

INTRODUCTION

In Indonesia the Neolithic came to an end at dates that were widely different for various regions of the territory. In the Island of Enggano, for instance, an Early Neolithic Civilisation was still in existence in the 18th century¹; the Neolithic colony of Kalumpang in West Central Celebes has been dated at 1000 A.D. by the author, and it is general knowledge that even today in the interior of New Guinea there are Papuan tribes living in conditions of the Neolithic proper.

The period following the Neolithic in Indonesia has been called by me the Bronze-Iron Age. The use of this term requires some explanation. As copper axes have never been found, it may be assumed that there was no Copper Age. We are not even convinced that there ever was a proper Bronze Age, as there are no primitive bronze axes and flat daggers in the various collections, and there is no knowledge of such finds in excavations. Moreover, no finding-places of bronze objects only are known, but on the contrary, such objects have always been found associated with iron ones. On the other hand, we have repeatedly been confronted with the well-known socketed axes (axes with a socket to take a wooden handle), a type which everywhere else designates the final phase of the Bronze Age or the beginning of the Iron Age.

The foregoing arguments cause me to prefer the term Bronze-Iron Age to Bronze Age, which latter term is used by some scholars. R. Heine Geldern² proposed the name Dongson Culture for this period: "...I proposed to use the term Dongson Culture for the whole Bronze Age of Further India and Indonesia, in the same sense as we speak of a Hallstatt or La Tène Culture, since Dongson was the first site where the respective

¹ Heine Geldern, R. 1946: Research on Southeast Asia. Problems and Suggestions. *Am. Anthropologist*, p. 151—52.

Heine Geldern, 1945, p. 142.

Keuning, J. 1955: Enggano, de geschiedenis van een verdwenen cultuur. *Indonesië*, 3, p. 177—211.

² Heine Geldern, 1945, p. 143.

culture had been recognized as a more or less complete unit. However, we should keep in mind that the term suggested is only a provisional one and that subsequent research may induce us to restrict its use to a considerable extent. Not only is it possible that there existed several distinct, though interrelated, Bronze Age Cultures in Further India and Indonesia, but it becomes increasingly clear that during the period in question, Indonesia was affected not only by influences from Indo-China, but also by more direct contacts with China.”

We observe that Heine Geldern considers Indonesia and Indo-China, at the period in question, as a cultural unity. This period we might also call Proto-Historic, because as we shall see later, the most ancient script dates from this period ³ and the oldest Chinese chronicles mention the Proto-Malayan (Indonesian) population of Indo-China of that period.⁴

Knowledge of the Bronze-Iron Age of Indonesia derives mainly from the following sources:

1. Stray finds which have been acquired by museums through purchase or gifts. These consist of bronze axes, spear-heads, daggers, ceremonial axes, kettle drums and vessels, bracelets, rings, pendants, beads and other ornamental and utilitarian articles.⁵
2. Hoards of bronze objects either by themselves or accompanied by earthenware, found by the population and sold to archaeological officials or to the Museum at Djakarta.
3. Descriptions and excavations of groups of megaliths in Java, Sumatra, Celebes and Borneo.
4. Descriptions and excavations of urn cemeteries in Java, Sumatra, Celebes, Salajar and Sumba.

³ Mr. Basoeki, assistant of the author, discovered some Chinese characters on the tympan of a kettle drum from the Island of Koer. The script has not yet been identified but the inscription probably indicates a certain period of regnal years.

Two more kettle drums with Chinese characters are known to exist outside Indonesia. One of them of a type Heger I has the inscription: “sixth year of the rule of Konang wou ti”, i.e. 30 A.D. The inscription on the second drum, which is in the British Museum at London, reads: “made by Chang Fu in the seventh month of the fourth year of the rule of Chieng Hsing”. This rule was about 226 A.D.

⁴ Maspéro, 1918.

⁵ These finds are described in: van der Hoop, 1941, p. 184—390; van der Hoop, *Jaarboek Bataviaasch Genootschap*, 1942—1947; van Heekeren, *Jaarboek Bataviaasch Genootschap*, 1948—1951, p. 35—58.

5. The excavations in North Annam of the classical settlement and necropolis at Dong So'n which informs us about the character of the Dongson Culture.
6. Studies and articles on kettle drums in South East Asia including Indonesia.
7. Chinese chronicles which give us important information about the population of the continent of South East Asia as they found it in the year 100 B.C.
8. Working-hypotheses by Heine Geldern and others drawing attention to the inception and the origin of the Dongson Culture.
9. Proto-Historic traditions which have survived up to the present in some more or less isolated parts of Indonesia.

The first collector of Proto-Historic objects such as bronze axes and kettle drums who described and portrayed these objects was G. E. Rumphius. He published his findings in 1703.⁶ It struck him that the bronze axes had the appearance of human tools, but he could not free himself of the belief prevalent in Indonesia and elsewhere that these metal objects (and also the stone axes of the Neolithic) were thunderbolts. He even tried to give a scientific explanation, by assuming that the objects owed their existence to metallic vapours which became concentrated in the clouds by lightning, and were there condensed into objects in the shape of a tooth. The hole in the axe, and its sharp edge, he attributed to the action of the strong wind which always accompanies a thunderstorm.

The population worshipped the bronze axes as it did the stone axes. Magic powers were ascribed to them and for that reason they were sometimes worn on the body or melted down into finger rings to be worn on the index finger when going to war. The axes were also used as a protection against lightning, and an extract from them as a remedy for fevers. Furthermore, a piece of such an axe melted together with some lead would make a bullet which could pierce through any resistance. Bronze axes were therefore most valuable, and one was reluctant to part with them. As is known, many of these axes fell into the hands of the Dutch after their victory over the army of Macassar on the Island of Buton in 1667, and in the course of Indonesian wars they changed hands repeatedly. The common man was not allowed to own them, but should pass them on to the ruler. A condemned life might

⁶ Rumphius, 1705.

be saved in exchange for a bronze axe. One hears continually of stories by the population that stone or bronze axes were found after lightning in coconut trees or in holes in the ground.

A different significance is attached to these objects at Luwu and Wotu in Mid-Celebes (around the north-western part of the Gulf of Bone). A bronze axe there is considered to be the only incisor of the spirit called Longga, who loses this tooth once every year. This spirit is only an inch tall but may suddenly rise in height until his head reaches the clouds. The happy tooth finder may be certain to be protected against any enemy attacks.

One may be inclined to consider that the foregoing observations belong to folklore rather than to archaeology. However, as early as 1882, J. J. A. Worsaae⁷ came to the conclusion that some early culture had existed in the Malayan Archipelago which was conversant with the use of bronze utensils, and which had its origin in the continent of South East Asia. In 1898 H. E. Steinmetz⁸ was able to give a description of megaliths in the eastern corner of Java, a description which may be considered as most accurate for that time. In 1902 A. B. Meyer and O. Richter published an account of the Bronze Age of Celebes in which they expressed the belief that cultural contacts had existed in that Age between Celebes, Flores, North Borneo and the continent of South East Asia. They went even so far as to look for the origin of this Bronze Age Culture in Eastern Europe.⁹

In fact they proffered ideas which are gaining in popularity particularly in recent years.

Further important researches have been taking place in Indonesia as follows:

In 1932 an excellent monograph on the megaliths of Southern Sumatra was published by A. N. J. van der Hoop.¹⁰

W. J. A. Willems in 1938 carried out some exemplary excavations of the urnfields of Sumba¹¹ and in a megalithic area in the eastern corner of Java.¹²

The author of the present book excavated in 1954 two sarcophagi in the Isle of Bali and in 1955 an urnfield in the Banten region of Java.

⁷ Worsaae, 1878/83.

⁸ Steinmetz, 1898.

⁹ Meyer und Richter, 1902/03, p. 73—91.

¹⁰ van der Hoop, 1932.

¹¹ van Heekeren, 1956a.

¹² Willems, 1938.

Heine Geldern delighted us with a series of far reaching studies on the Bronze-Iron Age of which the latest¹³ may be considered as of such importance that a resumé will be included in this book.

The prehistoric bronzes of Indonesia and of the continent of South East Asia consist of an alloy of 75 % copper and 25 % lead. We are therefore dealing with lead-bronze, a bronze in which the usual element, tin, is almost entirely replaced by lead. This, however, is not a law of Medes and Persians, and a sufficiency of objects could be mentioned in which the metal tin appears in combination with copper. The main ingredient of the bronzes, however, is always copper. In general South East Asia is deficient in copper ore, and if our information is correct, only South China would have been likely to make a paying proposition of copper mining. In Indonesia there are small deposits of copper ore in Sumatra, Java, Borneo, Celebes, Timor and also New Guinea. Bronze, therefore, was a rare and valuable metal which for the most part had to be imported. We may take it that the possession of luxury articles like bronze utensils and ornaments were the exclusive privilege of the rulers and of other important personages, whereas the remaining population continued to manufacture stone axes during the whole of the Bronze-Iron Age, and in some instances well into historic times. Because of the scarcity of raw material, old and broken bronze objects were melted down repeatedly and then recast into new moulds. Thus the influence of the decorative art of this period has probably been of more importance than the spread of the knowledge of metal casting. The artistic influence can still be clearly observed at the present time in the ornamentation of bamboo tubes and on the walls of houses in remote places. The artistic style of the Sa'dan Toradja of Mid-Celebes and the northern coast of New Guinea for instance, is a typical "hold over" of the Dongson Culture, whereas that of Dajak in Borneo and of the Ngada in Flores date back to the Late Chou style of China. The houses of the Toradja of Palau and of the Toba Batak in Sumatra are the same as those portrayed on some kettle drums; their shape is pure Dongson.

A few centuries ago bronze objects still had an important part to play in North Celebes. Thus R. Padtbrugge informs us that in 1679 he observed women and girls who covered themselves with such large quantities of bronze ornaments (sometimes up to 20 lbs) that they were promptly drowned if they fell into the water. At that time there were

¹³ Heine Geldern, 1951.

still a number of bronze foundries, the majority of which, however, have disappeared by now. Their old tradition is at present continued in a few places only, and the method used is that of the well-known "cire perdue". We are well justified in concluding that there is an unbroken line in the traditional technique of metal foundry from the Proto-Historic Age to the present day, for instance among the Western Toradja, and that the changes in procedure have been minor ones only.

A. C. Kruyt¹⁴ has given us valuable information on the subject. The art of metal casting was passed down from father to son, the son customarily following in the trade of his father. The To Besoha are repeatedly referred to as being the originators of metal casting in Mid-Celebes, and from them the art was passed on to Napu, Bada, and Rampi. Perhaps it is no mere coincidence that a great wealth of megalithic antiquities is also found in the same region of Mid-Celebes.

The bronze objects are made in a smithy, where a pair of bellows is invariably encountered, and it is even forbidden to kindle the fire by blowing with the mouth. Bronze coins, old broken pots and pans, plates, etc., are melted in a crucible which has a spout. No mention is made anywhere of the use of copper ore acquired by mining. When the crucible has been partially filled with the pieces of old bronze, a layer of charcoal is put on top and the crucible is shoved into the oven. A replica of the object to be produced is then made by modelling in beeswax, and this is surrounded by a thick layer of clay. Two channels are left in the clay; through the one the molten metal is poured in, and the other serves the purpose of letting out the molten wax. The mould is then put in the fire and the clay is baked. After cooling down, the hardened layer is knocked off carefully and the bronze object is ready. When using this method of casting, the mould can be used once only. The method serves the purpose of making little bronze bells, axes, spear-heads, bracelets for arm and leg, and also small figurines and buffaloes. The bronze buffaloes are used as a magic means to protect the herds and to make them fertile. A. Grubauer tells us about realistically modelled female nudes which are only 6½ cm. high and used as amulets.¹⁵

During the Japanese occupation W. Rothpletz¹⁶ found on the Plateau of Bandung in Java a large number of fragments of clay moulds for axes, spear-heads and bracelets, which prove that in

¹⁴ Kruyt, A. C. 1938: *De West-Toradjas op Midden-Celebes*.

¹⁵ Grubauer, 1913, p. 552; p. 557.

¹⁶ Rothpletz, 1951, p. 78; p. 94—100.

Proto-Historic times such objects were actually manufactured in the locality and were not imported from abroad, as is often believed.

Side by side with the "cire perdue" method there was another technique of bronze casting, used for larger objects such as swords, kettle drums and vats. Such objects were cast with the help of stone moulds in two or more pieces, the halves of which must correspond exactly and must be clamped together, and these could be used over and over again. Walter Spies found in Manuabe in the Isle of Bali, some decorated fragments of such a stone mould for kettle drums of the Pedjeng type.