RICE IN MALAYA
A Study in Historical Geography

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Rice in the Prehistoric Cultures of South-East Asia

Documentation of the spread of wet padi through South-east Asia must be regarded as a priority in historical research in that region.

Paul Wheatley, 1964, 74.

It is a measure of the scattered nature of archaeological and 'proto-historical' research that few generalizations can be made concerning the place of rice in the economies of South-East Asia, which in early times must be extended to include South China on grounds of ecological and cultural similarity. The most that can be claimed is that rice culture spread relatively slowly, that its displacement of the older tuber- and seed-based cultures proceeded most unevenly in both space and time, that this process was not complete until the present century, that rice was just one of many crops grown and that the spread of rice-growing was not necessarily associated with the spread of peoples. Nor was the development of civilization an inevitable concomitant of rice-growing. Rather, the elaboration of rice-growing techniques was a consequence and a part of evolving and elaborating civilization. The lines of evolution from simple rice cultivation systems to successively more elaborate systems, doubtless with halts and regressions on the way, can be modelled on the basis that complex succeeded simple and that some combinations of techniques are mutually exclusive (see Chapter 9). But in reality supporting evidence is often lacking. Before considering the evidences for rice cultivation in the early cultures of South-East Asia in general and Malaya in particular, it is well to indicate the main cultural periods following Solheim's schema (Solheim, 1970; 1972b):

1. Lithic: ending perhaps 40,000 years B.C., chipped and flaked stone tools, collecting.
2. Lignic: roughly 40,000 to 20,000 B.C., stone, wood and bamboo tools, collecting, early Hoabinhian.
3. Crystallic: roughly 20,000 to 8000 B.C., ground and polished stone tools, plant collection, protection and, by about 10,000 B.C., some domestication, middle to late Hoabinhian.
4. Extensionistic: 8000 B.C. to A.D. 1, though beginning at different times in different places; rectangular adzes, slate knives, cord-marked
FIGURE 1
PLACES MENTIONED IN THE TEXT
RICE IN THE PREHISTORIC CULTURES OF SOUTH-EAST ASIA

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pottery; agriculture (probably including rice) becoming dominant; late Hoabinhian and many local cultures, some quite widespread.

5. Conflicting Empires: roughly from the time of Christ, civilization; centralized, agriculturally-based states, Chinese-influenced in Tonkin and Annam, Indian-influenced elsewhere.

RICE IN HOABINHIAN AND RELATED CULTURES

The major culture of late Pleistocene and early Recent times in South-East Asia is known as the Hoabinhian and is thus named from a type-site in what is now north Vietnam. Its earliest phase may date from about 40,000 years ago and as a recognizable, though varied culture, it lasted in some places until perhaps 2500 B.C. (Solheim, 1972a, 38). The culture was widespread in both mainland and insular South-East Asia, including Malaya (see map in Gorman, 1971, 302). The evidence relating to the economy of Hoabinhian peoples shows that they were hunters, fishers and collectors, exploiting a wide range of animals and plants. The details of economic patterns vary from place to place, though in part variation is more apparent than real because of deficiencies in the techniques at some of the earlier excavations (Chang, 1964, 369).

By about 3500 B.C., there is clear evidence of village-based farming in the region. The Non Nok Tha site in north-east Thailand and the Ban Kao site, near the Three Pagodas Pass, are post-Hoabinhian. At the former site rice was present as one of many types of plant remains, though the question of whether or not it was actually cultivated is not yet settled (Solheim, 1970, 151, 155; Gorman, 1971, 315).

Equally unsettled is the question of whether or not late Hoabinhian peoples saw the transition from hunting and collecting, through plant protection to actual cultivation. The evidences now to be examined are far from conclusive. In the Peninsula, the Hoabinhian is represented by a number of limestone cave sites in Pahang, Perak, Kedah and Kelantan. In these nothing has been found pointing conclusively to any form of agriculture (Tweedie, 1936, 22; Sieveking, 1954-5a, 93–101). The occurrence of 'mealing stones', grinding slabs, mullers, mortars and pestles in a number of sites could be interpreted as suggesting the use of grain, although in some cases, the existence of red ochre on the slabs points to the use of cosmetics, a practice clearly indicated for Sumatra and the Peninsula though not Indochina (Wray, 1894, 7–14; Collings, 1936, 9; van Stein Callenfels, 1936, 42; McCarthy, 1940, 34). Certainly the existence of late Hoabinhian pestles may suggest some rudimentary form of agriculture or seed collection (Coedes, 1966, 14). Colani (1940, 196), in modifying her earlier view that the Hoabinhians were not agriculturalists (Colani, 1930, 317), has pointed out that a number of Indochinese sites contained only a few bones of hunted animals, implying a largely vegetable diet, and asked if the Hoabinhian short axe ('hache courte') were not in fact a harvesting knife and the Hoabinhians rice cultivators. Solheim too (1972a, 41) has pointed to the similarity of slate knives found in the upper levels of the
Spirit Cave site in north-west Thailand to those used today to harvest rice in many parts of Indonesia and Malaysia. Evidence from Gua Cha in Kelantan shows an abrupt decrease in faunal remains about 4,800 years ago (Gorman, 1971, 313). This decrease could be diagnostic of a change to agriculture.

On balance therefore, it would seem unlikely that Hoabinhian groups in the zone of wild rices were unacquainted with the rice plant. This surmise is strengthened by indications of plant domestication, though not specifically of rice, from the Spirit Cave site in north-west Thailand. These evidences date from about 7000 B.C. and are associated with specifically Hoabinhian artifacts (Gorman, 1969, 672). Nevertheless, as Gorman (1971, 305) suggests, the shift from Hoabinhian exploitative patterns to those associated with early cereal agriculture remains one of the least documented problems of South-East Asian prehistory.

RICE IN THE CULTURES OF THE EXTENSIONISTIC PHASE

The extensionistic phase of South-East Asian prehistory partly corresponds with the neolithic of the older terminology and is characterized by the development of several distinct ceramic traditions, notably the Lungshan, the Sa-huýnh Kalanay and the somewhat later 'Bau-Malay' tradition (Solheim, 1964, 383). At the same time there was a considerable effluxion of both peoples and ideas. The directions of movement were various and their origins, in so far as these can be interpreted, were likewise varied.

The older view is that the spread of rice into the Archipelago was linked with the spread of peoples speaking Malayo-Polynesian languages. The earliest Malayo-Polynesians spread widely both in the Archipelago and beyond into the Pacific. These groups are known to have had ceramics but may not have had rice. The evidence for this is indirect. In historical times it is known that a number of marginally-located peoples were probably not rice growers. These include some Naga groups of the Assam-Burma border, the islanders off the west coast of Sumatra, the Kelabits of Borneo and possibly the Bontocs of Luzon. These may be remnants of an early cultural substrate over which later, more complex, but still Malayo-Polynesian cultures intruded (Heine-Geldern, 1935, 307; Loeb, 1935, 16; Benedict, 1942, 599).

The specific linkages between the possession and the growing of rice on the one hand, and ceramic traditions on the other, have mostly yet to be demonstrated. Chang has fairly convincingly shown that the possessors of the widespread Lungshan ceramic tradition also grew rice, though probably not, as he suggests, on artificial terraces or under irrigation (Chang, 1959, 81, 87; 1963, 92, 126; 1964, 369, 372–3). Solheim, in a personal communication, has modified his earlier view that the Sa-huýnh Kalanay ceramic tradition is derived from the Lungshan (Solheim, 1964, 383) and now suggests that they both probably had a common origin and
that basically Hoabinhian. It has been argued above that the Hoabinhians of the mainland wild-rice core-area were not unacquainted with rice, and since Lungshan peoples would seem to have been rice growers, it would seem reasonable to conclude that at least some bearers of the Sa-huỳnh Kalanay tradition were also rice growers. Yet this may not have been the case since Sa-huỳnh Kalanay sites known thus far do not contain remains of rice (Groslier, 1962, 28). Ceramics of this tradition occur in southern New Guinea, New Caledonia and Fiji where _taro_ (Colocasia spp.), possibly irrigated, not rice, was almost certainly the basic crop (Barrau, 1965a).

Concerning the timing of Lungshan and Sa-huỳnh Kalanay traditions there is some agreement. The beginnings of the former tradition have not been dated but are broadly post-Hoabinhian while its latest date is around the middle of the second millenium B.C. (Chang, 1964, 369). The time and region of origin of the Sa-huỳnh tradition is unknown though it could well be that it developed as a recognizable tradition somewhere in the eastern islands of the region. The earliest pottery in Palawan may date from before 2000 B.C. (Solheim, pers. comm.) though this may be before a clear Sa-huỳnh Kalanay tradition had evolved. Pottery finds indicate a wide spread, to Tonkin by 500 B.C., to the Visayan islands, Borneo, Java, India and ultimately Madagascar by A.D. 500 (Solheim, 1964, 383).

A second major Malayo-Polynesian ceramic tradition, the ‘Bau-Malay’, was probably derived from the ‘Geometric’ tradition of south-east China. The ‘Geometric’ peoples undoubtedly grew rice, fruits and possessed domestic animals including pigs, dogs and cattle (Chang, 1959, 83). At a later stage they may also have possessed a stone-tipped plough (Chang, 1963, 257). By c.1500 B.C. the ‘Bau-Malay’ tradition was clearly established, but it was probably not until peoples making this pottery came under pressure from the Han Chinese in Ch’in and Han times that they began to move out. Some may have moved north into Japan taking wet rice cultivation with them but most seem to have moved south and west into Palawan, Borneo, Sumatra, Malaya, Thailand, Vietnam and Cambodia. Solheim (1964, 384) suggests that they reached Palawan c.200 B.C., the Santubong area of Sarawak by A.D. 500,1 southern Malaya not before A.D. 1000 and further north not until well into historical times from the twelfth to fifteenth centuries. These people may have possessed the wet-field form of rice cultivation.

But of direct evidence that Malayan post-Hoabinhian peoples cultivated rice there is none. As Tweedie has observed (1953, 61),

*It is... not impossible that the Malayan neolithic people cultivated rice... We have abundant evidence that the Malayan neolithic people were accomplished potters. It can be assumed with confidence that they were also... cultivators. No purely hunting and food-gathering people could have the leisure, continuity of tradition and resulting opportunity for specialised employment implied by the variety and quantity of artifacts... .*

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1For a brief discussion of the Santubong area see Cheng (1969). Harrisson and O’Connor (1969) give a full report on these important sites.
Sieveking’s categorical assertion (1954, 123) that the Malayan neolithic was the product of a migration of agriculturalists from south China cannot yet be supported and the matter remains open.

**LATER EVIDENCES OF RICE**

The conventional interpretation of a range of traits, including the building of megaliths and the working of bronze and iron, is that these mark distinct and widespread cultural traditions, one element of which was the growing of rice. Thus the finding of remarkable bronze drums in Laos, Annam and Burma as well as in both the Peninsula and the Archipelago has been held to be evidence of a widespread culture dating from 400–600 B.C. centred upon Dongson, the type-site in Tonkin (Heine-Geldern, 1935, 315; 1937, 194; Karlsgren, 1942, 6, 25). Similarly, the even more widespread occurrence of megalithic remains, including stone-work irrigation systems, dry-stone bridges, causeways and staircases, menhirs, stone seats and cist graves, has been interpreted as being evidence of one or several related cultures (Heine-Geldern, 1935, 329; 1937, 178; 1945, 141; Wales, 1961, 60–5, 81–6; Coedès, 1964, 20–3). Whether or not this interpretation is correct is a matter for professional judgement by practising prehistorians. Nevertheless, various artifacts, dating possibly from the middle of the first millennium B.C. down into proto-historical times perhaps a thousand years later, give some indications of agricultural activities. Upon these evidences modern ethnography throws additional light.

Amongst these artifacts, handsome bronze drums of the type termed Dongson are of importance, though they are found and were made, possibly by itinerant craftsmen, in regions far removed from Dongson in Tonkin. Their decorative motifs include certain figures which give fairly firm evidence for rice cultivation, as distinct from rice possession. These may be briefly listed.

1. Muong drum (tympanum): two long-haired figures of indeterminate sex pounding into a knee-high box, or trough mortar, employing pestles which are about as long as the figures are tall (Karlsgren, 1942, Pl. 1, 2).

2. Ngoc-lu’ drum (tympanum): (a) two figures similar to those on the Muong drum; (b) four figures on a band below which is a set of drums. Figures striking the earth with diddles; (c) directly opposite (d) and similar to it (described by Parmentier, 1918, 17, and also figured by Goloubew 1929, Pl. 2).

3. Hoang-ha drum (tympanum): two pregnant women ‘pounding rice’ (Goloubew, 1940, Pl. 26). Goloubew’s figures 4 and 66 clearly show husking while his figures 6d and 7d seem to show preparatory clearing of the ground (see Fig. 2).

Documentary evidence from the first or second century of our era confirms the archaeology. In the time of the prefect Jen Yen (任延), recorded the *Hou-Han Shu* (Goloubew, 1931, 112).
FIGURE 2
Panels on Dongson drums showing cereal-husking and planting or possibly weeding (after Goloubew, 1940)