific identification can be established. However, there is nothing to indicate that the samples did not come from mangrove wood.\(^1\)

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1 I wish to thank Dr Helena Świerczkowska-Reeve, Department of Biogeography and Geomorphology, R.S.Pac.S., A.N.U. for advice on these charcoal samples.
More tentative evidence is that derived from the present distribution of various species of mangrove. It is suggested in appendix 5 that recolonization of areas which were formerly cleared can be detected by the different species of mangroves still found in those areas. In other words, complete natural equilibrium has not yet been restored after a considerable disturbance of the environment. It must be emphasized that this evidence is still extremely dubious, and the problem invites intensive ecological study. Another slightly more secure argument in chapter 7, relates the accumulation of a ridge of clean sand around the front of the site at Lyäba (site 32a) to the clearance of the protecting mangroves.

So far the camp on the beach has been considered only as a site for the preparation of trepang. It was also a place where men lived, at least for short periods. Most observers remark on the animation of the scene, which was all the more pronounced by contrast with the pervading loneliness of the coast in general (Dumont d'Urville 1844:48-9; Searcy 1907:26-7). Particularly for the Aborigines, whose involvement is discussed in greater detail in chapter 11, the scene was full of interest and excitement.

The food eaten by Macassans on the praus has been described in chapter 2. The diet ashore was probably much the same: rice, fish, tamarind, coconuts and perhaps occasionally other forms of meat and delicacies such as various sugared preparations. The staple food, rice, was cooked in earthenware pots, probably often on a spare corner of a stone line fireplace, though there is also mention of it still being cooked on board the praus (Searcy 1907:28; SAA 790/1884/455). The scatter of broken sherds is an indication that at least some cooking pots were brought ashore, and stayed there. As detailed in
chapter 9, most of the earthenware pots appear to have been for cooking, though some were more probably water containers. The import ware items described in chapter 8 appear to have been either for eating or in the case of coarse fabric ware jars for storing various commodities. Some of the large items were almost certainly water containers, perhaps brought ashore to be filled at a well. The large conch shells found on some sites such as the rather dry Junction Bay 1 (site 12a) might also have been used to store water, at least temporarily, as they were by Aborigines (Wilkins 1928: plate opposite 170). Tindale (1925-8:131) reports finding stone-lined wells at Agbenamanja (site 30a) and one of the wells on Entrance Island (site 13a) could be Macassan. Several wells on the beach at Port Essington were indubitably Macassan, and one was lined with bamboo (see under sites 3 and 3c). There are specific references to the Macassans watering on Sims Island (site 8f). A special category of containers are the case bottles which once held Dutch gin. What these actually held when brought to Australia is uncertain, but it was probably some form of spirits. An interesting confirmation of the extent of fishing activity is provided by the metal fish-hooks found on some sites.

The most apparent result of the Macassans’ diet however, are the many fine tamarind trees which have sprung from the seeds in the beans they brought. The distribution of this magnificent tree, Tamarindus indica, in Arnhem Land and on Groote Eylandt clearly indicates that it has been introduced and this is acceptable on botanical grounds (Specht 1958b:458). This is not to say that every tamarind marks the site of some Macassan activity. They are now propagating freely in favourable locations and many occur in situations where the Macassans are unlikely to have camped. Some of these, for example in the Crocodile Islands, may be the result of Aboriginal dispersal of seed. However the occurrence of the tree on definite Macassan sites (as
listed in part II) is still sufficiently distinctive to encourage the field archaeologist to regard them as a site marker, and several sites were in fact discovered in this way.

It is perhaps rather surprising that there are no other botanical introductions, but it must be remembered that the Macassans were essentially temporary visitors to any single locality. This fact, as well as lack of significance in the pattern of distribution, suggest that the few coconut palms and various species of bamboo (if indeed they are not indigenous) found in Arnhem Land and adjacent areas must be attributed to other agents. A similar case is wild cotton, *Gossypium hirsutum*, which according to Dr N. Burbidge (pers. comm.), has been introduced into the Pellew Group.

As well as the mundane tasks of preparing trepang and getting enough to eat, the Macassans, like all people, had certain ceremonies and customs which they performed as the situation demanded. The sources supply only vague hints as to what these were. On a quite trivial level, the rip around Cape Arnhem seems to have been given considerable respect (see site 24g). Wallace (1869, 2:166) relates how a particular point on the coast of South Celebes commanded similar circumspection from the crew of his prau. Possibly more significant customs were related to Searcy by Aborigines. 'Before commencing at a fresh camp they [the Macassans] lowered to the bottom of the sea a new plate containing portions of the best food they had on board. When leaving a camping-place some ceremony was gone through for the purpose of making wind' (Searcy 1907:80-1). In 1967 my informants Mun-gurrawuy and Mawalan also remembered stories of ceremonies. Details are given under site 25e of a Karei rock to which the Macassans were said to have taken food as a present. Mun-gurrawuy also supplied the words of a song which he said was used by the Macassans in the course of a ceremony, involving dancing with knives.
and guns, at completion of trepanging in one area. This, and several similar examples, are discussed in chapter 11.

Although the details of these ceremonies are obscure, the general picture is fully consistent with similar ceremonies and ritual in South Celebes. Even today, orthodox Islam has by no means fully eradicated many traditional beliefs and practices. Collins (1937a; 1937b) has detailed descriptions of some of these. He also shows how an apparently straightforward practice can have unsuspected overtones. A cock was taken aboard the praus he saw, in order to frighten the monsters of the deep (Collins 1945:54). Perhaps that, rather than the desire for an occasional leg of chicken, is the explanation for those fowls seen on Macassan praus.

No doubt one occasion for some form of ceremony was a man's death and burial. Wallace's description of thefunerals of those who died at Dobbo in the Aru Islands during 1857 probably applies more or less to what happened in Australia. 'The dead] were buried in a little grove of Casuarinas behind my house. Among the traders was a Mahometan priest, who superintended the funerals, which were very simple. The body was wrapped up in new white cotton cloth, and was carried on a bier to the grave. All the spectators sat down on the ground, and the priest chanted some verses from the Koran. The graves were fenced round with a slight bamboo railing, and a little carved wooden head-post was put to mark the spot' (Wallace 1869,2:278). The archaeological manifestation of a Macassan grave is described in appendix 9.

The evidence so far used in this chapter has been taken from all periods without differentiation. As stated at the beginning of chapter 2, this assumes a unity in the industry. While this is certainly true in general, it might be asked whether there was any progressive change or
development. For most aspects, the evidence is quite inadequate to supply detailed answers. Only scattered clues are available, such as McArthur's comment in 1849 that dredging for trepang had only just been introduced.

However, there are possibly a few artefacts for which there is sufficient archaeological evidence to suggest that they were not always in use. The most important of these is glass. The difference is striking between a site as Äningmerrunguwa Island (site 32g) with an almost complete absence of glass, and one nearby such as Ilyaugwamaja 6 (site 32f), where there is more glass than earthenware. It is shown in chapter 10 that the majority of Macassan glass must be from the nineteenth century. Given a time range for the industry of at least two centuries and the apparently uniform function of the sites, the hypothesis immediately suggests itself that the relative quantities of glass and earthenware pottery on a site offer a very approximate indication of date. The smaller the proportion of glass, the older the site. To take, for example, a very simple case, the main site at Waminari Bay (site 10b i) which appears to have been used only once, may possess some relative antiquity since no glass was found there at all. The folly of applying this hypothesis at all rigidly need not be elaborated. However, some support can be found from the sites described in chapter 7 and particularly from the Anuru Bay site (site 9) described in chapter 6. In future archaeological work on Macassan sites, the hypothesis would be worth testing as a ready indicator of approximate age.

Of much less importance is the suggestion in chapter 6 that metal fish-hooks were not in use when area 2 at the Anuru Bay site (site 9) was occupied. Certainly there is one reference to Macassans using 'a coarse pearl-shell hook and line' at Port Essington in the 1820s (Campbell
1834:166), but it would be rash to infer from this that all metal fish-hooks are later. Even more tentative are the suggestions at the end of chapter 8 about the relative age of different types of porcelain. However neither of these classes of artefacts is likely to prove of great practical importance in dating sites, because of their comparative rarity.

Our overall picture of a Macassan camp is by no means clearly in focus for every detail, but a surprising amount emerges by drawing together various forms of evidence. Thus, to take the most obvious example, our knowledge of the process of preparing the trepang is relatively thorough. But even this information is usually generalized rather than specific. This characteristic of archaeological evidence is well known, but it also applies to the record of outside observers, in this case Europeans or Aborigines. Because they can only pass on what they saw and heard, without fully knowing the Macassan attitude to events, we can go no further than their observations. To take a specific example, the Macassans who found the French expedition in Raffles Bay in 1839 may have been apprehensive and thus hurried to move on. Thus it may be invalid to accept this as a typical camp. However, we do not know this, and it seems reasonable to accept the French report at face value.

Only occasionally can we glimpse the interplay of personalities and circumstance in a particular situation. For example, Searcy at Melville Bay in 1884 attempted to arbitrate between two captains, Using and Daeng Matona, and the Aborigines, particularly a man named Cadado, who were being excessively provoking. The exasperation of the captains is evident (Searcy 1907:95; SAA 790/1884/445). It is at this level that the Macassans are most elusive, and most real.
PART II: GAZETTEER AND ARCHAEOLOGY

Preliminary Note

The arrangement and description of material within this part require some explanation. The gazetteer, chapter 5, sets out the archaeological and other forms of evidence relating to Macassan sites area by area. Chapters 6 and 7, which deal with areas of major archaeological significance, have been extracted for ease of reference. Although the exact provenance of each artefact is given in these chapters, it is convenient to describe the artefacts in groups, as set out in chapters 8, 9 and 10. This procedure is possible because of the essential similarity of all collections of artefacts from Macassan sites.

Two numerical series have been used to register the more notable artefacts. The first applies to all types of pottery, both the import ware described in chapter 8 and the earthenware of chapter 9. One number has been allotted to each import ware item. In the case of earthenware, only 'useful' sherds have been numbered, though this rule has been applied less stringently to those collections not in Canberra. Sherds from the same item, whether import ware or earthenware, have been designated by a single number and different lower case letters (e.g., 1273a and 1273b), though in cases where the sherds cannot be fitted together, this has sometimes meant a rather arbitrary choice. The following table sets out certain particulars of the sherds in this series.
<table>
<thead>
<tr>
<th>Sherd Number</th>
<th>Provenance</th>
<th>Present Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-199</td>
<td>Site 8 b</td>
<td>Department of Anthropology, University of Western Australia</td>
</tr>
<tr>
<td>200-314</td>
<td>Site 8 b</td>
<td>Western Australian Museum</td>
</tr>
<tr>
<td>374-392</td>
<td>Site 26b</td>
<td>Canberra collection</td>
</tr>
<tr>
<td>393-435</td>
<td>Site 8 b</td>
<td>Department of Anthropology, University of Western Australia</td>
</tr>
<tr>
<td>436-470</td>
<td>Site 25a</td>
<td>&quot;</td>
</tr>
<tr>
<td>471-479;481-499</td>
<td>Site 25a</td>
<td>South Australian Museum</td>
</tr>
<tr>
<td>500-598</td>
<td>Site 8 b</td>
<td>Social Welfare Branch, N.T.A., Darwin</td>
</tr>
<tr>
<td>599</td>
<td>Site 3a</td>
<td>F.J. Allen collection</td>
</tr>
<tr>
<td>600-603</td>
<td>Site 8 b</td>
<td>Possession of Mrs C.W. Holmes</td>
</tr>
<tr>
<td>604-699</td>
<td>various</td>
<td>Canberra collection</td>
</tr>
<tr>
<td>700-738;740-805</td>
<td>various</td>
<td>Australian Museum</td>
</tr>
<tr>
<td>806-1123; 1125; 1127-1278; 1280-1380</td>
<td>various</td>
<td>Canberra collection</td>
</tr>
</tbody>
</table>

In addition, the numbers 315-323 have been assigned to some of I.M. Crawford's sherds from the Kimberley coast, held in the Western Australian Museum. There are thus no sherds corresponding with the following numbers: 324-373, 480, 739, 1124, 1126 and 1279.

The other numerical series, which is indicated in the text by the prefix S and on the artefact by enclosing the number in a square, applies to all other types of artefacts collected, as described in chapter 10. These are all in the Canberra collection, with the following exceptions:

- S 12-22 Social Welfare Branch, N.T.A., Darwin
- S 23 Department of Anthropology, University of Western Australia
- S 54-6 Possession of the Reverend H.U. Shepherdson
- S 127 Hydrographer, R.A.N., Sydney
- S 128 H.M.A. Naval Dockyard, Garden Island
- S 130 Queensland Museum
The final location of the material referred to as the Canberra collection, that is mainly the artefacts amassed by myself, has not been decided. It is officially covered by the provisions of the Native and Historical Objects and Areas Preservation Ordinance 1955-1960 of the Northern Territory. The collections of F.J. Allen are in a similar situation.

To the best of my knowledge, all artefacts ever recovered from Macassan sites are mentioned, and the vast majority of notable items included in the two numerical series. The only major collections I have not personally handled and which have not been included in the numerical series are those in the United States National Museum listed under sites 24 f, 25a and 30 a. When describing large quantities of earthenware sherds or glass fragments, the total weights of earthenware and glass, including numbered items, have usually been given. This measurement, apart from being easy to obtain, is the most convenient for comparing various sites or parts of sites since it is least dependent of the local circumstances of preservation. However in a few cases, it was not possible to weigh the collections, and the number of pieces has been given.

In this part of the thesis, the following abbreviations and conventions have been used in addition to those normally employed.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iw.</td>
<td>import ware. See chapter 8</td>
</tr>
<tr>
<td>Ew. or ew.</td>
<td>earthenware of the type described in chapter 9</td>
</tr>
<tr>
<td>m. rims</td>
<td>miscellaneous rims, that is those ew. rim sherds not assigned a sherd number.</td>
</tr>
<tr>
<td>m. bases</td>
<td>miscellaneous bases, that is those ew. base sherds not assigned a sherd number.</td>
</tr>
<tr>
<td>m.b.s.</td>
<td>miscellaneous body sherds, that is all other undecorated ew. sherds, mainly from the body of globular pots.</td>
</tr>
</tbody>
</table>
ring

part or whole of the top lip of a bottle.

frag. or frags

fragment(s) of glass

m. frags

miscellaneous fragments of glass

utilization

evidence on glass fragments of their use as scraping or cutting implements, presumably by Aborigines in the main.

Label

the symbols actually written on the more important artefacts collected from a particular site.

S.L.

stone line(s)

S.H.

smoke house(s)

All map references are to the 1:250,000 series for Australia (see bibliography).

The staff in site photographs is marked in 20 cm. division, while smaller scales show 1cm. and 10cm. divisions. A legend of special symbols used on maps and sections appears before the section of figures.
Chapter 5

Gazetteer

This gazetteer lists all the evidence known to me relating to Macassan activities at specific locations along the coast of northern Australia between Bathurst Island and the head of the Gulf of Carpentaria. This evidence is partly documentary, partly ethnographic and partly archaeological. A number of references to Aboriginal or other non-Macassan activity have also been included, where these seemed relevant to an understanding of the history or the field archaeology of an area. It is intended that, as further information comes to light, it can be incorporated into the gazetteer by addition to existing information on a site or by increasing the number of sites in an area.

Sheet 1 indicates the area covered by the gazetteer and shows the approximate location of sites. The question of visits by Macassans or similar groups of trepangers to other sections of the Australian coastline is discussed in chapter 2.

Unless otherwise indicated, all collections described are held in Canberra at the time of writing. For the location of artefacts, see also the preliminary note to this part.

1. Bathurst and Melville Islands

The Macassan name for Melville Island is said to be Aimba Mootiara (HRA III, 6:713,790) or Amba (Campbell 1834:155).

Cense (1952:262) records in Daeng Sarro's account the following names: Lembang Lantang (meaning Deep Day - Lembang = Lemba), Karaeng Mangngembba (a personal name), Lembana i Ma'nei,