

## **SOME OF ISSUES ON PALAEOOLITHIC CULTURES IN SOUTHEAST ASIA**

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At the beginning of 18th century, there appeared some information on the discovery of Southeast Asian prehistoric traces. However, until the beginning of 20th century, there were real archaeological excavates in the region. We already know about palaeolithic cultures such as Patjitan, Sangiran in Indonesia, Anyath in Myanmar, Kota Tampan in Malaysia, Tjabenge industry in Celebes island, Niah cave in Northwest Kalimantan, the Nguom industry and Son Vi culture in Vietnam, collection of tools in caves in Southern China as well as fossil hominids in some of Southeast Asian countries, especially in Java.....closely link with prominent figures like L. H. N. Evans, Van Stein, Callenfels, H. Otley Beyer, Von Koenigswald, H. L. Movius, Ann de Sieveking, Van Heekeren, Ha Van Tan and others.

However, if writings on Southeast Asian archaeology during several decades before and at the beginning of 20th century tended to describe; writings from the end of the 1930's to present have been focusing on the classification of tools and terminology for kinds of tools. At the same time, some researchers tried to find out the common characteristic for the entire region.

After a temporary termination due to the Second World War, western archaeologists returned to Southeast Asia after the war and Institutes for Archaeological Research were established in some Southeast Asian countries. However, due to limited resources, very few excavates were realised. Most of activities were projects to sum

up results of archaeological excavates before the war. These were writings of M. W. F. Tweedie, Otley Beyer, Van Heekeren and especially the work of American researcher, H. L. Movius "The Lower Palaeolithic Cultures of Southern and Eastern Asia" (1949).

Since the end of 1960's, research on Southeast Asian prehistoric has entered into new development in which many excavates have been realised with new application of physical technique to identify datings such as K40/Ar40, C14, etc. In Southeast Asia, researchers discovered tektit. Tektit in Java was found in Java Pithecanthropus erectus. Recently, Kali-Argon analysis provides the information of all kinds of tektit in Southeast Asia from 510,000 years to 690,000 years before present.

In Southeast Asia, it is difficult and there have been many debates on the division of Pleistocene stages. However, many researchers have agreed with Orchiston and Siesser's classification (1982). According to this method, Lower Pleistocene was from 1.6 million years to 700,000 years, the Middle Pleistocene was from 700,000 years to 125,000 years and the Upper Pleistocene was from 125,000 years to circa 10,000 years before present.

Up to present, there has no palaeolithic artifacts earlier than Middle Pleistocene have been discovered in Southeast Asia. In the Eastern Cambodia, near Stung Treng, palaeolithic artifacts were discovered in terrace of 40-45 m, 20-25 m and 15 m above the Mekong river level. According to E. Saurin, discovered tools in 40-45 m terrace, the oldest terrace are similar to

pebble-tools in Africa at Lower Pleistocene.

Dating for Kota Tampan culture is still questionable. Ann de Sieveking compared this industry with Olduvai culture in Southern and Eastern Africa, but it is obviously groundless. Similar to items which were found in 40-45 m terrace in Cambodia, the Tampan time was within Middle Pleistocene. The lower Anyath culture in Myanmar, the Nui Do in Vietnam, the Patjitan culture in Indonesia also in the Middle Pleistocene and beginning of Upper Pleistocene.

If time of 40,000 years before present begins the Upper Palaeolithic which is agreed by many researchers, it is still very complicated for the demarcation of archaeological cultures of Late Pleistocene and Early Holocene in Southeast Asia. There have been two major issues: when was the end of Upper Palaeolithic, whether 10,000, 12,000, 15,000 or 18,000 years before present. And whether their existed Mesolithic in Southeast Asia? Some opinions expressed that if there was Mesolithic, the end of Upper Palaeolithic would be much earlier. Some expressed that there was no Mesolithic in Southeast Asia, the termination of Upper Palaeolithic would be later (circa 10,000 years before present) and it was also the ending time of Pleistocene. The Hoabinhian culture was considered the transitional period from Upper Palaeolithic to Neolithic Age in Southeast Asia. During the excavates in Spirit Cave in Thailand, many seeds of different kinds of trees such as Areca, Canarium, Aleurites, Madhuca, Terminalia. Piper, Prunus, Trapa, Vicia, Phaseolus, Lagenaria, Cucumis, Luffa and others were discovered in layers dating at the earliest ( $11,237 \pm 580$  BP) and at the latest ( $7,622 \pm 300$  BP). Thanks to these discoveries, many people considered that primitive agriculture appeared from the Hoabinhian culture, more than 10,000 years before present. Even some people thought that masters of the

Hoabinhian culture were possible the early cultivators in the world, maybe 15,000 years BC (SOLHEIM 1972).

Compared with other regions in the world, the development of tool types and technique of manufacture of tools in Southeast Asia has its own character and should be attended. People have discovered the characteristic of the prehistoric culture in this region. In the above mentioned work "Lower Palaeolithic Cultures of Southern and Eastern Asia", H. L. Movius put forward the concept of two complexes: biface complex in the West and chopper-chopping-tools complex in the East during the Lower Palaeolithic. This concept has provoked long debates, but Movius' point of view has greatly influenced to Palaeolithic researchers for many years. In Southeast Asia, from the Lower Palaeolithic, there were two traditional techniques: the "pebble" traditions and the "block" traditions. Both techniques demonstrate slow change of tool types. Many types of tools existed through different stages and there were hand axes. Possibly, the cause for the slow development was the slow change of the environment and the traditional role. In Van Heekeren's work "The Stone Age of Indonesia" (1957), he pointed out some of main characteristics of the stone age development.

He also highlighted the relationship between human being and nature, tropical climate. He emphasized the role of bamboo and wooden displays in the Southeast Asian prehistoric life.

During many years, people acknowledged the existence of pebble industry tradition in Southeast Asian continent and the flake industry tradition in Southeast Asian islands. However, the discovery of Nguom industry in Vietnam and the Lang Rongrien industry in Thailand changed the above concept.

It is very interesting to notice that the same development occurred in the Nguom and the Lang Rongrien industry from flake industry tradition to pebble technique.

According to D. Anderson, at least, early archaeological collections during the Upper Pleistocene in East and Southeast Asia were from advanced flake industry (ANDERSON 1990). However, new discoveries in Moh Khiew cave in Thailand were against D. Anderson's opinion. Here, under the flake tools found in the layer like in Lang Rongrien also contained pebble tools.

Therefore, with the discovery of Nguom industry, the Lang Rongrien industry and the industry in Moh Khiew cave could be arranged in a new order from the early development of lithic techniques to the late ones in continental Southeast Asia as follows: the Cobble Tools circa 600,000 years BC existed before the Flake Tools less than 30,000 years BC. Following was the Son Vi Cobble Tools type during the Late Palaeolithic and then the Cobble Tools of Hoabinhian Culture during the Mesolithic and early Neolithic. However, the process of prehistoric industries was very diversified. In this region, vestiges of Block Tradition were discovered in Do Mountain site in Vietnam dating during the Lower Palaeolithic are examples, traditional use of bamboo and wood to manufacture tools.

In the past, there was a common thinking in Southeast Asia on the humidity and hot weather throughout Pleistocene. In this region, there was no direct glacial effect. Instead of glacial and interglacial cycle, there was pluvial and interpluvial cycle and there is no major difference between temperature and humidity during different seasons. But, since 1960's, methods of soil analysis have applied to study on climate changes of Pleistocene in the Pacific region. There was a stage of cold and dry temperature in the Upper Pleistocene.

H. T. Verstappen conducted an overall study on the environment in Malaysia and pointed out that in Malaysia, during the glacial period, there existed dry condition with low temperature. This climate condition greatly affected vegetation floor and the environment. (VERSTAPPEN 1975)

Ha Van Tan related the Nguom flake industry in Vietnam to the dry and cold period in Southeast Asia from circa 30,000 years to 23,000 years before present. Then, it was the period of cobble industry marking the return of humid period. (VAN TAN 1985)

So, the change of global climate during the Pleistocene certainly influenced the environment in Southeast Asia and the environmental change also affected the development of palaeolithic cultures in this region.

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