The early Metal (or Paleometallie) phase correlates with the introduction of new technologies and trade items to the Indo-Malaysian Archipelago from Vietnamese, Indian, and Chinese sources. In addition, it overlaps chronologically with and merges into the period of the developing Indianized states during the first millennium AD. In this sense it seems quite reasonable to regard it as basically protohistoric.

However, the difficulties attending any attempt to gauge the real significance of this phase are considerable. Most of the older reports contain little more than lists of undated artifacts, and the major cultural changes presumed to have taken place at this time remain virtually undocumented. My own research in Sabah and eastern Indonesia has provided a partial chronology for certain localized and regional aspects of the phase as a whole, but the vast bulk of the archipelago has not yet received the attention it deserves and it is still very difficult for Southeast Asian archaeologists to gain access to radiocarbon dating facilities. Perhaps the best contribution to future studies this chapter can make will be to review the material in related groups that can in certain cases be elevated to the status of localized archaeological cultures.

The early Metal phase commenced with the introduction of copper-bronze and iron artifacts and their manufacturing technologies, presumably together (there is no separate "Bronze Age") and almost certainly from immediate sources on the Southeast Asian mainland during the last few centuries BC. I will take 500 BC as an arbitrary starting point, although I personally do not feel that any metal in the archipelago can be conclusively dated as early as this; future research may push this date closer to 200 BC. Artifacts and assemblages attributed to this phase of course exclude those that can unequivocally be associated
with the historical Indianized or Islamic states, although many assemblages considered to be "Bronze-Iron Age" in the terminology of Heekeren (1958) could quite easily be fully historical in this sense. However, this is usually hard to prove owing to poor documentation and dating. It should be emphasized that pre-Indianized styles of metal and other artifacts undoubtedly continued in production well after the first appearance of Indian bronzes and inscriptions in the archipelago, and for many of the remote eastern regions and Borneo it would be quite acceptable to continue the early Metal phase into ethnographic times, as in the case of the small bronze drums (moko) of Javanese or Balinese manufacture used in Alor (Du Bois 1944). For practical reasons such a diffuseness of ending might cause this chapter to lengthen into another book, so I will draw an arbitrary termination at AD 1000 and thus leave the archaeology of the China trade, Islam, and the Malay sultanates out of consideration.

I. THE DONG SON CULTURE OF NORTHERN VIETNAM

Bronze working in northern Vietnam commenced around the middle of the second millennium BC and is associated with the Dong Dau and succeeding Go Mun phases of Vietnamese archaeologists (Ha Van Tan 1980; Hoang and Bui 1980; Higham 1989; Higham 1996b). Together with central and northeastern Thailand, this region has the earliest evidence for bronze working in Southeast Asia and in recent years there has been considerable discussion about the origins of the tradition, which has no preceding copper phase. Ultimate origins are of no real concern for an understanding of Island Southeast Asian prehistory, and because the issue is by no means resolved it will not be followed here. However, the types of bronze artifacts involved in the millennium prior to 500 BC include socketed axes and spearheads, shaft-hole sickles (in Vietnam), tanged spearheads and arrowheads, and other small items such as knives, fishhooks, and bracelets. At some time between 500 and 300 BC, according to recent carbon dates, the classic Dong Son phase of Vietnamese protohistory began, with its bronze drums, high-status burials, and the first appearance of iron.

The Dong Son archaeological assemblages are of considerable importance because the earliest metal goods found in the Indo-Malaysian Archipelago are generally of this type, rather than of direct Indian or Chinese inspiration. Bronzes of Dong Son style are found widely in Mainland Southeast Asia and southern China, but stylistic and compositional homogeneity, especially of the drums, suggests an outstanding dominance of Dong Son workshops on northern Vietnamese soil at this time. The drums are of Heger type I (Plate 45) and the finest and oldest examples found in Vietnam have remarkable decorative friezes of human, animal, and geometric ornament (Bernet Kempers 1988; Pham Huy Thong 1990). Such friezes occur—albeit with considerable simplifi-
cation and schematization—in all the later drums of this type, including those exported to Indonesia and Malaysia.

The range of other Dong Son bronze goods, excavated from such sites as the Dong Son settlement itself (Janse 1958) and more recently from burials at Viet Khe, Lang Ca, and Lang Vac, includes bowls and situlae (small buckets), miniature drums and bells, socketed axes with splayed or “boot-shaped” blades, sock-
eted hoes, socketed or tanged arrowheads and spearheads, daggers with anthropomorphic handles (see Fig. 9.7), bracelets, belt hooks, and many other items of more idiosyncratic interest. One massive drum unearthed at Co Loa contained ninety-six socketed bronze plowshares. Iron is rather rare, but there are a few spearheads and at least one cast iron hoe, the latter of possible Chinese manufacture. Imperial Chinese domination of northern Vietnam overlapped with the later stages of the Dong Son culture and there are some undoubted Chinese imports in a number of the northern Vietnamese sites, but these occurrences cannot be used to support the derivation of Dong Son bronze metallurgy as a whole from China. The local genius expressed in the drum, situla, and axe forms, plus the importance of lost wax casting (a technique only rarely used at this time in China), indicate quite clearly that northern Vietnam was a vital center of bronze metallurgy that had a dramatic impact on many other regions of Southeast Asia. So too did the contemporary bronzeworking traditions of Yunnan, to the west. The basic Dong Son and Yunnan artifact styles overlap only marginally with those of metropolitan China and not at all with the contemporary bronze and iron industries of India, which lack the emphasis on socketed hafting. However, the rather limited iron industry of Dong Son could have an immediate Chinese origin.

The Dong Son culture has a number of other features that merit attention. I will be returning to certain purely artifactual aspects repeatedly in this chapter, but it is also of great importance to realize that this culture was centrally involved in a transition to a highly stratified and partly urbanized society: The outer earthen ramparts of the Dong Son fortified center of Co Loa near Hanoi enclose about 600 hectares. This society had an economy based on intensive rice production, presumably in rainfed or irrigated bunded fields with plows and buffalo traction. The intensified production supported an upper ruling echelon whose wealthy burials have been found in many sites and who in turn were able to support a degree of craft specialization associated in many other areas with literate civilizations. It is therefore not surprising that such professionally made items as the magnificent bronze drums, and perhaps Vietnamese techniques for the manufacture of lesser bronze tools and weapons, should have had such an impact on the contemporary societies of Indonesia and Malaysia.

II. THE SA HUYNH CULTURE OF SOUTHERN VIETNAM

I will now move southward to examine a different mainland culture that may also have been involved in the transmission of metalworking techniques—particularly of iron—to the islands of Southeast Asia. The Sa Huynh culture of southern Vietnam belonged to an Austronesian-speaking (Chamic) population
of Indo-Malaysian origin that appears to have settled this region from either Peninsular Malaysia or Borneo (see Chapter 4, Section VA). When this settlement took place is uncertain, but the event may be documented by the Sa Huynh culture itself: It appeared in mature form around 600 BC, although possibly ancestral assemblages from the late second millennium BC are now being reported by Vietnamese archaeologists. Prior to the Sa Huynh culture or its immediate ancestor, southern Vietnam was presumably occupied entirely by Austroasiatic-speaking populations. The Chams developed the important Indanized civilization of Champa during the first millennium AD, but later succumbed to the pressures of Vietnamese expansion and now survive as minority hill peoples.

From an Indo-Malaysian point of view, it is significant that the Chams of late prehistory were the closest resident Austronesian groups to the northern Vietnamese centers of metallurgy. Given their ethnic affiliations, they were undoubtedly in a central position to introduce new metalworking techniques acquired on the mainland, particularly of iron, to the Indo-Malaysian Archipelago. However, their direct contacts with the bronzeworking centers of the Dong Son region seem to have been rather limited—only seven Heger I drums have been found in the south of Vietnam, out of a total of 130 recorded for the whole country by 1990. These items might thus have been transmitted into the archipelago by other routes, perhaps through Thailand and Peninsular Malaysia or directly by sea.

Assemblages of the Sa Huynh culture known to date have come mostly from jar burial sites. This is a custom that may have been brought by the first Chamic settlers themselves from the Indo-Malaysian islands, especially if the Niah and Tabon dates for jar burial from the late second and early first millennia BC onward can be relied upon. Generally speaking, pottery-jar burial was not characteristic of the Dong Son or other contemporary Mainland Southeast Asian cultures. Where it does occur, as at the Dong Son site of Lang Vac in northern Vietnam (Ha Van Tan 1980:133), influence from Chamic sources may be suspected. The stone burial jars of northern Laos (Colani 1935) do not seem, on present evidence, to represent a likely region of origin for the Sa Huynh or other Indo-Malaysian jar burial traditions (although research in the Plain of Jars is currently in progress).

Major Sa Huynh sites occur in coastal regions from central Vietnam southward to the Mekong delta; the type site is Sa Huynh itself, but there are others farther south in the Mekong delta region at Hang Gon, Phu Hoa, and Giong Ca Vo, and farther north of Sa Huynh around Da Nang (for summaries see Bellwood 1978:191–194; Ha Van Tan 1980:136–137; Fontaine 1979, 1980; Nguyen Duy Ty 1991; Dang and Vu 1995). The finer details of this culture are not of concern here, and I will return to the whole question of jar burial in Indonesia
and East Malaysia in more detail below. It should be noted, however, that the Sa Huynh burial jars and the associated accessory vessels with their incised and shell-edge stamped zones of decoration (Fig. 9.2) are paralleled quite closely in the early Metal phase jar burial assemblages of the Philippines, northern Borneo, and the Sulawesi Sea region of northern Indonesia. These links have been strengthened by the discovery of almost identical knobbed pennanular stone earrings (the so-called lingling-o) and of a special kind of earring or pendant with two animal heads (presumably deer) in a number of sites in Thailand, Vietnam, Palawan, and Sarawak (Loofs-Wissowa 1980–1981; and Zuraina 1982 for Niah) (Fig. 9.3). At the large jar burial site of Giong Ca Vo, near Ho Chi Minh
Fig. 9.3 Stone earrings (the bottom two of lingling-o type) from the Tabon Caves, Palawan. Compare similar ornaments in Figures 7.7 and 9.2. From Fox 1970. Courtesy: National Museum of the Philippines.

City, eighteen of these animal-headed pendants made of glass were found (Nguyen Kim Dung 1995).

These connections between southern Vietnam and the Borneo-Philippine region in the early Metal phase (and possibly the preceding Neolithic) may be important when considering the evidence in the Sa Huynh sites for iron metallurgy. The iron repertoire as a whole includes many socketed tools such as spades, picks, and axes and there are also unsheathed sickles, tanged knives, spindle whorls, rings, and spiral bracelets. A sword of possible Chinese manufacture was found at Hang Gon (Saurin 1973), and there is a possibility that the technology of ironworking was introduced to the area from a Chinese source, although I suspect that a lot of metallurgical analysis will need to be done before this question can be settled. As with Dong Son, neither the bronze nor the iron goods from the Sa Huynh sites resemble Indian models.
In general, the Sa Huynh sites reveal a greater usage of iron than the Dong Son sites. Sa Huynh bronzes are mainly decorative items rather than tools and weapons (i.e., bracelets, bells, and small vessels). There are also some rare gold beads and silver wire (e.g., see Fontaine and Hoang 1975 for Phu Hoa). Most sites have glass, banded agate, and a range of carnelian beads (round, cigar-shaped, or faceted) that have generally been considered to be of Indian origin (see Fig. 9.2q, r), although dates of 1200–800 BC for carnelian beads at Nong Nor (Higham 1996b) and of 700–500 BC from Nil Kham Heng (A. Weiss; pers comm), both in central Thailand, make a more local origin for these an attractive alternative. The site of Giong Ca Vo has produced evidence for local glass-working dated to ca. 400 BC (Nguyen 1995), but Glover (1990a:36–37) also reports radiocarbon dates in the fourth century BC for Indian beads in the site of Ban Don Ta Phet in central Thailand, so contacts with the Indian subcontinent might also have been underway by this time (see below).

Carbon dates from Phu Hoa, Hang Gon, and Giong Ca Vo suggest an overall date range for the Sa Huynh culture between 600 BC and 0. Phu Hoa does have some comb-incised pottery similar to that from the Funanese site of Oc Eo (early to mid-first millennium AD), so perhaps an overall date range from 600 BC until well into the first millennium AD, thus overlapping with the civilizations of Champa and Funan, will one day be demonstrated for the mature (Iron Age) Sa Huynh culture as a whole. Internal phases still await definition.

III. THE ROLE OF INDIA

The bulk of the Paleometallic sites in the Indo-Malaysian Archipelago overlap in date with the historical evidence for the earliest historical trading states and the succeeding Indianized kingdoms in the western part of the region. It is necessary here to expand a little on the brief survey of this topic given in Chapter 5, Section II. Of direct Chinese contact with the archipelago prior to AD 1000 there is little to report, except to note that northern Vietnam was made a protectorate of the Chinese Han Empire in 111 BC and a province in AD 43, that a quantity of Han dynasty pottery has been found in uncertain contexts in southern Sumatra (Hoop 1940; Heine Geldern 1945; Orsou de Flines 1969), and that Chinese Buddhist pilgrims were traveling to India by sea via Indonesia from the fifth century AD onward. But Chinese trade goods in any quantity are generally very rare in the archipelago prior to the Song dynasty (see Chapter 5, Note 2).

Indian enterprise, however, presents a very different picture. Sanskrit and Tamil literary references to Southeast Asia may go back as far as the third century BC (Wheatley 1961:Chapter 11). By AD 70 there is evidence that cloves from the Moluccas were reaching Rome (Miller 1969:49). Between the first and fifth centuries AD a number of small indigenous trading "states" (or emporia)
developed in southern Indochina and in the northern part of the Malay Peninsula (Fig. 9.4). In the first few centuries AD there appears to have been a land portage for trade goods from the Andaman Sea to the Gulf of Thailand across the narrow Kra Isthmus (at the head of the Thai-Malaysian Peninsula), but by the fifth century a lot of the traffic was using the more southerly sailing route through the Strait of Malacca. This change may have caused the decline of the trading state of Funan and the consequent rise of Champa in southern Vietnam, and also of a contemporary Buddhist kingdom in Kedah (Nik Hassan Shuhaimi and Othman Yatim 1990). By the fifth century it is also apparent that extensive areas of the western Indo-Malaysian Archipelago were becoming increasingly important links in the trade routes. Austronesian-speaking crews may have been in control of much of the shipping (Wolters 1979; Hall 1980, 1985)—a circumstance that no doubt played a large role in the settlement of Madagascar by perhaps AD 700 (Adelaar 1995).

Archaeological evidence for Indian-Southeast Asian trade contact in the period from about 200 BC to AD 500 is now much stronger than it was when the first edition of this book was published, especially for Thailand and Bali (Glover 1990a; Ardika and Bellwood 1991). The latter island will be considered later. I will simply note here, as one of the most noteworthy mainland examples, the presence of Roman and Indian imported items dated from the second century
AD onward at Oc Eo in southern Vietnam; the Indian items include a Gandharan Buddha head, seals, rings, bronzes, and carnelian and agate beads. There are also second-century AD Roman coins and some Chinese later Han dynasty bronze mirror fragments (Coèdes 1947; Malleret 1959–1963; Christie 1979a; Wheatley 1983). Indian or local raw materials might also have been worked here into glass and stone beads in Indian styles, as perhaps in the Malay Peninsular sites of Khlong Thom in Krabi and Kuala Selinsing in Perak (Veraprasert 1987; Lamb 1965). In addition, Oc Eo has a number of ornaments of tin that could have been imported from Thailand, Laos, or Peninsular Malaysia. Indeed, some of the earliest small states on the Malay Peninsula—particularly in its narrower Thai portion—may have developed partly on the proceeds of an export of tin, as well as of the forest products and spices that bulk larger in the historical records (e.g., see Wolters 1967; Dunn 1975; Hall 1985). Gold was probably also important as a stimulus for early trade (Miksic 1990).

IV. BRONZE ARTIFACTS OF DONG SON AND LOCAL STYLES FROM THE SUNDA ISLANDS AND PENINSULAR MALAYSIA

A large number of artifacts of precise Dong Son affinity, especially Heger type I drums, have survived in villages or turned up as chance finds without coherent archaeological contexts in the Malay Peninsula and the Sunda chain of Indonesia. There are now six fragmentary Heger I drums known from Peninsular

Fig. 9.5 The Heger type I drum from Klang: a semidiagrammatic rendering of the decoration on one half of the tympanum. From Loewenstein 1956. Courtesy: Malaysian Branch of the Royal Asiatic Society.
Malaysia; the Klang (Fig. 9.5) and Tembeling (Batu Pasir Garam) fragments were both dated to the second century BC on stylistic grounds by Loewenstein (1956), and two other damaged drums excavated from beneath a possible burial mound at Kampong Sungei Lang in Selangor have been carbon dated rather uncertainly from an associated wooden plank between about 500 BC and AD 200 (Peacock 1964b, 1979). There are also two further drum fragments from Kuala Trengganu on the east coast.

No fewer than fifty-six drums or parts thereof are known from the Sunda chain of Indonesia, mostly from Java, Sumatra, and the southern Moluccas, with examples occurring as far east as the Kai Islands south of western New Guinea, and also the Bird's Head of West New Guinea itself (see Bernet Kempers 1988 for a list). Some of the more significant Indonesian examples include the "Makalama" drum from Sangeang Island near Sumbawa (Plate 46), with its figures in possible Han dynasty and Kushan (northern Indian) or Satavahana (central Indian) costumes (Heine Geldern 1947); the drum from Kai with its deer- and tiger-hunting frieze; and that from Salayer (Plate 47) with its elephants and peacocks (Schmeltz 1904). All these are scenes that would presumably have been unfamiliar to the inhabitants of the eastern Indonesian islands where the drums eventually came to rest, so on these grounds alone it is clearly most unlikely that they were cast locally (although Imamura 1993 suggests that some of the youngest Heger I drums might have been cast in Indonesia). Indeed, in terms of style and a frequent high lead content, it looks as if most of these Peninsular Malaysian and Indonesian drums were manufactured in Vietnam, many during the period of Chinese domination after the second century BC (Bernet Kempers 1988). Heine Geldern (1947) suggested that the Sangeang drum might have been cast in Indianized Funan as late as AD 250.

One interesting observation by Bernet Kempers is that all drums found east of Bali have four frogs cast in relief around their tympana; another is that the rather disintegrated patterns on the Indonesian drums—derived from the warrior friezes and boat motifs on the oldest Vietnamese drums—suggest that they are relatively late in date of manufacture (see also Imamura 1993). Bernet Kempers describes how each Heger I drum was cast in one piece: Wax slabs laid over a clay core were impressed with the boat and procession patterns using clay or stone molds, while some of the more naturalistic patterns, such as the house scenes, were incised individually into the wax. The wax was then sealed in a clay outer mold held in place by driven "spacers," and melted out prior to the pouring of the molten bronze. This *cire perdu* (lost wax) method can still be seen in use in Mandalay (Burma) for casting temple Buddha statues and miniature bronze drums.

In terms of distribution within the Indo-Malaysian Archipelago, it may be important to stress that Heger I drums have mainly been found in Peninsular
Malaysia and in the islands of the Sunda chain (Sumatra, Java, Bali, and the Lesser Sundas/southern Moluccas). Two unpublished drums have recently been found at Kota Waringin in West Kalimantan and there are three pieces from the Bird’s Head of New Guinea, but none have ever been reported from the rest of Borneo, Sulawesi, the northern Moluccas, or the Philippines. This distribution does of course overlap in the west with that of the earliest recorded Indian contact, and it may be that many of these exotic bronzes were transported secondarily, long after their dates of manufacture, within the trade (especially spice trade) networks of the earliest historical states in the Malay Peninsula and western Indonesia. Loofs-Wissowa (1991) has suggested that they were bestowed on local chiefs as symbols of kingship and authority by politico-religious authorities in Vietnam, and that the boat scenes on the sides represent fertility-focused boat races rather than the more commonly favored identification as “ships of the dead” carrying souls into the afterlife. On the other hand, Bernet Kempers (1988) suggested that many could have been carried into Indonesia by refugees from the bloodshed of early Sinicized Vietnam. Whatever the mechanisms of their dispersal, it would be clearly unwise to regard all of the Heger I drums as inherently “prehistoric.”

A number of other copper or bronze artefacts found in Indonesia might also represent imports from Vietnam. There can be no certainty of this, but outstanding finds of Dong Son affinity that attract attention in this regard include the male statuette similar to a Dong Son dagger handle (Fig. 9.6) from Satus near Bogor, a miniature Heger I drum from Cibadak in western Java (Heekeren 1958), and a lidded bronze vessel with Dong Son circle and tangent decoration found in the drum burial at Lamongan in East Java (Bintarti 1985a). While details of date and composition for these artefacts are insufficient to prove a mainland Asian origin, it nevertheless seems possible that they were transmitted, like the Heger I drums, as status items into the chiefly lineages of the Sunda Islands. Indeed, the early Metal phase sarcophagi of Bali (see below) have yielded large numbers of socketed tools with heart-shaped blades—possibly small axes or projectile points—of a type recently shown to have been manufactured in very large numbers between 700 and 500 BC in the copperworking site of Nil Kham Heng in central Thailand (Weiss; pers comm). In the absence of metallurgical analysis, however, this cannot prove importation into Bali; it should also be noted that Sumatra and Java do have many small deposits of copper ore, albeit not clearly utilized in prehistory (Bronson 1992), and Peninsular Malaysia and Bangka/Belitung of course have ample supplies of tin.

A fairly rapid result of this external introduction of bronze goods and technology into the Indo-Malaysian Archipelago was clearly the actual establishment of local metalworking centers. There have been several finds of stone or terra-cotta valves from the molds used for casting copper and bronze axes from
sites in Java, Sabah, and the Talaud Islands, all of which show quite conclusively that some casting of either local or imported raw materials was being carried out during the early to middle first millennium AD. Socketed bronze axes exist in large numbers, some with incised decoration in typical Dong Son style (Fig. 9.7). There is also the important fragment of a volcanic tuff stamp for impressing the wax mold for a bronze drum of Pejeng type (below) from Sembiran in Bali, dated by Indian imports to the first two centuries AD. This is clear evidence that some local casting was being carried out at this time (Ardika and Bellwood 1991).

Evidence for the beginnings of one or more Indonesian casting traditions can be seen in a number of quite splendid copper or bronze objects that are not in a classic Dong Son style. In one group is the almost 2-meter-high hourglass-shaped drum from Pejeng in Bali (first recorded by Rumphiuss in 1690), together with a number of similar but smaller Pejeng-type drums from this island and Java that have been placed in a stylistic sequence by Bernet Kempers (1988; see also Bintarti 1990). Some of these drums were clearly made in Bali because, apart from the Sembiran stamp fragment, three more decorated stamp pieces are known from the village of Manuaba (Plate 48). The Sembiran stamp fragment carries part of a running triangular motif like that on the Pejeng drum itself. Pejeng-type drums have also been found in direct association with Heger I drums at Kradenanrejo (Lamongan) and near Semarang in Java. One Pejeng-type drum was found by villagers digging a well at Pacung near Sembiran in Bali, and this appears to be from a layer contemporary with the one that yielded the Sembiran stamp fragment. The Pacung drum, like the others of this type, has its body and tympanum cast separately (McConnell and Glover 1990); in this specimen the tympanum is of bronze, the body of copper.

Other items related in style and characterized, like the Pejeng drum, by the use of a face mask in a dominant position in the decoration include an unusual flask from Ujungpandang (Makassar), a ceremonial axe from Savu in eastern Indonesia (Bintarti 1981a), and two (originally three; one is now lost) ceremonial axes from Roti (Fig. 9.8), although one of the latter does show a typical Dong Son tangent and circle motif. A second stylistic group, in this case of flasks and large clapperless bells, is distinguished by an unusual and elaborate type of incised spiral decoration that is again outside the Dong Son repertoire. The flasks, of which a total of six are now known (Glover 1992), include specimens from Kerinci and Lampung in Sumatra, from Madura, and from Kandal in Cambodia (the last two almost identical; Plate 49 shows that from Madura). The bells include one from Battambang in Cambodia, three (one now lost) from Klang in Selangor, and a newly discovered example from Kampong Pencu near the Muar River in Johor (Plate 50). The Muar bell has been dated by thermoluminescence—on a fragment of the clay casting core preserved in its narrow
Fig. 9.7 “Swallowtail” bronze axes from Java (scale in centimeters). From Heekeren 1958. Courtesy: Kluwer Academic Publishers.
The Early Metal Phase

Fig. 9.8 Left: bronze ceremonial axe from Roti, 77 centimeters maximum length. Right: bronze flask, possibly from southern Sulawesi (purchased in Ujungpandang), 70 centimeters high. From Heekeren 1956. Courtesy: Kluwer Academic Publishers.

neck—to less than 1,800 years old (Adi 1983:61). Although this date is not very precise, at least it does not contradict a view that these bells and flasks belonged to a first-millennium AD casting tradition that was not Vietnamese, but that might have been of ultimate Vietnamese technological derivation. Indeed, a bronze bell that might conceivably represent a prototype for these specimens was excavated by Janse at Dong Son (Loewenstein 1956:Fig. 22). For these bells and flasks there is a huge region of potential manufacture from Cambodia to Madura, and a bell very similar to the ones described has also been found at Dabona in Yunnan.

Other Indonesian bronzes of possible local manufacture include the statuettes and knobbed bracelets from Bangkinang in southern Sumatra (Heekeren
1958: Plates 5 and 9) and the remarkable bronze canoe model from Dobo village on Flores (Bintarti 1985b:64). There are also daggers or short swords with iron blades and bronze handles from Prajekan (Heekeren 1958:Plate 11) and Lumajang (Cselik 1986) in Java, reminiscent of a widespread tradition in Iron Age sites in Yunnan, Vietnam, and Thailand. One also comes from Gilimanuk in Bali (see below).

V. THE SLAB GRAVES AND IRON INDUSTRY OF PENINSULAR MALAYSIA

Apart from the drums and bells already considered, the early Metal phase in Peninsular Malaysia is also associated with a number of slab-lined graves (Plate 51), presumably for extended inhumations (although bones always seem to have dissolved) found in southern Perak and northern Selangor (Evans 1928b, 1931b; Collings 1937b; Linehan 1951; Adi 1993). The general range of associated artifacts from the graves includes glass and carnelian beads, a stone barkcloth beater, a bronze bowl, and a most unusual industry of iron tools. The pottery is wheel made, either plain or slipped with a thick resinous coat and usually with impressed lip patterns. Similar pottery was also found with part of a socketed iron spearhead under the mound that contained the two Sungei Lang bronze drums (Peacock 1979). One recently discovered grave in Selangor has produced Chinese pottery evidently of Tang date (seventh to tenth centuries AD).

The iron industry has been found in several other sites apart from the slab graves, and there appears to be a unity in terms of style and the associations of different tool forms in hoards that occur commonly in Peninsular Malaysia. The forms have been clearly described by Sieveking (1956a) and include axes (some with very long shafts, known colloquially as tulang mawas), knives, and sickles, all with shaft holes. In addition, there are some socketed spearheads and tanged knives (Fig. 9.9). The tools appear to be of low-carbon steel, according to Sieveking, which suggests that the iron was roasted purposefully in a bed of charcoal after the initial smelting process. Tools of this type were also found with the Klang bells as well as with the dated Sungei Lang drums.

Sieveking saw the Peninsular Malaysian iron industry as having an origin in the socketing tradition for bronze tools represented in the Dong Son culture of Vietnam, a tradition he believed was transmitted in iron toward Peninsular Malaysia via southern Vietnam after the first century AD. At the time he was writing there was little archaeological evidence to support such a connection, but recent excavations have produced the highly respectable socketed iron industry of the Sa Huynh culture of southern Vietnam (Section II), and from just above the top of the Malay Peninsula in southwestern Thailand there are prolific iron industries from Ongbah Cave and Ban Don Ta Phet. Ongbah Cave
Fig. 9.9 The iron industry of the Peninsular Malaysian early Metal phase: (a) *tulang mawas* from Tersang, Raub, Pahang; (b, f) shaft-hole axes from Bukit Jong, Pahang; (c) shaft-hole knife (?) from Tanjong Rambutan, Perak; (d) socketed spearhead from Bukit Jati, Klang, Selangor; (e) shaft-hole sickle from Bukit Jong; (g) tanged knife from Batu Kurau, Perak. From Sieveking 1956a. Courtesy: Malaysian Branch of the Royal Asiatic Society.
(Sørensen 1973, 1988) has yielded a tanged iron industry in association with wooden boat-shaped coffins, Heger I drums, and radiocarbon dates of about 200 BC. Ban Don Ta Phet (Glover 1990b) is an open burial ground, presumably for extended burials, although—as with the Peninsular Malaysian cists—no bone has survived. The iron industry here, which has a larger socketed component than that from Ongbah and also a shaft-hole sickle or billhook a little like the Peninsular Malaysian ones, is associated with a rich array of Indian carnelian and etched agate beads, and appears to date between 2,400 and 2,000 years ago (Glover 1990a).

One feature of the early Mainland Southeast Asian iron industries is that they are all characterized by different and localized tool forms, especially in terms of hafting. This localization is more marked than in the case of the bronze industries, where there is the integrating phenomenon of the long-distance trade of status items such as drums and other decorated ceremonial objects. Iron objects give an impression of being localized in style to regional industries and hence manufactured on the spot for use as everyday tools and weapons with only limited trade or status value. This naturally suggests that ironworking was a process that could be carried out easily by small, local communities and that knowledge of its manufacture spread rapidly from about 2,000 years ago, as the superior economic potential and easier availability of this metal—compared to bronze—was realized.

In Peninsular Malaysia, the iron tools and slab graves are apparently contemporary with a rather enigmatic coastal site at Kuala Selinsing in Perak. The original assemblage from here was excavated by Evans (1932) and included a wheel-made, comb-incised ware like that from Oc Eo in Vietnam (early to middle first millennium AD), a carnelian seal with an inscription in Pallava script, evidence for local blue glass and agate bead manufacture, glass bracelets, and lead slag. The site was evidently an estuarine pile village; it has produced human burials in canoe-shaped coffins (Sieveking 1956b). Beck (Appendix in Collings 1937b) dated the monochrome glass beads to between AD 1 and 400 (cf. Francis 1990). Recently, excavations at Kuala Selinsing have been started again by Nik Hassan Shuhaimi (1991; Davison 1991), who was unable to locate the original Evans site but confirms that the location as a whole consists of a series of mounds of earth and shell in a mangrove swamp, possibly deposited under the floors of pile dwellings.

According to current information, the Kuala Selinsing sites were inhabited between 200 BC and AD 1000. Nik Hassan Shuhaimi has recovered Middle Eastern pottery dating between the sixth and tenth centuries, locally made incised and paddle-impressed pottery, shell bracelets, tin ear pendants, and extended burials laid under sherd sheets. The latter occur in many central and northeast-
ern Thai sites and could be indicators of some degree of Austroasiatic linguistic affinity, as the Mon language seems to have been widely spoken in the northern Malay Peninsula prior to Malay expansion (Stargardt 1983; Benjamin 1987). Kuala Selinsing has also yielded lots of valuable economic information, including bones of pig, dog, and chicken, plus remains of coconuts, gourds, bamboo, areca nut, pandanus and bamboo mats, rice husks, and part of a dugout canoe. The whole site complex might thus have been the residence of a local community in frequent touch with the trade network linking India and China at this time via the Straits of Malacca (for the archaeological record of some of the lashed-lug and dowelled boats that perhaps serviced this trade, see Manguin 1989).

A final point to note about the Peninsular Malaysian early Metal phase industries is that they are presumably associated—unfortunately to an unknowable degree—with the Austronesian coastal settlement of the region (Bellwood 1993). Linguistically (see Chapter 4, Section VA), an origin for the Malays, and also for the other smaller Orang Melayu Asli groups such as the Temuan and Jakun (Carey 1976), may perhaps be located in Sumatra (where slab graves also occur) or western Borneo during the first millennium BC. But there is little archaeological evidence to throw light on this, and the whole period between the Malaysian Neolithic as represented at Gua Cha and the Indianized monastery and temple monuments of Kedah, which mainly postdate AD 800 (Nik Hassan Shuhaimi and Othman Yatim 1990), is in need of further research.

VI. THE EARLY METAL PHASE IN SUMATRA, JAVA, AND BALI

In this section I will describe the slab graves and stone monuments of southern Sumatra and Java, the stone sarcophagi of eastern Java and Bali, and a number of other important excavated early Metal phase assemblages in western Indonesia. I do not intend to go deeply into the question of megaliths and will not be concerned with such matters as the oft-proposed unity of megalithic cultures (e.g., Christie 1979b), or with Heine Geldern's theories that different types of megaliths can be ordered into "older" and "younger" strata (Heine Geldern 1937, 1945). Most of the celebrated ethnographic "megalithic" cultures of Indonesia—on Nias, amongst the Batak of northern Sumatra, in parts of Borneo, in central and southern Sulawesi, and in some of the Lesser Sunda Islands (see Feldman 1985; Newton and Barbier 1988 for recent reviews)—are all of recent or ethnographic date and have no archaeologically documented antecedents. It is perhaps time for prehistorians to join the ethnologists and art historians in examining the antecedents of these recent cultures, but so far there has been little progress in this respect.
A. Sumatra

One of the main concentrations of prehistoric stone monuments in Indonesia lies on the 70-kilometer-long Pasemah Plateau around Pagaralam in southern Sumatra (Hoop 1932; Heekeren 1958:63–79). A fairly simple megalithic tradition (“dolmens,” mortars, and upright stones, the latter often in single or double alignments) occurs widely in the adjacent Lampung district at the southern tip of the island (Sukendar 1979). The Pasemah monuments, however, are quite striking and have attracted attention since 1850. The structures include groups and alignments of upright stones, stone blocks with carefully hollowed cuplike mortars, troughs with human heads carved on their ends (Plate 52), simple terraced platforms (often referred to as “graves”), “dolmens” of uncertain function with large capstones, slab graves (some in the form of massive underground chambers), and some remarkable stone carvings of humans and animals.

The slab graves excavated by Hoop (1932) at Tegurwangi (Plate 53) contained large numbers of glass beads and a few metal objects—copper or bronze spirals, a gold pin, and a corroded iron lance—that cannot in themselves be closely dated. As in the Peninsular Malaysian slab graves, the acid soils had dissolved all traces of bone. One of the Tegurwangi graves and several megalithic chamber graves at Tanjungara (Bie 1932) (Plate 54) and Kotaraya Lembak (Soejono 1991) still preserved on discovery traces of polychrome wall paintings showing human figures and water buffalo. One of the newly discovered chamber graves at Kotaraya Lembak has a quite remarkable frontal figure of a cockerel in fighting stance painted in four colors (Caldwell in press) (Fig. 9.10).

The Pasemah human and animal statues are carved in relief or in the round on large stone blocks in a dynamic style. Men are shown riding on elephants or buffalo (Plate 55), wearing bracelets, anklets, helmets with peaks at the back, loincloths, tunics, and earplugs. Necklaces of oblong plaques and what appear to be faceted beads are also shown. Animal and human heads are often carved in considerable detail, while bodies are often disproportionately small or simply left out, depending perhaps on the original shape of the stone. Some reliefs also show combat themes of men fighting tigers or snakes, although the elephants and water buffalo are more often in situations demonstrating human control and possibly domestication or taming.

The most important chronological indicators on these carvings are the Heger I drums shown on the Batugajah and Airpurah reliefs (Plate 56), painted on a Kotaraya Lembak chamber wall (Soejono 1991:19) and possibly once shown on an incised carving on a rock outcrop near Tegurwangi (Caldwell in press). These could indicate a date in the early or middle first millennium AD, although some may overlap in time with the period of the Srivijaya trading state on the plains to the east around Palembang (i.e., after AD 670).
Fig. 9.10 Painting of a large bird (cockereel?) in four colors on the wall of a chamber grave discovered at Kotaraya Lembak, Pasemah Plateau. The painting is approximately 150 cm high. This drawing is based on a line drawing made by Ian Caldwell with colors taken from the photograph published in Oey 1991:252.
B. Java

In Java, many sites have produced early Metal phase assemblages in association with slab graves or with the more elaborate carved sarcophagi that occur from eastern Java through Bali to Sumbawa and Sumba (Soejono 1969, 1982b; Glover 1979). Only the slab graves at Kuningan in western Java appear, rather uncertainly, to lack metal associations (Kosasih et al. 1986), and all other sites appear to belong to the first millennium AD or later. Knowledge of the Javanese slab graves is vague (for some data see Heekeren 1958:46–54; Suryanto 1985; PPAN 1992), although Hoop (1935) did present a clear report of some excavated around Gunung Kidul near Wonosari in central Java. Well-preserved examples of these at Kajar and Bleberan (Plate S7) produced evidence for extended burials with a lot of iron tools (mainly tanged knives, a dagger, axes, and chisels), bronze rings, and beads of glass and faceted carnelian (Fig. 9.11). The slab graves and carved sarcophagi examined by Heekeren (1931) near Besuki in eastern Java produced no coherent archaeological assemblages, but similar monuments at Pakauman were apparently associated with Chinese imported ceramics of ninth century AD date or later. Therefore, like the slab graves of Peninsular Malaysia, many of these graves might have overlapped in date with the Javanese historical civilizations, as Hoop thought possible for the Gunung Kidul sites.

There are also a number of localities in western Java with complexes of stone-paved terraces and platforms that appear to belong to a pre-Indic architectural tradition. Bintarti (1981b) has described an excellent example at Gunung Padang, south of Cianjur (see also Sukendar 1985b), and others occur in the northwestern corner of the island at Lebak Sibedug (Hoop 1932; Plate 204) and Arca Domas (Tricht 1929). These structures probably served as open-air temples or gathering places, rather like the marae of Polynesia. Stone human statues of fairly simple shape, which many authors have called "Polynesian," are also known from localities widely distributed through Java and Bali (Mulia 1980; Sutaba 1997). Unfortunately, it is impossible to date these monuments and statues, although one statue of this type near Bandung carries an inscription, possibly secondary, of AD 1341 (Suleiman 1976:8). The apparent Polynesian similarities are either coincidental or may reflect some form of shared early Austronesian architectural and artistic inheritance.

Apart from the research on the stone graves and other monuments, which have always attracted much archaeological attention in western Indonesia, there have been a number of excavations in other types of sites belonging to the early Metal phase in Java. As I will show later, the practice of jar burial was predominant mainly in the more easterly parts of Indonesia, but flexed primary burials in jars have been uncovered with inhumation burials at Anyar in western Java (Heekeren 1956a; Sukendar et al. 1982), and jar burials also occur at Tebing-
Fig. 9.11 Artifacts from slab graves at Gunung Kidul, central Java. The tanged iron tools include a *kris* (dagger: no. 4), and a range of stone and glass beads is shown. Left-hand scale is for 1–13 and 15. Right-hand scale is for 14 and 16–28. From Hoop 1935.
tinggi in southern Sumatra (Heekeren 1958:83). Excavations at Plawangan in north-central Java (Sukendar and Awe 1981) have produced an interesting mixture of flexed or extended inhumations and burials of both adults and children in jars with inverted-vessel lids. In one case a flexed child skeleton was placed inside an upturned Heger I drum together with pottery, a bronze spearhead and bracelet, glass beads, and gold eye and mouth covers (Soejono 1991). The assemblage from Plawangan also includes iron knives, a bronze fishhook and ring, and incised and stamped pots placed at the heads and feet of the extended burials.

At another north Javanese site called Kradenanrejo, near Lamongan, a child was placed inside a drum of Pejeng type with a Heger I drum on top as a cover, with carnelian, glass and faceted gold beads, a bronze container with Dong Son circle and tangent ornamentation (Section IV), gold umbrella-shaped ornaments (hints of an overlap with Buddhism?), two bronze cups, and various other iron and bronze items (Bintarti 1985a; unfortunately few of these items have ever been illustrated, and the Pejeng drum was destroyed when found).

Other Javanese sites that have produced important early Metal phase assemblages include Leuwiliang, near Bogor, where alignments of grave goods from now-dissolved inhumations include an anthropomorphic bronze pendant (Soejono 1984: Foto 77) and a face mask of an unidentified precious metal (PPAN 1988), and Pejaten, to the south of Jakarta (Sutayasa 1979), where baked-clay casting molds for bronze axes and knives are apparently radiocarbon dated to before AD 200. None of these sites can as yet be placed within a coherent reconstruction of Javanese prehistory, and the most urgent requirements are for a fuller publication record and many more well documented radiocarbon dates.

The so-called Buni cultural complex of looted graves on the western coast of northern Java (Sutayasa 1972, 1973, 1979) also has obvious future potential for archaeological investigation. Brief records of the grave goods, apparently found with extended burials, include gold and carnelian beads, stone adzes, undefined metal artifacts, and a range of carved-paddle-impressed and incised pottery with a variety of forms, including ring-footed vessels, high-necked flasks, and knobbed lids. The Buni complex is of great significance because it has produced three flat-based vessels of the distinctive south Indian Rouletted Ware; one each from the sites of Kobak Kendal, Cibutek, and Cibango (Walker and Santoso 1977) (Fig. 9.12). Another location at Batujaya to the east of Buni has produced another sherd of Rouletted Ware (McKinnon et al. 1994). One site at Rengasdengklok has also produced gold eye and mouth covers of a type found also in Balinese sites of the same date (see below, and Miksic 1990). Because this rather exciting material has been found in the same part of western Java as the oldest
Sanskrit inscriptions (e.g., the Purnavarman inscription at Tugu, possibly of fifth-century date; Noorduyn and Verstappen 1972), it is apparent that the Buni sites, despite their tragic looting, may contain information directly relevant to the initial period of contact between India and Java, presumably in the first few centuries AD. This period has recently been highlighted by discoveries on Bali, especially at the site of Sembiran, to which we turn below.

C. Bali

Bali is renowned for its highly distinctive sarcophagi, carved from soft tuff or breccia, found mainly at sites in the central and southern interior of the island (Heekeren 1955; 1958:54–58; Soejono 1977, 1995; Sukarto 1979; Ardika 1987). These have separate bodies and high, domed lids and usually have knobbed projections on their ends, sometimes carved into human or turtelike heads (Plate 58). A range of sizes was produced to accommodate both flexed and extended burials. The grave goods include glass and carnelian beads, some rather
indeterminate iron objects, unusual ornaments and finger-sheaths made of spiraled bronze wire (e.g., see Soejono 1977:Foto 67–70), and socketed bronze tools with crescentic and heart-shaped blades (Ardika 1987), the latter being closely paralleled in mid-first millennium BC contexts in central Thailand (see Section IV). At Gilimanuk in western Bali, two of these stone sarcophagi—one with a lid shaped like a buffalo, the other with a stylized design apparently based on female genitalia—have been excavated in contexts perhaps dating to about 1,500 to 2,000 years ago (Soejono 1995).

Gilimanuk is an important coastal burial site that has produced extended burials and jar burials (some in double mouth-to-mouth jars) with associated pottery and bronzes like those from some of the sarcophagus sites (Soejono 1979; Santos 1985). Other Gilimanuk grave goods include a tanged iron spearhead, an iron dagger with a bronze handle and beads of gold, glass, and carnelian. Gilimanuk and a sarcophagus at Pangkungliplip have both produced gold eye and mouth covers, like the Buni example mentioned above. The assemblage is clearly contemporary with those of Buni and Sembran and thus falls somewhere between 200 BC and AD 300, a range solidly confirmed by nine C14 dates from the site listed by Bronson and Glover (1984:41).

No actual Indian material has yet been reported from Gilimanuk, but this is certainly not the case for the site of Sembran, near Tejakula on the north coast of Bali (Ardika 1991; Ardika and Bellwood 1991). Here, evidence for early Indian contacts with Bali has recently come to light in prolific quantities. Excavations through coastal alluvial sediments down to the water table at about 3.5 meters depth have yielded many pieces of Rouletted Ware (Plate 59), together with sherds of Arikamedu (Tamil Nadu) molded vessels of types 10, 18, and 141 (Wheeler et al. 1946), a black-slipped sherd with a scratched line of Kharosthiti or Brahmi characters, the above-mentioned fragment of a tuff stamp for decorating the wax preform of a Pejeng type drum (Section IV), and local pottery of incised and impressed types similar to those from Gilimanuk. Some of the pottery, especially a black-slipped ware of uncertain origin (an import?), has rice chaff temper. Rice phytoliths in the soils of the site indicate that this cereal was grown during the period of occupation (Doreen Bowdery, pers comm).

Sembran and the Buni complex bring back the question of the origins and date of the initial Indian contacts with western Indonesia. On the matter of date, it has already been noted that Indian beads occur in Mainland Southeast Asian sites, such as Ban Don Ta Phet and Giong Ca Vo, dated to the fourth century BC. The Rouletted Ware (which has so far been found outside India/Sri Lanka only in Indonesia and Vietnam) was originally dated to the first and second centuries AD by Wheeler et al. (1946), owing to its association with Roman imports at Arikamedu. Begley (1983, 1986) has since pushed this dating back
into the second century BC. Rouletted Ware has been recovered from excavations along the whole eastern coast of the subcontinent, from Anuradhapura in Sri Lanka (Deraniyagala 1986) to sites as far north as Sisupalgarh in Orissa and Chandraketugarh in West Bengal. It is in these northerly sites that very distinctive etched agate beads occur in late first millennium BC contexts—beads of a type that have also been found in sites of the early Metal phase in Talaud and the Philippines. The sites with Rouletted Ware in south India and Sri Lanka also have utilitarian pottery decorated with carved-paddle-impressed and stamped patterns (Ray 1997) that find suggestive parallels in the pottery of the Buni complex, Sembiran, and Gilimanuk. It would be premature to suggest a definite link between India and Indonesia from this type of pottery on present evidence, and Solheim (1990) has for many years favored a southern Chinese origin for the Southeast Asian paddle-impressed wares as a whole (which belong in his "Bau-Malay" pottery complex). But I believe that the possibility of an Indian link does deserve careful consideration.

One further point about this burgeoning evidence for Indian trading contact with Indonesia in the centuries around the birth of Christ concerns its impact on those regions beyond the "core" Indianized regions of Sumatra, Java, and Bali. It is worth repeating that the far-flung distribution of Heger I drums might have had much to do with these activities, especially via those trade networks that surely extended from Java and Bali into the Moluccas for cloves, nutmeg, and other spices destined for the Mediterranean, India, and China. But, more than this, it has been my observation during many years of fieldwork in Indonesia—a difficult observation to substantiate in a brief text—that the pottery assemblages all over the Indo-Malaysian Archipelago in the centuries of the early Metal phase are remarkably similar, whether they be from Java, Bali, Talaud, or Halmahera (cf. Diniasti 1986). The Papuan-speaking peoples of northern Halmahera even appear to have first adopted pottery making at this time, perhaps as a result of increasing trade contacts. Some of these Indonesian "outer-island" assemblages will now be reviewed.

VII. THE EARLY METAL PHASE IN EAST MALAYSIA AND EASTERN INDONESIA

The early Metal phase in the northern and eastern parts of the Indo-Malaysian Archipelago is now becoming better known as a result of a number of recent cave and open-site excavations. In the northeast, many sites have yielded evidence for a fairly homogeneous tradition of secondary burial in large jars or pottery bone boxes. In the Lesser Sundas, primary and jar burials often occur together, as in Java and Bali. The pottery assemblages of this phase all demonstrate fairly close relationships, and the period as a whole—with its copper/
bronze and iron associations—may be dated from about 200 BC to AD 1000. The tradition of jar burial continued after AD 1000 into ethnographic times in some remoter parts of Borneo, Sulawesi, and the Philippines, but in association with imported Chinese and Southeast Asian glazed ceramics that lie outside the upper chronological limits of this chapter.

The jar burial tradition is seen at its most elaborate in the islands around the Sulawesi and Sulu Seas (northern Borneo, Talaud, central and southern Philippines) and in parts of the Lesser Sundas—especially Sumba. In the former region it involved the placing of previously exposed secondary burials in large jars or bone boxes provided with lids (Fig. 9.13). Small accessory vessels were placed in or around the jars, together with beads, bracelets, and metal artifacts, to list the most common grave goods. The jars were placed either on the floors of fairly remote caves (in which situations they have invariably become smashed and their contents mingled) or in pits dug into open sites (where they have normally survived fairly complete).

In general, the tradition of jar burial gave way fairly rapidly to extended inhumation burial in those regions influenced by the Indianized and the later Islamic states, and also in those parts of the Philippines closest to the Chinese trade networks. The whole tradition thus achieved its apogee in the first millennium AD. In eastern Sabah and the Philippines, the second millennium witnessed a widespread change to a tradition of log-coffin burial.
A. The Talauld Islands and Northern Moluccas

The first jar burial site to be discussed is the small cave of Leang Buidane on Salebabu Island in the Talauld group of northeastern Indonesia (Bellwood 1976a, 1976b, 1981). The jar burials here were originally placed on the floor of the cave, but were smashed—presumably deliberately (Bellwood 1981:71)—in antiquity. The bone containers comprised a range of large globular jars with round bases and occasional tripod or ring feet, together with flat-based cylindrical vessels and roughly rectangular pottery boxes (Fig. 9.14). All these large containers appear originally to have been lidded. The human bones (Bulbeck 1978) were mainly of young individuals under forty years of age. The ratio of thirty-six individuals (based on teeth) to a minimum of thirty-two large vessels suggests that only one individual was placed in each container. The bones were mainly skulls, mandibles, and limb bones—pelvic bones and vertebrae appear to have been discarded or lost. The teeth revealed some evidence for betel staining, occasional tooth evulsion for females during life, and a Mongoloid morphology presumably directly ancestral to that of the present population. In my original reports I dated this site between AD 700 and 1200 according to a number of rather oblique chronological indicators, but as a result of my more recent work in Sabah I now incline to an earlier commencement date.

The accessory vessels and other items found with the remains of the jar burials form a homogeneous stylistic group and define a Buidane culture that appears to have been current throughout Talauld for much of the first millennium AD. The small pots include round-based carinated vessels with quite elaborate horizontal zones of incised decoration (Fig. 9.15), distinctive high-necked flasks with a polished red slip, and a range of cooking vessels. The carinated vessels in particular have an angular cross-sectioned rim that is also characteristic of this phase in Sabah. The Buidane ceramic range is also very closely paralleled in a southern Philippine site visited in the 1920s by the Guth Expedition, but unfortunately in a now unknown location (Solheim 1964b:94–101, the "unknown site"). However, the concept of a Buidane culture is best confined to the Talauld Islands themselves, since all the sites of this period reveal a gradual falloff in similarity with distance across the whole region, from the central Philippines to Sumba. At present it would be unwise to class the material at a level greater than that of the individual region or island group.

The other artifacts found in Leang Buidane include shell bracelets and beads, part of a glass bracelet, beads of agate and carnelian, coral flask stoppers, and a penannular pottery earring. The stone beads are particularly interesting: The majority are either spherical or elongated faceted red carnelians with a precision in drilling that probably indicates an Indian origin, although the shapes are chronologically complacent and belong to types common in both India and
Fig. 9.14 Large burial jars from Leang Buidane, Talauld. The lower three vessels are cylindrical with vertical walls, and two have lids. Shading = red slip.
Fig. 9.15 Small carinated vessels from Leang Buidane with friezes of incised geometric decoration; (a) is probably a lid; (g) and (l) have red-slipped interiors.
Southeast Asia throughout the past 2,000 years. However, there are three black agate beads with designs etched in white (Fig. 9.16) that are paralleled very precisely in late first millennium BC layers in major Gangetic and Indus sites such as Hastinapura (Lal 1954–1945:Plate LV), Taxila (Dikshit 1952:35), Kausambi and Chandraketugarh. There is also a banded agate bead of a type common from the Harappan onwards. The etched agates support the above-mentioned evidence from Sembiran for contact between India and Indonesia as early as 200 BC, although in a location as remote as Talaud the beads might have been in circulation for many years prior to their eventual burial.

Leang Buidane has also produced metal artifacts; there are a number of indeterminate pieces of iron, and the copper or bronze objects include bracelet fragments, a bronze cone, and a copper socketed axe. Three baked-clay valves of the bivalve molds for axes and other cuprous objects were also found, indicating that metal casting was carried out locally, although this may have been confined to recasting of artifacts that were originally imported. In general, the Buidane metallurgy fits conformably within the range reported from this date in Sabah and the Philippines, and the copper- and bronzeworking seems to have been restricted to bivalve mold techniques, without the use of wax.

In the northern Moluccas, fragmentary jar burials have been excavated in the cave of Uattamdi on Kayoa Island, associated with glass beads, fragments of iron and bronze, undated Chinese coins, and large reef shells, all apparently placed as grave goods. Dates for this assemblage run from about AD 1 to 1200 (Bellwood et al. 1993). Other regions of the northern Moluccas have produced
incised pottery of early Metal phase affinity, radiocarbon dated to the first millennium AD, associated with secondary skull burials in the rock shelter of Tanjung Pinang on Morotai and found in habitation deposits in the cave of Gua Siti Nafisah on Halmahera and the open site of Buwawansi on Gebe. This material is still being analyzed, but it appears that pottery making began in the Papuan-speaking regions of north Halmahera at this time, perhaps, as noted above, because of the increasing frequency of trade contact emanating from the western regions of Indonesia.

**B. Eastern Sabah**

In Chapter 7, Section IIIB, I discussed the Neolithic pottery assemblages found in Bukit Tengkorak and Agop Atas. Bukit Tengkorak has not produced any metal, but the cave of Agop Atas in the Madai massif (Bellwood 1988) has produced a habitation layer of the early Metal phase that is firmly dated by radiocarbon to the early to middle first millennium AD. This layer is separated by an interval of nonoccupation from the underlying Neolithic layer. The cave was clearly intensively inhabited in the early Metal phase; several of the layers con-

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**Fig. 9.17** A selection of vessels from Agop Atas. (xp = checkerboard paddle-impressed).
tain postholes, perhaps for sleeping platforms. The pottery (Fig. 9.17) has basically the same rim and vessel forms as Leang Buidane, and the repertoire of incised decoration, carved-paddle and corded impression, and burnished red slip is quite similar between the two sites. The distinctive red-slipped and high-necked flasks also occur at Agop Atas and in another contemporary assemblage from Hagop Bilo shelter in the nearby Baturong massif (Plate 60b). Other objects found in Agop Atas include copper or bronze fragments, a forged iron tanged spearhead, a small iron knife, and a few carnelian beads—the latter of somewhat cruder manufacture than those from Buidane.

Jar burial assemblages of this phase in Sabah occur in Pusu Samang Tas Cave in a remote part of the Madai massif (T. and B. Harrisson 1971) and in a cave in the Tapadong massif on the Segama River (Harrisson 1965). The Tapadong assemblage has produced eleven stone adzes with trapezoidal cross-sections, plus a copper or bronze socketed axe and a casting valve of soft stone. This find demonstrates that local casting was carried out, as in Talaud, although stone adzes clearly continued in use well into the early Metal phase. Adzes identical to those from Tapadong are also known from surface collections in Mindanao (Lynch and Ewing 1968) and from the upper layer (late Neolithic, post-500 BC) at Bukit Tengkorak.

The overall significance of the well-dated Agop Atas and Buidane assemblages is that they demonstrate the existence of iron and copper/bronzeworking, together with imported Indian beads and a style of decorated pottery known to many authors as "Sa Huynh Kalanay" (after Solheim 1964a, 1967), from a date probably quite early in the first millennium AD. The beads and the available carbon dates make it difficult to push the beginnings of the early Metal phase around the Sulawesi Sea back before AD 1, although the traditions of jar burial and the friezes of incised decoration on pottery apparently go back into the late Neolithic in Sarawak and Palawan (Chapter 7, Section IIIC).

C. The Central and Southern Philippines

The best-known ceramic and metal (copper/bronze and iron) complex of the early Metal phase in the central Philippines is undoubtedly that termed Kalanay by Solheim (1964b), from his excavations in Kalanay Cave on Masbate and from earlier collections made by the Guthe Expedition. This material is not of direct concern here, although it should be noted that the whole range shows considerable similarity to the Agop Atas and Buidane assemblages.

The extensive complexes of caves on the west-central coast of Palawan (including the Tabon Caves) have produced prolific jar burial assemblages that still remain only partially published (Fox 1970; Kress 1978). Much of this material is virtually identical to that from Agop Atas and Buidane, although detailed
The Early Metal Phase

comparision remains impossible. Fox placed the beginnings of the jar burial tradi-
tion at Tabon with the Manunggul chamber A assemblage, which he dated to
the beginning of the first millennium BC on the basis of two radiocarbon dates.
This assemblage contained no metal, and Fox was therefore willing—perhaps
rightly—to place in it the Neolithic. The pottery is especially fine and appears to
lack the sharply carinated forms of the Tabon early Metal phase. However, it
does have at least one pottery coffin and some vessels have red-painted curvi-
linear designs enclosed by incised lines—a technique well represented in the
three-color ware from Sarawak, in early Metal assemblages in Sabah, and also in
the Sa Huynh culture in southern Vietnam.

Although Fox suggested that copper and bronze objects first appeared in the
Palawan sequence at about 500 BC, the only dated site for the early Metal phase
at Tabon is Manunggul chamber B, which has a radiocarbon date of about 200
BC. This assemblage produced iron, glass bracelets, glass and carnelian beads,
and also five acid-etched agate beads similar to those from Leang Buidane.
Copper or bronze items occur in other jar burial caves in the area and include
socketed axes and spearheads, a tanged and barbed arrowhead, and a possible
barbed harpoon. Axe casting molds, gold beads, and jade lingling-o earrings
have also been found. In general, I suspect that the Tabon jar burial sequence
after analysis will resemble the sequence from the Sabah sites and belong
mainly in the first millennium AD.

Another central Philippine site worthy of mention is the open jar burial site
of Magsuhot on Negros Island, where Tenazas (1974) excavated three large
burial jars placed side by side in a large pit lined with broken potsherds. Pottery
of Kalanay type, human and animal figurines of baked clay, and bones of pig
and chicken were found with the jar burials, which were sealed in by an earth
fill. Only one jar contained human bones—of a young woman and two chil-
dren. Another pit contained an enormous lidded burial jar with a weight of 52
kilograms, together with a pottery bone box and no fewer than seventy acces-
sory vessels. The burial jar was connected to the surface by a tube of stacked
pots; it contained an iron knife but no identifiable bones. This site is of interest
because it reveals the wealth of information that can survive with undisturbed
jar burial sites and—while undated—it would fit well into a middle or late first
millennium AD context.

D. Southern Indonesia and Sulawesi

The most remarkable of the jar burial sites of Indonesia is undoubtedly the large
urnfield of Melolo on eastern Sumba. This open site was first investigated dur-
ing the 1920s and 1930s and most recently in 1985 (Bintarti 1986). It has pro-
duced an alignment of large, close-set burial urns with round-based vessels as
lids, containing fragmentary secondary burials, stone adzes, stone and shell beads, shell bracelets, and small accessory pots of which the only kind adequately reported is an elegant high-necked flask with incised geometric and anthropomorphic designs filled in with a white paint (Heekeren 1956b) (Fig. 9.18). It appears that some of these flasks were provided with a burnished red slip.

Some metal items have been found in the recent excavations, so Heekeren's (1972:191) classification of the site as Neolithic appears to be incorrect. Some of the Melolo flat-based flasks are paralleled precisely in the Buni pottery of western Java (see Fig. 9.12), and the flask forms in general are paralleled in a number of other sites of the early Metal phase, including Sembiran in Bali. I suspect that this may be a significant observation for future research because the form is not, to my knowledge, found in any Indo-Malaysian assemblage (outside Taiwan) that can conclusively be considered as Neolithic. Indeed, the high-necked flask, often with a globular body and sometimes a burnished red slip, can perhaps be regarded as a clear marker of the early Metal phase; for example, at Leang Buidane in Talau, at Agop Atas and Hagop Bilo in Sabah, at Gunung Piring on Lombok, at Leang Bua on Flores, at Batu Ejaya in southern Sulawesi, at Gillimanuk and Sembiran on Bali, and at Anyar in western Java (Plate 60). The form clearly transcends local cultural areas, and at Gillimanuk, Leang Bua, and Gunung Piring it is found in association with inhumation rather than jar burials.

Melolo is really the only jar burial site in eastern Indonesia that merits close attention at present, although a related site called Lambanapu in eastern Sumba is currently under investigation. However, there are some further generalizations about the early Metal phase in the archipelago as a whole that can be made. First, it is clear that the sites around the Sulawesi and Sulu Seas—the Tabon Caves, the "Kalanay" sites, and the sites of eastern Sabah and Talau—do share quite closely related pottery assemblages with iron and copper/bronze during the first millennium AD. Jar burial is the predominant rite in this region; another common characteristic is the small pottery bone box.

In southern Indonesia the picture becomes rather more confused and here comprises the relatively "pure" jar burial site at Melolo, the mixed-rite sites such as Anyar, Plawangan, Gillimanuk, and also Gunung Piring on Lombok, which appears to have only inhumations. Outside these two regions, on the islands of Sumatra, Borneo (except Sabah), Sulawesi, and the central and southern Moluccas there are unfortunately many blanks, although jar burial assemblages from caves in southern Sulawesi (Mulvaney and Soejono 1970, 1971) have bone boxes and pottery loosely related to the Tabon-Sabah-Talau sites that may date within the first millennium AD. The pottery from the jar burial site of Ulu Leang 2 in the Maros region of southern Sulawesi (Andrews and Glover 1986) has produced pottery with zones of densely incised decoration like some from
Fig. 9.18 Flask with human face carved on neck from Melolo, Sumba. From Heukeren 1956b. Courtesy: Indonesian National Research Center for Archaeology.
Sembiran in Bali. However, it is clear that even the most basic cultural and chronological framework for the early Metal phase does not yet exist for the great bulk of the archipelago; until this is established, understanding of the period is unlikely to advance very far.

The same observation still applies to the remarkable complex of large stone jars and human statues in central Sulawesi (Kaudern 1938) (Plate 61). I have little to add to my previous description of these monuments (Bellwood 1978: 228), and dates are still elusive, but an extensive survey in the Bada district to the west of Lake Poso (Sukendar 1980) has brought to light more stone jars and statues and demonstrated their association with iron and carved-paddle-impressed pottery. However, the absence of a chronological scheme for Sulawesi prehistory subsequent to the Toalian industry makes accurate dating virtually impossible, and the apparent absence of Chinese pottery can only suggest a date older than 500 years.

E. The Origins of the Jar Burial Tradition

I have already discussed the evidence, of varying reliability, indicating that jar burial was practiced in late Neolithic contexts at Niah in Sarawak and in the Tabon Caves. Possible commencement dates fall in the late second and early first millennia BC; if these dates are correct, they provide strong grounds for regarding the tradition as an indigenous development in Island Southeast Asia. However, it must still be realized that the bulk of the jar burial sites are certainly not older than 200 BC.

Of course, no conclusive evidence exists to support a watertight case for or against a local origin of the jar burial tradition, but some comparative observations may be of interest. Although infant burial in jars occurs in some prehistoric Chinese and Thai sites, it is apparent that the Southeast Asian mainland prehistoric sequence (outside parts of Laos and southern Vietnam) is almost totally devoid of this tradition and normally stressed extended inhumation in post-Hoabinhian contexts. On the other hand, a coherent tradition of jar burial does occur in the late Jomon and Yayoi periods of southwestern Japan (1000 BC to AD 300), where it appears that bones were often placed in two jars laid horizontally mouth-to-mouth (Mori 1956; Chard 1974). Although this pattern is not to my knowledge found in the Indo-Malaysian Archipelago, there are records of vertical mouth-to-mouth jar burials on Batan Island between Luzon and Taiwan (Solheim 1960), at Plawangan on Java (Sukendar and Awe 1981), and at Gilimanuk on Bali (Soejono 1969:Plate 24). In addition, the Yayoi pottery style, which is different in many respects from that of the preceding Jomon periods, does include flasks, cutouts in ring feet, red-slipped surfaces, and incised scroll patterns that overlap to some extent with the repertoire of the early Metal
phase in the Philippines. While I would not suggest Japan as a source for the Indo-Malaysian jar burials, I do feel that some degree of contact between the two archipelagic regions may have taken place from the late first millennium BC onward.

In India there is a widespread tradition of mouth-to-mouth urn burial in Chalcolithic sites spread across the country from Karnataka to West Bengal, but of more relevance is the tradition of burial in single upright urns found in association with the Black and Red pottery of the Iron Age cultures of southern India and Sri Lanka. Many specific features of this tradition—the practice of secondary burial with grave goods in the urns, the use of bone boxes and legged coffins, and the occasional occurrence of stone jar lids (as in some Philippine sites)—clearly do have definite Indo-Malaysian parallels. The historical and archaeological data already reviewed indicate that Indian contact with Southeast Asia was taking place from perhaps the middle of the first millennium BC onward, so some exchange of ideas may have been occurring. However, it is also apparent that the basic artifact forms, especially in metal and pottery, differ so considerably between the two regions that an actual Indian source for the Indo-Malaysian jar burials would be unthinkable. I am therefore still strongly inclined to keep to my previous conclusion (Bellwood 1978:213) that the Austronesian jar burial tradition was an indigenous development.