

## Surprises From an Unimpressive Mound

— In 1965-66 we made a major excavation at Non Nok Tha. While the carbon-14 dates from this site have presented some problems, they strongly suggest a sequence of human habitation (with some interruptions) going back to well before 3500 B.C.

— As we started to receive our carbon-14 dates, we began to realize what a truly revolutionary site this was. In a scrap of broken pottery little more than an inch square, we found an imprint of the husk of a grain of rice, *Oryza sativa*. From the carbon-dating of a burial in a level above this potsherd, we know that it—and the rice—date at the latest from 3500 B.C. This is as much as a thousand years earlier than rice has been dated for either India or China, where some archeologists have claimed, rice was first domesticated.

— Bronze axes, cast in double molds of sandstone, were being made at Non Nok Tha substantially earlier than 2300 B.C.—probably before 3000 B.C. This is more than 500 years earlier than the first known Bronze casting in India, and 1,000 years before any known in China. (...)

## Puzzle Begins to Fit Together

\* I agree with Sauer that the first domestication of plants in the world was done by people of the Hoabinhian culture, somewhere in Southeast Asia. It would not surprise me if this had begun as early as 15,000 B.C.

\* I suggest that the earliest dated edge-ground stone tools, found in northern Australia and dated by carbon 14 at about 20,000 B.C., are of Hoabinhian origin.

\* While the earliest dates for pottery now known are from Japan at about 10,000 B.C., I expect that when more of the Hoabinhian sites with cord-marked pottery are dated, we will find that pottery was being made by these people well before 10,000 B.C., and was possibly invented by them.

\* The traditional reconstruction of Southeast Asian prehistory has had migrations from the north bringing important developments in technology to Southeast Asia. I suggest instead that the first neolithic (that is, late Stone Age) culture of North China, known as the Yangshao, developed out of a Hoabinhian subculture that moved north from northern Southeast Asia about the sixth or seventh millennium B.C.

\* I suggest that the later so-called Lungshan culture, which supposedly grew from the Yangshao in North China and then exploded to the east and southeast, instead developed in South China and moved northward. Both of these cultures developed out of a Hoabinhian base.

\* Dugout canoes had probably been used on the rivers of Southeast Asia long before the fifth

millennium B.C. Probably not long before 4000 B.C. the outrigger was invented in Southeast Asia, adding the stability needed to move by sea. I believe that movement out of the area by boat, beginning about 4000 B.C., led to accidental voyages from Southeast Asia to Taiwan and Japan, bringing to Japan taro cultivation and perhaps other crops.



\* Sometime during the third millennium B.C. the now-expert boat-using peoples of Southeast Asia were entering the islands of Indonesia and the Philippines. They brought with them a geometric art style—spirals and triangles and rectangles in band patterns—that was used in pottery, wood carvings, tattoos, bark cloth, and later woven textiles. These are the same geometric art motifs that were found on Dong Son bronzes and hypothesized to have come from eastern Europe. ?

\* The Southeast Asians also moved west, reaching Madagascar probably around 2,000 years ago. It would appear that they contributed a number of important domesticated plants to the economy of eastern Africa.

\* At about the same time, contact began between Viet Nam and the Mediterranean, probably by sea as a result of developing trade. Several unusual bronzes, strongly suggesting eastern Mediterranean origins, have been found at the Dong Son site. ■  
(By Wilhelm G. Solheim II, Ph.D). Professor Of Anthropology, University Of Hawaii

