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*Homo erectus erectus*: The Search for His Artifacts

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Where are the artifacts of Java Man? This is the question that arises now that almost four years of research and fieldwork in Indonesia (1977-81) have provisionally been completed. One of the aims of this work was to shed light on the material culture of the early hominids of Java. Accordingly, most of the known sites with stone tools and fossil hominid remains were visited and surveyed, and several new ones were discovered. River terraces in many places in Central and East Java were mapped and investigated for the presence of artifacts. Much attention was devoted to regions in which the geological history indicates that Upper Pleistocene and (Sub-)Holocene disturbances have been minimal. Many artifacts (including hand-axes and unifacial and bifacial choppers) were found, collected, and studied, but nowhere were we able to demonstrate that these artifacts came from Lower or Middle Pleistocene deposits and therefore could have been made by Java Man.

The story of the discovery of Java Man has become legendary. In 1887 the Dutch army surgeon Dubois arrived in the former Dutch East Indies with the aim of finding the “missing link,” and in October 1891, in the course of excavations at Trinil, a village in Central Java (fig. 1), he did indeed find the heavily fossilized braincase of a primitive hominid. Almost a year later, in August 1892, the same fossil horizon yielded a femur with a remarkable resemblance to that of modern man. Dubois (1894) described these remains as belonging to *Pithecanthropus erectus*, thus honouring Ernst Haeckel, who had pronounced artifacts of the Patjitan culture in South Java, and attributed them to *Pithecanthropus* (e.g., von Koenigswald 1936a: 41), a connection that he still maintains (e.g., von Koenigswald 1978). These implements from Sangiran must be clearly distinguished from the larger and more pronounced artifacts of the Patjitan culture in South Java, also found for the first time in the 1930s (von Koenigswald 1936b: 41).

In the literature dealing with early man in Java, claims have often been made of the discovery of artifacts of *H. erectus*. The first such claim appears in the reports of the Selenka expedition, where it is stated that some fossil remains of vertebrates were found at Trinil with traces of working by man (Carthaus 1911). The Selenka expedition carried out excavations (in 1906-8) close to Dubois’s former pits, and the alleged bone implements came from the same fossil horizon as the braincase of the first *H. erectus* erectus. Subsequently, in the 1930s, von Koenigswald, von Koenigswald and Movius (1949:408) and van Heekeren (1972:43). Finally, Jacob et al. (1978) mention “stone tools from mid-Pleistocene sediments” near the village of Sambungmacan (also in Central Java, between Sangiran and Trinil) and suggest a correlation with a Middle Pleistocene hominid.

All these claims for the association of artifacts with a Lower

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2 In fact, a new skull of a *Pithecanthropus* had already been found a year earlier (in 1936) near Mojokerto in East Java. This, however, was an infant calvarium, so no satisfactory comparison could be made with the Trinil vault.

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3 A good deal of research has been done on Java in recent years with the aim of obtaining reliable absolute datings of Pleistocene strata. Although one would expect the K-Ar method to offer considerable prospects in view of the significant role that vulcanism has played on Java, difficulties arise in the analysis of samples (Stross 1971). Methods currently employed also include fission-track dating (Nishimura, Thio, and Hehuwat 1980), U-series dating on vertebrate bones, and palaeomagnetic dating (Sémah et al. 1981, Sartono et al. 1981).

4 The new Indonesian spelling for the town which gave its name to the culture is Pacitan (see fig. 1).
or Middle Pleistocene hominid can be refuted. To do this in detail is beyond the scope of this account; details must await more extensive reports. However, several points will be emphasized here.

In the case of the Selenka expedition, it is the “implements” themselves that are doubtful. The illustrations that are given of them (it seems that the originals were destroyed in World War II) certainly do not show typical bone tools; in fact, they are reminiscent of the “oostendeontokeratie” controversies in South Africa. Their characteristic features and fracture patterns can be explained by, for example, the action of carnivores.  

Concerning the small stone tools found at Sangiran by von Koenigswald, it is the deposits in which these artifacts occur that raise doubt as to an association with *H. erectus erectus*. Von Koenigswald calls these deposits Middle Pleistocene on the basis of remains—in lower-lying strata but within the same (Notopuro) formation—of Middle Pleistocene vertebrates (a so-called Trinil fauna, i.e., the fauna that was originally found in the horizon of the skullcap and femur at Trinil). However, these remains are heavily abraded and water-worn and are certainly derived from still older strata. They cannot be used for age determination; among the first to point this out was Teilhard de Chardin (1937:29) who had visited Java in the January 1936, and others have only been able to confirm his observations (e.g., de Terra 1943:456; Movius 1944:90 n. 58; 1949:354 n. 12; van Heukeren 1972:48; Barstra 1974:7; 1978:68). From a geological point of view, the artifact-bearing deposits indicated by von Koenigswald cannot be older than Upper Pleistocene (<130,000 years B.P.).

As for the Patjitan culture, “Palaeolithic” types of artifacts, such as handaxes and choppers, are found in terrace fills and in the channel-load of several rivers on the south coast of Java. These artifacts, however, cannot be the work of *H. erectus erectus*. The oldest river terraces in the region west of Pacitan (where most of the finds have been made) belong to the last phases of the Pleistocene; the younger terrace fills and scarps are Holocene, and the artifacts have not been derived from older sediments. What is even more important is that so-called Palaeolithic types of artifacts occur in surface assemblages away from rivers. In the literature these assemblages are rather vaguely categorized as “Neolithic”; it can be demonstrated geomorphologically that they do indeed belong to Holocene (H. erectus pekinensis) deposits. It is questionable to what extent the various sites of the Patjitan culture represent only different seasonal or occupational activities of a group of (Sub-)Holocene hunter-gatherers. Wadjak Man⁶ could very well have been the manufacturer of the Patjitan tools, and the very name “Patjitanian” can be cast into the melting-pot of the Hoabinhian. In any case, the label “Lower Palaeolithic” that is always attached to the Patjitan culture is extremely confusing.

Finally, the tools from Sambungmacan amount to no more than a chopper and a flake. The village of Sambungmacan made news in 1973, when a fossilized hominid cranium was found in association with stone artifacts, among them *H. erectus erectus*. This cranium shows many more advanced features than the remains of the so-called Trinil subspecies mentioned, it should still be recognized that in East Africa stone implements have been found in channel deposits (Omo Delta) older than the oldest strata containing *H. erectus erectus* in Java.
It is my opinion, however, that a second path should be followed. To find the tools of Java Man the search strategy must be altered. We should stop searching for the established core types of the “chopper/chopping-tool complex,” because these consist of similar late developments on Java, the roots of which extend at most into the Upper Pleistocene. The Patjitarian is not the work of H. erectus erectus. Instead, we should look at the small irregular cores and crude flakes collected by von Koenigswald at Sangiran, which, while not Middle Pleistocene as he contended, are up until now the oldest tools in all of Java. These artifacts point in the direction in which we must search to find the stone tools of Java Man: assemblages of mostly small, indistinct flakes.

Unfortunately, however, this second road is full of pitfalls. The question is whether it will be possible to recognize these amorphous, indistinct, simple, small stone artifacts as such in the synorogenic river sediments and lahar deposits of the Middle and Lower Pleistocene of Java, which were formed during this very turbulent time that the Pithecanthropus lived here, threatened by waterfloods, landslides, and frequent earthquakes (van Bemmelen 1949:591). In fact, in recent years some finds have been reported of alleged stone implements from Middle Pleistocene strata at Sangiran, but when one sees these objects, made of chaledony, silicified limestone and chert, in a similar late development on Java, the roots of the disputes concerning cotiliths at the beginning of this century. At Sangiran, too, these “implements” come from deposits in which their raw materials are abundant. Horizontally and vertically they have a remarkably wide distribution, and what is clear is the absence of distinct forms and types: they consist for the most part of small crude flakes, sometimes with irregular retouch and an occasional cone of percussion. Are these the work of Java Man, or are they just stones?

References Cited

References Cited

Coxa Vara in a Chalcolithic Population from the Sina\'1

by I. HERSHKOVITZ, E. KOBYLANSKY, and B. ARENSBURG

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The normal cervico-diaphyseal (neck-to-shaft) angle of the femur varies with age (Pavlov, Goldman, and Freiberger 1980)

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