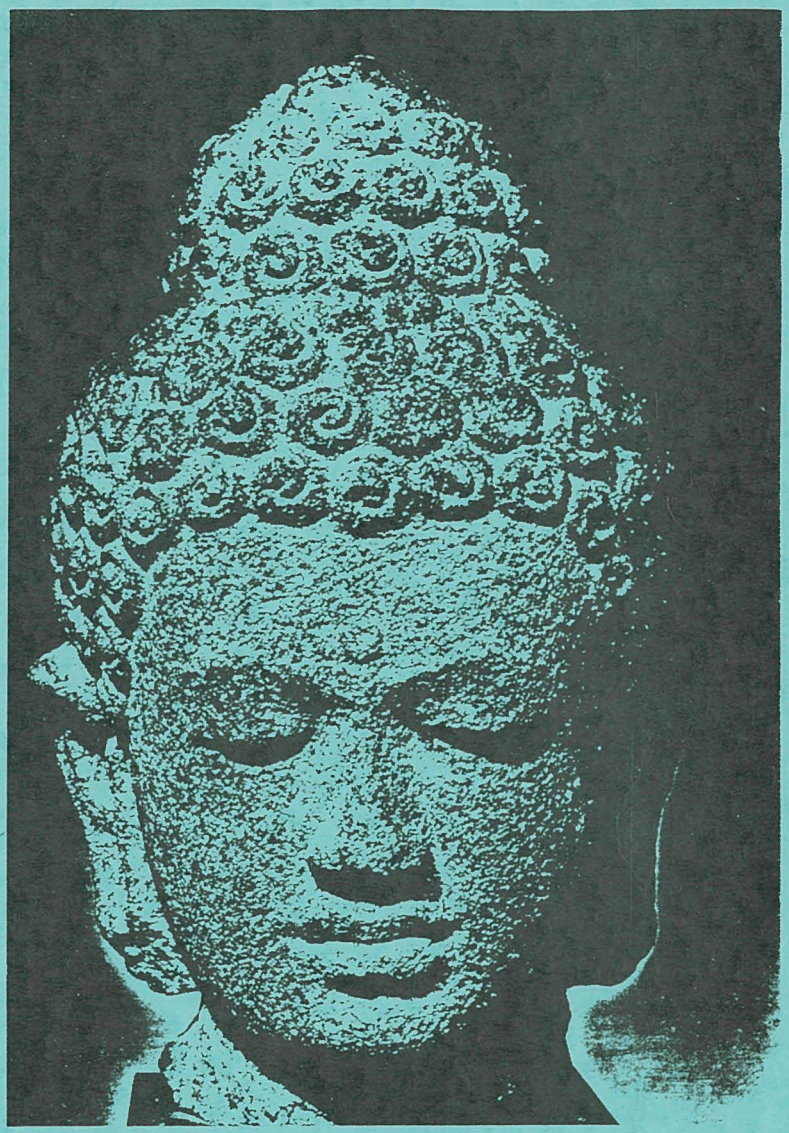

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EUROPE AND SOUTHEAST ASIA: THE MILITARY BALANCE

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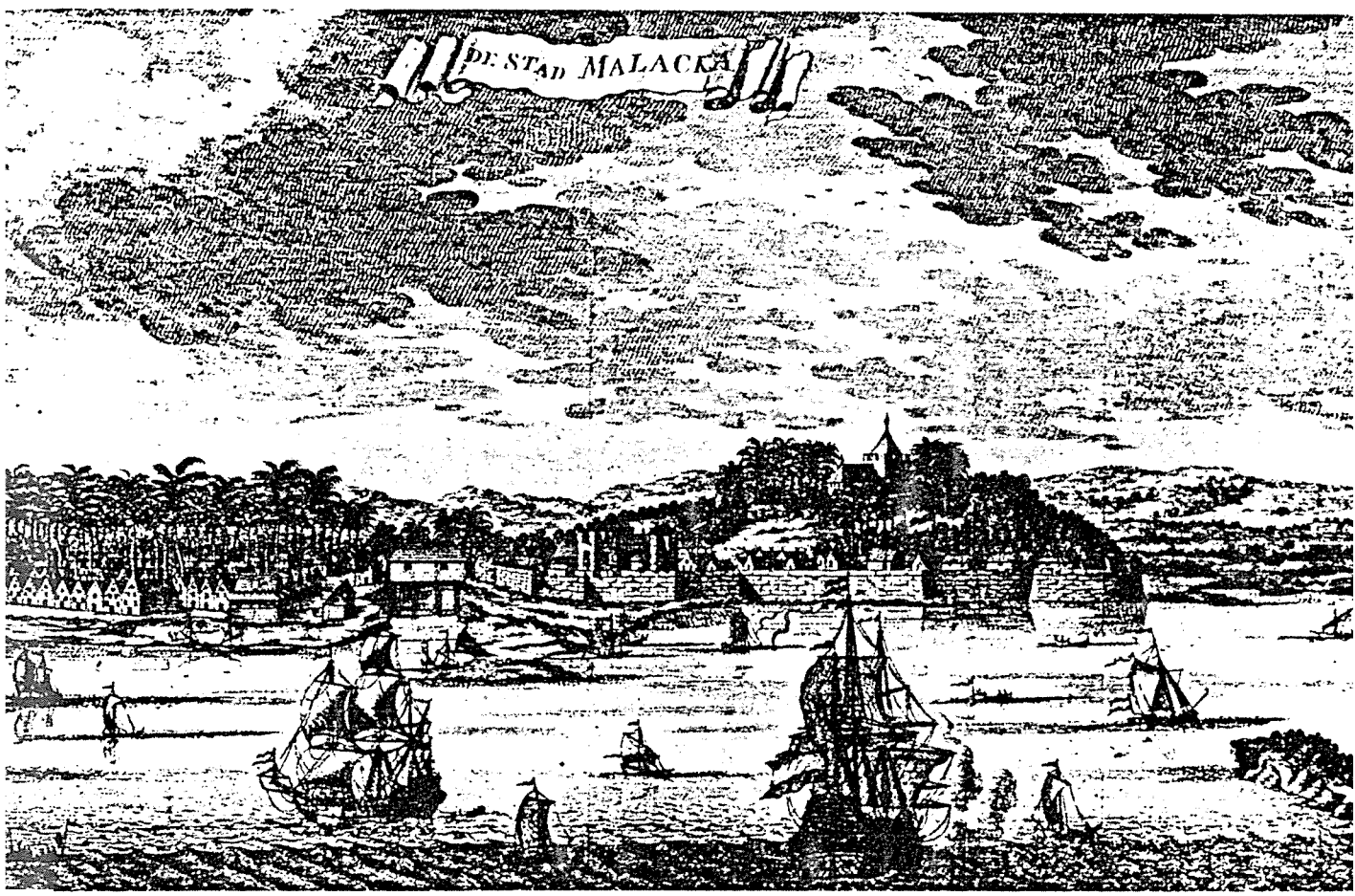
DE STAD MALACKA

Military technology tends to be the first to be borrowed, since the penalties for not doing so are immediate and fatal. Southeast Asia, being as devoted to warfare as any part of the globe, and unusually exposed to external maritime contacts, has of course been no exception. Since there are, for example, Indic elements in the battle formations of the major states for as long as we have records, we must guard against referring to a 'traditional' mode of Southeast Asian warfare prior to modern adaptations. On the other hand, over a relatively long period for which we have evidence (say 16th–19th Centuries), Southeast Asian warfare is characterised by certain consistent features which spring from the nature of society itself rather than any particular military technology.

The first point is that wars were seldom fought for the control of any particular piece of territory. Cities were frequently sacked, but very seldom occupied permanently. In relation to China, India, or Europe, population was relatively sparse in Southeast Asia, and indigenous sources always make clear that people were more important than land. The physical objective of war (as distinct from status questions which often gave rise to it) was usually the seizure of people, to increase the subjects of the conquering king. La Loubère (1693, p.90) explained what he saw as the ineffectiveness of Siamese warfare:

> They busie themselves only in making slaves. If the Peguins, for example, do on one side invade the lands of Siam, the Siamese will at another place enter on the lands of Pegu, and both parties will carry away whole villages into captivity.

Although cities were frequently sacked and their inhabitants taken away captive, they were seldom occupied permanently. For small centres attacked by large marauding forces, the logical response was to flee into the surrounding forest, and wait for the invader to depart. Houses were always built of impermanent materials -- wood, bamboo, and palm-leaf -- and could be rebuilt in a few days. Since there was little within them to defend, towns and villages did not develop a defensive strategy based on stone walls and moats. Acehnese envoys to Turkey reportedly explained the absence of fortifications in their country in terms of the bravery of their warriors and elephants (Iskandar, 1958, pp.165-6); the Siamese explained the same lack in their country by their fear that if they built forts they might lose them and not be able to retake them (La Loubère, 1693, p.91). In reality the reason for this pattern was simply that temporary flight made better sense than a stubborn defence of a town in the tropical conditions of Southeast Asia. Temporary stockades of tree-trunks or bamboo were frequent, but there was little development of fortress-building or siege techniques.

Since wars were fought to increase the available manpower, commanders were naturally reluctant to waste the manpower they had in bloody frontal battles. Soldiers were typically levied through aristocrats (*orangkaya* in the Malay world) who themselves risked losing their most precious resource if their men were killed in battle (Reid, 1980, p.245). The smaller states, in particular, 'are continually engaged in war, but their battles are never very sanguinary. There is a great deal of bravado, but not much fighting' (Anderson, 1826, p.275). Early European and Chinese reports on the Malay world had no doubts about the individual courage and ferocity of its warriors, whether displayed in their frequently fatal military tournaments (*Senenan* in Java - Ma Huan, 1970, pp.93-4; Pires, 1944, I, p.176) or in individual combat on the battlefield. 'They are always at war, they enjoy it', noted Galvão of the Molukans (Jacobs, 1971, p.169). But this was the bravery of individual hand-to-hand combat, not the discipline of large bodies of men holding their lines under fire. Warfare was typically a series of individual encounters. If the two sides were roughly equal in strength, they would erect temporary stockades (*benteng*) within hailing distance of each other, and engage in challenges and small skirmishes sometimes over a period of months or years. Dampier (1927, p.231 and 1931, p.100) observed two 17th Century wars of this type -- a civil war in Aceh in which thousands were mobilized on each side but no-one evidently killed; and an ongoing series of skirmishes in Mindanao between the Sultan and the *alfurs*.

The key element in this type of skirmishing with individuals or small raiding parties was, for the Malay world, the *amuk*. Used most frequently as a verb, *mengamuk*, it could mean simply to attack, but preeminently with a *kris* or sword, in a furious charge almost certainly leading to death against superior numbers. In their indifference to death, such attackers epitomized Malay heroism, and always struck fear into the hearts

of their opponents. European sources, which tend to use the Malay term *amuk* for such attacks as far afield as Pegu and even southern India, note the phenomenon as early as the 1430s (Nicolo da Conti, cited Bausani, 1970, pp.88 & 95). Tome Pires claimed that the Javanese were especially famous for their *amuk*. 'The *amocos* are knights among them, men who resolve to die, and who go ahead with this resolution and die' (Pires, 1944, 266, also 176). Even in the systematic formations of Balinese armies, the attack would usually be commenced by *amuk* specialists dressed in white as a symbol of their self-sacrifice (*ENI* II, p.317). Europeans often pointed out (Pires, 1944, p.176; Fryke, 1929, p.48) that the preparation for an *amuk* involved consuming opium or cannabis (*ganja*) – the equivalent of the alcoholic 'Dutch courage'. While this undoubtedly helped in many cases, the more important preparations were the spiritual or ritual ones, for which narcotics may have been seen as an aid.

Physical or technical prowess in battle, while obviously important, was not seen in indigenous sources as the deciding factor. More often was victory attributed to the mystical power of the ruler himself (*daulat* for Malays - e.g. *Hikarat Patani*, I, p.89), or the courage, purity, or inner strength of the individual commander or champion. One aspect of this tendency was the conviction in the Malay world that certain warriors achieved invulnerability to swords and bullets by the use of sacred charms, lengthy ascetic and ritual preparations, and the consultation of specialist teachers (*guru ilmu kebal*).

The *Sejarah Melayu* explains one of the Malay victories over the Siamese in the 15th Century by the demonstration of Malay powers of invulnerability before the Thai court, which immediately lost all courage for a fight (Brown, 1955, p.71). That story may be apocryphal, but we know that the Malays and especially Makassarese enjoyed a similar reputation in Siam in the 17th Century. As a Persian envoy reported, 'In general the science of mantras, spells, and incantations is practised to a great extent in Siam, but no one surpasses these Macassars who have put a special spell on their daggers' (O'Kane, 1972, p.136; also Collis, 1935, pp.128-9). The Portuguese described an invulnerable (*kebal*) opponent in their first Southeast Asian battle, the seizure of a Malay ship off Sumatra. No blood flowed from the man's wounds even though he was practically dead from exhaustion, the chronicler reported, until the magical amulet on his arm was removed (Alboquerque, III, pp.61-2). For a view from the other side, the best text available in translation is the 18th Century Acehnese *Hikayat Pocut Muhamat*, which describes the various types of invulnerability displayed by warriors in a great Acehnese civil war (Drewes, 1979, pp.228-9, 248-9; Siegel, 1979, pp.113, 137-8, 149).

This should by no means be taken to mean that Southeast Asians neglected the technical business of war in favour of the magical. Invulnerability was however an indication of the emphasis placed on individual prowess in war. Frequently the fall of a leader or champion brought a battle to a rapid end, since it was taken to be a sign of the superior spiritual power of the other side. In some wars of major importance, like the Islamic conquest of Banjarmasin (Ras, 1968, pp.432-7), the whole issue was left to be decided in single combat between the two opposing claimants to the throne.

Few of the instruments of violence were in the hands of Southeast Asian rulers. As a 17th Century Persian visitor pointed out,

> the rulers and governors of Below the Winds [Southeast Asia] . . . do not maintain a grand entourage or a professional army. What they call an army is really only a mob of peasants assembled in times of danger (O'Kane, 1972, pp.138-9).

The major military prerogatives of kings, war elephants and (after 1500) cannon, were not of great practical significance. Since wars were decided by individuals wielding their own weapons, one was technically almost as good as another. The whole population was armed with sword or dagger (*kris*), and until the 17th Century these were the weapons which decided most battles. There was little place for the horse-and-armour warfare which had created in Mediaeval Europe and much of Asia a military aristocracy which could afford such expensive items. In the absence of technological means of dominating their people, Southeast Asian rulers appear to have had recourse to ideological ones, so that an extreme emphasis on loyalty and devotion to the ruler is a feature of most early texts.

Among the other weapons favoured in Southeast Asian warfare prior to and alongside firearms, the long lance or pike was one of the most effective. The Javanese had particularly long and effective lances of 4 or 5 metres (Jacobs, 1979, p.168; Crawfurd, 1820, I, p.224), but in Bali, Siam, Burma, Aceh and elsewhere

they were also used, especially by the phalanx of soldiers immediately surrounding the king. Iron was scarce and expensive, which may account for the tendency to prefer the metal-tipped lance and the small-bladed *kris* over swords, even though in battle the latter would have been more effective. In some areas however, such as north Sumatra and south Sulawesi, a variety of sword does appear to have been the favoured weapon. Wooden weapons also continued to be widely used as late as the 19th Century. Among the most deadly was the blowpipe, often with poisoned darts. The bow and arrow too had its place even alongside the musket in the 17th Century, notably among the Makassarese.

In general Southeast Asians were inclined to attach a supernatural personality to their weapons, particularly to unusual ones. Krisses, swords, spears, and even blowpipes form a prominent part of the regalia of kingdoms, often associated with the power of the dynasty's founder. The mere possession of sacred weapons was held by some chroniclers to have been decisive in battle. It is not surprising, therefore, that foreign-made weapons, the more spectacular the better, made a rapid entry into Southeast Asia.

Artillery appears to have been used in battle for the first time in the 14th Century, seemingly independently in China, India, and Europe. Cannon came to Southeast Asia from all three sources, the European ones having been brought to Egypt by the Venetians, and then passed through Arab traders (Pires, 1944, pp.9 & 269). Many must have come as presents to rulers in the first instance. The Portuguese chroniclers, perhaps with some exaggeration, reported that they found 3000 pieces of artillery in Melaka when they conquered the city in 1511. Two thirds of these were of bronze, including a very large one sent as a present to the Sultan from the ruler of Calicut, in South India. The gun founders of the city, it was alleged, 'were as good as those in Germany' (Alboquerque, III, 1880, pp.127-8). This last remark, while again probably exaggerated, suggests that trade missions from China, Malabar or Gujerat had not only presented the Sultan with guns but also with gun-founders. Naturally the earliest attempts to manufacture cannon in Southeast Asia were associated with foreigners. Patani's rise to prominence in the 17th Century is traditionally associated with the casting of three famous guns there, by a Turk in one version and a Chinese in another (*Hikayat Patani*, 1970, II, pp.152-4, 164, 224-7). The Spanish found when they sacked Manila in 1570 that some cannons and culverin were being cast in a house next to the raja's. 'There were clay and wax moulds, the largest of which was for a cannon 17 feet long, resembling a culverin' (Blair & Robertson III, p.103). These must have been manufactured by Chinese or Japanese residents, since we hear subsequently that no Tagalogs could make weapons, and that they feared the Muslim merchants and warriors because they brought from their trade with China and Japan 'bronze culverins so excellent and well cast, that I have never seen their equal anywhere' (Artieda, 1573, in *ibid*; also de Sande, 1576, in *ibid*. IV, p.76).

Better documented is the introduction of cannon-founding to Aceh (Sumatra) in the 1560s by Turkish gunsmiths. Sultan Alau'd-Din Ri'ayat Syah al-Kahar had sought military assistance from Turkey to expel the Portuguese infidels from Southeast Asia. As the *Bustan as-Salatin* described it. 'The Sultan Rum [Turkey] sent various craftsmen and experts who knew how to make guns. It was at that time that the large guns were cast' (cited Reid, 1969, p.397). That the largest of these Turkish-made guns were indeed formidable in size is indicated by the most famous of them, *lada sa-cupak*, whose remnants now lie in the Bronbeek museum in Holland (Krucq, 1941 [1], pp.545-6), or by the large cannon presented by Aceh to Johor in the 1570s, described by Linschoten (1885, I, pp.109-10) as 'such as for greatnes length (and workmanship) is hardly to bee found in all Christendome'. John Davis confirmed in 1599 that the cannon of Aceh were 'the greatest that I have ever seen', though they lacked carriages and were fired lying upon the ground (Purchas, 1905, II, p.321).

Although Chinese, Gujeratis and Turks were the first to introduce cannon-manufacture into Southeast Asia, including pieces of greater size (the Turks) or ornateness (the Chinese) than were built in Europe, the superior effectiveness of European guns and gunners quickly came to be recognized. Portuguese renegades or adventurers were everywhere valued as gunners in the 16th Century, while in the 17th the Dutch and English were sought as allies primarily because they could supply arms, lead, gunpowder, and expertise in the use of them. Although the VOC took a firm line against selling effective weaponry to potential Asian enemies, the English and Portuguese had no such caution, being more often the allies of such states against the Dutch. English despatches were filled with requests for more iron, lead, muskets, powder and sword-blades, these being the only European exports in demand in Southeast Asia (e.g. *Letters Received*, II, pp.21-2; III, pp.128, 185, 190, 277-8).

While valuing the services of foreigners, the major Southeast Asian states quickly devoted themselves to mastering the manufacture of firearms themselves. Acehnese craftsmen appear to have taken over the manufacture of cannon there in the late 16th Century; Makassar was making cannon and muskets by the first decade of the 17th Century (Reid, 1981 [2], p.12); Mataram had its first, abortive, test of its own manufactures of cannon and muskets in 1651 (Van Goens, 1956, p.123). Like elephants, however, large cannon lost much of their power to strike terror into the enemy once they had become familiar. Their main utility in contemporary Europe was in battering down fortifications during long-term sieges, but since such fortifications and sieges were not major elements in Southeast Asian warfare, cannon became more a means of boosting morale and expressing the supernatural power of the state than of destroying the enemy. The great cannon of the Southeast Asian states, whether home- or foreign-made, were endowed with a name and a personality. The epics of war describe in sonorous poetry how they were fired in the heat of battle, seemingly creating more awe among the defenders than damage among the enemy attackers (Skinner, 1953, pp.148-51; Siegel, 1979, p.133; *Hikayat Patani*, 1970, II, p.164). Long after these heroic days, the disused cannons continued to be revered as magical *keramat*, sacred relics of a bygone greatness.

Partly because of these supernatural and symbolic associations of artillery, Southeast Asians appear to have attempted to build bigger and bigger cannon, even as Europeans were beginning to develop much more useful light field artillery. The largest of Makassarese cannon, named *Anak Makassar* and blown up when the Makassarese abandoned their capital in 1669, may have been the largest made in Southeast Asia. De Krucq (1941 [2], p.82) has calculated on the basis of the mighty remnant of it, that it must have been 6 metres long, with a caliber of 41.5 cm. and a total weight of 19,000 pounds or almost 10 tons. Almost as collosal was the *Pancawura* of Mataram, 5.3 metres in length with a 36 cm. caliber. (For even larger Turkish cannons, bigger than anything in Europe, see Cipolla, 1965, pp.91-9).

Hand-held guns, because they could be aimed (unlike the early cannon) and could pierce armour (unlike arrows), were of somewhat greater use in the type of warfare most common in Southeast Asia. Tome Pires (1944, pp.77 & 115) reported that both.Cannanore (Malabar) and Cochin-china had 'many musketeers' (*espimgardeiros*) around 1515, while Alboquerque (1880, III, p.127) claimed that there were 'large matchlocks' among the artillery found at the capture of Melaka. In both cases what must have been meant was a type of arquebus, developed in Europe from the late 15th Century, which could for the first time be sighted because it had a trigger mechanism. It was however extremely cumbrous to load and fire, and at this early stage it would have been suspended from a hook, not held to chest or shoulder. One can readily imagine that even though such weapons were imported into Southeast Asia in the 16th Century, the meticulous, lengthy preparation for shooting them would have been very difficult to combine with traditional Southeast Asian styles of warfare. Nevertheless Bayinnaung, the most militarily successful of Burmese Kings (1551-81), evidently collected arquebuses on a massive scale (Fredericke, 1970, III, p.248 claimed 80,000, "and the number of them increaseth daily"), insisted on regular target practice, and adapted them to firing from the backs of elephants.

As muskets became lighter, and their firing systems less complicated, they were in increasingly great demand in Southeast Asia. Scott (1606, pp.100 & 163) was annoyed by the persistence of Bantenese notables in 1605 in sending their men to steal the English muskets, perhaps because during an earlier demonstration of English prowess in the town, 'The multitude of people did admire to see so fewe of us deliver so much shott, for the Javans and Chyneses are no good shott.' During the 17th Century the manufacture of muskets by Southeast Asian craftsmen developed on quite a large scale, and with increasing skill. Mataram reportedly manufactured 800 within three months of 1651-2 (Van Goens, 1956, p.123). Makassar had stockpiled 2,422 'pieces' (unfortunately not further specified) by 1615 (*Letters Received* III, p.150), and began to manufacture its own muskets (? - Makassarese *ba'dili'*) under Karaeng Matoaya of Tallo' (r. 1593-1634) (Rahim & Ridwan, 1974, p.16). The Bugis, Balinese, and Minangkabau became particularly noted for the manufacture of muskets in the 18th Century, the best of them with very true bores and exceptionally fine inlay work (Marsden, 1811, p.347; Crawfurd, 1820, I, pp.191-2). Local craftsmen however limited themselves to the matchlock firing mechanism. The much more efficient wheel locks and flintlocks, which the Europeans were using throughout the 17th and 18th Centuries, represented 'a piece of complex machinery far beyond their skill', as Crawfurd put it (*ibid.* p.191). What could not be made could usually be purchased, however, especially from the English. To take a later example, Aceh imported 4,049 stands of arms and 80,000 lb. of gunpowder from the British Straits Settlements in one year (1872/3) before its war with the

Dutch (Parkinson, 1960, p.33n).

Apart from the shock effect of firearms on opponents who had not previously experienced their use, the Europeans did not gain much advantage in land warfare from superior weaponry. They consistently had weapons a little more advanced than all but a very few indigenous opponents, and were almost always more experienced and skilled in the use of firearms. In relation to the much greater number of men and weapons, including firearms, on the Southeast Asian side, however, these advantages should not have been decisive. Not until the 19th Century did the technological gap become really significant in field warfare, with the development of rapid-fire rifles and cannon such as the Gatling.

In two respects, however, the Europeans had and held an advantage from the beginning. Firstly their adaptation of cannon to naval warfare was never effectively copied by Southeast Asians. The Acehnese appear to have been the most enthusiastic in fitting cannons of various types to their vessels, but the frequency of their defeats by smaller numbers of Portuguese vessels suggests that even they did not fully master these techniques (Macgregor, 1956; Boxer, 1964). In general, providing they could prevent the Asians from boarding, European ships maintained a striking superiority in naval warfare from the 16th Century onwards (Cipolla, 1965, *passim*).

Secondly, once the Europeans were able to construct massive stone fortresses of European type, they were very seldom dislodged. Such fortresses were something new in Southeast Asian warfare, as were the means for breaching them -- mines, catapults, ladders and bombardment, naval or otherwise. Thus even when a European power was weak, overstretched, or hopelessly outmanned, it managed to survive until some luckier day. The most remarkable survival was Portuguese Malaka, despite a full century of repeated assaults from Aceh, the most formidable Southeast Asian military power of its day. The failure of the largest of these Acehnese attacks, the 1629 one in which 400 vessels reportedly took part, marked the first setback for the arms of Sultan Iskandar Muda, and a major turning point in the fortunes of Aceh itself (Boxer, 1964). Similarly the Dutch fortress at Jacatra/Batavia, although correctly identified by Sultan Agung of Mataram as the thorn in the foot of Java, which he had to 'pluck out, for fear the whole body should be endangered' (*Calendar, East Indies*, II, p.190), proved impossible to eradicate. The disastrous failure of Sultan Agung's two expeditions against it, in 1628-9, began the decline in Mataram's fortunes in exactly the same manner as Iskandar Muda's defeat began Aceh's (De Graaf, 1958, pp.144-63; Ricklefs, 1978, p.4).

The most important European fortress to fall to Southeast Asian armies was the Portuguese one at Ternate, which finally capitulated to Sultan Baab Ullah at the end of 1575 after five years of virtually constant siege (Wessels, 1934, pp.85-95). The Portuguese at Syriam under De Brito had in a similar way united most of coastal Burma against them, but their fortress could only be taken in 1613 when a man inside opened the gate for the besiegers (Hall, 1968, p.376).

The emphasis Southeast Asian warfare placed on individual prowess, as much spiritual as physical, must have increased the impact of the new techniques introduced by the Europeans. The advantage of surprise very quickly faded, however. Galvão put the point nicely in relation to the Moluccas in the mid-16th Century:

> formerly, upon seeing a man with a helmet, they said "There comes an iron head" and all of them ran away presuming that we were invincible and not subject to death. But at present they know that under that helmet there is a head that can be cut off, and a body that is not immortal. And seeing us fire muskets, they imagined that our mouths breathed out a deadly fire; and at hearing bombards shooting and the Portuguese being mentioned, pregnant women had a miscarriage because among them artillery was unknown nor had they any inkling of it. But for a long time now, they make war with us and do not hold us in much esteem; and all of them would have eaten us at one table if God had not assisted us miraculously. (Jacobs, 1971, p.171).

More important in reality than the 'iron heads' of the Portuguese was their greater persistence in slaughtering their enemies. European warfare was more expensive of men than Southeast Asian, and European soldiers were trained to go on with the fighting even after their leaders or champions had fallen. The concept of the professional soldier, disciplined and dedicated to the business of killing, was the biggest single advantage that European armies on land possessed.

There is no doubt that the challenge presented by the relatively small number of Europeans introduced important changes into Southeast Asian warfare in the 16th and 17th Centuries. These included the greater use of firearms, the building of permanent stone fortresses, and the increasing use of permanent armies, especially of foreign mercenaries. The rulers who adopted these innovations quickly and combined them with the traditional ability to raise large levees of self-supplied citizens called up through the aristocracy, reached heights of internal and external power which were probably unprecedented. The most striking examples are Bayinnaung in Burma (1551-81), Iskandar Muda of Aceh (1607-36), Sultan Agung of Mataram (1613-45), and somewhat more problematically Prasat Thong of Ayutthaya (1629-56) and Sultan Abdu'l Fatah (Ageng) of Banten (1651-80). The control of such monarchs over armouries of weapons placed them on a lonely pinnacle of physical power within their kingdoms which was for the first time commensurate with the exalted ideology of kingship which their ancestors had already claimed. It would have been out of the question for any European force to pick a fight with one of these monarchs on their own territory, though some of them (notably Bayinnaung and Agung) were very weak by sea.

In most of the above cases, the combination of older and newer forms of coercion was made possible by a single forceful, ruthless king whose tyranny imposed such strain on the political system that he left it in ruins behind him. Some of the military lessons were more deeply absorbed, however, in at least a few of the states we are dealing with. The most striking examples of the adoption of new military technologies over a long period were Aceh and Makassar. Both were renowned in the 17th Century (Aceh since the mid-16th) as exceptionally warlike, formidable military powers, both by land and sea. Both appear to have understood that technological and social changes were required to answer the military challenge of the Europeans. The four elements in this -- fortresses, firearms, ships, standing armies -- need to be considered in turn.

In Aceh, where Turkish and Gujerati models were more important than European ones, fort-building remained a relatively neglected art. The reason may have been that Aceh was seldom on the defensive, never having been seriously threatened by an external foe at any time before 1873. The royal enclosure, or *dalam*, built by Ala'ud-din Ri'ayat Shah al-Kahar (1537-71) had 'no fortification worth speaking of' in the opinion of an expert Frenchman (Beaulieu, 1666, p.103). Of its 1700 metre wall only 34 metres around the main gate were of stone. The remainder was of earth, 10-13 metres thick, but in places less than 2 metres high (*ENI* II, p.321). Despite this neglect, however, the Acehnese developed considerable skill in assaulting enemy fortresses as they showed against the Portuguese in Deli as well as Melaka. Makassar, learning much from its Portuguese residents and with its port often in danger of Dutch naval attack, put much more effort into fort-building. The first brick-walled fortresses were built in the reign of Tunipalangga (1548-66), but in the early 17th century a string of at least six such forts was erected along 15 km. of coast. In 1615 'all the whole land is making of bricks for two castles this summer to be finished' - probably at Tallo' and Pannakkukang (cited Reid, 1981 [2], pp.11-12; 1981 [1], pp.22-3). Ujung Pandang (the later Dutch fort, still standing) was given a brick wall in 1634. The strongest of these forts, Tallo' and Sombaopu, had walls between 1.5 and 2.5 km. in perimeter, made of stone blocks and bricks, 3-4 metres in thickness and 2-3 metres in height. Sombaopu was probably the strongest fortification the Dutch ever had to face in Southeast Asia, and they took it only by sapping under the walls and blowing up a substantial sector (Reid, 1981 [1], p.26).

As we have seen, the Acehnese became relatively skilled in making cannon in the 16th Century, under initial Turkish guidance. Under Iskandar Muda a truly formidable armoury was assembled in the palace:

> some people say that he has five thousand cannon; there is evidence for two thousand, provided that one includes falconets, *espoirs*, perriers [swivel-guns], and other *pièces a boëtte*; for the cannons of which I am certain, there are certainly twelve hundred, all of bronze, and eight hundred [of them] large pieces; . . . . with arquebuses he is fairly well provided, but they are short and badly mounted (Beaulieu, 1666, p.105).

In complete contrast with the older tradition of a self-armed population, Iskandar Muda kept a tight control of these weapons, as well as the supply of powder and shot. When the army set out, 'the King has arms given to them, of which a register is kept, they being obliged to restore them on their return, for which their wives and children remain responsible' (*ibid.* p.106). Makassar accumulated a similarly vast armoury of weapons, manufacturing its own large and small guns with initial help from Portuguese and English residents. When Sombaopu was captured in 1669, the following items were among the armoury which fell into Dutch hands, even though the majority of the lighter weapons must have been taken by the retreating Makassarese:

> 33 large and small [bronze] cannon, with a total weight of about 46,226 lb.

11 large and small iron guns, with a total weight of about 23,900 lb.
125 large and small bronze *basschen* [basilisks?], with a total weight of about 28,280 lb.
83 large and small metal chambers [?], with a total weight of about 2,500 lb.
60 muskets with locks
23 *haex* [arquebus?] with and without locks
127 good and broken musket barrels, of which the locks are burned

(Speelman, cited Krucq, 1941 [2], p.78). In addition to the sheer quantity of weapons, we know in the Makassar case that the technology of manufacture and gunnery was carefully studied and well understood, with translations made into Makassarese from Spanish, Portuguese, Turkish and Malay texts (Reid, 1981, [2], p.22).

Both Aceh and Makassar were formidable naval powers, with the two strongest Southeast Asian navies of their time. Both proved capable of transporting armies of 10-20,000 men in fleets comprising several hundred vessels. Western observers are lavish in their praise for the skill of the boatmakers in both countries, and for the speed of their vessels. However the naval strategy of both countries appeared to be locked into the same ultimately dead end as those of Turkey and the other Mediterranean powers -- an excessive reliance on oared galleys designed for transporting troops, and where necessary for boarding and ramming. The relatively sheltered waters of the Indian Archipelago, like those of the Mediterranean, made galleys (outriggered *korakora* in eastern Indonesia) seem the logical way to go. However the light, highly manoeuverable but heavily armed sailing ships developed by the Atlantic powers, notably Holland and England, proved consistently able to defeat such galleys before it came to boarding (Cipolla, 1965, pp.75-81, 122-6). Both Aceh and Makassar suffered their key defeats by Europeans at sea. Guns were fitted on these galleys -- as many as 18 cannon on the biggest Makassarese galleys (Stapel, 1936, p.38) and a mixture of cannons and falconets on the Acehnese (Beaulieu, 1666, p.106). However the galleys were too crowded with men, too difficult to manoeuvre, and simply too little accustomed to the European type of naval artillery barrages, to prevail. Mastery of the seas, therefore, was European.

Unfortunately we know too little about the social organization of warfare in Aceh and Makassar to explain fully why they appeared more successful in war than most of their rivals. There was a small 'professional army' in 16th Century Aceh in the form of the soldiers and gunners sent out from Turkey (Reid, 1969, pp.401-7). Later, in Iskandar Muda's time, 500 royal 'slaves', mainly foreigners trained in warfare since their youth, lived in the *dalam* and carried out the ruler's commands (Beaulieu, 1666, p.103). In Makassar the 'foreign' communities, Malays, Chams and even Portuguese, played important military roles especially in relation to artillery, though it is doubtful whether we can consider them professional soldiers. The upper classes of both Aceh and Makassar, however, particularly the latter, were motivated by a very demanding code of chivalry which made the profession of arms almost second nature. This, together with the powerful bond between patron and client or master and servant, appears to have substituted to a considerable extent for the discipline of a more modern army.

Despite their disadvantage at sea, the stronger Southeast Asian states continued to be more than a match for the small European forces in land warfare. Once the novelty of the European assault had worn off, therefore, there ought to have been at least a standoff, in which the power of the Europeans was effectively limited to their ships and those few forts they had been able to make impregnable. For most of the 16th and 17th Centuries this was in fact the way it appeared. The different European powers were no more than new pieces on the Southeast Asian chessboard, useful as allies because of their naval prowess and their supply of gunpowder and arms, but not themselves the key contestants.

During the second half of the 17th Century, however, the Dutch Company (VOC) established not merely naval superiority, but also a form of maritime hegemony over all the major international ports of the region. By 1700 Burma and Thailand had turned away from the struggle to keep their sea lanes open, and had thereby isolated themselves from subsequent technical advances. The states most anxious to resist Dutch claims to commercial monopoly, Aceh, Banten, and Makassar, had had a similar isolation forced upon them by the VOC. How had the few Dutchmen in Southeast Asia, never rising much above 12,000 in the 17th Century (Masselman, 1963, p.466; Boxer, 1965, p.69), been able to achieve this feat?

Firstly, the European opposition to them was no longer very serious. Discouraged by Dutch successes in the first half of the century, the English and Portuguese allowed the VOC to dominate Indonesian waters from about the middle of the century, finding it more profitable to concentrate in areas where they had a relative advantage. Although Europeans continued to assist and supply the major Southeast Asian states against the Dutch, they could no longer hope for the support of their home governments in any open act of war against the VOC. The European naval superiority therefore increasingly became a VOC naval supremacy. It was a key aim of Dutch military strategy to deny the major Southeast Asian states access to any European power except themselves, and for almost a century after 1680 they came close to succeeding.

Secondly, the VOC was a remarkably 'modern' organization by any 17th Century standards, and therefore had organizational advantages over its Southeast Asian rivals. It was not a state but a joint-stock company, and a wealthy enough one to hire professional, paid soldiers on a scale hitherto unknown in the region. Thousands of these were of course Europeans, the majority usually not Dutch but Germans, Swiss, Poles, Scots and others. An average of 3,700 men each.year were sent to the Indies as sailors or soldiers (Masselman, 1963, p.466). In addition, the VOC was able to hire Indonesian troops, who usually made up at least half of the Dutch forces during the battles of the second half of the 17th Century. The Ambonese Captain Jonker and the Bugis Arung Palakka were the most famous leaders of Indonesian units under Dutch colours, but there were also Balinese, Javanese and Malay units which performed great services for the Dutch. The contrast with most Southeast Asian armies was noted by one Johor raja in 1606, who responded to the complaints of Cornelius Matelief about the slowness of the Malays to take their share of a supposed anti-Portuguese alliance:

> For him it was not like the [Dutch] admiral who gave his men upkeep and wages so that they had to do whatever he said. But here each *Orangkaya* or nobleman had to bring a certain number of people, and each feared to lose his slaves, which are there only wealth (Matelief, 1646, p.17).

Finally, the centralized and systematic authority structure of the VOC gave it continuity and stability over a longer period than any indigenous state could hope for. Time was always on the side of the VOC, which was prepared to wait for weakness and disunity to appear in its adversaries. It could not have tackled any of the major powers at their height, or unaided by internal dissidents.

Makassar was a thorn in the Dutch side for half a century, but only when the Bugis rebel Arung Palakka showed that he could rally Bugis to join him in throwing off the 'tyranny' of Makassar was it possible for the VOC to bring it down. The first Dutch victory, in January 1667, was partly a naval one, far from Makassar itself on the island of Buton. Although the Dutch fleet had only 600 soldiers (with additional sailors and Bugis units), it caught the 15,000-strong Makassar army on enemy territory, besieging the fortress of Buton. Moreover, as soon as Arung Palakka made his appearance on the Dutch side, the Bugis who made up almost half the Makassar army began to rally to him (Stapel, 1936, pp.36-7; Andaya, 1981, pp.76-8). This initial defeat made it increasingly difficult for the Makassarese to retain control of the more numerous Bugis under their sway. The problem in the anti-Makassar alliance was increasingly one of trying to control the thousands of plunder-seeking Bugis who turned against their Makassarese masters. In the final, furious attack on the Makassar citadel in June 1669, when the Dutch expended 30,000 musketballs and experienced the toughest fighting they had seen in the Indies, it was their Bugis allies who did most of the fighting and inflicted most casualties (Andaya, 1981, pp.130-3).

In Java, Dutch power was made possible only by civil war, first between Amangkurat II and Trunajaya for the throne of Mataram (1677-9), and then between Sultan Haji and his father Sultan Ageng (Abdu'l Fatah) for that of Banten (1680-2). In both cases the VOC aided the less popular side (indeed contributing to that unpopularity) but the discipline and artillery of the VOC troops (always an ethnic mix of European and Asian) was sufficient just to turn the balance. In Aceh the Dutch wisely avoided attempting to interfere directly, but were able to use their naval and commercial power to detach the pepper-producing vassals from their allegiance to that Sultanate.

It is important neither to exaggerate nor minimize the significance of these victories. The Dutch were never strong enough, before 1800, to control or direct positively the lives of more than a small number of Southeast Asians. On the other hand, in helping to destroy or isolate the major maritime cities which had been the centres of commerce, and of technical, cultural and social innovation in the region, they determined the under-development of Southeast Asia.

REFERENCES

Alboquerque (1880), *The Commentaries of the Great Afonso Dalboquerque*, trans. W. de Gray Birch, Vol. II, London, Hakluyt Society.

Andaya, Leonard Y. (1981), *The Heritage of Arung Palakka. A History of South Sulawesi (Celebes) in the Seventeenth Century*. The Hague, Martinus Nijhoff for KITLV.

Anderson, John (1826), *Mission to the East Coast of Sumatra in 1823*. Edinburgh/London, Blackwood.

Bausani, A. (1970), *Lettera di Giovanni Da Empoli*. Roma, Istituto Italiano per il Medio ed Estremo Oriente.

Beaulieu, A. de. (1666), 'Memoires du voyage aux Indes Orientales du General Beaulieu, dressés par luy-mesme', in *Relations de divers voyages curieux*, ed. Melch. Thevenot. Paris, Cramoisy.

Blair, E.H. & J.A. Robertson (eds.), *The Philippine Islands 1493-1803*. 20 volumes, Cleveland, 1908.

Boxer, C.R. (1964), 'The Achinese Attack on Malacca in 1629, as described in Contemporary Portuguese Sources', in *Malayan and Indonesian Studies: essays presented to Sir Richard Winstedt on his eighty-fifth birthday*, ed. John Bastin and R. Roolvink. Oxford, Clarendon.

---------- (1965), *The Dutch Seaborne Empire 1600-1800*. London, Hutchinson.

Brown, C.C. (1952), 'Sejarah Melayu or "Malay Annals". A translation of Raffles MS 18', *JMBRAS* 25, ii/iii.

Calendar, East Indies. Calendar of State Papers, Colonial Series, East Indies, China and Japan, Vol. II (1617-1621). London, Longman.

Cipolla, Carlo M. (1965), *Guns, Sails and Empires: Technological Innovation and the Early Phase of European Expansion 1400-1700*. Minerva Press.

Collis, Maurice (1936), *Siamese White*. London, Faber and Faber.

Crawfurd, John (1820), *History of the India Archipelago*. Edinburgh, Constable, 3 vols.

Dampier, William (1927), *A New Voyage Round the World*. London, Argonaut Press.

---------- (1931), *Voyages and Discoveries*. London, Argonaut Press.

Drewes, G.W.J. (1979), *Hikajat Potjut Muhamat. An Acehnese Epic*. The Hague, Martinus Nijhoff for KITLV.

ENI. Encyclopaedie van Nederlandsch-Indië, 4 vols, 's-Gravenhage, Martinus Nijhoff, 189 -1905.

Fredericke, Cesar (1907), 'The voyage and travell of Master Cesar Fredericke, Marchant of Venice, into the East India, and beyond the Indies', in *Hakluyt's Voyages*, Everyman's Library edition, London, J.M. Dent, Vol. 3, pp.198-269.

Fryke, C. (1929), 'A relation of a voyage made to the East Indies', in *Voyages to the East Indies. Christopher Fryke and Christopher Schweizer*, ed. C.E. Fayle. London, Casse & Company, pp.1-169.

van Goens, R. (1956), *De Vijf Gezantschapsreizen van Rijklof van Goens naar het Hof van Mataram, 1648-1654*, ed. H.J. de Graaf. 's-Gravenhage, Martinus Nijhoff for Linschoten-Vereeniging.

de Graaf, H.J. (1958), *Re Regering van Sultan Agung, Vorst van Mataram, 1613-1645, en die van Zijn Voorganger Panembahan Seda-ing-Krapjak, 1601-1603*. 's-Gravenhage, Nijhoff for KITLV.

Hall, D.G.E. (1968), *A History of South-East Asia*. Third ed., London, Macmillan.

Hikayat Patani (1970), *Hikayat Patani. The Story of Patani*, ed. A. Teeuw & D.K. Wyatt. The Hague, Martinus Nijhoff for KITLV.

Iskandar, Teuku, 1958. *De Hikajat Atjeh*. 's-Gravenhage, Martinus Nijhoff for KITLV.

Jacobs, Hubert Th. Th. M. (1971), *A Treatise on the Moluccas (c. 1544)*. Rome, Jesuit Historical Institute.

-------- (1979), 'Un reglement de comptes entre Portugais et Javanais dans les mers de l'Indonesie en 1580', *Archipel* 18, pp.159-73.

de Krucq, K.C. (1941) [1], 'Beschrijving der kannonen afkomstig uit Atjeh, thans in het Koninklijk Militaire Invalidenhuis Bronbeek', *TBG* 81.

-------- (1941) [2], 'De Geschiedenis van het heilig kanon.van Makassar', *TBG* 81, pp.74-95.

Letters Received from the East India Company from its Servants in the East, ed. F.C. Danvers & W. Foster. 6 vols. London, 1896-1901.

Linschoten (1885), *The voyage of John Huyghen van Linschoten to the East Indies*, ed. A.C. Burnell & P.A. Tiele. London, Hakluyt Society.

Loubere, Simon de la (1691), *A New Historical Relation of the Kingdom of Siam*. London, Tho. Horne; reprinted Kuala Lumpur, 1969.

Macgregor, I.A. (1956), 'A Sea Fight near Singapore in the 1570's', *JMBRAS* 29, iii, pp.5-21.

Ma Huan (1970), *Ying-yai Sheng-lan. 'The overall survey of the Ocean's Shores' (1433)*, ed. J.V.G. Mills. Cambridge, Cambridge University Press for the Hakluyt Society.

Marsden, William, 1811. *The History of Sumatra*. 3rd ed., London. Reprinted Kuala Lumpur, 1966.

Masselman, George (1963), *The Cradle of Colonialism*. New Haven, Yale University Press.

Matelief, Cornelis (1646), 'Historische Verhaal vande treffelijeke Reyse gedaen naer de Oost-Indien ende China, met elf Schepen, door den Manhasten Admirael Cornelis Matelief de Ionge, in de jaren 1605, 1606, 1607 & 1608', in *Begin ende Voortgang Vande Vereeningde Neederlandsche Geoctroyeerde Oost-Indische Compagnie*, I. Commelin (ed.), Amsterdam, 2 vols.

O'Kane, J. (1972), *The Ship of Sulaiman*, trans. from the Persian. London, Routledge & Kegan Paul.

Parkinson, C.N. (1960), *British Intervention in Malaya 1867-1877*. Singapore.

Pires, Tome (1944), *The Suma Oriental of Tome Pires*, trans. A. Cortesao. London, Hakluyt Society, 2 vols.

Purchas, 1905. *Hakluytus Posthumus, or Purchase His Pilrimes*, Glasgow, Hakluyt Society, Vol. II.

Rahim, Abdul and Ridwan Borahima (eds.) (1974), *Sejarah Kerajaan Tallo' (Sualu Transkripsi Lontara')*, Ujung Pandang, Lembaga Sejarah dan Antropologi.

Ras, J.J. (1968), *Hikajat Bandjar. A Study in Malay Historiography*. The Hague, Martinus Nijhoff for KITLV.

Reid, Anthony (1969), 'Sixteenth Century Turkish Influence in Western Indonesia', *JSEAH* 10, iii, pp.395-414.

---------- (1980), 'The Structure of Cities in Southeast Asia, Fifteenth to Seventeenth Centuries', *JSEAS* 11, ii, pp.235-50.

---------- (1981), 1. 'The Rise of Makassar'. Paper presented to SSRC Conference on South Sulawesi, Melbourne, December 1981.

---------- (1981), 2. 'A Great Seventeenth Century Indonesian Family: Matoaya and Pattingalloang of Makassar', *Masyarakat Indonesia* 8, i, pp.1-28.

Ricklefs, M.C. (1978), *Modern Javanese Historical Tradition*. London, SOAS.

Scott, Edmund (1606), 'An exact Discourse of the Subtilties, Fashions, Policies, Religion, and Ceremonies of the East Indians', in *The Voyage of Henry Middleton to the Moluccas 1604-1606*, ed. W. Foster. London, Hakluyt Society, 1943.

Siegel, James (1979), *Shadow and Sound. The Historical Thought of a Sumatran People*. Chicago, University of Chicago Press.

Skinner (ed.) (1963), *Sja'ir Perang Mengkasar (The Rymed Chronicle of the Macassar War) by Entji' Amin.* 's-Gravenhage, Martinus Nijhoff for KITLV.

Stapel, F.W. (1936), *Cornelis Janszoom Speelman*. 's-Gravenhage, Martinus Nijhoff.

Wessels, C. (1934), *Histoire de la Mission de'Amboine, 1546-1601*. Louvain, Museum Lessianum.