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Material Remains Of Moegyobyin Site And It Environments

Nwe Nwe Moe[*]

Abstract

Moegyobyin site is situated in Salingyi Township, Sagaing Region, Upper Myanmar. Varieties of material remains were found at Moegyobyin site. There are many kinds of stone implements, potsherds, pieces of bead, teeth of animals, fragments of bone and stone slabs about a man's height without inscription and scripture. There are surface finds from Wetsoekone near Moegyobyin village. More than 500 artifacts were collected. Most artifacts are microlithic products, including typical microcore, micro blades, burins, and various scrapers. Animal bones were discovered, providing important scientific basis for study of life style at that time. And one archaeological site is concerned other site in it environments. Regional settlement, distribution and relationships are also studied. Moegyobyin site and it environment sites have important position on the study of prehistoric culture in Myanmar.

Keywords: Stone implements, Potsherds, Beads, Fauna remains, Stone slabs, Cave

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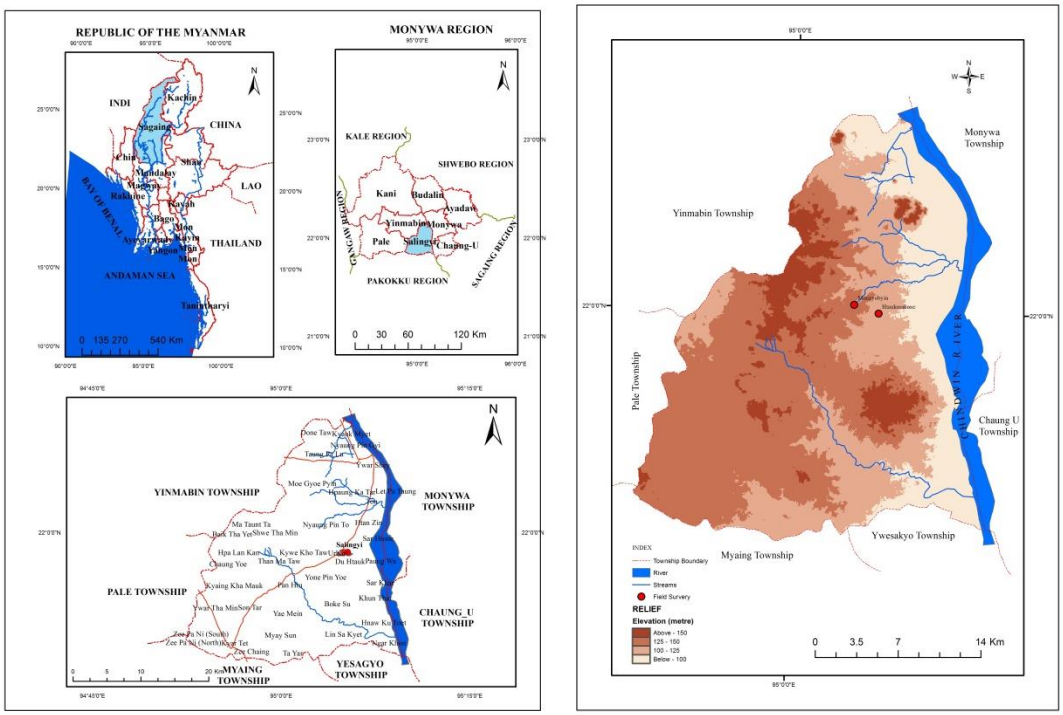
Introduction

The level of culture of men who lived before prehistoric period can be evaluated through material remains. Materials are buried in the areas where men of Stone Age lived. Among them, durable objects are the very evidences of human's culture. Every race and nation has impressive cultures and traditions. The status of every nation and race can be assigned on the basis of the remnants. So, to alleviate the status of culture in every nation, cultural materials including the search for the anthropoid primates many million years ago are sought after.

Just as men have settled in successive ages in Myanmar, their material remains have been found. The evidences of prehistoric remains were discovered in Moegyobyin Site. Finding remains studied base on Typology and scientific analysis in this paper. Moreover, it environments sites were investigated on the eastern side of Chindwin River.

Location and Material Remains

Moegyobyin site is located latititude 22° 03' 33" North and longitude 95° 02' 89" East, on the west of Moegyobyin village, in Salingyi Township, Monywa District, Sagaing Division. It is in the the northern part of the central Myanmar, but geologically it had been established as a Chindwin basin. The Chindwin River is flowing about four and a half miles to the east to Moegyobyin site. This area is about 450 feet above sea level, it is locally known as Wetsoekone.



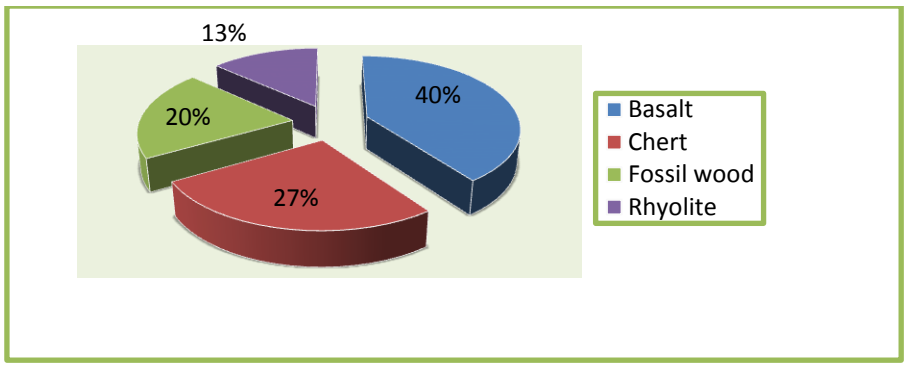
Figure(1) Location map of Moegyobyin Site (New New Moe, 2014)

In 1995-1996, Moegyobyin area was investigated by U Ba Maw, Dr Toe Hla and U Than Tun Aung. In 2004, U Aung Kyaing who was the retired director has surveyed, and continued its exploration work by U Sein Myint and colleagues in 2005. In 2008, U Win Kyaing, Principle of

Pyay Archaeology Field School and his team was excavated test pit. Excavation yielded potsherds, bones and stone tools. (Win Kyaing, personal communication, January3 2017) Moegyobyin field work had been started since 2008.

Stone Implements

Moegyobyin site was found over five hundred of stone implements, potsherds, fragment of beads and piece of bone and teeth. At the Moegyobyin site, the stone implements were made of Basalt 40%, Chert 27%, Fossil wood 20% and Rhyolite 13%.



Chart(1) Showing the raw material used percentage of stone tools (Nwe Nwe Moe, 2014)

Stone implement can be divided into unpolished stone implements and polished stone implements. Unpolished stone implements can be sub-divided into; hand axes, chopper and chopping tools, hand adzes, blades, scrapers and grinding stones. In making hand axes both side of the stone were evenly struck. The edge was made at the lower part and the handle at the upper part. The hand axes are oval in shape. They were made using stone hammer technique and levallois technique. (Than Tun Aung, 2002, p.11)

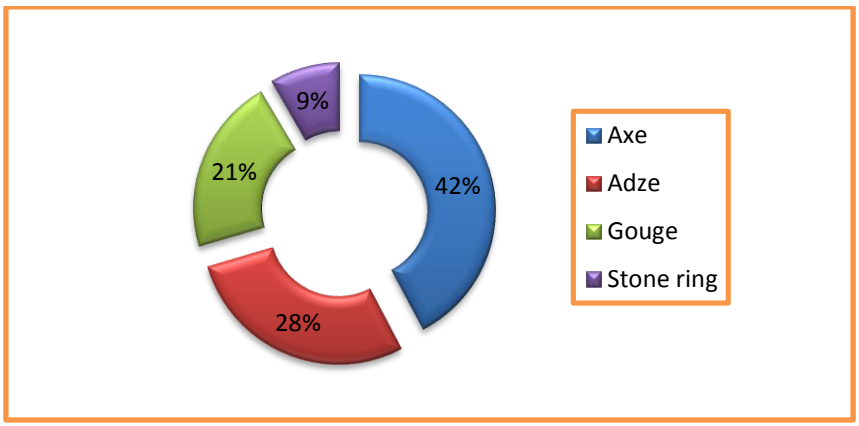
To make chopper and chopping tools boulder were to be cut off as required. Edges were struck between 3 to 7. Then the raw material was held in one hand and it was struck with hammer-like tool. This method is called direct percussion or stone hammer technique (Sankalia, 1982, pp.24-25). Generally chopper tools are unifacial tools. However, some are two-faced tools. The edge normally is U-shaped. The edge of the tools uncovered is blunt due to overuse. The back of the tools was shaped to handle conveniently. Some tools had an extra edge to cut the distal part. It seemed that a new edge was made at the back of the tool when the original edge got blunt. They can be regarded as hand axes as shown by their shape, size, nature and orientation of cutting edge. Chopping tools were made was random but not systematic. Some chopping tools are oblong or cylindrical or triangular in form.

Figure(3&4) Chopper and Chopping tool from Moegyobyin Site (Nwe Nwe Moe, 2014)

Hand adzes were made using stone hammer technique, wood or bone hammer technique and alternate flaking technique. They were of flat type for chopping and cutting. The surface of the tool is even. It is a unifacial tool. Some hand adzes are double-bladed. The unifacial tool proves their concentration in making tools and development of their brain capacity.

The tools called knife blades are of various shapes. The side blades were designed to cut the material as knife. The tools were shaped in the form of leaf. The left side of the tool was edged for cutting and the right sided for handling. Some edges of the tools are slightly carved, forming beak shape at the upper end. The shape was not accidental but on purpose judging from the flake scar on the underside of the tool. The edge looks like the present-day sickle. Scrapers look like choppers in appearance, but the size is different. Scraper is smaller than chopper. In edging the tool wood or bone or angular rock fragment was exerted pressure. Some are side scrapers and others are end scrapers. The scraper are document which point out their straggle in hunting life. Grinding stones will be used rubbing stone tools. They were made sandstone. And they would create the sharper edges. Many of grinding stones were found at Moegyobyin site.

Polished stone implements can be divided into; stone axes, stone adzes, stone gouged and stone rings. The stone implements were discovered of stone axe 42%, stone adze 28%, stone gouge 21% and stone ring 9%.



Chart(1) Showing the rate of stone tools type from Moegyobyin Site (Nwe Nwe Moe, 2014)

A ground stone axe is roughly triangular in form, though the exact shape varies, it being broad or narrow, and square, or elongated. In an axe the two broader surfaces—the upper and the under—meet in a gentle or rarely oblique slope to form the cutting edge. The two lateral sides are thick (square or rounded) or also sloping and intersecting at the broad base. The butt-end is pointed, rounded or even square or rectangular. Thus for a proper understanding of the ground stone axe type, it is necessary to know its cross- section at the butt, in the centre and the edge. It is generally fairly thick. Among then, seven samples were studied emphasis.

Sample No.1 is made of basalt. It is an axe, which is rectangular in outline. The range of measurements is 5.9 cm in length, 4.1 cm in width and 2.5 cm in thickness. The two lateral sides are imperceptibly tapering to the butt. Moreover, the edge damages are vividly seen. The butt is rounded in shape. Sample No.2 is an axe with made of basalt. It is square in outline. The measurement range is 5 cm in length, 3.7 cm in width and 1.5cm in thickness. The cutting edge is rounded in shape. The lateral sides are some small and narrow flack scars on the ventral and dorsal surfaces. Sample No.3 is made of chert. It is an axe, which is rectangular in outline. The two lateral sides are glaringly tapering to the butt. The butt is blunt. Ventral edge is broad surface but dorsal edge is narrow surface. The measurement range is 6.5 cm in length, 5 cm width and 1.3 cm thickness. The edge has a scar on the dorsal surfaces.

Sample No.4 is also an axe. The raw material is basalt. It is small in size. It is square in shape. It measures 4.6 cm in length, 4 cm in width and 1.4 cm thickness. Ventral edge is almost surface full grinding. Sample No.5 is an axe with made of Rhyolite. It is rectangular in shape. Its measurement of range is 5.7 cm length, 4.3 cm in width and 1.6 cm thickness. The butt is badly damaged, and the dorsal surface is more convex than the ventral. Sample No.6 is a square axe. It is made with chert. It measures 5.2 cm in length, 5.2 cm width and 1 cm thickness. It has small and narrow flake scar on the dorsal surface. It is broad cutting edge and blunt butt. Sample No.7 is a rectangular axe. It is made of chert. Its measurement range is 5.2 cm in length, 4.5 cm width and 1.4 cm thickness. It is tapper to the butt from cutting edge.

Figure(4) Polithic stone axes from Moegyobyin site (Nwe Nwe Moe, 2014)

An adze is thinnish, triangular piece, made normally on a flake. It is flat on one surface, while the other is slightly convex and meets at the edge; the section is planoconvex and the edge beveled. The beveling might in some cases be done from both the surfaces. Different three adzes were studied emphasis. First adze is an adze and isosceles triangle in outline. It is made of chert. It is almost entirely grounded, but the two lateral sides are glaringly tapering to the butt. Its

measurement range is 7.4 cm in length, 5 cm width and 1.3 cm in thickness. Second adze is quite similar in profile to that of first. Having a measurement of range is 5.6 cm in length, 4 cm in width and 1.4 cm in thickness. It is smaller in size than first. The raw material is basalt. Third adze is an adze with made of basalt. It is irregular in outline. It might have been on adze with broad cutting edge and blunt butt. The measurement is 7.3 cm in length, 5.2 cm in width and 1.8 cm thickness.

Figure(5) Polithic stone adzes from Moegyobyin site (Nwe Nwe Moe, 2014)

Like any metal chisel, of which it is an exact prototype, a stone chisel is a small, narrow, cylindrical or rectangular piece, with two of its smoother sides tapering halfway down the edge to form a broad edge. Gouge is made of basalt. The range of measurement is 7.9 cm in length, 4.5 cm width and 2.1 cm thickness. It is rounded shape. It is the smallest size in the gouges group. It is cylindrical in outline. The working edge is formed by unifacially flaked. Next one is a gouge with made of Rhyolite. Its measurement is 7.8 cm in length, 4 cm in width and 1.8 cm in Thickness. It is rounded shape. The butt is a few damaged. It is cylindrical in outline. The cutting edge is rounded in shape and damaged.

Figure(6) Polithic stone gouges from Moegyobyin site (Nwe Nwe Moe, 2014)

Stone Rings are comparatively thick, small, round or rectangular stones with their surfaces smoothed by peeking and grinding, having a central hole, about half-an-inch or even an inch in diameter, bored from both the surfaces. Thus in section this hole resembles the ancient hour glass, broad at the top, and narrow in the centre.

Figure(7) Polithic stone rings from Moegyobyin site (Nwe Nwe Moe, 2014)

The side of the stone is generally convex or rounded, but in Eastern India and China stones with highly polished and beveled surfaces are noticed. (Chang, 1977)Some are broken into two and the broken pieces have small holes.

The inner hole rim of most Chindwin rings is beveled although a group of rings have a T – sections and are circular. The ring hole is always a circle, but not always centred. The holes were probably made with bamboo, similar to traditional methods that employ a section of bamboo with a sharp bevel on one end. The bamboo is kept steady by wood brackets and then turned with a rope or strap twisted around the midsection. Sand and water are used as grinding materials.

Potsherds

Potsherds are studied together with production of stone implements in Moegyobyin site. But there is no evidence of polished pot in Moegyobyin but only potsherds. Among potsherds, only a few are studied. In studying potsherds in Moegyobyin region, there are two kinds of potteries- hand-made and potter's wheel. The kinds of earth are threefold- red, brown and black. Through these facts, Moegyobyin men gradually created potteries themselves but not those potteries were not imported from neighboring regions. As the thickness of the potsherds in Moegyobyin region are minimum 0.5cm to maximum 1 cm. Some potsherds were decorated cord marks and basked marks, are systematically laid vertically and horizontally.

Beads

A few beads are found in Moegyobyin site. Beads were made of terracotta, talc, chalcedony, carnelian and quartz. The shapes of the beads are cylindrical, flat and barrel. Then fragment disc and rectangle shaped pendants with hole at top are found. Cylindrical shape beads are minimum 0.5cm to maximum 2.5cm in length. In Moegyobyin site, the beads are found roughly cut and being bored. So, it is supposed that men in the region did not import the beads from outside regions but they themselves made those beads and used them. Through study of technique for boring the beads, they are not skilful enough in making beads. According to analysis studies, bead's materials percentages were found Terracotta 7%, Talc 7%, Chalcedony 43%, Carnelian 33% and Quartz 10%. Beads made of carnelian are so small and having no designs.

Figure(8) Various stone beads from Moegyobyin site (Nwe Nwe Moe, 2014)

Fauna Remains

The fauna remains of this study were collected from Moegyobyin site. All those remains were analyzed with provenance information and examined. Most recovered specimens are fragmentary and attributable to family of large mammals such as *Bovidae* and *Suidae*. These remains are mainly fragmented by anthropical processes as well as natural processes. Moreover several remains of animal remain were recovered from this site. They are remains of rodent (porcupine), carnivore (dog), herbivores (cattle and deer), omnivore (boar) and bone fragments of fowl.

There are two kinds of animals wild and domesticated from study of bones in Moegyobyin site. Wild animals are- deer, wild boar and rodent. Deer and wild boar bones were evidently there were to hunt. Wild animals were not only important as a source of food but also because their hides and bones provided raw material for making clothing and tools. (Cole, 1967) Domesticated animals are cattle, pig, dog and fowl.

Cattle were principle domestic mammal of prehistoric Moegyobyin site. Cattle were valuable for meat, hides, milk and traction – power. Pigs were valuable for meat and skins; will eat practically anything. Dogs were perhaps originally as an aid in hunting then increasingly as a companion animal. Dogs seem to have been the first animal to become involved in this special relationship to man. Bird bones can provide valuable information in recognizing the seasonal use of settlement or hunting sites.

Stone Slabs

The significant finds at Moegyobyin site are those of the megalithic material remains. There are three stone slabs made of salt stone, but not in situ manner and lying out as in surface finds. Measuring about 94 cm high and 32 cm in diameter, one has been found in association with human skeletal remains, and another one measures about 62 cm and 33 cm in diameter but unfortunately all broken into pieces. (Than Tun Aung, personal communication, September 23, 2012) Two stone slabs are kept in Monywa University. One slab was found in situ, and it was laid flat on the ground. Measurement of range is 205 cm high and 45 cm in diameter. These stone slabs are the most important finds of the site.

Figure(9) Stone slab from Moegyobyin site (Nwe Nwe Moe, 2014)

The cultural pattern, the evidences of stone slabs reveal ritual object of cult system, particularly in burial practice. They have taken their nature in efficacy of stone practiced in burial rite, link with Megalithic Culture of Myanmar.

It environments

One archaeological site is concerned other sites in it environments. On the eastern side of Chindwin River the specialized form of the Neolithic artifacts occurred from many sites such as Htaukmakone site, Linnoetwin Cave and Kyauksin Megalithic site at Salingyi Township. There are a number of sites in which the evidences of the settlements of Neolithic Age near the environs of Moegyobyin site.

Linnoetwin Cave

Regional settlements, distribution and relationships are also studied. There is a cave called Linnoetwin Cave six miles away on the west of Wetsoekone site near Moegyobyin village and on the eastern most part of Powindaung range. Linnoetwin Cave lies Latitude 94º 58.742' E & Long 22º 03.412' N. It is in the mountain on the south of Yazarkyaw village. It is a natural cave on half of the mountain. But the entrance and the peeping hole are likely made by men. The entrance room of the cave is about 15 square feet wide. It is 4' 6" from up to bottom and 3' wide and carved in oval shape.

Figure(10) Entrance of the Linnoetwin Cave from outsite see (Nwe Nwe Moe, 2014)

There is a flight of stairs made from the entrance leading to the upper part. There is a peephole to watch enemies. Then it leads to narrow pavement and U Aung Kyaw Win who went inside the cave said that there is a space of 30 feet in width. There are many bats inside the cave, so, it is so named Linnoetwin Cave, i.e. the cave in which many bats haunt, by the folk. (Aung Kyaw Win, personal communication, January13, 2012)

Near the entrance leading to the west of the cave a hand axe like Achule is uncovered. It is a roughly flaked implement. The blade is 3.5 cm and 7.5 cm long. In the field trip of U Aung Kyaing in 2004 it is known that some Mesolithic stone implements were found in the cave.(Aung Kyaing, 2004) The implements are medium and small ones. But some are slightly polished. As there are some Mesolithic implements in the cave, it is supposed that men had settled in Mesolithic age. And the cave stands near Moegyobyin site, so, it is assumed that Stone Age men had migrated Wetsoekone on in Moegyobyin later.

Kyauksin Stones

There is a certain spot called Kyauksin two miles away on the northwest of Moegyobyin site. Kyauksin is Latitude 22° 04.210' E & Longitude 95° 00.486' E. Kyauksin is so named because there are so many boulders. (Tun Hlaing, personal communication, January14, 2012)Two boulders measuring 10 feet and 8 feet high can be seen there.

Figure(11) The largest stone at Kyauksin in Near Moegyobyin site (Nwe Nwe Moe, 2014)

There are also small stones of about 2 or 3 feet in the environs. Then, there are five heaps of sandstones. This place may be one Megalithic site.

Archaeological evidences of Megalithic Culture in Myanmar belong to slightly different character and nature from those of worldwide evidences. It is supposed to be a religious cult of prehistoric time. Such stone henges can be found in Megalithic sites in Menhir at Heggdehelli in Karnatake State, India. Megalithic culture of such type is also found in Ywathit village, three miles away on the northeast of Myotha village, Ngazun Township. Only when the exact excavation is revealed, it can be assigned to the age concerned. But, it is supposed to be religious cult of prehistoric time.

Htaukmakone Site in Salingyi Township

Htaukmakone site is located in Paingtaunggyi Village at Salingyi Township. It is situated 22º 00´ N and 95º 04´ E, and it is a water eroded mound. As the Chindwin River is flowing south about a mile to the east of Htaukmakone, it is also considered to be river terrace level two of the Chindwin. Htaukmakone site was excavated from February 20-27 in 1970 by U Sein Maung Oo. The excavations reached a depth of 1.8 meters with most of the cultural material found in the lowest of the four layers, a reddish brown sandy soil. Moegyobyin site was yielded stone tools, stone rings, animal bones, ash and potsherds. According to Thermoliminescence date, Htaukmakone site was dated 470 BC from potsherd.

Conclusion

According to material remains and environment condition, Moegyobyin site is hunters and gathers lived only in small groups. Typology of the tools, they show an advanced and specialized form of technologies. In spite of distribution of Neolithic tools in different parts of Myanmar, axes are mostly used in Moegyobyin region. So, it is assumed that Moegyobyin men lived mainly on hunting and fishing rather than on production of timber and wood. Then, most flakes and implements of the levels of techniques are found, it is assumed to be a workshop site.

Through astrological analysis of bones, the animals are wild as well as tame. As there are bones of dogs, they are accustomed to hunting. Being ample bones of buffalos and cows, the art of agriculture was introduced. And it is believed that natural vegetation such as grass flourished in the area.

By studying potsherds, pots are made of hand and potter's wheel as well. Cord, basket and scratch marks on the pots are found, it is assumed that the art of making pots is progressed. Through typology and designs on the pots, it is assigned to belong to Mesolithic and Neolithic ages. Beads are of various types and sizes. By theory of raw materials it is believed that beads have been made since Mesolithic age. In spite of carnelian beads of 1 cm in size, the workmanship is low and there are no designs. So it is believed that beads were made in Neolithic age.

Megalithic stones reveal that religious cult and burial practices had been introduced there. Polished stone tools and Megalithic stones developed side by side, it is assigned to be Neolithic Age. According to environmental conditions, ancient men in Moegyobyin region are supposed to be the descendent of Pondaung anthropoids. Ancient men had likely lived during Palaeolithic Age in caves like Linnoetwin Cave in Powintaung that adjoins Pondaung-Ponnya mountain ranges. It is assumed that they moved and settled in plain areas like Moegyobyin region gradually.

On account of evidences of material remains, Megalithic stones associated with polished stone tools, it may affirmed that ancient men had lived in Moegyobyin site since Early Neolithic Age. Moegyobyin site reveals a successive continuous cultural sequence of the type locality Neolithic culture belonged to the early man who inhabited in a single locality. This group will differ from other prehistoric groups in Myanmar such as; Anyathian, Samon, Halin and so on. It is needed to do modern scientific research. Using DNA analysis, plants and animals remains can be reconstructed absolutely prehistoric Moegyobyin human life. And then, this site is very valuable archaeological site for Myanma’s culture heritage.

Reference

Ba Maw,Than Tun Aung, Pe Nyein & Tin Nyein. (1998). The First Discovery in the Evolution of Anyathian Cultures from a Single Site in Myanmar. *Myanmar Historical Research Journal*. Vol-3, June

Campbell-Cole, Barbie. (2003). "Ancient hard stone beads and seals of Myanmar", *Ornaments from the Past: Bead Studies After Beck*, London, The Bead Study Trust Press.

Chang, Kwang-chih. (1977). *The Archaeology of Ancient China* (3rd ed). United State, Yale University Press.

Cole, Sonia. (1967). *The Neolithic Revolution* (4th ed). London, Trustees of the British Museum.

Connor, Terry O'. (2004) *The Archaeology of Animal bones* (1st ed). Great Britain, Sutton Publishing Limited.

Department of Archaeology. (2005). *Exploration report around Moegyobyin site, Lei-she village, Mot Htaw village, Twin village, Monywe and kyemon village in Sagaing Division,* Upper Myanmar, Myanmar: Aung Kyaing.

Edmonds, Mark. (1995). *Stone Tools and Society*, London, B.T.Batsford Ltd.

Kyaw Ze Ya. (2012). *Megalithic Culture In Prehistoric Upper Myanmar* (Unpublished doctoral thesis). University of Yangon, Myanmar.

Nwe Nwe Moe (2014). *Material Remains of Moegyobyin in Salingyi Township*, Sagaing Region (Unpublished doctoral thesis). University of Yangon, Myanmar.

Sankalia, H.D. (1982). *Stone Age Tools*, Poona, Deccan Collage.

Than Tun Aung. (2002) ***The study of stone implements from Moegyobyin and Monywa District***, Myanmar, Ministry of Education ; National center for Human Resource Development.