

On Some “Early Palaeolithic” Evidence in Japan – A Personal View

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- Preface

Despite decades of research, existence of the pre-Upper Paleolithic evidence in Japan still remains controversial. While it is now believed that *Homo sapiens* had reached the archipelago some 35 to 40 thousand years ago (Sato et al. 2007), they seem to have appeared rather abruptly. So far, the best possible evidence for their predecessor(s) is limited to small amount of lithics. To some, they represent evidence for the “Early Palaeolithic”, following Serizawa (1965), but many are not willing to accept it. To them, they are not artifacts at all, and, even if so, should be derived ones (cf. Serizawa 2003).

In 2012, the current author had an opportunity to observe some of these controversial evidence kept in the Tohoku University. Thanks to the invitation from the Tohoku University Museum, I visited Sendai as a visiting professor of the museum between January 25 and March 1. During the period, I was also introduced to the Aizawa Memorial House and several localities on the foothills of the Akagi Mountain. This paper is a brief summary report of personal observations on some “Early Palaeolithic” evidence made during the visit. Of course, it would not be necessary to remind the readers that little can be expected in resolving the controversy from this brief report.

The controversy cannot be settled without detailed chronological and stratigraphic evaluation of the sites and artifacts involved. Morphological and technological assessment of the lithics alone cannot provide an answer. For one thing, the poor quality of the raw material provides an ample source for controversy. While participation in the discussion of the issue requires one to understand details of both the depositional context of the lithics and the historiography of sites, the current author obviously does not have such knowledge. As such, what is discussed here must be regarded as a mere personal comment by an outside observer based on a cursory observation of the evidence, limited by the lack of detailed understanding of the data.

- Sozudai

One of the focal points of the author's visit is to observe lithics from the site of Sozudai in Oita Prefecture, Kyushu. In some sense, Sozudai lies at the center of the controversy. It also represents the best studied among the suggested early sites, many of which were either destroyed without sufficient study or known only from surface collection. For example, localities on the foothills of the Akagi Mountain had been destroyed before sufficient and satisfactory evaluation of their stratigraphy and context was made, leaving many questions unanswered and making Sozudai an exceptional case.

Originally, Sozudai had been known as a key Jomon locality of the Kyushu region. Then, in 1964, palaeolithic layer was reported by the late Chosuke Serizawa, which led him to suggest the “Early Palaeolithic” in Japan. Re-examination of the site had not been made for almost four decades since his testing. Then, in 2001 and 2002, excavation was resumed by the Tohoku University team. New excavations provided much needed information of the site and the industry, thus, more is known about Sozudai than any others.

Geography and stratigraphy of the Sozudai site as well as the history of research are well summarized by Yanagida and Ono (2007) and Yanagida (2011), whose English summary is seen in Yanagida and Akoshima (2007, 2011). To paraphrase these authors' descriptions, Sozudai lies on a coastal terrace developed along the southwest edge of the Kunisaki Peninsula in northeastern Kyushu, commanding a fine view of the Beppu Bay. The terrace is with an elevation of about 35m above the sea level, making it a “middle level” terrace formed after the last interglacial.

In consideration of such macro-stratigraphy of the site as well as lithic technology and typology, Serizawa (1982) concluded that Sozudai represents palaeolithic occupation pertaining to c. 100,000 to 120,000 BP. However, the age estimate needs to be refined. From a tephra analysis of the Stratum 5, which is reportedly the main lithic layer of the site, there was obtained a rather obscure estimate that it should

be between about 50 to 110 ka (Soda 2007). But a single OSL date of 27 ± 8 ka was obtained from the same stratum. At the same time, Stratum 4 above it was dated to 30 ± 3 ka and Stratum 6 below it produced dates of 30 ± 5 , 32 ± 3 and 35 ± 4 ka. Although Stratum 7 was not dated, its reddish color was regarded as suggesting a depositional episode following the formation of the coastal terrace during the Shimosueyoshi Transgression of the MIS 5e. Then, it might be said that the lithic layer of the Stratum 5 could belong to any period between c. 30 and 110 ka.

From the 1964 testing by Serizawa, there were recovered a total of about 500 pieces of lithics from both excavation and surface collection. Among them, 225 are from trench P (Yanagida and Akoshima 2007). As they are from the andesite gravel bed overlying the Tertiary bedrock, he concluded that they must be the oldest palaeolithic evidence in Japan, older than the Upper Palaeolithic ones commonly found throughout in Japan, to propose the concept of "Early Palaeolithic" which more or less corresponds to the Lower Palaeolithic in continental Asia.

Lithics are mainly made of vein quartz and quartz rhyolite. Serizawa characterized the industry as being made of flake and crude core tools. The former was considered to be manufactured from prepared cores, exhibiting "proto-Levallois" technique, while the latter was made out of tabular or round gravels. In describing the assemblage, his classification recognized proto-handaxe, proto-ovate, rhomboid, pick, chopping tool, chopper, point, disc, prepared core, flake and hammer stone as major types. From technological point of view, the industry was viewed as dominated by alternate flaking and "twin-bulbar percussion". He suggested the industry is comparable to the artifacts known from Fujiyama and Gongeyama, but older than them. Also, he believed that the industry exhibits archaic features comparable to Zhoukoudian Locality 1 in China and the Patjitanian in Java in terms of technology, lithic morphology and the overall assemblage composition. Thus, the Sozudai industry should be included in the Lower Palaeolithic tradition of continental Asia, and it is at least 100,000 years old. Such age estimate was supported by geological interpretation of the terrace that the site sits on as summarized above.

His proposal for the "Early Palaeolithic" for Sozudai was not accepted kindly despite some positive response from outside of Japan (e.g., Bleed 1977). Bleed's assessment of the Sozudai evidence is mainly based on experimentation, and he suggested that morphological characteristics of the lithics, although crude, fall within the expected range produced artificially. However, his conclusion hardly gained audience in Japan. For example, in the preface of the special edition of the *Kogogaku Janaru* (*The Archaeological Journal*) dedicated to Early Palaeolithic research in Japan,

the editor states explicitly that, despite positive opinions by foreign researchers, many Japanese researchers for the last 40 years had maintained their negative opinions, and spells out names of the opponents (Esaka 2003).

In addition to the problems related to the age estimate of the industry, the main source of such criticisms in Japan has something to do with difficulty in identifying artifacts from geofacts. Excavations made in 2001 and 2002 were conducted with an anticipation to give answers to the controversy. In 2001, there were collected 473 pieces considered to be of "Early Palaeolithic". Lithics were classified into choppers, chopping tools, bifaces, proto-burins, pointed tools, awls, burins, tranchets, notches, scrapers, base-retouched tools and piece-esquillees as well as cores and flakes. It is suggested that the assemblage is dominated by small tools, most notably scrapers (73 pieces). In 2002, 846 pieces of lithics were collected. In addition to 79 flakes, 112 chips, 34 cores and 1 hammer stone, there are choppers, chopping tools, bifaces, pointed tools, notches, proto-burins, scrapers and piece-esquillees. Although raw material is dominated by vein quartz and quartz rhyolite, most interesting is the occurrence of fine grained quartz, agate and possible obsidian from Himejima Island some distance off the coast (Yanagida 2011:87).

Despite all these efforts, it appears that the published accounts alone have not succeeded in expelling the doubts surrounding Sozudai. Clearly, crudeness and irregularity of the shape of the lithics are confusing, providing an ample room for disagreements. Also, regardless of the differences in opinion for the samples, there seems to be a lack of coherence in the classification of the lithics provided. That is, the lithic typology originally suggested by Serizawa and refined in later reports does not seem to be devised systematic enough for the others to follow to reach the same conclusion. Some tool classes are not defined clearly while others are defined in a rather idiosyncratic way. Despite self-serving evaluation of foreigners' comments by Serizawa (2003), the lack of enthusiasm about Sozudai samples vis-à-vis Hoshino in the comment by Keates (2003) seems to mean that perhaps many feel the same way.

As far as my observation is concerned, many "edge-retouched" pieces appear heavily weathered on their surface. As the weathering seems to have had occurred after the lithics were shaped as they are now, one may wonder how come only the edge part could have survived the weathering process. Closely related to this question is the possibility that raw materials for many of such pieces are vein quartz or rhyolite, not finer crypto-crystal rocks, and have inclusions of uneven size and hardness. Then, there is always a possibility that "retouches" on them might have resulted from differential removal of the parent rock material by natural forces as much as from human intervention.

Related to this observation, many pieces made of white quartz, which is the best raw material among the observed samples, tend to lack clear flaking scars, whether artificial or natural. Instead, their surface tends to appear “smooth”, lacking sharp ridges from removal of flakes. Such condition seems to suggest that they had been subject to some degree of “rolling” before or during deposition. Also, it might mean that natural agents could not leave “retouches” on harder material while making scars on softer materials of uneven quality. If that is the case, it is not surprising that some retouched pieces made of “chert”, which might rather be grayish vein quartz, demonstrate sharp edges despite they appear to have been “rolled” heavily.

Then, it looks to me that the overall assemblage composition and morphological and technological characteristics of individual specimens do not demonstrate regularity as expected for a palaeolithic industry. Crudeness of the raw material alone cannot explain observed traits. To be artifacts, there should be seen more evidence indicative

of selective behavior in terms of technique of manufacture and raw material exploitation.

On the other hand, however, there do exist pieces which appear to be genuine artifacts, especially among those made of fine quartz (Figure 1), including pieces on display in the Tohoku University Museum. The same can be said about the “chopping-tool” made of the “Himejima obsidian” (Figure 2). If petrology and stratigraphic provenance of the latter are confirmed, there is little reason not to believe the existence of “Early Palaeolithic” at Sozudai. For now, we need to wait for more solid evidence to reach the conclusion.

- Hoshino and Mukoyama

In 1999, I had spent an hour in the storage space of the old museum building of the Tohoku University while participating in a conference in Sendai. At that time, I was very much struck by the fact that many of the pieces from the sites of Hoshino (Serizawa [ed.] 1967) and Mukoyama

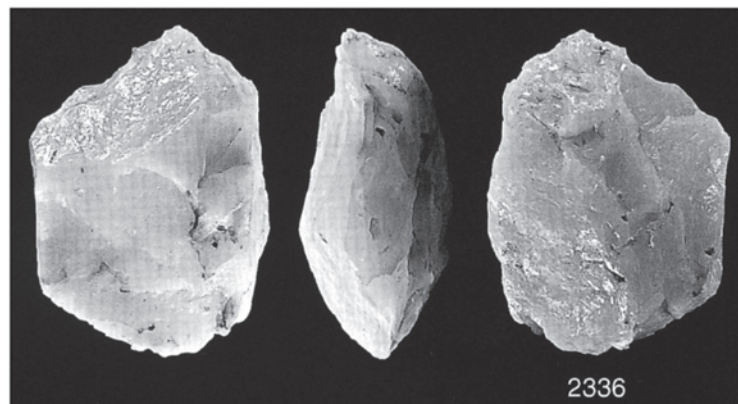


Figure 1. “Pointed-tool” from the Stratum 4, Sozudai (after Yanagida and Ono 2007, Plate 14).

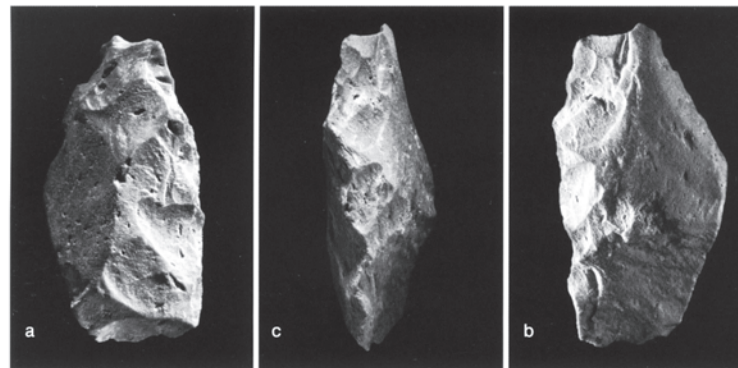


Figure 2. “Chopping-tool” from the Stratum 6, Sozudai (after Yanagida 2011, Fig.8-3).

(Serizawa 1980) may find their counterparts in Korea at such site as Pyeongchang-ri (Pyongchangni). There, excavation of 1998 produced crude pieces from below the Aira-Tanzawa (AT) tephra, a well-known marker volcanic ash in East Asia (Yi et al. 2000). In essence, the assemblage demonstrates that, despite apparent irregularity of the shape, many selected flakes and chunks were utilized and demonstrate use wear. Also, certain common tool types may be defined despite generally irregular shape of the pieces which seemingly reflects opportunistic exploitation of the raw material. New observation of the Hoshino and Mukoyama samples made in 2012 generally confirmed the previous conclusion.

It is of course beyond the author's capability to discuss how old these sites really are. Nevertheless, given the stratigraphic profile of the trench E at Hoshino site (Serizawa 2003: Figure 5), those from below the Cultural Layer 4 should be of the "Early Palaeolithic". I observed pieces from Layer 6 of Hoshino. According to Serizawa (2003), from above this layer, there are known two fission-track dates of $44,000 \pm 4,500$ and $42,000 \pm 9,000$ BP while the one below produced dates of $56,000 \pm 11,000$ and $59,000 \pm 9,000$ BP.

For the Layer 6 samples, while Serizawa defined such types as handaxe or chopper, it is difficult to determine whether some large pieces are true artifacts. Also, it seems doubtful whether there are pieces classifiable as handaxe or chopper. It is also difficult to conclude that "cobbles" were intentionally split although their edges demonstrate possible modification from use. Despite these problems, nevertheless, there are small, irregular-shaped pieces with clear and convincing indication of use wear. There seems to be little reason to suspect that such marks were produced naturally.

For Mukoyama, observation was made with some 50 pieces collected from Cultural Layer 8, 6, 4 and 3. As Layer 3 is identified as the so-called Black Band lying below the AT, all of the lithics observed should be of the "Early Palaeolithic", especially those from Layer 8 and 6. For most of these samples, regardless of differences in opinion regarding their classification and typological designation, they appear to be retouched and/or modified, not geofacts. One can only regret that the site was destroyed long time ago so that we need to wait for future discovery of similar site.

-. Gongeyama, Kiribara, Yamanoderayama and Fujiyama

The most surprising realization from the visit is that, in relation to the controversy surrounding "Early Palaeolithic", so little attention has been paid for so many years to lithics collected from the foothills of the Akagi Mountain at such

localities as Gongeyama, Kiribara, Yamanoderayama (Iwajuku D) and Fujiyama (Aizawa and Sekiya 1988). From what I have observed, for example, specimens from Fujiyama (Aizawa and Sekiya 1988: Figures 39-41, 44-45) and the famous Gongeyama "handaxe" and associated ones must be genuine artifacts (Aizawa and Sekiya 1988: Figures 52-57). Such evaluation is possible for all of the samples on display at the Aizawa Memorial House. Artifacts such as shown in Figures 3 to 5 may find their counterparts among many early assemblages on the Eurasian continent.

Significance of the Gongeyama specimens was already recognized in the 1950s at least by one non-Japanese archaeologist (J. Maringer 1956, 1957, von J. Maringer 1956). He compared them with the Hoabinhian artifacts, which at that time was the best known Pleistocene evidence in East Asia. Although he was limited by the knowledge and perspective of the period, it was clear from his writings that he understood their significance and tried to find their affinities among the "pebble tools" of Southeast Asia. If more aggressive, he might have found counterparts in Europe, specifically, among the Middle Palaeolithic. Indeed, many of the samples collected at Akagi localities demonstrate rather archaic features. It is only unfortunate that no thorough study has ever been made while the original sites are long gone. Although it is now impossible to study their stratigraphy and context of occurrence, however, they seem to suggest that we are allowed to expect for more convincing "Early Palaeolithic" evidence in future.

-. Fukui Cave

In the 1960s, the Tohoku University team led by Serizawa found several large flakes from the Layer 15 of the Fukui Cave in Nagasaki Prefecture, Kyushu. As the layer produced a radiocarbon date of $>31,900$ BP (Gak-952), it has become another potential candidate for the "Early Palaeolithic" (Serizawa 1967). To me, in terms of overall shape and technique of manufacture, the lithics appear to be genuine. It will be highly unusual that such pieces had been formed by natural process. Thus, what needs to be done is to collect more specimens from the same layer and obtain clear dates for their age.

While we may need to wait to learn whether the cave contains "Early Palaeolithic" deposit, a recent testing in the Area 4 of the nearby Nagoya Rock-shelter produced early dates of c. 39 ka and >42 ka (Sasebo City Education Committee 2010). The first date is from the Layer 9 and associated with 4 andesite pieces and the second one is from the Layer 10 with 3 pieces made of the same rock (Figure 6). Although it is yet too early to conclude, these dates certainly highlight the possibility to find more in northwestern Kyushu area, which should be the first point of

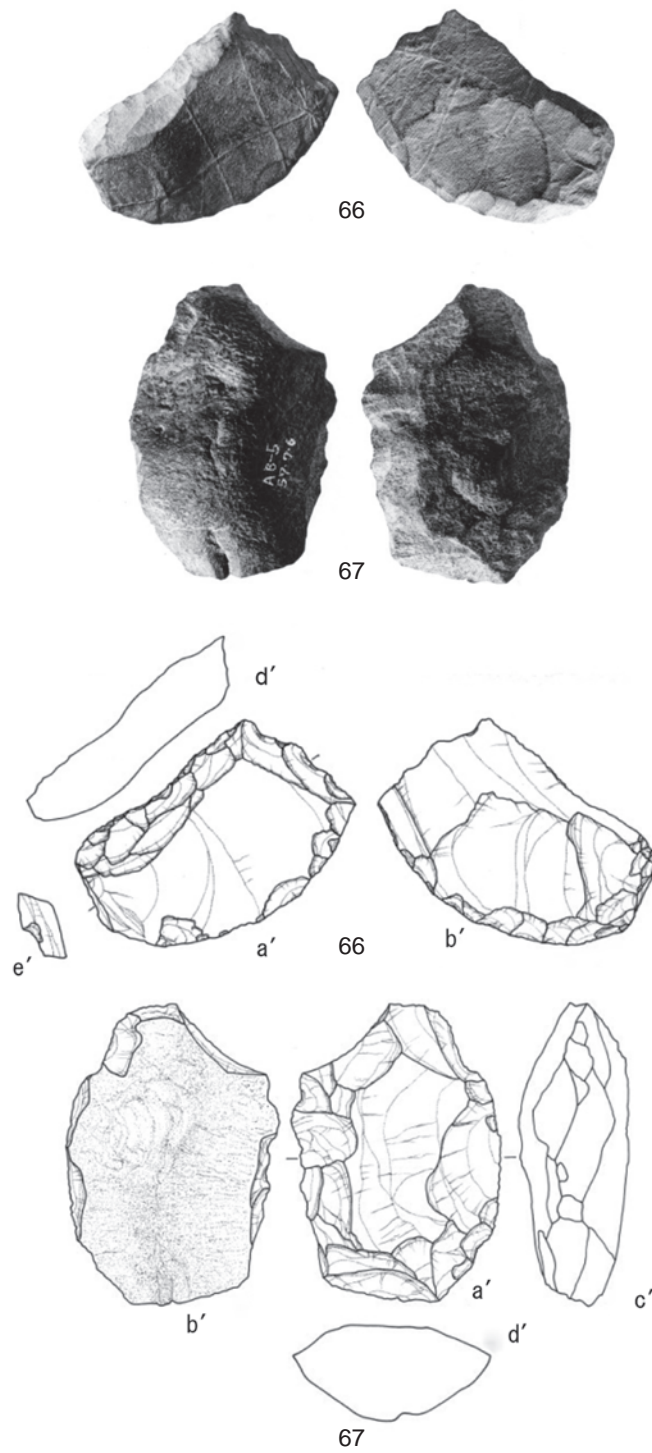


Figure 3. "Scraper" and "Chopping-tool" from Fujiyama (Aizawa and Sekiya 1988, Figures 39-41).

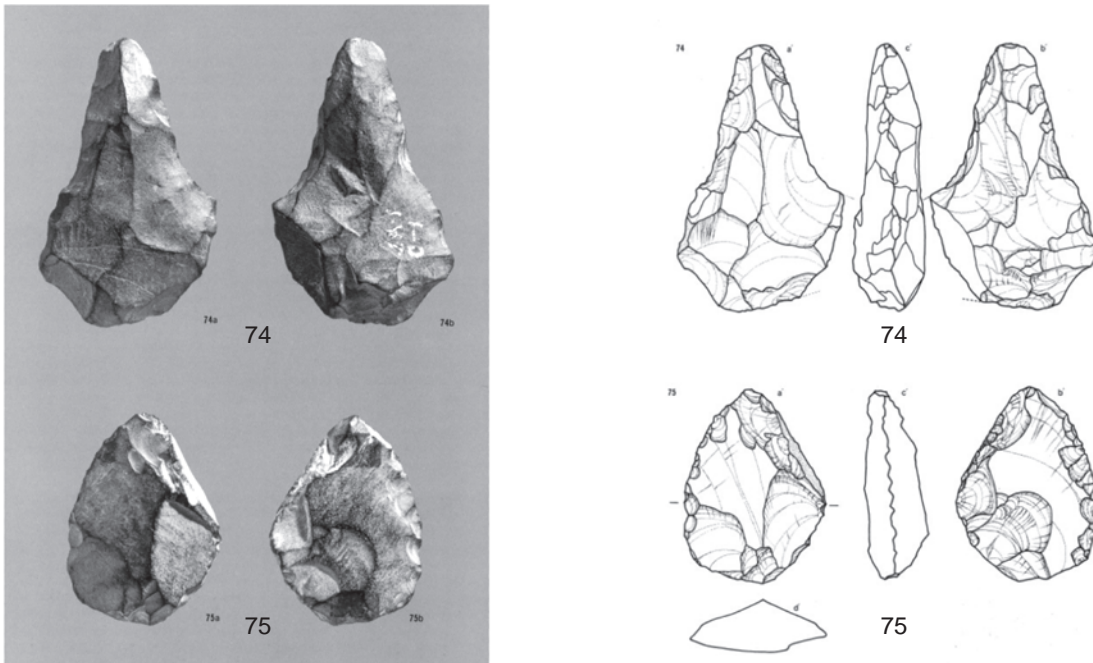


Figure 4. "Handaxe" and "pointed tool" from Gongeyama Locality 1 (Aizawa and Sekiya 1988, Figures 52, 53).

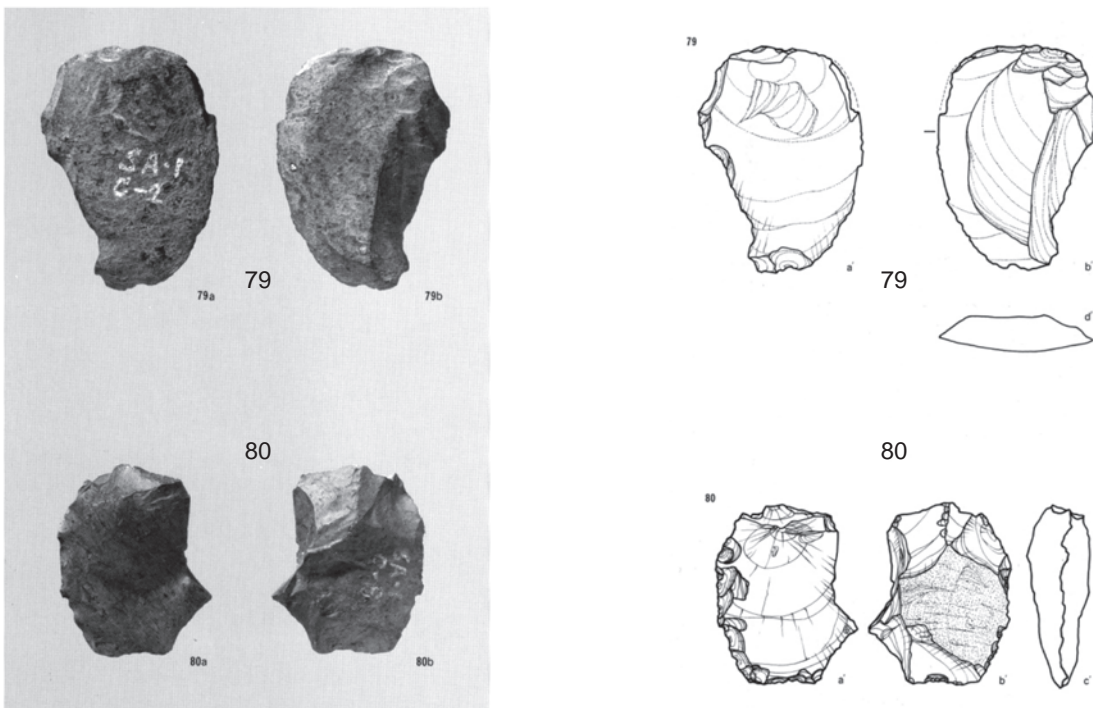


Figure 5. "Scraper" and "pointed tool" from Gongeyama Locality 1 (Aizawa and Sekiya 1988, Figures 56, 57).

arrival for any migrants from the Eurasian continent during the glacial period.

- Concluding Remarks

It is hard to say with confidence that all of the suggested candidates for the Japanese "Early Palaeolithic" are with solid evidence in terms of lithic typology or the context of discovery. It is also true that the age issue has not been resolved. However, there is no reason not to expect the existence of early materials there. After all, the archipelago had been connected to the mainland Asia on and off so that there had been plenty of chances for early hominids to move into. Being covered by deep layers of volcanic materials, perhaps such data are waiting to be found. Especially, specimens from the Akagi Mountain area persuade us convincingly that there will be found evidence for the "Early

Paleolithic" and that perhaps the earliest evidence in Japan would not be much different from neighboring areas. It would be a surprise if the archipelago had been completely isolated until it was occupied for the first time only 40,000 years ago or so.

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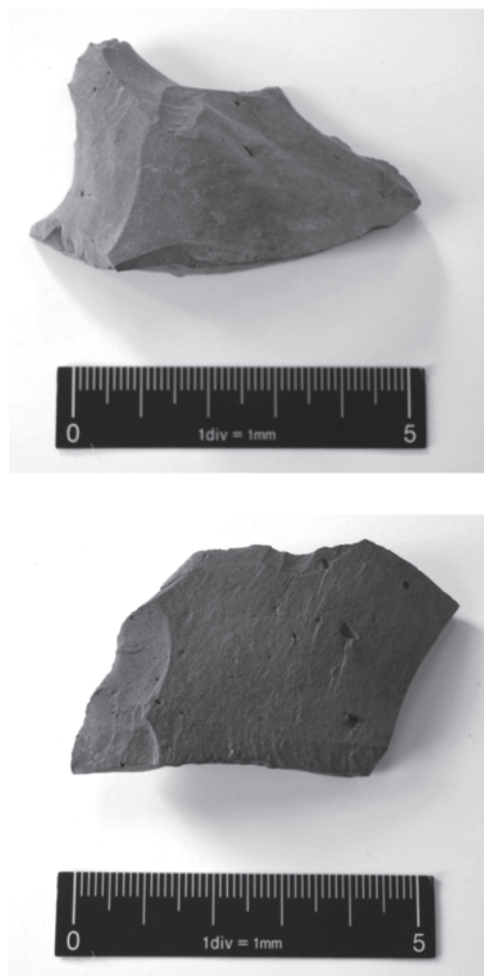


Figure 6. Two andesite flakes from the Layer 9, Area 4, Naoya Rock-shelter.