

III.—ON CERTAIN IMPLEMENTS OF THE STONE PERIOD.

By the Rev. A. Hume, D.C.L., LL.D., F.S.A.

I.—INTRODUCTION.

In a Society like ours, it is evident that many objects which are exhibited from time to time, or which reach us as donations, are in a great degree valueless to the majority, for want of some explanation. Yet a brief statement of the facts which have been ascertained, and of the opinions which have been held, on these subjects, is quite compatible with our general objects; indeed it is not only allowable but requisite, that we should at times descend to elementary instruction. I have been guided in the selection of the present subject, by the objects which were presented to the Society last Session by Mr. Bragge of Chester; in flint, stone, brass, and bronze. They were said to be a portion of the collection of the late Dean Dawson, of St. Patrick's, Dublin; but that description of them can hardly be correct. The whole of the Dean's splendid collection was purchased from his family, by the Royal Irish Academy, in 1841, for £1,000;* and forms at present the principal feature in the Antiquarian collection of the Academy.

During the last century and a half, certain small objects of stone have at intervals attracted the attention of the curious. The vulgar supposed them to be the result of witchcraft; unguided tradition sometimes called them "thunder stones;" the unreflecting attributed the peculiarity of their shapes to mere accident; the more intelligent saw that their forms must have been the result of human agency. Subsequently, they acquired the names of stone hammers, stone hatchets, arrows, &c. From a slight connexion in their form, and an evident connexion in their general purpose, with certain metallic instruments called *celts*, the name is often extended to these also, with or without the qualifying prefix "*stone celts*." It is not clear that the term "*celts*," as applied to these instruments, had originally the slightest reference to any particular race of men; it is unquestionable, however, that the word has given them a popular identification with the Celtic races of Europe, and consequently has tended to assign them to a particular era.

* Proceedings, ii. 383.

An extended examination of the products of human skill has led to a more minute grouping of objects by Mr. C. J. Thomsen of Copenhagen: and to a corresponding classification of the tribes of mankind. Thus, the readiest implements which present themselves to a primitive people, are those which require little or no preparation—as the club formed from a broken bough, the dagger from an antler of the deer, the spear point from a tusk or splintered bone. Omitting vegetable substances—the objects of this æra of civilization include bones, horns, and shells, and it is known as the Bone Period. Next in refinement and skill are the objects of the Stone Period, of which it is our business to treat at present. The period at which metals were worked must have been subsequent, and the simplest metals must have been first used. Thus copper, either in its primitive state, or under the modification of bronze, (called “brass,”) was used from very early times, and is the metal of which we first read in the history of any country. The æra during which it was exclusively or mainly used, is called the Bronze Period. Later still in the use of the metals, we have the Iron Period, and in the advanced stages of it the use of Steel.*

It is not to be supposed that these four periods are distinguishable by dates, or that they can be marked with definiteness in any country of the world.† The division simply serves to show the natural order in which the labours of man *must* have progressed; and the difference of material is sufficiently marked to make the classification easily remembered. But in every country, there are or have been people of different degrees of advancement. The ignorant in past ages, as well as now, would use the simple

* When Worsaae is quoted in this paper, the following work is alluded to:—“The Primeval Antiquities of Denmark, by J. J. A. Worsaae, translated and applied to the illustration of similar remains in England, by William J. Thoms,” 8vo. London, 1849. He treats only of the Stone Period, the Bronze Period, and the Iron Period, scarcely noticing the instruments of Bone at all.

About a month after this paper was read, a volume was published, entitled “The Archæology & Prehistoric Annals of Scotland, by Daniel Wilson, Secretary of the Society of Antiquaries of Scotland,” 8vo. London, 1851. He follows Worsaae in treating of these three periods, which are called (1) the Primeval or Stone Period; (2) the Archaic or Bronze Period; (3) the Teutonic or Iron Period. But he adds (4) the Christian Period. Under the “weapons and implements of the Stone Period,” he gives those of *bone*; and illustrations of them appear at pages 141, 143, and 144, of his book.

M. de Perthes notices implements of bone, shell, horn, and wood; but they are naturally included in his more general subject.

† When Columbus discovered America the use of iron was unknown, and many of the simple natives did not use even copper or bronze.

implements of their fathers, while the more intelligent would adopt whatever had been found most suitable. Thus, while every age of man must have belonged to some one or other of these great epochs, almost every age of the past presents us with more than one of the grades of civilization; the individuals being contemporary and possibly living adjacent to each other.

If, instead of examining only one country of the world, we look to the whole family of mankind, we find even now, the Caffre pointing his spear with bone or the teeth of the shark; the New Zealander hewing down his foe with a stone axe; the negro of Western Africa working in copper or gold because it is easily managed; and the European—like Solon with Croesus,—preferring iron even to the precious metals. Thus, the grades of civilization still exist at different parts of the globe; and the analogy of existing customs, which are well known, will assist us in examining a less civilized period in the population of our own or of neighbouring countries.

II.—LOCALITY.

It would perhaps be impossible to name a county of England in which objects of stone have not been procured; for they are now become so common that except the specimens be peculiar in form, material, number, or other circumstance, they are rarely thought worthy of a separate notice in Archæological publications. Some of the places in our own country, with which they have been in a great degree identified, are Northumberland, Lancashire, Norfolk, Suffolk, Dorset, Devon, and Derbyshire. In February, 1847, Mr. Bruce exhibited several at the Society of Antiquaries, from Farnham All Saints, in Suffolk.* Mr. Brand exhibited another from Stowe Market, in the same county, figured in the *Archæologia*.† At Hoxne, also, in the same county, a large number were found, some of which were described by Mr. Frere, in the *Archæologia*.‡ In August, 1850, Mr. G. J. Chester found several flints in the "Three Farthing Hill," which is one of the Lowes, near Holt, Norfolk.§ Mr. Shirley exhibited to the Archæological Institute, in May, 1845, an axe found on Stanton

* *Proceedings of the Society of Antiquities of London*, vol. i., p. 173.

† *Archæologia*, xvi. 361. ‡ *Ibid*, xiii. 204. § *Proceedings of Archæological Institute* for December 6th, 1850.

Moor, Derbyshire.* Others have been found in large numbers, at an examination of the Barrows, in Dorset; and by Lord Londesborough, in Barrows, near Scarborough.† In 1834, several were found in a primitive coffin near Gristhorpe, in Yorkshire,‡ and one was also found near Otley.§ In 1846 a large stone celt was found at Flixton near Manchester, in an ancient bank of the Mersey.|| One in the possession of Mr. Mayer, of this town, was found near the druidical circle of St. John's, Cumberland. Mr. Henry Norris procured some near South Petherton, in Somersetshire.¶ Numerous objects have been found in a cave near Torquay, Devonshire.**

Similar articles have been found at various times in Wales, especially in Anglesea,†† and a description of some arrow heads, and a knife, is given in the *Archæologia Cambrensis*, by W. Wynne Foulkes, Esq.‡‡ They were found at Moel Fenlli, in the Vale of Clwyd. A curious hammer was found at Llanmadock in Gower.|||| Several large hammers were found in 1849 at Llandudno, near Great Orme's Head.

In Scotland, they are common from the north to the south. One of polished granite, found near the Border, is explained by Lady S. Riddell, in a letter which is inserted in the *Archæologia*.§§ Mr. Wilson also describes several, both of flint and stone. Thus arrow heads and flint knives in great variety have been found in Shetland and Orkney;¶¶ and at the Hill of Down, near Banff, a large collection of arrow heads was found, of which thirteen, all of the barbed kind, were found in one urn.*† In the moss of Blair Drummond in Perthshire, flint arrow heads have been found;*‡ and a remarkably beautiful one in the Isle of Skye.*|| This last is now in the possession of Mr. John Bell of Dungannon; and a wood-cut of it is given in Mr. Wilson's book. At Craigengelt in Stirlingshire, a spear head of silex was found;*§ a flint adze in Ayrshire;*¶ and arrow heads at Closeburn in Dumfries.*†† Stone celts and adzes have been found at Blair Drummond*‡‡; and a stone celt was found within an ancient canoe, turned

* *Archæological Journal*, ii. 202. + *Journal of Archæological Association*, iv. 103.
 † *Worsaae xv.* § *Ante*, p. 26. || *Proceedings of Archæological Institute for 1st November, 1850.* ¶ *Archæological Journal*, i. 165. ** *Torquay Directory, 1850.*
 †† *Pennant's North Wales.* ‡‡ *Vol. i. new series*, p. 85. ||| *Archæological Journal*, iii. 94. §§ *Archæologia*, v. 414. ¶¶ *Wilson*, p. 127. *+ *Ibid*, pp. 61, 126.
 *‡ *Ibid*, p. 34. *|| *Ibid*, p. 126. *§ *Ibid*, p. 127. *¶ *Ibid*, p. 61.
 *†† *Ibid*, p. 122. *‡‡ *Ibid*, p. 129.

up in 1780 in the city of Glasgow.* Granite wedges of stone have been found at Southwick in Kirkcudbrightshire†; at Mains in Dumfries‡; and at Tealing in Forfar.¶

In the Isle of Man they have also been found; and in the Channel Islands they are very numerous. Mr. Lukis, whose researches in those islands are well known to antiquaries, has figured and described several in the *Journal of the Archæological Association*.§ He says that about a hundred stone celts have from time to time been picked up in Guernsey alone.¶

Of Ireland, Mr. W. F. Wakeman declares that "stone weapons have been found in every county; but in Ulster especially, they are very common."** A large number of stone hatchets and stone hammers have been presented recently to the Royal Irish Academy by the Shannon Commissioners—found by the workmen in and near the river. Many of them are so uniform in size and appearance, that they have been ranged in figures like the instruments in an armoury, and form pretty ornaments on the walls of the Museum.

Mr. Worsaae of Copenhagen recognises them in Denmark, and over the north countries generally, especially in Sweden and Norway, the ancient Scandinavia.††

In France they are found in large numbers; and the immense varieties collected by M. Boucher de Perthes, near Abbeville, have enabled him to extend his inductions, so as to throw a new light on the whole subject.‡‡

In Germany they have been found on the banks of the Elbe|||; and probably in several other situations.

If we pass to America, we find them in Jamaica,§§ and also among the early Mexicans.¶¶ In the continent of North America we find them

* Wilson, p. 35. + Sinclair's Statistical Account of Scotland, xvii. 110. † Archæologia, vii. 414. || Sinclair's Statistical Account of Scotland, iv. 101. § iii. p. 127. ¶ Archæological Journal, i. 226. ** Hand Book of Irish Antiquities, p. 153. †† Worsaae, pp. 11, 12. ‡‡ "Antiquités Celtiques et Antediluviennes: Memoir sur l'industrie primitive et les arts a leur origine. Paris, 1849." It is illustrated with 80 plates representing 1600 figures. ||| Archæologia, ii. 118. §§ Antiquités Celtiques, 113. ¶¶ Archæologia, ii. 118. Robertson's America, Book V.

sometimes near the surface, and sometimes deep below. A few years ago a skeleton of the *Mastodon Giganteus* of Cuvier, was exhibited in this town, the bones of which had been dug up at the river Pomme de Terre, in the basin of the Mississippi. Beneath some of the ribs were found flint arrow heads, * indicating the contemporaneous presence of man. In the same valley, the tumuli disclose numerous stone celts, hammers, and arrow heads, like those in our own Barrows.† M. de Perthes has in his possession three small axes very similar in size, material, and form, one of which was obtained near Abbeville, another at Naples, and the third at Calcutta.‡ The second and third may have been carried to those places, or they may have been indigenous. They are also found in Japan, the South Sea Islands,|| with the Esquimaux, the Fins, and the Bosjesmans.§ Flint flakes and arrow heads have been found on the tomb of the Plateans at Marathon.¶

As a general rule, they are more frequently found on the sea coast, and near the banks of rivers, than elsewhere; ** and this is just the sort of situation which a primitive people would occupy.

Mr. Payne Knight says †† that they are only found in the northern and eastern portions of the Roman Empire; France in the south being the only country that is exceptional.

III.—FORMS.

If we except those that are made of flint, the forms are simple and well known. The stone implements may be divided into two great classes, the *malleus* or hammer, which is perforated with a hole, and the *axe*, which was occasionally mounted and used for other purposes. In the manufacture of them, it sometimes occurred that a natural hole in a stone was taken advantage of, to make a malleus or large hammer.‡‡ There are also the implements of flint.

M. de Perthes remarks, that the principal forms were fixed and un-deviating,||| and there is unquestionably a great similarity in the articles of

* Testimony of Mr. Koch, the finder and exhibiter. + Smithsonian Contributions, vol. I. quoted by Wilson, p. 102. † Antiquités Celtiques, 112. || Worsaae, 23. § Wilson, 29. ¶ Ibid, 212. ** Antiquités Celtiques, 82. †† Archæologia, xvii. 220. ‡‡ Antiquités Celtiques, 327. ||| Ibid, 112.

the same class. Four or five types are all that are generally known, the rest are merely modifications of these. The following are a few varieties.

In 1770, Mr. Pegge described one at the Society of Antiquaries, an engraving of which is given in the *Archæologia*, which united the properties of the malleus and axe. It was 9 inches long, $2\frac{1}{2}$ broad (thick?), and 7 lbs. in weight.

One in the possession of Mr. Mayer resembles this; but is ground or split off at one side of the edges.

In the Museum of the Royal Irish Academy there is one from New Zealand, with rounded shoulders; it appears designed more for ornament than for use.

In the *Archæological Journal*,* and in Worsaae,† is the representation of one which was exhibited by Mr. Francis, found at Gower, in South Wales. Though of the malleus form, it is wedged at both edges like a double axe.‡

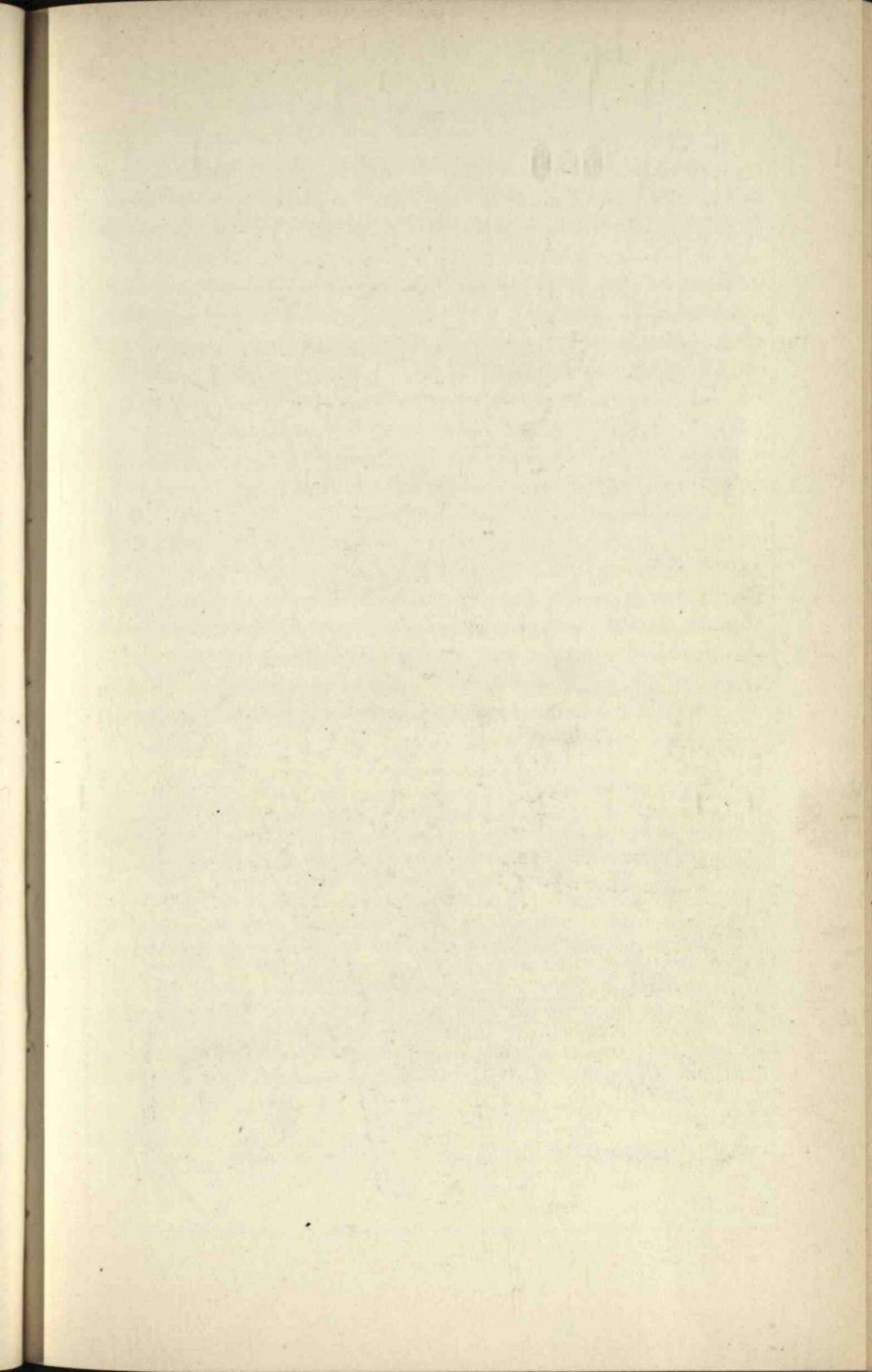
On April 2nd, 1846, William Bromet, Esq., M.D., F.S.A., exhibited drawings of two at the Society of Antiquaries,|| which belong to the Museum at Douai in France. One (which is of gneiss, and was found at Cantin Douai,) is engraved with rude lines exhibiting a human head with a conical cap, from each side of which hangs a broad label. The other (which is of striated green jasper, and was found near Arras,) bears a representation of a human head with a conical cap, sculptured in relief.

A similar wedge from New Zealand, in my own possession, is not rounded towards its two sides, but squared like a metal chisel. It is called by the natives a *poman toki*.

Those found at Hoxne in Suffolk were of the axe shape and size, though of *flint*, which is unusual. They are engraved in the *Archæologia*, Vol. iii. p. 204, and appear about the following dimensions:—

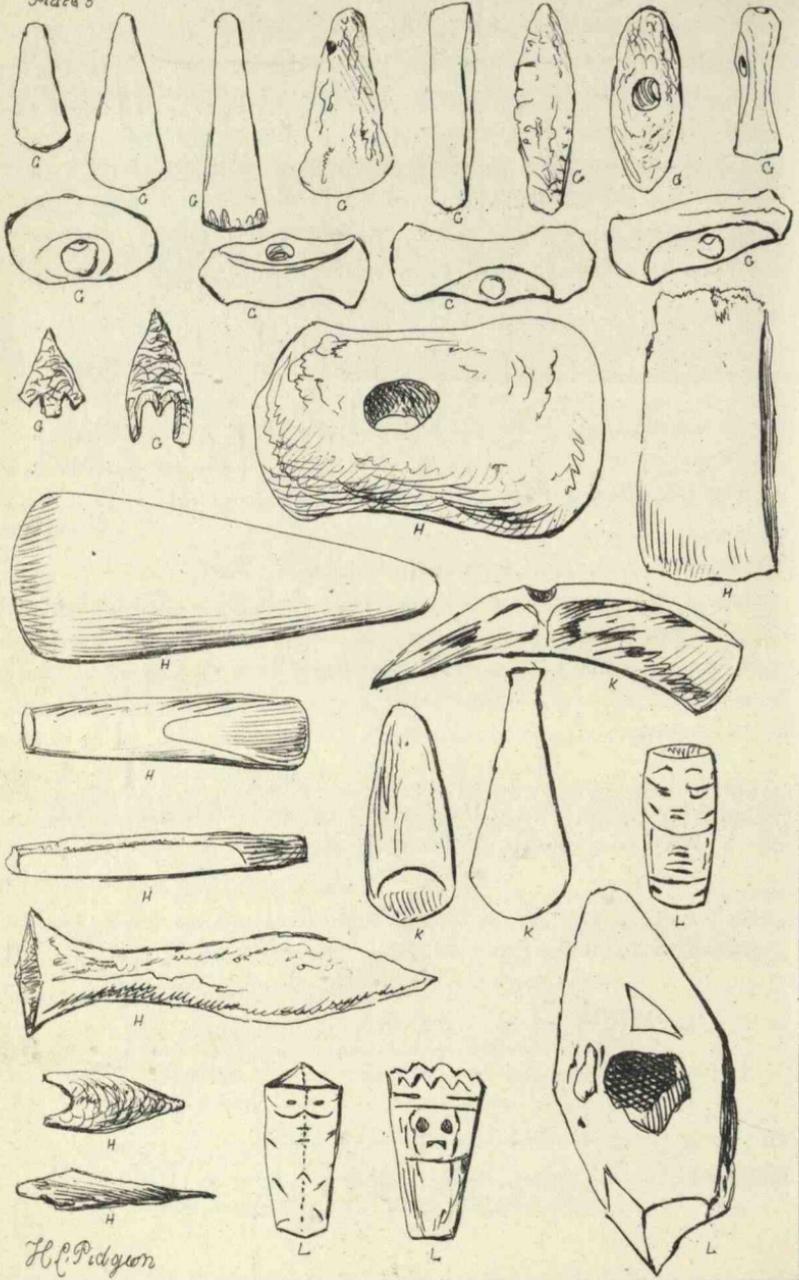
	INCHES.	INCHES.
Length	5	$3\frac{1}{2}$
Breadth	$2\frac{1}{2}$	$2\frac{1}{2}$
Thickness	$1\frac{1}{4}$	1

* Vol. iii. p. 67. + p. 15. † For the best ordinary specimen see *Archæological Journal*, iii. 94. || Proceedings, 131.



F.C.R.M.S.

Plate 3



H.P. Pidgeon

In the Museum of the Royal Irish Academy is the model of a spear from Copenhagen of flint. It is a perfect imitation of a metal spear; and is supposed to have been made by a rude people who lived on the borders of a civilized one.

There is also in the same museum a model of a flint saw, the original of which is at Copenhagen.

The usual form of flint objects, however, is that of arrow heads; and in this form they are well known. Some of the shapes are so rude that the objects would hardly be suspected to be the productions of human skill; but a little examination shows that they have been artificially formed. The flint was usually brought to its peculiar form by repeated strokes: it was rarely ground or polished, though that process was necessary with stone of other kinds. The details of the manufacture are still a mystery: some have supposed that the stone was boiled, or worked under water.* Numerous articles called "flint flakes" have been found from time to time in Scotland; apparently the raw material from which knives and arrow heads were formed.† But within the last year, an account has been published of the discovery of a primeval workshop, with the materials and manufactures in different stages of progress. This was in Kent's Hole Cave, near Torquay, in Devonshire, described by the late Rev. J. MacEnery.

"In sinking a foot into the soil [of the common entrance,] we came upon flints in all forms, confusedly disseminated through the earth, and intermixed with fossil and human bones, the whole slightly agglutinated together by calcareous matter derived from the roof. My collection possesses an example of this aggregation in a mass, consisting of pebbles, clay, and bone, in the midst of which is embedded a fine blade of flint, all united together by sparry cement. The flints were in all conditions; from the rounded pebble as it came out of the chalk, to the instruments fabricated from them, as arrow and spear heads and hatchets. Some of the flint blocks were chipped only on one side, such as had probably furnished the axes; others on several faces, presenting planes corresponding exactly to the long blades found by their side, and from which they had evidently been sliced off. Other pebbles, still more angular, and chipped at all points, were no doubt those which yielded the small arrow heads. These abounded in by far the greatest numbers. Small irregular splinters, not referrible to any of the above divisions, and which seem to have been struck off in

* Worsaae, 22.

† Wilson, pp. 121, 122, 123.

the operation of detaching the latter, not unlike the small chips in a sculptor's shop, were thickly scattered through the stuff, indicating that this spot was the workshop where the savage prepared his weapons of the chase, taking advantage of its cover and the light.*

Sometimes the pieces of flint were chosen from possessing peculiar forms, or were made to assume them: as that of a human head, face, foot, hand, or a portion of a bird or a beast. M. de Perthes has collected a large number of them, and the resemblances, though not very striking, are certainly discernible.† After a minute examination of all the objects, he has classed them as follows:—

- | | |
|---|----------------------|
| 1. Wedges or Hatchets (<i>coins</i>). | 4. Arrow Heads. |
| 2. Knives. | 5. Balls. |
| 3. Sling Bolts. | 6. Symbolic Figures. |

This leaves out of account the largest kind of all, viz., the mauls or heavy hammers. Perhaps he includes these in his first class of wedges.

IV.—SIZES.

The stone hatchets vary in length from about 3 inches to 13; or if we take in the smallest objects in flint, they descend to 1 inch. Those which have been inserted in wooden handles are from 5 to 2 inches long, and those that have been mounted in handles of stag's horn are about $4\frac{1}{2}$ to $5\frac{1}{2}$ inches.‡

Mr. Shirley's, from Derbyshire, measured 8 inches in length, and the breadth of the sharp edges was 3 inches.|| Lady S. Riddell's was 9 inches long by $4\frac{1}{4}$ broad.§ The dimensions of several others have been given; and one exhibited by the Rev. John Brand,¶ was 5 inches long, 1 thick, and 2 broad. Those which are exhibited this evening, vary from 8 to about 3 inches in length. The dimensions of two are as follows:—

	NEW ZEALAND.	OTLEY, YORKSHIRE.
Length	8	$6\frac{1}{2}$
Breadth	$2\frac{3}{4}$	3
Thickness	$\frac{3}{4}$	2

* Cavern Researches, &c., in the Torquay and Tor Directory, quoted by Wilson, pp. 185, 186. + Antiquités Celtiques, Chap. xx., "Types Primitifs des Monumens

Druidiques." † Antiquités Celtiques, 119. || Archæological Journal, ii. 202.

§ Archæologia, v. 414.

¶ Archæologia, xvi. 361.

The stone celt found in Glasgow was $5\frac{1}{2}$ inches long, and $3\frac{3}{8}$ at its broadest part.* The flint spear head from Stirlingshire was 15 inches long.† The mauls from Llandudno weigh from two to forty pounds, and are supposed to have been employed for crushing the copper ore.‡

V.—MATERIALS.

On the 9th of June, 1847, Mr. Lukis explained to the Archæological Association, the materials of which the celts in the Channel Islands are composed. They are the following :—

- | | |
|-------------------------|--------------------------------|
| 1. Serpentine. | 8. Syenite. |
| 2. Greenstone. | 9. Schistus. |
| 3. Granular Greenstone. | 10. Yellow Hornstone or Chert. |
| 4. Indurated Claystone. | 11. Granular Porphyry. |
| 5. Trap Greenstone. | 12. Silicious Schist. |
| 6. Claystone. | 13. Serpentine or Jade. |
| 7. Quartz. | |

Those in Kent's Hole Cave at Torquay were of flint, chert, and sienite ; and several in Scotland are of madreporite and slate.||

Those in the Museum of Douay, already alluded to, are of different materials. Lady S. Riddell's was granite, and several other Scotch specimens are of the same material.§ Several in France are of white silex ;¶ and in general in the north of France they are made of flint ; a fact which is accounted for by the abundance of the material in the district. The stone of which Mr. Garnett's malleus is formed is called *calliard* in the neighbourhood of Clitheroe ; and the man who earns his livelihood by breaking stones, objects strongly to the heap which contains many of this kind.

The *pomam toki* is of greenstone ; and a very large number of those found in Scotland are of greenstone, though none of that material exists in the districts. The one from the Glasgow canoe is of this material.**

In France, some are of brown freestone ; but in general those are the best and admit of the highest polish that are formed from the primitive rocks.

* Wilson, p. 35. + Ibid, p 127. † Ibid, p. 206. || Ibid, pp. 128, 129, 186.
§ Ibid, p. 106. ¶ Antiquités Celtiques, 105. ** Wilson, p. 129.

From the large quantities of flint flakes and flint arrow heads which have been found in Scotland, the natural inference has been drawn that they were the articles of a rude commerce. In many parts of Scotland flint does not exist, yet, like the axes of greenstone, flint objects are found there occasionally in large numbers. The Nimrods of those days, the slayers of man and beast, fish and fowl, exchanged, no doubt, their own manufactures for articles so indispensable. M. de Perthes is not far wrong, therefore, if at all, in calling them *Money*, or a medium of exchange.*

A curious circumstance which has been brought to light by M. de Perthes is, that some of the celts or axes are made of *soft materials*, though as perfect in shape or form as the hardest. Some are made of chalk, others of bitumen, and even of wood.† The wood is of various kinds, but oak predominates;‡ perhaps the explanation is, that it has better resisted the disintegrating properties of the earth and moisture.

VI.—MOUNTING.

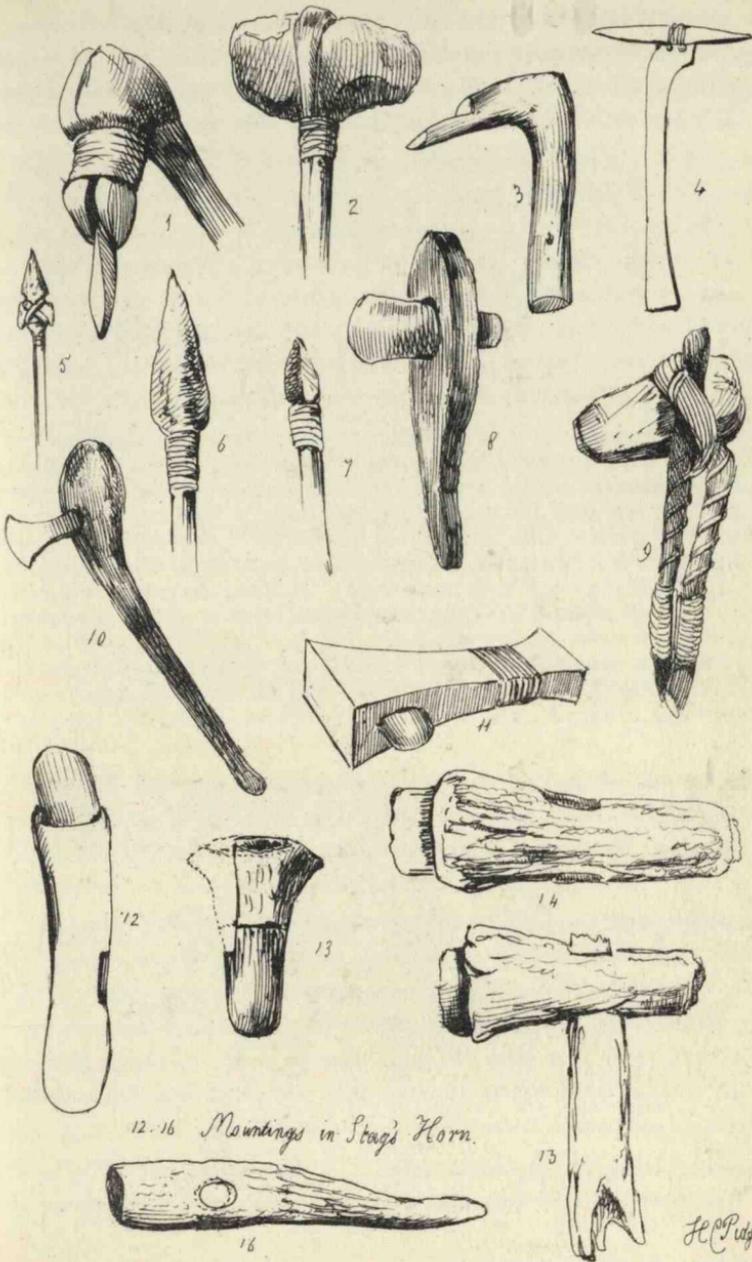
In former times, the hatchets and their handles were found apart, and were known separately; but not having been found in connexion, their relation was not understood. Some years ago, however, one was found in its handle in a bog near Cookstown, in Ireland. It was possessed by Col. Stewart of Killymoon Castle; is now in the Museum of the Royal Irish Academy; and a representation of it is in Mr. Worsaae's book. This fact led at once to an erroneous conclusion; it was assumed that *all* such hatchets had been mounted in handles, and the inquiry respecting the general design of the implements took a new turn. It was soon found, however, that this was not correct. Mr. Clibborn, the talented curator of the Royal Irish Academy, is very handy; and he showed me his utter failure in an attempt to place them in handles. In fact, when the hatchet is of an oval or elliptical shape—and this, be it observed, is the usual one,—it is quite impossible to make it remain in its place in the handle. M. de Perthes, from a similar examination, frankly admits that the majority never were in handles, and says that they never were intended to be in them.||

* Wilson, p. 121. *Antiquités Celtiques*, p. 128. † *Antiquités Celtiques*, 124.

‡ *Ibid*, 336. || *Ibid*, 322.

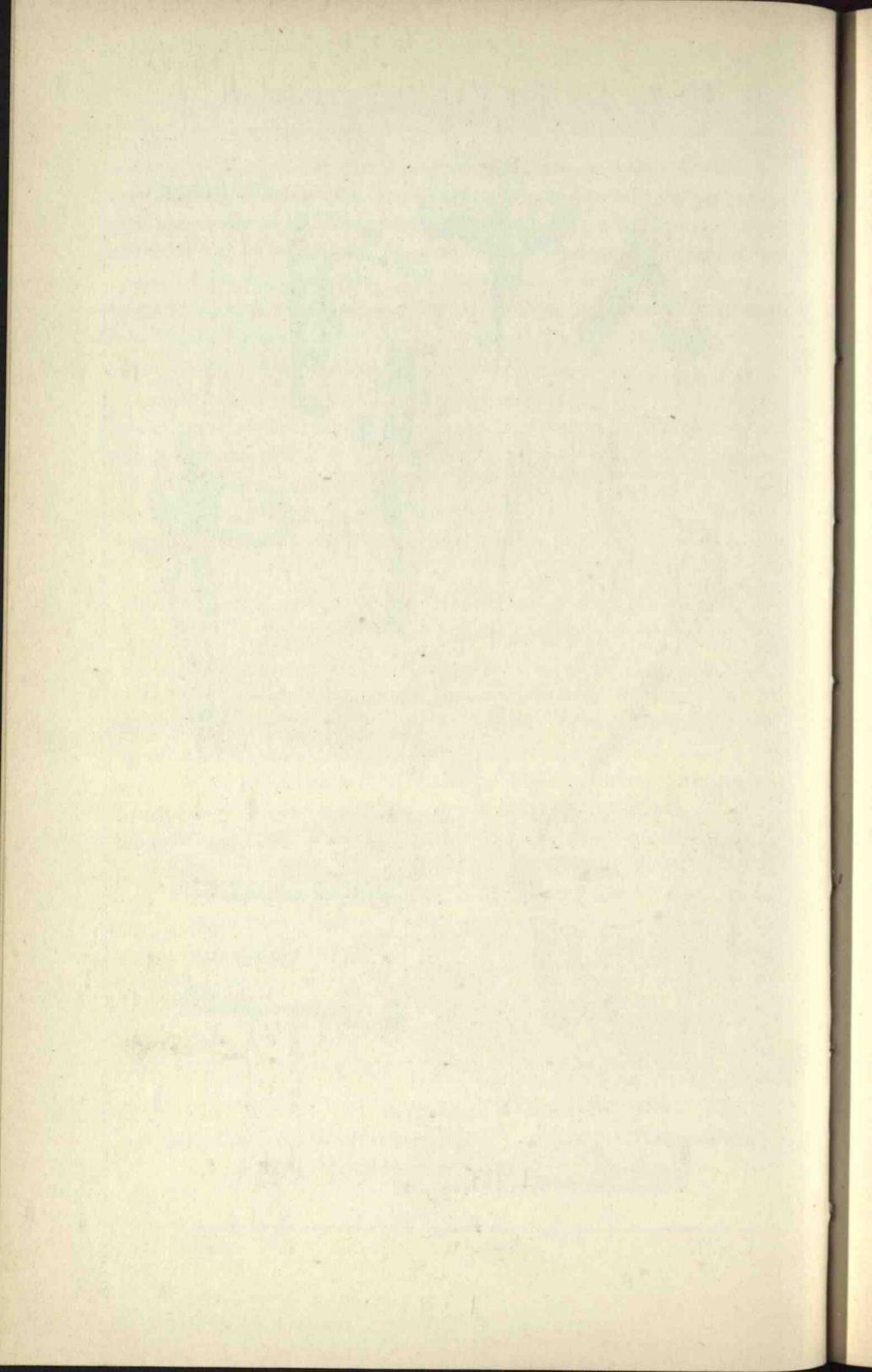
MOUNTAINS.

Plate 4



12-16 Mountings in Stag's Horn.

H. C. Pidgeon



In the *Archæological Journal** there is an article by M. Du Noyer on the placing of celts in their hafts or handles; but he seems to suppose that every one admitted of being placed in a handle. His article is occupied mainly with the bronze celt, but he notices the bone and flint ones also.

Many years ago, Dr. Robert Ball, a gentleman well known in Dublin, and Director of the University Museum, was asked by the late Dean Dawson to put handles to celts of the most remarkable forms. He did affix the handles, apparently in a satisfactory manner, but his opinion of his own work was altered by seeing the mounting of two modern ones,—a stone one from a mine in Mexico, and an iron one from Little Fish Bay in Africa. On January 8th, 1844, he gave an account of these to the Royal Irish Academy,† from which I make the following extract:—

“The Mexican stone celt was mounted by placing a slender rod at each side of it, in the direction of its length, so that the larger ends of the rods would have overlapped each other about two inches, had they not been separated by the body of the instrument. A small cord was then loosely wound round the ends of the rod and the included celt: when thus arranged, the smaller ends of the rods were brought together and tied, forming what sailors call a Spanish windlass. The elasticity of the rods keeping a constant strain, makes a more effective handle than it would appear possible to form by ordinary tying, and with much less expense of time and trouble. The iron celt was fixed in the bend of a club like a Scotch golf stick; by this arrangement, while the iron was so fixed that a stroke served to make it only the faster, the effectiveness of the weapon was much increased by the weight of the knob at its end.”

Lately M. de Perthes has carried us a step farther, for he has found many of the smaller kinds in their actual mounting, in stag's-horn, and in bone. The illustrations of these, referring to an early period in the history of the arts, come first in his book on this subject.‡

It is to be understood that these remarks refer only to the small number that were mounted; the majority were not so. Of course the large mallets were mounted, each with its wooden handle inserted like a sledge hammer. From the grooves in the top of several other kinds, it is clear that they also were mounted. It is probable that an osier or a pliant branch was passed round and made fast with thongs; in the same manner as the

* iv. 3. † *Proceedings*, ii. 511. ‡ *Antiquités Celtiques*, Chap. xiv. “*Instrumens Celtiques en corn de cerf*,” Chap. xv. “*Instrumens en os, d'hommes et d'animaux*.”

punches and chisels of a blacksmith are at present mounted. The Glasgow celt, though tapering to a point, had been mounted by a band in the middle.*

VII.—SITUATION.

Before inquiring respecting the objects or uses of these articles, it is important to know the sort of situations, and the general circumstances, in which they have been found.

In general the hatchets that are most beautiful in finish are found near the surface, indicating a greater advancement in civilization, while those of ruder finish are found farther down. Those of the rudest character, and which appear to constitute primitive types, are found at the greatest depth.

An instrument of a curious and perfect shape is usually surrounded by a large number of others greatly inferior in the workmanship; so that when one is found singly, there is often reason to believe that it is like a jewel out of its setting, or a word out of its context.

Occasionally there is a vessel with the bones of animals, along with the stone instruments; and we even find the bones of animals classed. One, for instance, contains the remains of the elephant, the bear, the wolf; and another those of the fox, the sheep, or the boar. Sometimes these are whole, at other times they are surrounded with charcoal ashes, and fragments of bones or of wood. It is curious that the wooden axes, that were made in imitation of the stone ones, are found in connexion with many bones and cinders, yet there is no sign of burning on them. It is clear, therefore, that they have served quite a different purpose.†

The numbers in which they occur, occasionally, are quite astonishing. At Hoxne, in Suffolk, many baskets full were carried away by the workmen as useless;‡ and M. de Perthes mentions a similar case at Portlette, the port of Rouen. The articles were so numerous that they were borne away by baskets full and wheel barrows full; and when the transport of them had endured for hours, the water took possession of the trench, just as he was about to discover a new bank of silex and of potteries, not less rich

* Wilson, p. 130.

+ Antiquités Celtiques, 337.

‡ Archæologia, xiii. 204.

than the former.* At Port Ellen in Argyleshire, the number of flint flakes found in a single cist, formed a pile from eighteen inches to two feet high.†

The objects in connexion with which they are found are also curious. At Hoxne, in Suffolk, a good deal of wood was found with them; ‡ and a large number, which were turned up at Skirlaugh, in Holderness, in 1809, and described by John Crosse, Esq., were wrapped in a cloth, and enclosed in some decayed wood.||

The depth at which many of these objects are found is nearly 30 feet, and the various substances that cover them over may be seen in the sections of M. de Perthes—p. 234 and p. 188.

VIII.—USES.

The question—what is the use to which these objects were appropriated, has met with various answers. The error in each case seems to be that the writer or speaker has restricted them to *one* use or purpose; whereas we know the dexterity with which the savage or semi-civilized man makes one instrument serve the office of several. It is possible that they were used for at least as many purposes as similar instruments are in our own days; apart altogether from the mysterious offices which they may have served, and which are quite unknown to us. The following is a mere indication of those purposes; with such illustrations from modern customs as seem suitable. A full account of them would be much longer than I have leisure for: and I have already extended these remarks beyond the limits originally intended:—

1. *Arrow Heads*.—This use is obvious from the shape. For the mode of mounting, see Worsaae. See also Caffre spears. By the country people in the North of Ireland and South of Scotland, these are called *elf stones*, and cattle when ill are supposed to be elf-shot by one of these stones.
2. *Knives*.—Zipporah, the wife of Moses, used such a knife in the circumcision of her child,§ and the “sharp knives” which Joshua used at

* *Antiquités Celtiques*, 110. † Wilson, p. 122. ‡ *Archæologia*, xiii, 206.

|| *Archæologia*, xvii. 320. § *Exodus*, iv. 25.

Gilgal* were of this kind. The word is translated in the margin "knives of flints;" in the Vulgate, "*cultros lapideos*;" and in the version of B. Arias Montanus, "*cultros petrarum*." "The LXX and the Jews say that such knives were commonly used in this work."† At a period when knives of metal were common in Egypt, the embalmers used these ancient ones for making the incision in the flank by which the bowels were extracted. Knives of this kind were often of a semi-circular shape; and in Scotland the curved edge is the sharp one, while in the North of Europe it is the straight edge which is sharp. They are called "lunar knives" in Norway and Denmark, and Pechs' (i.e. Picts') knives" by the Shetlanders.‡ Chapter xviii. in the book of M. de Perthes treats of "*Couteaux Celtiques*," and Chapter xix. of "*Couteaux Diluviens*."

On the 11th of June, 1849, the Rev. Dr. Todd exhibited to the Royal Irish Academy a collection of flint knives and arrow heads from the Island of Sacrificios, on the coast of Mexico; and these are precisely similar to the ones known in our own country.||

3. *Sling Pellets*.—One of the stones which Mr. Mayer has forwarded for exhibition this evening is evidently a sling pellet. At Portlette, M. de Perthes found them in great numbers, some of which he has minutely described and figured.—No. 31, plate xvi. after p. 346.

In Layard's Illustrations, No. xxix., appear persons in the act of throwing stones; and one who has just discharged a pellet from a sling. It is worthy of remark that the missiles wherever we can see their shapes, approach in appearance the objects known to ourselves.

In the *Archæologia*§ two sling pellets are described by Walter Hawkins, F.S.A., of a kind precisely analogous to ours. They were found lodged in the Cyclopian walls of Samé, in Cephalonia. One, about three inches in diameter, was found along with a skeleton, in 1809, in the cairn of Glenquicken, Kirkcudbright.¶ A similar pellet of flint, nearly spherical, was described by Lord Londesborough in the *Archæological Journal*,** but he did not seem to be aware of its

* Josh. v. 2, 3. + Bp. Patrick. † Wilson, p. 128. || Proceedings, iv. 371.
 § xxxii. 96. ¶ Wilson, 131. ** iv. 103.

probable uses. Another writer of great intelligence, who does not give his name, has found them in the Crannogues or islands, in Tyrone, in Ireland; with indentations on both sides.

4. *Missiles to hurl with the hands.*—They must have been useful in this way, especially in close attacks, and where the throwing party was on an elevation. The small end is usually most broken; and this is the way in which they would naturally fly. But the question is set at rest by our actually finding them thrown from the hand in the circumstances indicated, in Layard's Illustrations of Nineveh. The following are the details:—

Plate XIII., "The King in his chariot, before a besieged city." On the top of the walls are five archers shooting, a sixth person is in the position of a suppliant, a seventh is a shield-bearer, and a hand (apparently the disengaged one of the shield-bearer) is *hurling a stone*.—Plate XX., "The King before the walls of a besieged city." Here the assailants attempt the walls with scaling ladders, and two of the defenders *throw stones*. One is in the act of dropping a large stone from both hands, while a shield-bearer throws a small one from his right hand. Both are rounded, as if prepared for the purpose.—Plate XXIX., "The siege of a castle." It is attacked by mining, by fire, by scaling ladders, and by military engines. It is defended by archers, by shield-bearers, and by igniting the military engines. Also, one man appears in the act of *hurling a great stone*; and one has just discharged a *stone from a sling*.—Plate LXVIII., "A city taken by assault." The walls are surmounted by battlements of various heights; and they are attacked by archers and spearmen who ascend scaling ladders. Twenty-nine distinct figures are represented as defending; of whom *sixteen throw stones* with one hand, six project spears, and seven use bows.—Plate LXXVIII., "An Assyrian army besieging a city." The attacking party advance, under cover of long wicker shields, which rest on the ground, and are pushed forward. The defenders use bows, spears, and *stones thrown by the hand*.

5. *Sacrificing Axes.*—M. de Perthes attributes to them this use; so does popular tradition; and it is believed that the Druids followed the practices of the early pagan people in using them for this purpose. But it would even follow from Livy that they were used in Rome at the time of Scipio Africanus, for we find the *fetiales* proceeding to Africa to sanction a treaty, and they are told to carry with them the

sacred flints ;—“ *ut privos lapides silices secum ferrent.*”—Livy, lib. xxx. cap. 43.*

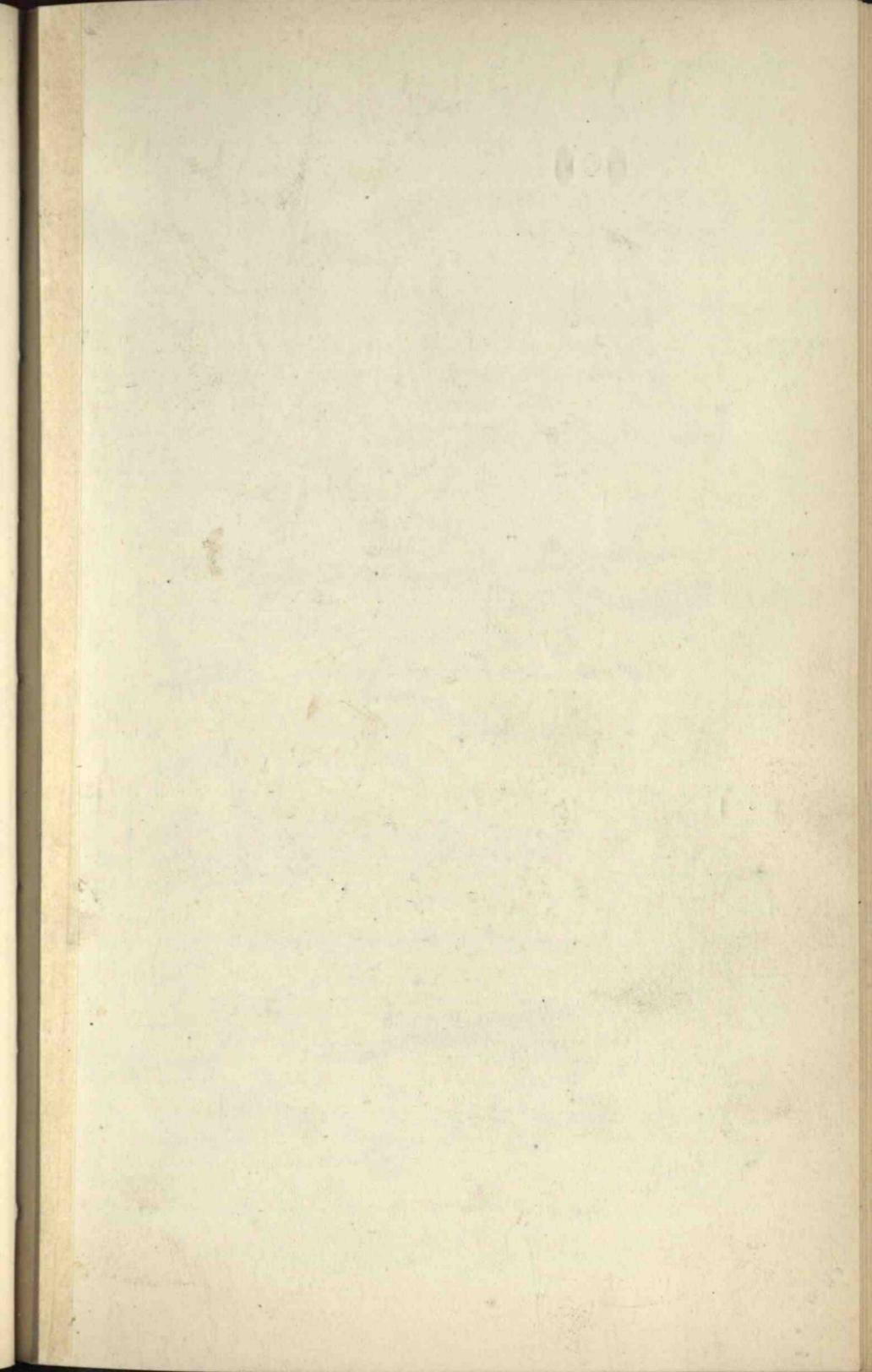
6. *Ordinary Axes.*—Used in the hand, they remove the charred wood in a burning tree, and thus guide the fire in felling a trunk, or in hollowing it for a canoe.† This is done in felling the mahogany at Honduras ; and the Indians of Virginia formerly made their canoes by these stone tomahawks. We find in several instances that when the edge has been broken into gaps, it has been again sharpened by grinding ; sharpness being a requisite quality. One of the axes on the table has been so sharpened. In some of the Barrows in Denmark, the whetstones have been found, with the axes and knives partially finished, lying beside them.‡ A similar whetstone was found at North Berwick in Scotland.

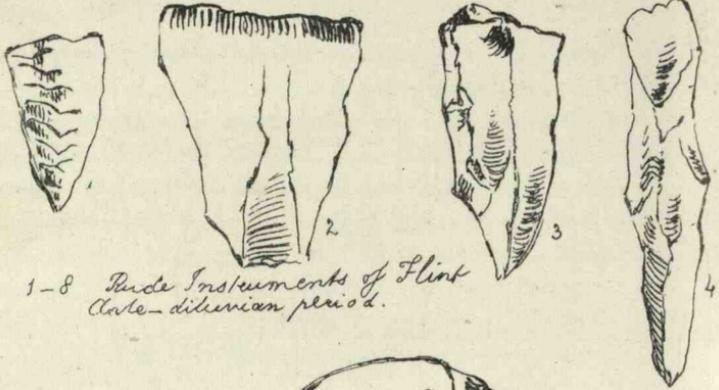
7. *Warlike Implements.*—They are used as such in New Zealand at the present hour, and the mountings in some instances are very complicated. In 1809, one was found in a cairn in Kirkcudbrightshire ; which, from the marks of the skeleton, had nearly severed the arm from the body.|| A portion of the axe was sticking in the fractured bone.

8. *Wedges.*—The workpeople in France call them wedges (coins) ; and it is probable that some of them were used for splitting wood. In 1833 an entire wooden house was dug up in a bog in Donegal ; and it was described in the *Archæologia*.§ A model of it exists in the Museum of the Royal Irish Academy. The numerous planks of which its walls and floors were composed, had been split by a stone hatchet of this kind ; and three of them were found on the floor of the house, with their tops much broken by the repeated strokes of the mallet.

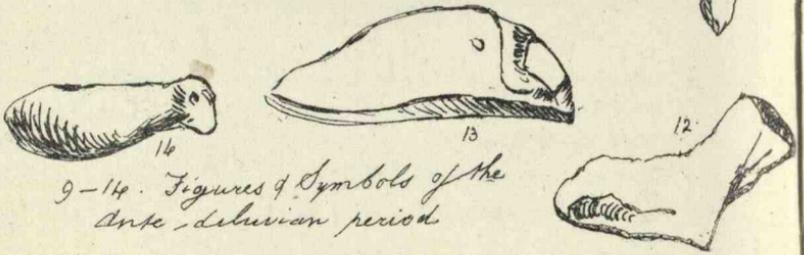
* “ Les haches d' une dimension intermédiaire qu' on rencontre dans les mêmes gissemens avec leurs gaines et leurs manches, y avaient été déposées après avoir probablement servi aux sacrifices, seul usage auquel elles fussent destinées, car elles n' étaient propres qu' a cela, c'est-à-dire à frapper un être sans défense, une victime liée et garottée au pied de l' antel. . . . Les cailloux sacrés étaient agus, et servaient à couper la chair des victimes.”—*Antiquités Celtiques*, p. 122.

† Worsaae, 13 ; Wilson, 131. ‡ Wilson, 134. || *Ibid*, 131. § xxvi. 361



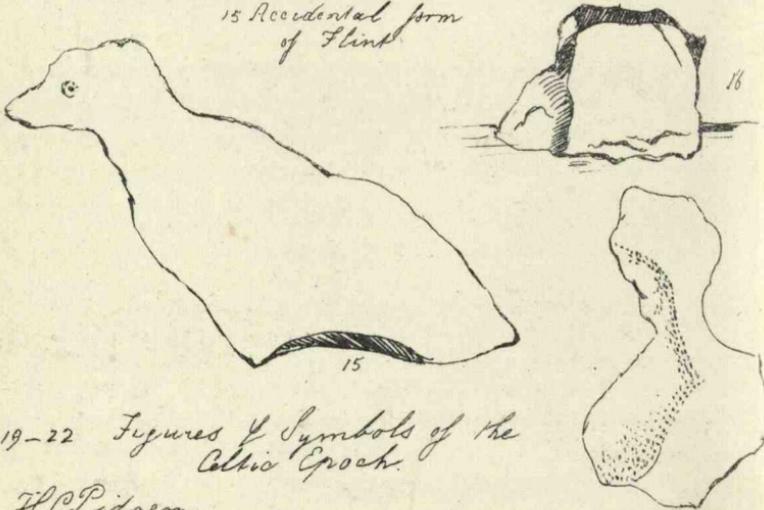


1-8 Primitive Instruments of Flint
late-glacial period.



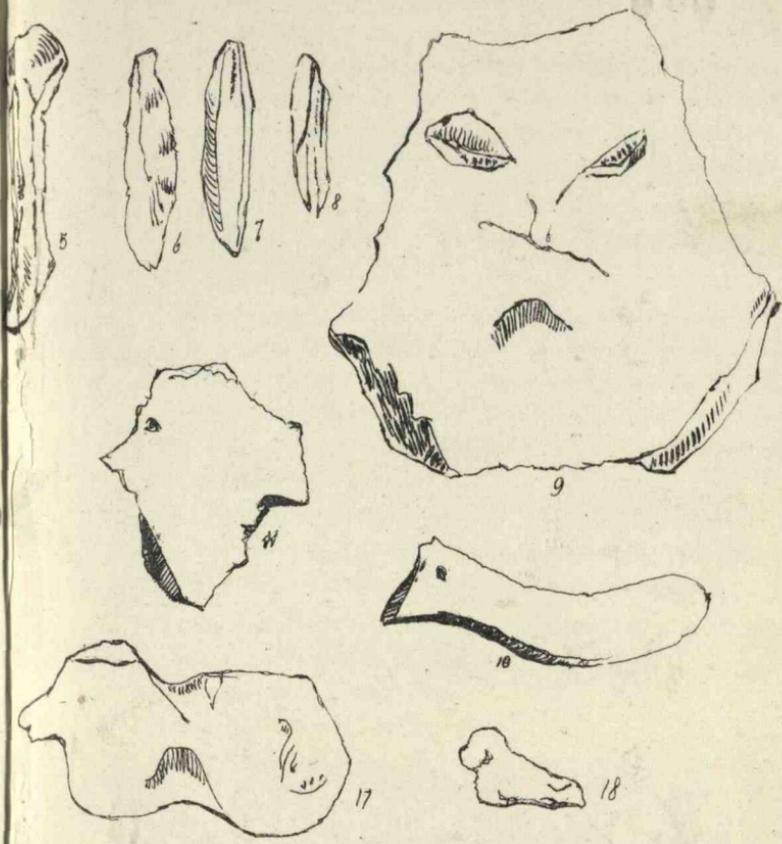
9-14. Figures & Symbols of the
ante-glacial period.

15 Accidental form
of Flint.

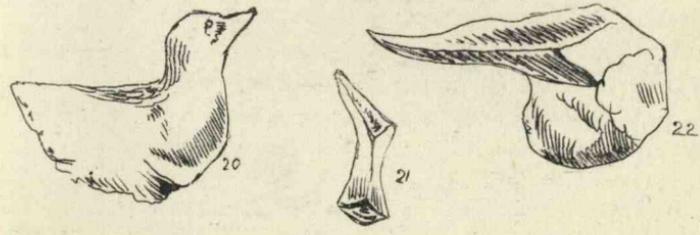


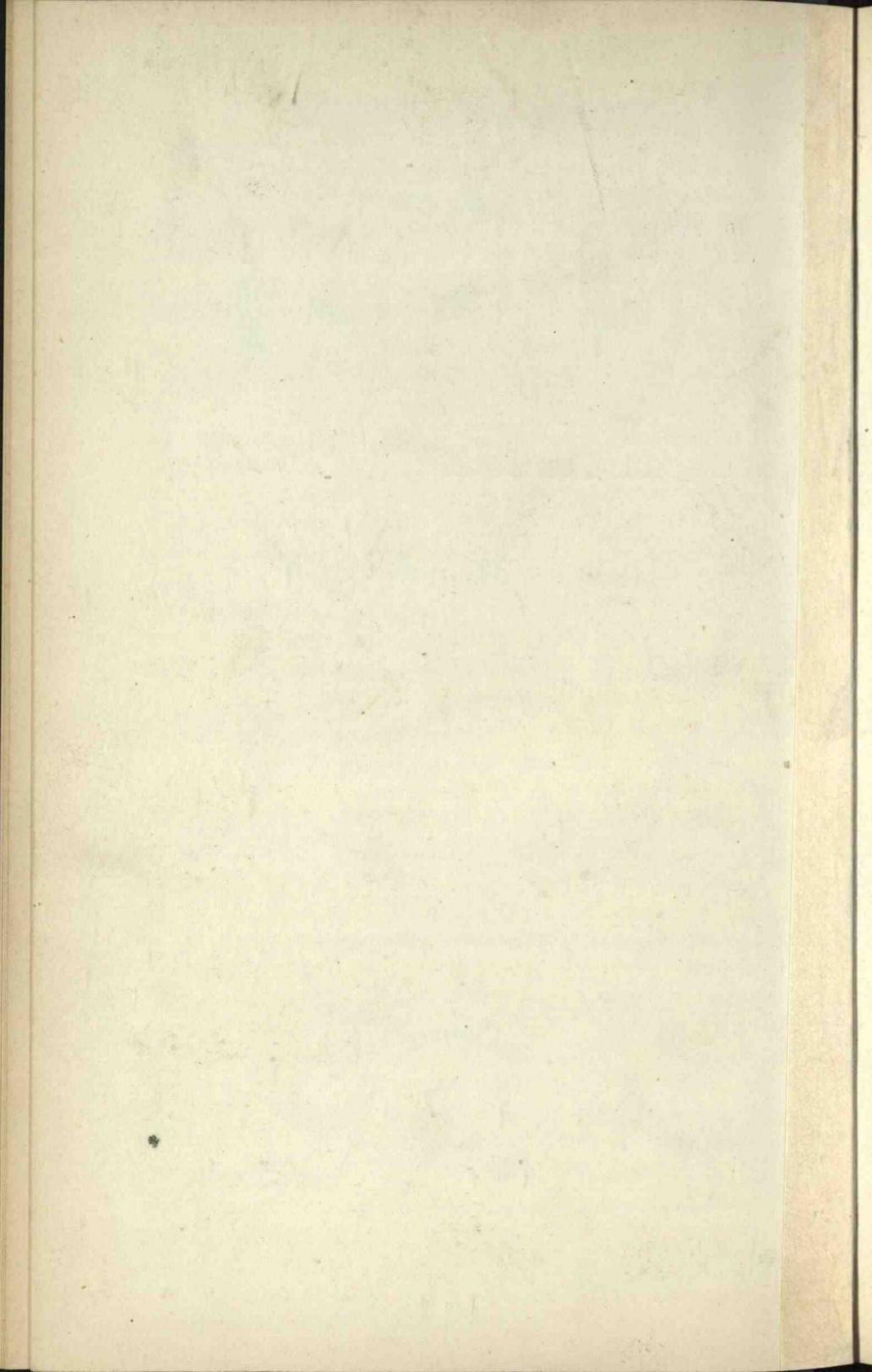
19-22 Figures & Symbols of the
Celtic Epoch.

H.C. Pidgeon.



16-28 Primitive Types of Druidic Monuments





Chisels of flint are not unusual in Norway and Sweden, and even in Scotland.*

Mr. Thoms also notices † that in the fabrication of an ancient coffin, and similarly in the ancient canoes that are found at so many places in this country, the trees must have been split by instruments of this kind.

9. *Hammers, Beetles, or Sledges.*—This use is obvious. It is alluded to by Mr. Pegge, in detail, in his paper, read at the Society of Antiquaries, November 8th, 1770.
10. *At the destruction of the beasts in hunting.*—Many of the largest are found frequently in connexion with the bones of beasts of chase. But this is not all, the bones of fishes are found along with them, showing that man has been there; and on the bones of the beasts of the field there remain to this hour indentations which denote violence from the hand of man. ‡

There are other uses which they may have served, pointed out by M. de Perthes; but these I shall only mention, without attempting to give either his copious illustrations or his convincing arguments.

11. They may have been used as *Money* or a medium of exchange.
12. As *Symbols*, or a species of *language*.
13. As instruments of *Superstition*.
14. As *Contributions* at a burial place.

IX.—AGE.

In attempting to assign an age to these objects, the difficulties are insurmountable. The earliest period to which the records of this country extend is 1900 years, and if we add the traditional period, we shall still rise but a little above 2000 years. Yet man has been on the face of the earth nearly 6000 years; and during much of that time he was not confined to the plains and rivers of Asia, even before our history and tradition commence. It is clear, therefore, that many generations of men, of whom we know little or nothing, lived and died on the same spot which we

* Wilson, 132.

† Worsaae, xiii.

‡ Antiquités Celtiques, 60, 61.

now inhabit; and that articles like these are almost the only records of themselves which they have left to us. The period of cromlechs and rocking stones, of those structures which are pre-eminently called *druidical*, is but as yesterday, when compared with many of these objects.* There is a language and a meaning in them which some one may yet be enabled to decipher; and we may class the recovery of their real history with the key to the hieroglyphics, the cuneiform characters of Behistun, and the up-turning of the relics of Nineveh. M. de Perthes would refer back some of the articles to the antediluvian period; and it is within the limits of probability that he may be right. In other words, what the geologist calls the *last leaf* of his great stone book, containing the record of man, this French philosopher imagines is a thin volume in itself, the leaves of which, when separated with care and patience, enable us to read many facts in the biography of our savage predecessors. Without either admitting or opposing his theory, I have endeavoured to lay before you a series of facts, interesting beyond a doubt, and in my opinion of considerable importance.

* M. de Perthes arranges the eras as follows:—

1. Modern Times.
2. The Middle Ages.
3. The Roman Period.
4. The Gallo-Roman.
5. The Gallo-Celtic.
6. The Celtic.
7. The Period anterior to the Celtic.
8. The Diluvian Period.

He refers to the last three of these eras, all the articles that are described in this paper.

Antiq. Celtiq. 31, 32.