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### On the Stone Wedges of Java, and Similar Ancient Objects of Stone, Discovered in Borneo Translated, With Some Omissions, From a Memoir in the Journal of the Royal Institute of Holland, By Dr. Conrad Leemans, Curator of the Museum of Antiquities at Leyden

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ON THE STONE WEDGES OF JAVA, AND SIMILAR ANCIENT  
OBJECTS OF STONE, DISCOVERED IN BORNEO.

TRANSLATED, WITH SOME OMISSIONS, FROM A MEMOIR IN THE JOURNAL OF THE ROYAL  
INSTITUTE OF HOLLAND, BY DR. CONRAD LEEMANS, CURATOR OF THE MUSEUM OF  
ANTIQUITIES AT LEYDEN.

COMMUNICATED BY JAMES YATES, Esq., F.R.S.

ALTHOUGH, until recently, the Museum of Antiquities at Leyden possessed no objects of this description from Java, there can be no doubt of the existence of many such weapons and implements of ancient origin both in Java and in others of our East Indian possessions, where now, in consequence of the progress of civilisation, the use of metal has become universal. We may in general assume that the inhabitants of every country, in its rude state, have availed themselves, in order to make the tools and implements requisite for supplying their primitive wants, of such materials as they could most easily obtain, viz., stone, shells, bones, and fishes' teeth. Experience has not contradicted this supposition. Wherever we have penetrated to the stratum where the reliques of these uncivilised nations are deposited, we constantly find stone hatchets, hammers, wedges, spear-heads, points of arrows, and similar objects.

In Java these objects excited little interest in the presence of a rich store of statues, bas-reliefs, statuettes, and utensils designed both for the temple and the domestic abode, which were found in magnificent shrines and private houses, and which arrested the exclusive attention and admiration of antiquaries. Whilst the small intrinsic value of the chisels, wedges, hatchets, &c., caused them to be neglected, their similarity in form and workmanship to the weapons and implements, which are still, or were lately in use in the neighbouring islands, led to the impression that they were of modern date. This opinion was the more plausible, because, for want of an accurate knowledge of the circumstances and localities in which these objects were discovered,

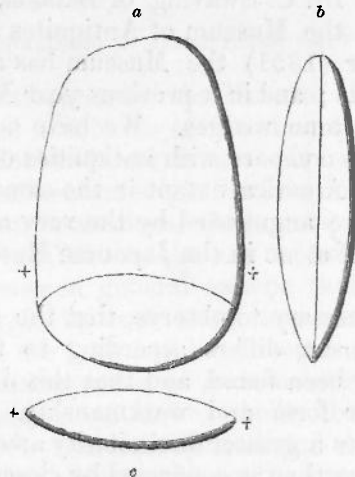
it was often difficult to distinguish the ancient from the modern, and the intercourse, direct or indirect, with the inhabitants of neighbouring islands, afforded a constant opportunity for the importation of stone weapons and similar objects of domestic use, whilst the friendly visits, on occasion of which the less civilised neighbours had left vestiges of their presence in secluded parts of Java, gave an apparent explanation of the occurrence of objects, which were still in general use among contiguous tribes, though at present unknown in Java.

In July, 1849, Dr. C. Swaving, of Batavia, deposited five stone wedges in the Museum of Antiquities at Leyden. In the present year (1851) the Museum has acquired thirty-five similar objects; and in a previous year Mr. A. de Wilde presented sixty stone wedges. We have now one hundred of these articles to compare with antiquities of the same kind from Europe and America, extant in the same collection, and these materials are augmented by the very ancient weapons and implements of stone in the Japanese Museum, formed by Mr. von Siebold.

It is scarce necessary to observe, that the stone, of which these objects consist, differs according to the country in which they have been found, and that this difference affects considerably their form and workmanship. At first sight there often appears a greater dissimilarity among those found in remote countries than is confirmed by closer investigation; and, if these nations were similarly circumstanced in regard to the material and the application of their tools, the same leading features may have been preserved under all modifications in different localities and at different periods of time, without leading to the conclusion, that they had mutual intercourse or a common origin. This should be remarked before we concur in the opinion of the author of an essay in "The Journal of the Indian Archipelago and Eastern Asia," for January 1851, p. 85, viz.—"That, judging from the stone wedges found in Java, that island was once inhabited by an African, or Indo-African population." The wedges in the possession of the Museum have been received from various quarters, and consist either of basalt, or of quartz, hornstone, flint, touchstone, chalcedony, jasper, and agate of various colours. All these species abound in Java; and, even if partly an importation, it does not follow that the people from

whom they came were ancestors of the Javanese, or that the population of Java was derived from those countries.

So far as I can draw any inference from the Javanese wedges and chisels, which I have inspected (for of other instruments and weapons of stone, such as arrow, or spear-heads, there is here no question), I am inclined to arrange them, according to their forms, in four classes, three of which occur, with slight modifications, in similar productions from Europe, Asia, and America, whilst the fourth seems peculiar to Java, with the islands, perhaps, of the Indian Archipelago.



Class I. Diagram A.  
(Length of the original,  $3\frac{3}{8}$  inches.)

1. In the first class I place those wedges, whose broad surfaces are worked convex, becoming thinner towards the sides without presenting lateral planes, even of the smallest size. Underneath they are ground more or less sharply from one broad surface to the other. A section of the upper part is considerably smaller than that of the lower. It often even tapers in some degree to a point. In its principal features the whole has preserved the form of an oblong flattened pebble, having undergone a natural preparatory process of friction by water, to which art has indeed had little to add in order to adapt the pebble to its intended design as an implement or weapon. (See Diagram A. *a*, Front view. *b*, Vertical section. *c*, Horizontal section.)

2. The second class comprehends wedges nearly flat on

the broader surfaces, and on the narrow sides entirely so; wider below than above. The bevelled edge is more or less sharp, and, one of the principal surfaces being narrower than the other, the lateral planes form an obtuse angle with the

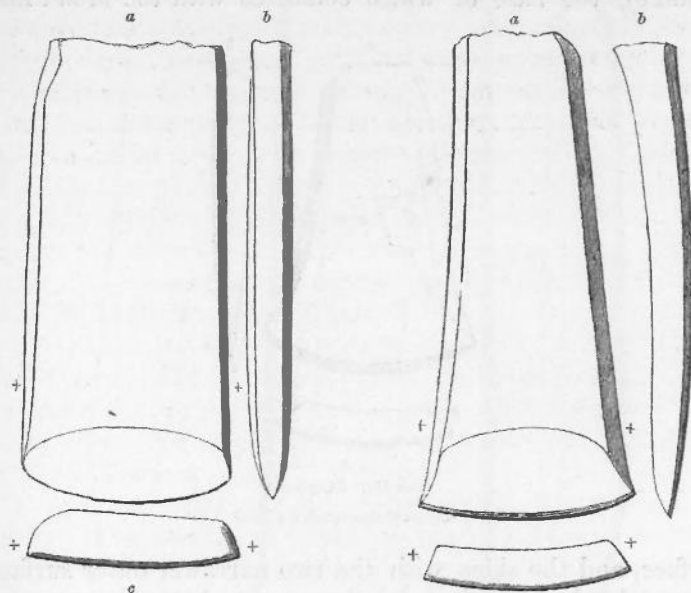


Diagram B.

Class II.

Diagram C.

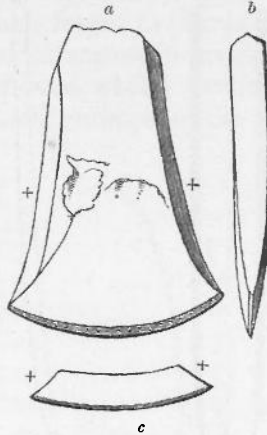
(Length of the originals,  $4\frac{1}{2}$  inches.)

narrower surface, see Diagram B, *a*, *b*, *c*. Many of the wedges of this class, especially those made of such hard and precious stones as jasper, chalcedony, and agate, are distinguished by being curved so as to resemble our own adze. See Diagram C, *a*, *b*, *c*. A very fine wedge of this sort belongs to Mr. A. de Wilde. It is especially remarkable for its great size, being 25 Dutch inches long, 11 wide below, and 7 above, and from 1.5 to .7 thick. It is in perfect preservation.

3. The third sort, which is possibly a modification of the second, exhibits a manifest and characteristic difference in its broad and fan-shaped form at the bevelled edge, which is sometimes ground sharp with a double angle from the narrower inner to the wider outer surface. (See Diagram D, *a*, *b*, *c*.)

4. To the fourth and last class, belong the more chisel-

shaped wedges, wrought with three surfaces, the inner broad and somewhat hollow, and the two outer surfaces narrower, more or less convex, and meeting one another so that the transverse section is a triangle (See Diagram E, *d* and *e*), the base of which coincides with the broad inner



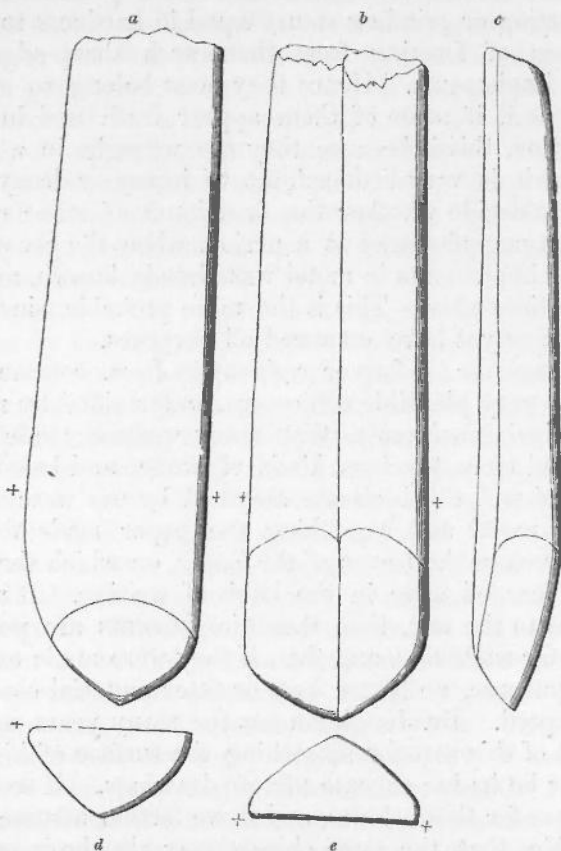
Class III. Diagram D.

(Length of the original,  $3\frac{1}{4}$  inches.)

surface, and the sides with the two narrower outer surfaces. The wedge becomes broader from top to bottom, or towards the edge, and this sharp part of the inner surface (E, *a*) being ground down towards the more or less obliquely worked outer surfaces (E, *b*), ends in a point, where the latter meet (E, *c*), by which means the tool serves as a chisel. Among the stone implements with which we are acquainted in the North of Europe, we find the greatest resemblance to these last-mentioned objects in the gouge, or hollow chisel, which, however, is distinguished from the Javanese implements by not being trilateral, but rather rounded, and not forming a point, but a curve.

The wedges of this fourth class, as well as the curved wedges of the second class (*c*, *b*), exhibit a marked deviation from any others which have hitherto come to our knowledge, and seem peculiar to Java as distinguished from those which North Europe, Asia, and North and Central America have supplied. If, therefore, we find these characteristic peculiarities in the stone weapons and implements discovered on the peninsula of India, or found elsewhere

among the relics of former ages, or even still in use among existing nations, it may lead to the supposition of a common



Class IV. Diagram E.  
(Length of the original, 7 inches.)

intercourse in early times, and perhaps induce the surmise of descent from a common stock.

General opinion among the Javanese attributes the origin of these wedges, &c., to thunderstorms. This is worthy of observation, because in Europe, and even in Holland, objects of the same kind are commonly known by the name of *thunder-hammers*, *thunder-chisels*, and *thunder-bolts*.

As yet we are in total uncertainty as to the origin, the object, and still more, the date of these stone implements. According to the unanimous accounts of those who have



visited Java, nothing is known upon the subject by the present inhabitants. However versed in the working of all sorts of metals, the natives do not at present know the art of cutting or grinding stones equal in hardness to quartz, much less of forming from them such sharp-edged and polished implements. Hence they must belong to an early period; and, if some of them appear fresh and in perfect preservation, this is because they are wrought in a kind of stone which is very little subject to injury or decay. It is difficult to decide whether the finer kinds of stone may not have been manufactured at a period, when the construction of similar implements in metal was already known, and even for some time after. This is the more probable, since metal might not as yet have answered all purposes.

Dr. Junghuhn, a former resident in Java, communicated to me the very plausible conjecture, entertained by many of the principal inhabitants, that many wedges, made of the harder and more precious kinds of stone, and belonging to the second and third classes assumed by us, were used for polishing metal and smoothing the paper made from the bark of trees or the leaves of the *lontar*, on which the priests and the learned were in the habit of writing. It appears, when put to the test, that these implements are peculiarly adapted for such uses, and that, if they were made expressly for this purpose, no better form or fitter material could have been adopted. Dr. Junghuhn has for many years employed a wedge of this sort for smoothing the surface of his paper, whenever he had to execute minute drawings. If we assume such a use for these stones, and if we farther assume, as not improbable, that the same objects may also have served as ornaments, or rather as insignia of rank and dignity, it will be more easily explained why they occur of so large a size as that mentioned above, which, considering its slight thickness, appears unfit to be employed as a weapon or instrument of any kind, since it would be subject to fracture on exposure to any appreciable force.

Hitherto these objects have been found only, or at least principally, in the West of Java; and here there are no vestiges of temples, whereas, so far as is known, they are not found in the East, which abounds in gorgeous stone edifices and colossal statues. All the wedges, which the museum possesses, or of which information has been received, have

come from the residency of Buitenzorg and the estate of Preanger. Might not this lead to the conjecture, that the artificers, or the people, who introduced and cultivated the seeds of a higher civilisation in Java, did not use such stone instruments, but that they belonged to a previous and more primitive population, which in the Western part of the island preserved for a long period its existence and its independence, in opposition to foreign influence. But let us abstain from conjectures, and rather look forward for the solution of these and similar questions, to fresh discoveries, more accurate investigation, and a more perfect knowledge of circumstances and details.

With regard to the objects in stone, which were collected in Borneo by the late Dr. Schwaner, and also forwarded to the Museum, I am inclined to this general conclusion, that, even if nature had given them their present form, and art had modified nothing, they may, nevertheless, have served as instruments or ornaments among the earlier inhabitants of Borneo, as is evidently true with respect to many stones found in North Europe and elsewhere, and will continue to be the case wherever metal has not superseded the use of stone. If this be assumed, it may, perhaps, explain why, as is stated by Dr. Schwaner, these stones are still most carefully preserved by the present inhabitants of Borneo in bags, woven of cane, and suspended in the recesses of their dwellings among their talismans and amulets. In the same manner, some extraordinary virtue or sanctity is ascribed to these stone wedges in nearly all countries; and the Japanese, as appears from the statements of Dr. Jannsen, preserve these remnants of former ages with religious veneration in their chapels.