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John Lubbock

Excerpt

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PRE-HISTORIC TIMES.

CHAPTER I.

ON THE USE OF BRONZE IN ANCIENT TIMES.

THE first appearance of man in Europe dates back to a period so remote, that neither history, nor even tradition, can throw any light on his origin, or mode of life. Under these circumstances, some have assumed the past to be hidden from the present by a veil, which time would probably thicken, but could never remove. Thus, the memorials of antiquity have been valued as monuments of ancient skill and perseverance, but it has not been supposed that they could be regarded as pages of ancient history; they have been recognized as interesting vignettes, not as historical pictures. Some writers have assured us that, in the words of Palgrave, "We must give it up, that speechless past; whether fact or chronology, doctrine or mythology; whether in Europe, Asia, Africa or America; at Thebes or Palenque, on Lycian shore or Salisbury Plain: lost is lost; gone is gone for ever." While if others, more hopefully, have endeavoured to reconstruct the story of the past, they have too often allowed imagination to usurp the place of research, and written rather in the spirit of the novelist, than in that of the philosopher.

But of late years a new branch of knowledge has arisen;

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a new Science has, so to say, been born among us, which deals with times and events far more ancient than any of those which have yet fallen within the province of the archæologist. The geologist reckons not by days or by years; the whole six thousand years, which were until lately looked on as the sum of the world's age, are to him but as a unit of measurement in the long succession of past ages. Our knowledge of geology is, of course, very incomplete; on some points we shall no doubt see reason to change our opinion, but on the whole, the conclusions to which it points are as definite as those of zoology, chemistry, or any of the kindred sciences. Nor does there appear to be any reason why the methods of examination, which have proved so successful in geology, should not also be used to throw light on the history of man in pre-historic times. Archæology forms, in fact, the link between geology and history. It is true that in the case of other animals we can, from their bones and teeth, form a definite idea of their habits and mode of life, while in the present state of our knowledge the skeleton of a savage could not always be distinguished from that of a philosopher. But on the other hand, while extinct animals leave only teeth and bones behind them, the men of past ages are to be studied principally by their works; houses for the living, tombs for the dead, fortifications for defence, temples for worship, implements for use, ornaments for decoration.

From the careful study of the remains which have come down to us, it would appear that Pre-historic Archæology may be divided into four great epochs.

Firstly, that of the Drift; when man shared the possession of Europe with the Mammoth, the Cave bear, the Woolly-haired rhinoceros, and other extinct animals. This we may call the "Palæolithic" period.

Secondly, The later or polished Stone age; a period characterized by beautiful weapons and instruments made

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of flint and other kinds of stone, in which, however, we find no trace of the knowledge of any metal, excepting gold, which seems to have been sometimes used for ornaments. This we may call the "Neolithic" period.

Thirdly, The Bronze age, in which bronze was used for arms and cutting instruments of all kinds.

Fourthly, The Iron age, in which that metal had superseded bronze for arms, axes, knives, etc.; bronze, however, still being in common use for ornaments, and frequently also for the *handles* of swords and other arms, but never for the blades. Stone weapons, however, of many kinds were still in use during the age of Bronze, and even during that of Iron. So that the mere presence of a few stone implements is not in itself sufficient evidence, that any given "find" belongs to the Stone age.

In order to prevent misapprehension, it may be well to state, at once, that, for the present, I only apply this classification to Europe, though, in all probability, it might be extended also to the neighbouring parts of Asia and Africa. As regards other civilized countries, China and Japan for instance, we, as yet, know nothing of their pre-historic archæology. It is evident, also, that some nations, such as the Fuegians, Andamaners, etc., are even now only in an age of Stone.

But even in this limited sense, the above classification has not met with general acceptance; there are still some archæologists who believe that the arms and implements of stone, bronze, and iron were used contemporaneously.

Leaving the consideration of the Stone age for future chapters, I shall endeavour in the present one to show that, as regards Europe, the bronze arms and implements characterise a particular period, and belong to a time anterior to the discovery, or at least to the common use, of iron. In support of this we may appeal, firstly, to the testimony of

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the most ancient writers; and secondly, to the evidence of the objects themselves.

In fact, the weapons of bronze, and especially the swords and celts, are, not only in form, but also in ornamentation very similar all over Europe, and very different from those of iron. And, though there are many cases, in which quantities of arms have been found together, there is scarcely an instance on record, in which any of these "finds" has comprised objects of the two classes.

For instance, at Nidau in the Lake of Bienna, Col. Schwab has obtained more than two thousand objects of metal from the site of an ancient Lake-village; these were almost all of bronze, only three fragments of iron having been met with, and even these being probably modern. On the contrary, at Tiefenau, near Berne, where a large number of iron arms were discovered, including no less than a hundred swords, not a single weapon of bronze was found.

It is probable that gold was the metal which first attracted the attention of man; it is found in many rivers, and by its bright color would certainly attract even the rudest savages, who are known to be very fond of personal decoration. Silver does not appear to have been discovered until long after gold, and was apparently preceded by both copper and tin, as it is rarely, if ever,* found in tumuli of the Bronze age; but, however this may be, copper seems to have been the metal which first became of real importance to man: no doubt owing to the fact that its ores are abundant in many countries, and can be smelted without difficulty; and that, while iron is hardly ever found except in the form of ore, copper often occurs in a native condition, and can be beaten at once into shape. Thus, for instance, the North American Indians obtained pure copper from the mines near

* *Horæ ferales*, p. 60.

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Lake Superior and elsewhere, and hammered it at once into axes, bracelets, and other objects.

Tin also early attracted notice, probably on account of the great heaviness of its ores. When metals were very scarce, it would naturally sometimes happen that, in order to make up the necessary quantity, some tin would be added to copper, or *vice versâ*. It would then be found that the properties of the alloy were quite different from those of either metal, and a very few experiments would determine the most advantageous proportions, which are about nine parts of copper to one part of tin. No implements or weapons of tin, have yet been found in Europe, and those of copper are extremely rare, whence it has been inferred that the advantage of combining the two metals was known elsewhere, before the use of either was introduced into Europe. Many of the so-called "copper axes," etc., contain a small proportion of tin; and the few exceptions indicate probably a mere temporary want, rather than a total ignorance of this metal.

The ores of iron, though more abundant, are much less striking than those of copper or tin. Moreover, though they are perhaps more easily reduced, the metal, when obtained, is much less tractable than bronze. This valuable alloy can very easily be cast, and, in fact, all the weapons and implements made of it in olden times, were cast in moulds of sand or stone. The art of casting iron, on the other hand, was unknown until a comparatively late period.

In the writings of the early poets, iron is frequently characterised by the epithet *πολύκμητος*, and its adjective, *σιδήρεος*, is used metaphorically to imply the greatest stubbornness.

While, however, these facts tend very much to remove the *à priori* improbability that a compound and comparatively expensive material like bronze, should have been in general use before such a common metal as iron, we must, of course, seek elsewhere for evidence of the fact.

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Hesiod, who is supposed to have lived about 900 B.C., and who is the earliest European author whose works have come down to us, distinctly states that iron was discovered after copper and tin. Speaking of those who were ancient, even in his day, he says that they used bronze, and not iron.

*τοῖς δ' ἦν χάλκεα μὲν τέυχεα. χάλκεοι δέ τε οἶκοι
χαλκῶ δ' εἰργάζοντο; μέλας δ' οὐχ ἔσκε σίδηρος.*

His poems, as well as those of Homer, show that nearly three thousand years ago, the value of iron was known and appreciated. It is true that, as we read in Dr. Smith's Dictionary of Greek and Roman Antiquities, bronze "is represented in the Iliad and Odyssey as the common material of arms, instruments, and vessels of various sorts; the latter (iron) is mentioned much more rarely." While, however, the above statement is strictly correct, we must remember that among the Greeks the word iron (*σίδηρος*) was used, even in the time of Homer, as synonymous with a sword, and that steel also appears to have been known to them under the name of *ἀδάμας*, and perhaps also of *κύανος*, as early as the time of Hesiod. We may, therefore, consider that the Trojan war took place during the period of transition from the Bronze to the Iron age.

Lucretius distinctly mentions the three ages. He says

*Arma antiqua, manus, ungues, dentesque fuerunt
Et lapides, et item sylvarum fragmina rami,
Posterius ferri vis est, ærisque reperta,
Sed prior æris erat, quam ferri cognitus usus.**

Coming down to more modern times, Eccard† in 1750, and Goguet in 1758,‡ mention the three later ages in plain terms,§ and the same idea runs through Borlase's History of

* V. 1282.
† Eccard. De origine et moribus
Germanorum.
‡ Goguet. De l'origine des Lois, de

Arts et des Sciences. See Ch. iv. and
the preface.

§ See Rhind in Arch. Ins. Jour. V.
xiii.

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Cornwall. Sir Richard Colt Hoare also expresses the opinion that instruments of iron “denote a much later period” than those of bronze; but M. Thomsen, the founder of the great museum at Copenhagen, was the first to apply these observations as the basis of a scientific chronology.

The date of the introduction of iron into the North of Europe cannot at present be satisfactorily ascertained; nevertheless it is most likely that the use of this metal spread rapidly through Europe. Not only does it seem *a priori* probable that such an important discovery would do so, but it is evident that the same commercial organisation which had already carried the tin of Cornwall all over our continent, would equally facilitate the transmission of iron, as soon as that even more useful metal was discovered and rendered available. However this may be, when the armies of Rome brought the civilisation of the South into contact with that of the North, they found the value of iron already well known to their new enemies; the excellence of whose weapons indicated very considerable progress in the art of metallurgy. Nor is there any reason to suppose that arms of bronze were at that time still in use in the North, for, had this been so, it would certainly have been mentioned by the Roman writers; while the description given by Tacitus of the Caledonian weapons shows that bronze swords were no longer used in Scotland, at the time he wrote. Moreover, there are several cases in which large quantities of arms belonging to the Roman period have been found together, and in which the arms and implements are all of iron. This argument is in its very nature cumulative, and cannot therefore be fully developed here, but, out of many, I will mention a few cases in illustration.

Some years ago, an old battle-field was discovered at Tiefenau, near Berne, and described by M. Jahn. On it were found a great number of objects made of iron; such as

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fragments of chariots, bits for horses, wheels, pieces of coats of mail, and arms of various sorts, including no less than a hundred two-handed swords. All of these were made of iron, but with them were several fibulæ of bronze, and some coins, of which about thirty were of bronze, struck at Marseilles, and presenting a head of Apollo on one side and a bull on the other, both good specimens of Greek art. The rest were silver pieces, also struck at Marseilles. These coins, and the absence of any trace of Roman influence, sufficiently indicate the antiquity of these interesting remains.

Some very interesting "finds" of articles belonging to the Iron age have been made in the peat bogs of Slesvick, and described by M. Engelhardt, Curator of the Museum at Flensburg. One of these, in the Moss of Nydam, comprises clothes, sandals, brooches, tweezers, beads, helmets, shields, shield bosses, breastplates, coats of mail, buckles, swordbelts, sword sheaths, 80 swords, 500 spears, 30 axes, 40 awls, 160 arrows, 80 knives, various articles of horse gear, wooden rakes, mallets, vessels, wheels, pottery, coins, etc. Without a single exception, all the weapons and cutting implements are made of iron, though bronze was freely used for brooches and other similar articles.*

In the summer of 1862, M. Engelhardt found in the same field a ship, or rather a large flat-bottomed boat, seventy feet in length, three feet deep in the middle, and eight or nine feet wide. The sides are of oak boards, overlapping one another, and fastened together by iron bolts. On the inner side of each board are several projections, which are not made from separate pieces, but were left when the boards were cut out of the solid timber. Each of these projections has two small holes, through which ropes, made of the inner bark of trees,

* See Lubbock in Nat. His. Rev. Oct. 1863, and Stephens in Gent. Mag. Dec. 1863. On one of the arrows were some

Runic characters. I had the pleasure of visiting this interesting spot with M. Engelhardt in 1862.

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were passed, in order to fasten the sides of the boat to the ribs. The rowlocks are formed by a projecting horn of wood, under which is an orifice, so that a rope, fastened to the horn and passing through the orifice, leaves a space through which the oar played. There appear to have been about fifty pairs of oars, of which sixteen have already been discovered. The bottom of the boat was covered by matting. I visited the spot about a week after the boat had been discovered, but was unable to see much of it, as it had been taken to pieces, and the boards, etc., were covered over with straw and peat, that they might dry slowly. In this manner, M. Engelhardt hopes that they will perhaps, at least in part, retain their original shape. The freight of the boat consisted of iron axes, including a socketed celt with its handle, swords, lances, knives, brooches, whetstones, wooden vessels, and, oddly enough, two birch brooms, with many smaller articles. Only those, however, have yet been found which remained actually in the boat; and, as in sinking it turned partly over on its side, no doubt many more articles will reward the further explorations which M. Engelhardt proposes to make. It is evident, that this ancient boat was sunk on purpose, because there is a square hole about six inches in diameter hewn out of the bottom; and it is probable, that in some time of panic or danger the objects contained in it were thus hidden by their owner, who was never able to recover them. Even in recent times of disturbance, as, for instance, in the beginning of this century, and in 1848, many arms, ornaments, household utensils, etc., were so effectually hidden in the lakes and peat mosses, that they could never be found again. Much interest is added to this vessel and its contents, by the fact, that we can fix almost their exact date. The boat lies, as I have already mentioned, within a few yards of the spot where the previous discoveries at Nydam were made, and as all the arms and ornaments

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exactly correspond, there can be little doubt that they belong to the same period. Now the previous collection included nearly fifty Roman coins, ranging in date from A.D. 67 to 217, and we cannot therefore be far wrong in referring these remains to the third century.

A very similar discovery has been made at Thorsbjerg in the same neighbourhood, but in this case, owing to some chemical difference in the peat, the iron has been almost entirely removed. It may naturally be asked why then this should be quoted as an instance of the Iron age? And the answer seems quite satisfactory. All the swords, lance-heads and axe-blades have disappeared, while the handles of bronze or wood are perfectly preserved, and as the ornaments and other objects of bronze are well preserved, it is evident that the swords, etc., were not of that metal; and it is therefore reasonable to conclude that they were of iron, more especially as the whole character of the objects resembles that of those found at Nydam, and the coins, which are about as numerous as those from the latter place, range from 60 A.D. to 197; so that these two great "finds" may be regarded as almost contemporaneous.

Not only are bronze weapons altogether absent from these deposits, but their forms and the character of the ornamentation are very different from those of the Bronze age; resembling in some respects Roman arms, in others they are quite peculiar, and evidently representative of northern art.

From these and similar discoveries, it appears evident that the use of bronze weapons had been discontinued in the North before, probably long before, the commencement of our era. From the ease with which it could be worked, this metal was still used for brooches and ornaments; but in the manufacture of swords, lances, axes and similar implements, it had been entirely superseded by iron.