

Reflections on the New Data of Southeast Asian Prehistory

AUSTRONESIAN ORIGIN AND CONSEQUENCE

Received 4 May 1975

WILHELM G. SOLHEIM II

THIS article is neither a data paper nor a thorough review of data. Rather, it is an attempt to present a framework for the culture history of the Austronesian-speaking peoples alternative to the traditional one first presented by Robert Heine-Geldern (1932), with variations and additions by many others. I look briefly at the old data and their interpretation, then at the data assembled during the last twenty years and what interpretations have been made from these. With this background I make conjectures on the origin, expansion, and interactions of the Austronesian-speaking peoples. Should these conjectures prove to be even partially true, they would be so extremely different from the traditional culture history that they should lead to a very different self-image for these people and a somewhat different framework for the development of world culture.

THE 'OLD' DATA AND THEIR INTERPRETATION

The traditional reconstruction of Southeast Asian prehistory (Heine-Geldern 1932) was based on distribution studies of ethnographical, linguistic, and archaeological data. The available archaeological data were either from poorly documented surface collections or from archaeological sites which were dug rather than excavated. The resulting artifacts thus were of little more value than those from surface collections.

The general interpretation of these data, and of Heine-Geldern's reconstruction, was that Southeast Asian cultures lagged far behind those of the rest of the world and that all progressive culture change came into Southeast Asia from outside. Neolithic culture (horticulture and agriculture, polishing of stone tools, pottery

This is a slightly revised version of a paper that was presented at the First International Conference on Comparative Austronesian Linguistics, Honolulu, January 1974.

manufacture and other crafts) was presumably brought in by migrations from Japan and/or China. Metallurgy and the primary Southeast Asian art style, spread in Southeast Asia by the so-called Dongson (Bronze Age) Culture of northern Vietnam, was said to have originated because of contacts with Chou China in the 3rd century B.C. (Karlsgren 1942), or alternatively around the 8th century B.C. because of a migration from eastern Europe (Heine-Geldern 1951). Political organization leading to empires of one sort or another, monumental architecture, and writing (let's call it civilization) were brought in from India and China around 2000 years ago. The only culture truly of Southeast Asian origin was the Hoabinhian of northern Vietnam and farther afield, which was considered a late and very primitive mesolithic culture. The Hoabinhian predecessor in the Late Pleistocene, also of Southeast Asian origin, was known from what was considered an extremely primitive upper palaeolithic stone industry.

This general conclusion that the Southeast Asian cultural region was backward was based not on an objective and independent analysis of the data, but on the prevailing philosophy of the late Victorian Age and the unconscious predisposition of the European and European-oriented archaeologists who were doing the research in and on Southeast Asian prehistory. The culture of western Europe was considered as the peak of civilization to that time, with the known culture history which led to that peak—including the early historic Middle East→Greece→Rome—being the ideal path for culture to follow. The greater the difference and distance of a culture from that path, as expressed in the prehistoric artifacts and known history, the farther behind the ideal that culture was. What was known of Southeast Asian prehistoric artifacts and living ethnic groups indicated that they were very different from those of Europe, and thus were primitive.

Distribution studies of artifacts, art styles and motifs, languages, and ethnographic data showed various relationships of Southeast Asia with China and India, and some with eastern and western Europe. Both the first explorers and later scholars were much impressed with the civilizations of China and India. What little they saw of what they considered to be advanced culture in Southeast Asia had obvious Indian or Chinese relationships. All evidence appeared to point very strongly to the primitive nature of the prehistoric cultures and the derivative nature of the historic cultures of Southeast Asia.

Without some form of exact dating for the cultural elements shared among neighboring regions, there is no assurance of the direction in which these elements moved. From the data themselves there was no evidence to indicate whether shared elements of culture were earlier in China or India than in Southeast Asia. The direction of movement was assumed to be from outside Southeast Asia inward. It is to Heine-Geldern's credit that in several cases he suggested the alternative to movement of cultural elements in from outside—that is, possible origin in Southeast Asia. However, no one tested these alternatives.

THE "NEW" DATA

The new data that force a revision of the primitive status of Southeast Asian cultures have been presented or summarized in a number of articles which have appeared primarily during the last seven years. Rather than summarize these data

again, I include references to the major articles presenting them. The primary reference is volume 13 of *Asian Perspectives*. Briefly, here are the highlights.

Spirit Cave, in far northwestern Thailand, was discovered by Chester Gorman in 1965. It contained a typical Hoabinhian assemblage through all culture-bearing levels with the addition in the top level of pottery, partially ground rectangular stone adzes, and small slate knives. All excavated soil was screened in the hope of locating floral remains, and these were found. Two different kinds of beans and a pea may have been domesticated, while other forms that were found are grown or tended today in Southeast Asia. A reliable series of Carbon-14 dates indicates that these plant remains go back to 10,000 B.C. and earlier. Radiocarbon dates associated with the new artifacts found in the top level show that they arrived in the site about 7000 B.C. (Gorman 1970).

A salvage archaeology program, conducted by the Fine Arts Department of Thailand and the University of Hawaii from 1963 to 1966, led to the discovery and excavation of Non Nok Tha in northeastern Thailand. A second excavation was made at Non Nok Tha by Donn Bayard in 1968 (1970; n.d.). A controversial series of C-14 dates from Non Nok Tha placed bronze metallurgy at this site by about 3000 B.C. The dated sequence for Non Nok Tha was strongly supported by a 1973 series of 16 thermoluminescence dates on pottery from Ban Chiang, also in northeastern Thailand.

The excavations at Non Nok Tha produced the first clear evidence of a long period of bronze manufacture and use in Southeast Asia separate from and earlier than iron. Since this first dating of early bronze, other C-14 dates for bronze from the 2nd and 3rd millennia B.C. have been reported from northern and southern Vietnam and the Khmer Republic as well as at Ban Chiang.

At Non Nok Tha, and much more so at Ban Chiang, was found painted pottery associated with the earliest bronze. Painting of pottery did not continue for long at Non Nok Tha but did persist at Ban Chiang. Previous to the painted pottery at both of these sites, incised and impressed decoration was made on some of the pottery, going back into the 4th and 5th millennia B.C. The designs include many of the "Dongson" geometric designs, with the greatest emphasis on spirals and a great variety of designs with intertwining elements.

Rice was present at Non Nok Tha from the earliest use of the site, as indicated by impressions of rice husk and grain in pottery from the lowest level and up. Rice husk impressions have also been reported from early pottery at Ban Chiang. Gorman has found rice grains in Banyan Cave, not far from Spirit Cave, in association with the same assemblage as that from the top layer of Spirit Cave. Bovine remains were associated with some of the early burials at Non Nok Tha. The remains have been identified as probably domesticated and probably *Bos indicus*, the zebu cattle of India. These would date from the 4th millennium B.C. or earlier. Pottery spindle whorls have been found at both Non Nok Tha and Ban Chiang. At the latter site an actual fragment of cloth was recovered in the spring of 1973 from the earliest bronze-producing level. This was found close to a bronze artifact on which there was a cloth imprint. Pottery cylinders, with a hole through them lengthwise and with deeply carved surfaces, have been found at both sites. It has been convincingly suggested that these were used to print designs on cloth.

Three probable "neolithic" cultures are known from Taiwan from the 3rd

millennium B.C. and earlier. All ethnic groups on Taiwan, previous to the relatively late arrival of the Chinese, spoke Austronesian languages. It would be reasonable to assume—though it is not necessarily true—that these earliest horticultural peoples were ancestral to some of the present ethnic groups, and one or more were Austronesian speakers. Two of these cultures have been C-14 dated back into the late 3rd millennium B.C.; one of these, Kwang-chih Chang hypothesizes, was descended from a Lungshanoid culture of southeastern China. The earliest of these cultures in Taiwan was found stratigraphically below the earliest levels of the other two cultures. Chang has called this the Corded Ware Culture and has suggested that the most similar known mainland culture is found in southwestern China. The generalized artifact inventory is similar to that from the top level in Spirit Cave in Thailand. Chang hypothesizes that in Taiwan, people of this culture stopped living at the two sites where they were found by about 3000 B.C., and first came to live on these sites much earlier (Chang 1969). Some of the pottery made by these people was decorated, and the patterns included some of those found on the Dongson bronzes. [A recently announced C-14 date for the Corded Ware Culture is 3695 ± 60 B.C. (Chang 1973: 525).]

The one artifact long associated with the spread of the Austronesian-speaking peoples is the rectangular, polished, stone adze. During the last fifteen years it has been possible to add Sa-huỳnh-Kalanay and Lapita pottery as being associated with the early Austronesian-speaking peoples. The Sa-huỳnh-Kalanay pottery has been found in scattered sites in the Philippines, from West Irian to Java with some indications of its presence in Sumatra, in lowland and coastal Vietnam, on islands in the Gulf of Siam, in eastern Malaysia with indications of presence in western Malaysia, and possibly in Madagascar (Solheim 1959, 1967*b*). The Lapita pottery has been found in scattered sites in Melanesia and western Polynesia, and is said to have been made by the early ancestors of the Polynesians (Golson 1971*a*, 1971*b*). When these pottery traditions were first identified and the considerable similarity in designs of the two traditions was noted, several of us suggested that the Lapita pottery had developed out of the Sa-huỳnh-Kalanay pottery. During the past several years, however, little has been said about the obvious relationship.

The meaning of the relationship of the two pottery traditions is vital for the understanding of the culture history of the Austronesian-speaking peoples. It has long been suggested that the ancestors of the Polynesians—and thus necessarily of the Austronesian-speaking peoples—came from coastal South China. To my knowledge the Sa-huỳnh-Kalanay pottery has not yet been reported from sites in South China, but it is well known in North and South Vietnam.

The earliest C-14 dates for the Sa-huỳnh-Kalanay pottery are around 1200 to 1500 B.C. Sites with approximately this date, or for which this date has been inferred from the sequence of dates for the site, are the Tabon Caves in Palawan, Philippines, the Niah Caves in Sarawak, sites in Southwestern Sulawesi (Mulvaney and Soejono 1970) and Portuguese Timor (Glover 1971), and several sites in Melanesia, as far south as New Caledonia. There is no good dating for this pottery from Mainland Southeast Asia, but from what little is accurately known of the associated materials, it does not seem to be as early. Many of the patterns on this pottery are variants of the typically Southeast Asian patterns on the much earlier pottery from Taiwan and northern Thailand. At both the Niah Cave and Tabon Cave sites there is

earlier, well-made pottery which is not typical of the Sa-huỳnh-Kalanay pottery yet which in the local context does not seem to be out of line with what follows. In the Melanesian sites, either the Lapita pottery is the earliest pottery present, or (in two as yet unpublished sites) a pottery complex that is as early or earlier does not appear to be related.

INTERPRETATION OF THE NEW DATA

I have written a number of papers interpreting the new data, and there is no need to repeat this discussion in any detail. Several of these papers are listed in the bibliography. To encompass these new data I have suggested a new framework of stages and periods for Southeast Asia. The framework of the Palaeolithic, Mesolithic, and Neolithic which was made for European prehistory is not appropriate. It is worthwhile to repeat the new framework here.

The *Lithic* is the only universal stage and corresponds roughly to the Lower and Middle Palaeolithic of western terminology. This would begin with man's first appearance in Southeast Asia, something over two million years ago. Humans were probably hunters and gatherers, living in small family groups and not using one site for long. The stone tools made at the very beginning of this stage, often called pebble tools, are similar whether they are found in Africa, Europe, India, or Southeast Asia.

The *Lignic* period develops out of the Lithic stage with a hypothesized change from stone to wood as the primary material for tools. In Southeast Asia there was relatively little change in the stone-tool types. There was an apparent gradual reduction in size of the stone tools and a gradual increase in the use of flakes, particularly in what came to be Island Southeast Asia. In general there was little bifacial flaking or retouching of the stone tools. Bamboo was probably the most important wood used. There was a shift from hunting and gathering to hunting and collecting of plants and water-living animals. Sites were probably used, or even lived in, longer than before with some family groups probably becoming virtually sedentary. The shift from the earlier stage was gradual, so there is no recognizable boundary between the two. Arbitrarily I set the boundary at 40,000 B.C. This period would correspond roughly to the Upper Palaeolithic of western terminology.

The *Crystallitic* period continues and carries further the changes started in the Lignic period. Distinct cultures are beginning to crystallize out of what before was a relatively homogeneous Early Hoabinhian Culture. The collecting of plant products continues to grow in importance. This is the period of incipient agriculture and early horticulture. Plant and probably animal domestication took place during this period among those groups which were virtually sedentary within one or two small, upland valleys. In Mainland Southeast Asia the Crystallitic would correspond to the Middle and Late Hoabinhian Culture. I have suggested that the Middle Hoabinhian began about 22,500 years ago at the end of the last warm intrastadial of the last ice age. This is defined culturally by the beginning of edge grinding of a few of the typical Hoabinhian stone tools. The Late Hoabinhian, I have suggested, began about 15,000 years ago with the first domestication of plants and/or the invention of pottery. I doubt that there was a nuclear area where these events took

place. However, given a common background of high utilization of plants through most of mountainous Mainland Southeast Asia, different plants were no doubt domesticated in different places, and one form or another of diffusion gradually moved these plants, and pottery manufacture, around over a wide area.

The *Extensionistic* period began around 8000 B.C. or earlier, when the first crystallizing culture became fully distinct from the Late Hoabinhian Culture. This was a period of gradual population growth, population pressure probably forcing movement out of the small valley niche into other ecological niches. The first movement was probably to the foothills and sides of the larger valleys, then to upland plateaus, and only much later into the large lowland valleys and deltas. Those who could stay in the high valleys and continued in their cultures, which were well adapted to this ecological niche. Though plants were domesticated before, horticulture probably had not produced much of the food eaten. With movement out of the lush, small valleys horticulture became more important, and slash-and-burn treatment of fields no doubt began. Metallurgy was invented somewhere in Southeast Asia around 4000 B.C. Whether there was an earlier development of cold-worked copper is not yet known. While metallurgy led to trade in copper, lead, and tin, it did not lead to trade in manufactured products and to urbanization. Each settlement apparently cast its own bronze tools and ornaments. Around 4000 B.C. major movement probably began by water in Island Southeast Asia. I will deal with this separately.

The period of *Conflicting Empires* began about 2200 years ago. While political development beyond family and community levels did not take place internally in most of Southeast Asia, it appears to have begun about 3500 years ago in North Vietnam. Very little is as yet known about this early development except that it came into conflict with the expanding Han Empire of China around 200 B.C. Elsewhere in Mainland Southeast Asia and western Island Southeast Asia, political conflict developed on an Indian model. Much of this involved the Austronesian-speaking peoples. It is time to look at them.

CONJECTURES ON THE ORIGIN AND EXPANSION OF THE AUSTRONESIANS

There has been relatively little recent discussion in print on Austronesian origins. As I mentioned earlier, it has been widely assumed that southeastern coastal China was the area in which these people originated and from which they spread. Isidore Dyen, on the basis of linguistic studies, hypothesized that the area where the Malayo-Polynesian languages developed was in the western island area of Melanesia. After becoming better acquainted with the Malayo-Polynesian languages of Taiwan and the Philippines, he has not been strongly promoting his earlier hypothesis, but he has not presented a new one.

Artifacts made by early man have been found in sites dated to the Pleistocene in Taiwan, the Philippines, several islands of Indonesia, New Guinea, a small island near New Ireland in northern Melanesia, and Australia. For long periods of time during the Pleistocene, with the lowering of sea levels of the ice ages, New Guinea and Australia were one continent. During these same times Sumatra, Java, Lombok, Kalimantan, Palawan, and the western portion of Mindanao, as a part of the Sunda shelf, were a part of the Southeast Asian continent. Other islands of

the Philippines were joined with Sulawesi and, briefly at least, with Taiwan and the mainland of southern China. At no time was Australia-New Guinea joined with Sundaland, and it appears that there was always a considerable channel of water between Timor and northern Australia, and between Sulawesi and New Guinea. Man must have had some way to move across water before 30,000 B.C. (the earliest dates for man in Australia are about this time), and this was probably some sort of a raft.

A few large shellmounds have been found close to the coast in Sumatra, Malaya, and North Vietnam. In these were typical Hoabinhian assemblages of stone tools and animal remains, including cord-marked pottery (the kind of pottery found in other Late Hoabinhian sites). These sites have not been dated but probably were first used in early post Pleistocene times, as the seacoast was considerably farther away earlier with the lower sea level of the Late Pleistocene. I hypothesize that these sites were used by people who had earlier been living on the now submerged seacoast of Sundaland and who had been forced back to these now coastal areas with the rise in sea level. In the west these people were probably at least partly ancestral to the Austroasiatic-speaking peoples of the Malayan Peninsula. These Hoabinhian shellmounds are the only evidence, indirect though it is, that the Sundaland seacoasts, now over 100 m under water, were inhabited during the Late Pleistocene. I strongly suspect that they were. It is on the assumption that people were living along this seacoast, in relatively sedentary conditions like those indicated by the Hoabinhian shellmounds, that I proceed.

The rise of the sea level toward the end of the Late Pleistocene was gradual. The various sedentary, or close to sedentary, groups of people would have moved back with the coastline, with the new shallow waters being as rich in seafood for collecting as the earlier ones were. Opposing coasts on the opposite sides of rivers would recede from each other, and high areas would become islands. The people who lived on the shore were used to the water and may well have had rafts, but with or without rafts they would probably have continued visiting the receding shorelines on the other side as long as possible. Once the distance became too great, knowledge of the distant shore or islands would be passed down through generations before it became forgotten. Some islands would be drowned, and at some stage any people living on such an island would have to move.

On the western side of the great river draining most of Sundaland, with the Mekong as one of its tributaries, the people would have been forced to retreat to the west and north, remaining with the mainland. On the eastern side of the river they would have moved south and/or east. In an area of numerous small and middle-sized islands, such as portions of the Lesser Sundas, Palawan and the Sulu Archipelago, and the Kalimantan and Sulawesi coast, a certain amount of contact was probably continued, allowing diffusion of cultural traits. I hypothesize that in this general area of eastern Indonesia and the southern Philippine islands, Austronesian evolved among the sea-oriented peoples living in the coastal areas. As a corollary, I hypothesize that Austroasiatic evolved on the mainland among Hoabinhian and descendant groups.

I strongly suspect that the early coastal Hoabinhian and the more flake-tool-oriented peoples farther east had domesticated plants as well as the mountain Hoabinhian. As groups enlarged and split up, no doubt a few people moved inland

along rivers and intermarried with the earlier, small, land-oriented population, gradually developing a hybrid land-utilizing population which continued in contact with the ocean-oriented people. Just what plants they grew before contact with the mainland was reestablished by water we do not know, so we will have to look for them with archaeological methods.

A possible evolution from large single logs used to move by water to logs with one side flattened and then to dugout canoes would not be difficult to imagine. Simple dugouts may have been in use before the end of the Late Pleistocene or may have been independently invented in several areas. I suggest that in a multiple island area there would be more reason to move some distance by water, and I hypothesize that the outrigger and simple sail were invented somewhere in eastern Island Southeast Asia, probably during the 5th millennium B.C. or earlier.

At this point I am using pure conjecture. Once the outrigger and sail were invented, the advantages over the simple dugout for moving around at any distance from protected water would have been obvious. Thus their use should have spread rapidly among coastal people in intermittent contact. Not only improvements in boat design but also language and elements of material culture would have spread. Before long people would have been moving around considerably by boat. I feel that with the generally shared information from earlier times of other islands and land in virtually all directions, these people would have developed an adventurous and exploring spirit.

To this point I have moved forward in time largely by conjecture. Now I jump to the 2nd millennium B.C. to present the little bit of evidence I see for the Austronesian homeland's being the area I have hypothesized. I mentioned before that the Sa-huỳnh-Kalanay and Lapita pottery was associated with the early spread of the Austronesian and that the earliest dates for sites with this pottery are the second half of the 2nd millennium B.C. These early dates are from a wide area which includes much of Melanesia and eastern Indonesia. There appear to be no antecedents to this pottery in Melanesia, but in the Tabon and Niah caves of Palawan and Sarawak there is earlier pottery that could be related. I hypothesize that the Sa-huỳnh-Kalanay and the Lapita pottery traditions had a common origin somewhere in the Palawan-Sarawak-Sulu Sea-Sulawesi area and that it was at this point in time and space that a second and main stage in the spread of the Austronesian languages began. The first stage is much more difficult to reconstruct.

If it is true that the Sa-huỳnh-Kalanay and Lapita pottery moved with the first Austronesians moving out into the Pacific and west through Indonesia as far as Madagascar, then we must explain why this pottery has not been found in South China or Taiwan. The earliest historically known people in eastern and coastal South China were Austronesian-speaking peoples (Eberhard 1971: 12). It would appear that most of the ancestors of the Austronesian-speaking Taiwanese came from this area. If the Sa-huỳnh-Kalanay pottery of coastal Vietnam goes back into the first half of the 2nd millennium B.C. then the problem would be shifted. Austronesian-speaking peoples would be present by 2000 B.C. from South China along the coast of Vietnam, and the spread of these people throughout eastern Island Southeast Asia and Melanesia down to New Caledonia within a two-hundred- or three-hundred-year period would have been explosive. I find this hard to believe, and until pre-1500 B.C. dates for this pottery are found in coastal Vietnam, I feel the

Austronesian origin in eastern Indonesia-southern Philippines is the preferable alternative. This would mean that the Cham and other Austronesian-speaking groups of Vietnam came there from the island area and that it was their ancestors who were making the Sa-huỳnh Complex pottery along the Vietnam coast during the 1st millennium B.C. This still leaves the Austronesians of South China and Taiwan to be explained.

We know very little about the prehistoric archaeology of coastal China. Most of the archaeological work done in China has been done by Chinese archaeologists. Their interest is in the development of Chinese civilization. It is a part of their recent historic tradition that the nuclear area of Chinese civilization was between the Wei River and the great bend of the Huang Ho of North China and that Chinese civilization expanded from there. From this viewpoint the coast of China, and particularly the coast of South China, is of little interest to the Chinese archaeologists. Elsewhere I have recently expressed the belief that the prehistoric peoples of South China, originally and still many of them Austroasiatic- and Austronesian-speaking peoples, were equal if not greater contributors to the foundation of Chinese civilization than the peoples of the north, but this is a different story. Whatever the case, we know more about the prehistory of Taiwan at the present than we do of South China.

Some years ago I expressed the opinion (Solheim 1963) that while the prehistory of Taiwan showed many relationships with the prehistory of Island Southeast Asia, these similarities did not indicate a direct relationship. I suggested that the relationship was through ultimate common origins in Mainland Southeast Asia. (I have included South China, from the Tsinling Mountains south, as a part of prehistoric Mainland Southeast Asia.) Many new discoveries have been made in Taiwan since I expressed the foregoing opinion, but I have seen no evidence that would suggest a change. As was mentioned before, it is Chang's opinion, and mine also, that China is the source of all Taiwanese, non-Chinese, ethnic groups, with most of the evidence pointing to South China. Disregarding the Corded Ware Culture (which may have been brought to Taiwan by Austroasiatic-speaking peoples), the later cultures were probably primarily Austronesian-speaking peoples. The first of these to arrive reached Taiwan sometime before 2000 B.C. Their pottery was not the Sa-huỳnh-Kalanay pottery, though it does have a number of resemblances both in form and in patterns of decoration.

Earlier I mentioned that the Sa-huỳnh-Kalanay pottery has not been found in South China. I did not mention that the pottery of the different Lungshanoid sites of southeastern China shares a number of forms and some elements of decoration with the Sa-huỳnh-Kalanay pottery, and that fifteen years ago I felt that the Sa-huỳnh-Kalanay pottery had been developed out of the pottery of one or more of these Lungshanoid cultures. The major difficulty with this hypothesis is that hollow-legged tripods are common in the Lungshanoid sites, and no form of this nature has ever been found in sites with Sa-huỳnh-Kalanay pottery.

This suggests to me two alternative hypotheses for the first stage of Austronesian expansion and, in effect, two alternative hypotheses for the origin of the Austronesians. Austronesians may have originated in South China and northern Vietnam and, in a first stage of expansion and movement by water, found their way to Taiwan and some of them probably to southern Japan during the 4th millennium B.C., or

at least early in the 3rd millennium B.C. By early in the 2nd millennium B.C. they would have been moving into Palawan, western Borneo, and probably into the Sulu Archipelago with the pre-Sa-huỳnh-Kalanay pottery. The second stage would then have developed in this general area as hypothesized above. If this were the case, the contact with Taiwan would have been from South China with the hollow tripod form of pottery coming to Taiwan, but the somewhat later movement to Palawan and Borneo coming from farther south where the tripod form was not made. This movement would have to have been well underway by 1500 B.C., as bronze artifacts were being made in northern Vietnam by that date and there are also some indications of plow agriculture by this time. Neither of these culture complexes is indicated in Island Southeast Asia until about 1000 years later.

The second alternative would have both the first and second stages of movement originating in the southern Philippines-eastern Indonesian area. In this case either the Austronesians would be making pottery by 4000 B.C. and the total evolution leading to the Sa-huỳnh-Kalanay-Lapita pottery would be taking place in this area, or movement would have to be made by the 4th millennium B.C. to the South China area. This would establish an Austronesian population there from which source the Taiwan Austronesians would come, and would allow an Austronesian return to the home area to start pottery manufacture there. If pottery were already being made in the area, the return movement would not be necessary. There is one C-14 date of $4,500 \pm 180$ B.C. which may be later than the earliest pottery in a site in the Sulu Archipelago (Spoehr 1973: 190), so this is a possibility. We need more data before we can choose from among these alternatives, or several possible combinations of them.

The second half of the 2nd millennium and the 1st millennium B.C. was the time of very wide movement of the Austronesian-speaking peoples. Passing information around by word of mouth, they must have developed a considerable store of information about sailing conditions in the South China Sea, the various Indonesian seas, the Gulf of Siam, the Bay of Bengal, and probably parts of the Indian Ocean. During the second half of the 1st millennium B.C. a distinct group of the Austronesian-speaking peoples started moving. These were the ancestors of the different Malay ethnic groups, and they came out of southeastern China. They can be traced by the pottery they made, which was distinct in both form and decoration from the Sa-huỳnh-Kalanay pottery. This pottery showed much less variation in form than the Sa-huỳnh-Kalanay pottery, and had an impressed decoration done with a carved paddle or stamp rather than the incised and impressed (of a different sort) or painted decoration of the Sa-huỳnh-Kalanay pottery. The ancestral culture of these peoples is known as the Geometric Pottery Culture from the geometric designs impressed by carved paddles or stamps on their pottery. This culture developed out of one of the Lungshanoid cultures of South China.

The first five hundred years of movement by these people, ancestral to the different Malay groups, appears to have been primarily to Taiwan and probably north to Korea and southern Japan. In these places they mixed with the people who were there. They were the ones who probably brought the custom of jar burial and the cultivation of paddy rice to Korea and Japan, and they became an important component of the Korean and Japanese peoples. Around 2000 years ago they started moving south into the Philippines and Indonesia, and possibly into Melanesia as

well, as simple carved paddle-impressed pottery shows up in numerous Melanesian areas starting at about this time.

They found Island Southeast Asia already well inhabited. In many areas, if they wished to settle on land they had to join their cousin Austronesians who had come earlier. Evidence of this can be seen from around A.D. 500 and on, when varying combinations of the geometric and the Sa-huỳnh-Kalanay pottery become evident. It would appear that their predecessors did not care for swampy areas with brackish water, as these seem to be the areas left vacant where the later Malay peoples were able to settle. Examples of such areas are Brunei, the Santubong delta in Sarawak, and coastal regions of Sumatra and Malaya. Some of these groups, such as the Iban and Land Dyak of Kalimantan and Sarawak, managed to move inland with relatively little mixing.

I would hypothesize that four varieties of Malay groups evolved in Island Southeast Asia. The first were those people who joined settlements of their predecessors. This must have happened very commonly throughout Island and coastal Mainland Southeast Asia and helped to make the great variety of ethnic groups of Southeast Asia, but with a common pattern. The second variety would be those who settled in unfavorable areas and stayed there, making the best of somewhat unpleasant conditions. The Land Dyak of Sarawak would be an example. The third would be those such as the Iban who decided to fight their way into better land. The fourth would be those who settled on poor land but continued their orientation primarily to the sea for a considerable time. Examples of these would be the late-arriving (around A.D. 1000) Malay of Sumatra, such as the Achinese, those who established themselves in Malacca and then in Johore, the Malay of Kelantan and Trengganu and southern Thailand, and the long-continuing boat people such as the Bajao and the Samal (though the Samal could be a mixture group who went back to the sea). I suspect that it was these late Malay groups who took most quickly to Islam when it came on the scene, as it helped them to improve their status. They had had to fight to maintain their foothold and they fit well into a militant Islamic philosophy, adapting it to the more open and equal Southeast Asian style of life.

AUSTRONESIAN AND AUSTROASIATIC INTERACTIONS

If the area of origin of the Austronesians was in the eastern island area, it would be much easier to explain its development separate from the Austroasiatic languages. During the Late Pleistocene there were no natural boundaries in Southeast Asia for evolving languages, so as you moved in any one direction there probably would have been just a gradual change in language. With the pulling away from each other of the two groups of people, probably on either side of the great river draining Sundaland, there would have developed an extremely wide natural boundary between the two and the center of gravity, so to speak, of the two language areas would have had languages distinct from each other as soon as contact between the two peoples was lost. If the Austronesian languages evolved in South China-northern Vietnam, contact with Austroasiatic-speaking peoples would have been continuous with little reason for anything more than the old gradation. It is much easier for me to think of Austroasiatic developing in Mainland Southeast Asia and Austronesian in eastern Island Southeast Asia.

Whether Austronesian developed on the mainland or whether speakers came there from the islands sometime in the 5th millennium B.C., there must have been a considerable population of Austronesian-speaking peoples in the coastal and river-shore areas of South China and northern Vietnam by the middle of the 4th millennium B.C. These peoples must have been in contact with Austroasiatic-speaking groups of peoples, a contact with considerable cultural interchange. People speaking proto-Vietnamese were probably in northern Vietnam by early in the 3rd millennium B.C. as a result of some sort of a combination of the original Austroasiatic-speaking inhabitants and the expanding Austronesians. I suspect that the Lungshanoid cultures were made up to varying degrees of Austronesian- and Austroasiatic-speaking peoples, those centered along rivers tending toward Austronesian and those centered in the mountains and on the foothills toward Austroasiatic. Wherever they originated, probably by 4000 B.C. one group of Austronesians (proto-Austronesian?) was settled in the area around the mouth either of the Yangtze or of the Hungshui (probably the former), forming the nucleus of the Austro-Thai speaking peoples. Probably several of the Lungshanoid cultures developed out of the culture of this early group of people.

On the assumption that the Cham and related groups had come to the mainland from the islands, they would have settled on the coast and then gradually moved inland at the expense of Austroasiatic-speaking peoples. Contact between these peoples would have led to cultural and genetic exchange between them. For several thousand years there was much opportunity for cultural diffusion to go in both directions.

During the 1st millennium B.C., with the second stage of Austronesian expansion to the west in Indonesia, into the Gulf of Siam, and probably into the Bay of Bengal and the Indian Ocean, these people came into contact with Khmer- and Mon-speaking peoples. They probably became well acquainted with the east coast of India. They may well have been the people who brought at least the beginnings of Indian influence back to Southeast Asia. It would not be unreasonable to think that they had something to do with the Cholas becoming a sea power. We need much more data before we can say with assurance anything concerning the contacts of the Austronesians to the west of Southeast Asia.

CONCLUSIONS

Whether or not the hypotheses presented here prove to be correct, the new data require a much more constructive and progressive position for Southeast Asian culture within total world culture than heretofore believed. It is quite likely that eastern Indian and Chinese cultures have derived a major portion of their foundation from Southeast Asian peoples and cultures. Because of a lack of data, we can only feel the tremendous importance of Southeast Asian sailing and trading from the South China Sea to the Bay of Bengal and probably in much of the Indian Ocean during the 1st millennium B.C. and well into the 1st millennium A.D. The Southeast Asian sailors must have had a virtual monopoly on this water until the Arab traders started coming in. The influence and contribution of Southeast Asian culture to the world can be little more than guessed at until far more data have been recovered (Solheim 1967*a*, 1968*a*).

POSTSCRIPT

The use of the word Austronesian and/or the compound Malayo-Polynesian for a people and a culture is very awkward, and is incorrect as well. Both terms are for a language family and should not be used for other purposes. Because these people share both a basic culture and a language, it should not be difficult to coin a word for the people and culture from reconstructed protoforms of the language. As these are the people of the islands, I propose the term *Nusantau* for these people and cultures. (I would like to thank George Grace for giving me the root words *nusa* for island and *tau* for man or people.)

BIBLIOGRAPHY

Old Data and Interpretations

BEYER, H. OTLEY

- 1948 *Philippine and East Asian Archaeology and Its Relation to the Origin of the Pacific Islands Population*. National Research Council of the Philippines, Bulletin no. 29.

BEYER, H. OTLEY, and JAIME C. DE VEYRA

- 1947 *Philippine Saga—A Pictorial History of the Archipelago Since Time Began*. Manila: The Evening News.

EBERHARD, WOLFRAM

- 1971 *A History of China*. 3rd ed. revised. Berkeley and Los Angeles: University of California Press.

HEINE-GELDERN, ROBERT

- 1932 Urheimat und früheste Wanderungen der Austronesier. *Anthropos* 27: 543-619.
 1945 Prehistoric research in the Netherlands Indies. In *Science and Scientists in the Netherlands Indies*, edited by Pieter Honig and Frans Verdoorn, pp. 129-167. New York: Board for the Netherland Indies, Surinam and Curaçao.
 1951 Das Tocharerproblem und die Pontische Wanderung. *Saeculum* 2: 225-255.

KARLGRÉN, BERNHARD

- 1942 The date of the early Dong-so'n culture. *BMFEA* 14: 1-28.

LINTON, RALPH

- 1955 Part V: Southeast Asiatic complex. In *The Tree of Culture*, pp. 173-222. New York: Alfred Knopf.

MOVIUS, HALLAM L., JR.

- 1955 Palaeolithic archaeology in southern and eastern Asia, exclusive of India. *Cahiers d'Histoire Mondiale* 2(2-3): 257-282 and 520-553.

TWEEDIE, M. W. F.

- 1957 *Prehistoric Malaya*. Background to Malaya Series, no. 6. Singapore: Donald Moore.

New Data and Interpretations

BAYARD, DONN T.

- 1970 Excavation at Non Nok Tha, northeastern Thailand, 1968: an interim report. *AP* 13: 109-143.
 n.d. *Non Nok Tha: the 1968 Excavation. Procedure, Stratigraphy, and a Summary of the Evidence*. University of Otago Studies in Prehistoric Anthropology, vol. 4. Dunedin, New Zealand.

CHANG, KWANG-CHIH

- 1963 Prehistoric ceramic horizons in southeastern China and their extension into Formosa. *AP* 7: 243-250.
- 1964 Prehistoric and early historic culture horizons and traditions in South China. *CA* 5(5): 359, 368-375, and 399-400.
- 1969 *Fengpitou, Tapenkeng, and the Prehistory of Taiwan*. Yale University Publications in Anthropology, no. 73. New Haven: Department of Anthropology, Yale University.
- 1973 Radiocarbon dates from China: some initial interpretations. *CA* 14(5): 525-528.

FOX, ROBERT B.

- 1970 *The Tabon Caves*. Monograph of the National Museum, no. 1. Manila.

GLOVER, I. C.

- 1971 Prehistoric research in Timor. In *Aboriginal Man and Environment in Australia*, ed. by D. J. Mulvaney and J. Golson, pp. 158-181. Canberra: Australian National University Press.

GOLSON, JACK

- 1971a Lapita ware and its transformations. In *Studies in Oceanic Culture History*, vol. II, ed. by R. Green and M. Kelly, pp. 67-76. Pacific Anthropological Records, no. 12. Honolulu: Anthropology Department, Bishop Museum.
- 1971b Both sides of Wallace Line: Australia, New Guinea, and Asian prehistory. *APAO* 6(2): 124-144.

GORMAN, CHESTER

- 1970 Excavations at Spirit Cave, North Thailand: some interim interpretations. *AP* 13: 79-107.
- 1971 The Hoabinhian and after: subsistence patterns in Southeast Asia during the late Pleistocene and early Recent periods. *World Archaeology* 2(3): 300-320.

HARRISSON, Tom

- 1970 The prehistory of Borneo. *AP* 13: 17-45.

MULVANEY, D. J., and R. P. SOEJONO

- 1970 The Australian-Indonesian archaeological expedition to Sulawesi. *AP* 13: 163-177.

SAUER, CARL O.

- 1969 *Agricultural Origins and Dispersals*. 2nd ed. Cambridge, Mass.: M.I.T. Press.

SOLHEIM II, WILHELM G.

- 1959 Sa-huỳnh pottery relationships in Southeast Asia (ed. by Solheim). *AP* 3(2): 97-188.
- 1963 Formosan relationships with Southeast Asia. *AP* 7: 251-260.
- 1964a *The Archaeology of Central Philippines: A Study Chiefly of the Iron Age and Its Relationships*. Monographs of the National Institute of Science and Technology, no. 10. Manila.
- 1964b Pottery and the Malayo-Polynesians. *CA* 5(5): 360, 376-384, and 400-403.
- 1965 The prehistoric pottery of Tanjong Kubor, Santubong. *SMJ* n.s. XII(25-26): 1-62.
- 1967a Southeast Asia and the West. *S* 157(3791): 896-902.
- 1967b The Sa-huỳnh-Kalanay Pottery Tradition: past and future research. In *Studies in Philippine Anthropology*, ed. by Mario D. Zamora, pp. 151-174. Manila: Alemar-Phoenix.
- 1967c Two pottery traditions of late prehistoric times in Southeast Asia. In *Historical, Archaeological and Linguistic Studies on Southern China, S-E Asia and the Hong Kong Region*, ed. by F. S. Drake, pp. 15-22. Hong Kong: Hong Kong University Press.
- 1968a "World ethnographic sample . . ." a possible historical explanation; Letters to the Editor. *AA* 70(3): 569.
- 1968b Possible routes of migration into Melanesia as shown by statistical analysis of methods of pottery manufacture. In *Anthropology at the Eighth Pacific Science Congress*, ed. by W. G. Solheim II, pp. 139-146. *APAS* 2.
- 1969a Indonesia, Area 20, IV, 1969. *COWA Surveys and Bibliographies*. Cambridge, Mass.: Council for Old World Archaeology.
- 1969b Reworking Southeast Asian prehistory. *Paideuma* 15: 125-139.
- 1970 Northern Thailand, Southeast Asia, and World prehistory. *AP* 13: 145-162.
- 1971 New light on a forgotten past. *National Geographic Magazine* 139(3): 330-339.
- 1972a The "new look" of Southeast Asian prehistory. *JSS* 60(1): 1-20.
- 1972b An earlier agricultural revolution. *SA* 226(4): 34-41.

SOLHEIM II, WILHELM G., and ERNESTINE GREEN

1965 *Johore Lama Excavations, 1960*. *FMJ* n.s. X: 1-78.

SOLHEIM II, WILHELM G., and JEAN KENNEDY

1971 Southeast Asia, Area 19, IV, 1970. *COWA Surveys and Bibliographies*. Cambridge, Mass.: Council for Old World Archaeology.

SØRENSEN, PER, and TOVE HATTING

1968 *Archaeological Excavations in Thailand*. Volume II. *Ban Kao. Neolithic Settlements with Cemeteries in the Kanchanaburi Province Part I: The Archaeological Material from the Burials*. Copenhagen: Munksgaard.

SPOEHR, ALEXANDER

1973 *Zamboanga and Sulu, an Archaeological Approach to Ethnic Diversity*. *Ethnology Monographs*, no. 1. Pittsburgh: Department of Anthropology, University of Pittsburgh.

Editor's note: On page 148 I mentioned that the bovine remains associated with early Non Nok Tha burials had been identified as ". . . probably *Bos indicus*, the zebu cattle of India." Charles Higham, Chairman of the Department of Anthropology at Otago University in New Zealand, who made the original identification, told me recently that these are remains not of *Bos indicus* but rather of the ancestor to the present-day cattle used for transport in northeastern Thailand (personal communication).