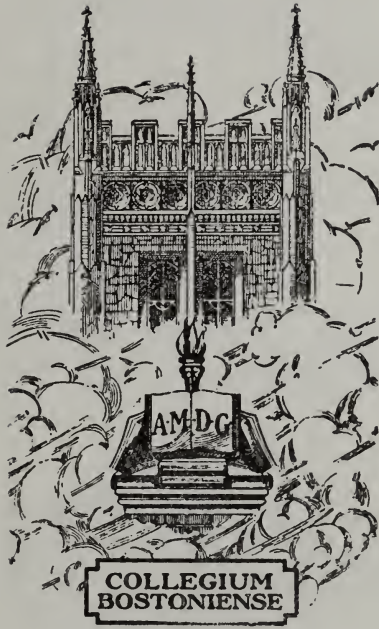




JAMES DUFF BROWN.
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In Memory of
Terence L. Connolly, S.J.
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311

PREHISTORIC ANNALS

OF

SCOTLAND.

VOLUME I.





W. A. & J. G. & Co. Edinburgh, Scotland.

GREAT CIRCLE OF CALLERNISH

W. A. & J. G. & Co. Edinburgh, Scotland.

PREHISTORIC ANNALS

OF

SCOTLAND.

BY

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PREFACE.

DURING the interval that has elapsed since the first edition of this work appeared, the relations which it aimed at determining between Archæology and kindred sciences have been matured to an extent then very partially apprehended. The progress of antiquarian investigations, and the value they have acquired in recent years in relation to other studies, render the changes demanded in a second edition unusually extensive. I have accordingly availed myself of the opportunity to remodel the whole. Fully a third of it has been entirely rewritten ; and the remaining portions have undergone so minute a revision as to render it in many respects a new work.

One object aimed at when this book first appeared, was to rescue archaeological research from that limited range to which a too exclusive devotion to classical studies had given rise ; and, especially in relation to Scotland, to prove how greatly more comprehensive and important are its native antiquities than all the traces of intruded arts. In some respects the aim has been so effectually accomplished, that it has become no longer necessary to retain arguments constructed with a view to the refutation of learned or popular systems involv-

ing Roman, Danish, or other foreign sources of native art; or to combat Phœnician, Druidical, or other theories, invented to substantiate equally baseless systems of pseudo-historical fable. In other directions, however, speculations then indulged in, have since been followed out to an extent compared with which the boldest of them can no longer seem extravagant. In the application of the term *Prehistoric*—introduced, if I mistake not, for the first time in this work,—it was employed originally in reference to races which I then assigned reasons for believing had preceded the oldest historical ones of Britain and Northern Europe. But since then the term has become identified with a comprehensive range of speculative and inductive research, in which the archæologist labours hand in hand with the geologist and ethnologist, in solving some of the most deeply interesting problems of modern science. The plan of this work only embraces the evidence derived from a narrow insular area; but, limited though its pages are to the prehistoric arts and ethnic affinities of one country, and that apart from regions hitherto productive of the most primitive traces of human art: it will nevertheless be seen that the evidence which bears on the great question of the antiquity of man finds many illustrations from Scottish chronicles. Now also that the relations of archæological investigations to other scientific inquiries are intelligently recognised, the evidence and speculations embodied in these volumes in reference to prehistoric and pre-Celtic races may acquire a new significance and value. The careful study of the primitive antiquities of Britain led me to the conviction, set forth in the former edition, that we must look to a much more

remote period, and to earlier races than any of those with which classic historians have familiarized us, for the beginnings of our insular history. Since then, long residence on the American continent, and repeated opportunities of intercourse with the Aborigines of the New World, have familiarized me with a condition of social life realizing in the living present nearly all that I had conceived of in studying the chronicles of Britain's prehistoric centuries. The experience thus acquired in novel fields of ethnological research, have materially aided me in the revision of opinions originally based on purely speculative induction; and recent opportunities of renewed study on the scenes of my earlier investigations, have enabled me to enlarge in many respects the illustrations which Scottish antiquities contribute to the broader aspects of Archæological science.

The Second Volume is chiefly occupied with subjects of antiquarian and historical research of a very recent date, when compared with the essentially prehistoric traces of man. Nevertheless they are replete with interest in their bearings on national arts, customs, and social progress; and are of no less value to the historian than those of earlier periods have become to the geologist. To those also the opportunities for revision which a second edition supplies have afforded means for making numerous additions and alterations, which I venture to hope accomplish more nearly than formerly the ambitious aim then set before me, of establishing a consistent and comprehensive system of Scottish Archæology.

Along with the other changes by which this edition of the Prehistoric Annals of Scotland aims at more effectually achieving the purposes implied in its title,

the pictorial illustrations have been greatly increased ; several of the former plates and woodcuts have also been reëngraved from new drawings ; and in addition to those, I have to acknowledge the great liberality with which the Councils of the Society of Antiquaries of Scotland, the Archæological Institute of Great Britain, and the Society of Antiquaries of Newcastle-upon-Tyne, have placed their woodcuts at my service. To my friends PROFESSOR SIMPSON, GEORGE HARVEY, Esq., and THOMAS CONSTABLE, Esq., I am also indebted for other illustrations with which the following pages are enriched.

UNIVERSITY COLLEGE, TORONTO,
October 1863.

PREFACE TO THE FIRST EDITION.

THE zeal for Archæological investigation which has recently manifested itself in nearly every country of Europe, has been traced, not without reason, to the impulse which proceeded from Abbotsford. Though such is not exactly the source which we might expect to give birth to the transition from profitless dilettanteism to the intelligent spirit of scientific investigation, yet it is unquestionable that Sir Walter Scott was the first of modern writers "to teach all men this truth, which looks like a truism, and yet was as good as unknown to writers of history and others, till so taught,—that the bygone ages of the world were actually filled by living men."¹ If, however, the impulse to the pursuit of Archæology as a science be thus traceable to our own country, neither Scotland nor England can lay claim to the merit of having been the first to recognise its true character, or to develop its fruits. The spirit of antiquarianism has not, indeed, slumbered among us. It has taken form in Roxburgh, Bannatyne, Abbotsford, and other literary Clubs, producing valuable results for the use of the historian, but limiting its range within the Medieval era, and abandoning to isolated labourers that ampler field of

¹ Carlyle's *Miscellanies*, second edition, vol. v. p. 301.

research which embraces the Prehistoric period of nations, and belongs not to literature but to the science of Nature. It was not till continental Archæologists had shown what legitimate induction is capable of, that those of Britain were content to forsake laborious trifling, and associate themselves with renewed energy of purpose to establish the study on its true footing as an indispensable link in the circle of the sciences.

Amid the increasing zeal for the advancement of knowledge, the time appears to have at length come for the thorough elucidation of Primeval Archæology as an element in the history of man. The British Association, expressly constituted for the purpose of giving a stronger impulse and a more systematic direction to scientific inquiry, embraced within its original scheme no provision for the encouragement of those investigations which most directly tend to throw light on the origin and progress of the human race. Physical archæology was indeed admissible, in so far as it dealt with the extinct fauna of the palæontologist; but it was practically pronounced to be without the scientific pale whenever it touched on that portion of the archæology of the globe which comprehends the history of the race of human beings to which we ourselves belong. A delusive hope was indeed raised by the publication in the first volume of the Transactions of the Association, of one memoir on the contributions afforded by physical and philological researches to the history of the human species,—but the ethnologist was doomed to disappointment. During several annual meetings, elaborate and valuable memoirs, prepared on various questions relating to this important branch of knowledge, and to the primeval population of

the British Isles, were returned to their authors without being read. This pregnant fact has excited little notice hitherto ; but when the scientific history of the first half of the nineteenth century shall come to be reviewed by those who succeed us, and reap the fruits of such advancement as we now aim at, it will not be overlooked as an evidence of the exoteric character of much of the overestimated science of the age. Through the persevering zeal of a few resolute men of distinguished ability, ethnology was at length afforded a partial footing among the recognised sciences, and at the meeting of the Association to be held at Ipswich in 1851, it will for the first time take its place as a distinct section of British Science.

It has fared otherwise with Archæology. Rejected in its first appeal for a place among the sister sciences, its promoters felt themselves under no necessity to court a share in popular favour which they could readily command ; and we have accordingly its annual congresses altogether apart from those of the associated sciences. Archæology, however, has suffered from the isolation ; while it cannot but be sooner or later felt to be an inconsistency at once anomalous and pregnant with evil, which recognises as a legitimate branch of British science, the study of the human species, by means both of physiological and philological investigation : but altogether excludes the equally direct evidence which Archæology supplies. It rests, however, with the archæologist to assert for his own study its just place among the essential elements of scientific induction, and to show that it not only furnishes valuable auxiliary truth in aid of physiological and philological comparisons, but that it adds

distinct psychological indices by no other means attainable, and yields the most trustworthy, if not the sole evidence in relation to extinct branches of the human family, the history of which possesses a peculiar national and personal interest for us.

Meanwhile the close relations which subsist between the researches of the ethnologist and the archæologist, and the perfect unity of their aims, have been recognised by Nilsson, Eschricht, and other distinguished men in various countries ; and while the two sciences have advanced together, in harmony and with mutual advantage, Scandinavian archæologists have given an impetus to the study of Primitive Antiquities, which has already done much to establish its value as the indispensable basis of all written history. The facilities afforded to the Scandinavian archæologist by the purity of his primitive remains, and the freedom of his ethnographic chronicles from those violent intercalations of foreign elements which render both the ethnology and the historical antiquities of Central Europe so complicated and difficult of solution, peculiarly fitted him for originating a comprehensive yet well-defined system. The comparatively recent close of the Scandinavian primitive periods has preserved in a more complete form those evidences by which we recover the knowledge of the first rude colonists of Europe, whose records are distorted and nearly effaced within the wide pale of Roman sway. The isolation, moreover, of these northern kingdoms preserved them from being the mere highway of the first Asiatic nomades. Whatever traces of early wanderers they retain are well defined, so that to them we may look for clear and satisfactory evidence in illustra-

tion of one portion at least of the primal north-western tide of migration from which the origin of all European history dates. It chanced, however, from various accidental causes, that the revival of archæological research in Britain, influenced by canons directly supplied from Scandinavian sources, has a tendency to authenticate some of the most favourite errors of older British antiquaries. Based, as nearly all antiquarian pursuits in this country have heretofore been, on classical learning, it has been accepted as an almost indisputable truth, that, with the exception of the mysteriously learned Druid priests, the Britons prior to the Roman Period were mere painted savages. Hence, while the artless relics of our primeval Stone Period were generally assigned to native workmanship, whatever evinced any remarkable traces of skill distinct from the well-defined Roman art, was assumed of necessity to have a foreign origin, and was usually ascribed to the Danes. The invariable adoption of the latter term in preference to that of Norwegians or Norsemen, shows how completely Scottish and Irish antiquaries have abandoned themselves to the influence of English literature, even where the appropriation of its dogmas was opposed to well-known historical facts. The name of Dane has in fact for centuries been one of those convenient words which so often take the place of ideas, and save the trouble and inconvenience of reasoning. Yet this theory of a Danish origin for nearly all native arts, though adopted without investigation, and fostered in defiance of evidence, has long ceased to be a mere popular error. It pervades the Scottish and English Archæologiæ, and the great majority of works on every department of British

antiquities, and has till recently proved a perpetual stumblingblock to the Irish antiquary. It is, moreover, a cumulative error: Certain Scottish relics, for example, found in Argyleshire, as well as others in the Isle of Man, being assumed in the *Archæologia Scotica* to be Scandinavian,¹ an able writer in the *Transactions of the Cambridge Camden Society*, taking these assumptions as indisputable facts, employs them in proving that other equally undoubted native works of art are also Scandinavian.² So, too, a writer in the *Archæologia Scotica*, ascribing a similar origin to the monolithic structures of the Orkney and Shetland Islands,³ is quoted by Danish antiquaries⁴ as referring to an established truth, and as proving, accordingly, that similar structures in the Hebrides are also the work of the Northmen! Pennant, Chalmers, Barry, Macculloch, Scott, Hibbert, and a host of other writers, might be quoted to show how this theory, like a snow-ball, gathers as it rolls, taking up indiscriminately whatever chances to lie in its erratic course. Even the poets have lent their aid to propagate the same prevalent error. Cowper, for example, — no uneducated or superficial writer, — thus strangely postdates Britain's birthtime:—

“ Now borne upon the wings of truth sublime,
Review thy dim original and prime,
This island, spot of unreclaimed rude earth,
The cradle that received thee at thy birth,
Was rocked by many a rough Norwegian blast,
And Danish howlings scared thee as they past.”⁵

¹ *Archæol. Scot.* vol. ii. p. 506; vol. iv. p. 119.

² *Trans. Camb. Camden Soc.* vol. i. pp. 76, 91, 176.

³ *Archæol. Scot.* vol. iii. p. 103.

⁴ *Report by the Royal Society of Northern Antiquaries*, Copenhagen, 1836, p. 61.

⁵ “Expostulation.”

Similar examples of the influence of this predominant theory might be multiplied from the most diverse sources; nor are even the recently established archæological periodicals free from it. It is obvious, therefore, that such opinions must be sifted to the utmost, and either established or got rid of before any efficient progress can be made in British Archæology. In Scotland this theory is much more comprehensive in its effects than in England, where the Anglo-Saxon element is recognised as the predominating source of later changes; and now that the character of genuine Roman antiquities is well ascertained, nearly the whole of our native relics have latterly been assigned to a Scandinavian origin. It is altogether unnecessary, I trust, to disclaim any petty spirit of national jealousy in the rigorous investigation of such theories which will be found pursued in the following pages. The error is for the most part of native growth; but whencesoever it be derived, truth is the end which the archæologist has in view; and the enlightened spirit in which the researches of the Northern antiquaries have already been pursued, is the best guarantee that they will not be less ready to coöperate in overturning error than in establishing truth. It is not a mere question between Northman or Dane and Celt or Saxon. It involves the entire chronology of the prehistoric British periods, and so long as it remains unsettled any consistent arrangement of our archæological data into a historical sequence is impossible.

The following work, embracing within its plan such a comprehensive scheme of Scottish Archæology as has not been hitherto attempted, has been undertaken under the conviction that this science is the key to great truths

which have yet to be reached ; and that its importance will hereafter be recognised in a way little dreamt of by those students of kindred sciences, who, while busied in investigating the traces of older but inferior orders of being, can discern only the objects of an aimless curiosity in relics pertaining to the human species. That such, however, should still be the case, is far more the fault of the antiquary than of the student of other sciences. It is his misfortune that his most recondite pursuits are peculiarly exposed to the laborious idling of the mere dabblers in science, so that they alternately assume to the uninterested observer the aspect of frivolous pastime and of solemn trifling. I cannot but think that a direct union with the associated sciences, and an incorporation especially with the kindred researches of the ethnologist, while it might, perchance, give some of its present admirers a distaste for the severer and more restricted study, would largely contribute to its real advancement, and free its truly zealous students from many popular trammels which at present cumber its progress. Meanwhile the archæologist may derive some hope from the remembrance that astronomy was once astrology ; that chemistry was long mere alchemy ; that geology has only in our own day ceased to be a branch of unreasoning antiquarianism ; and that ethnology has scarcely yet passed the jealously guarded porch, as the youngest of all the recognised band of sister sciences.

In nothing is the want of the intelligent coöperation of the kindred sciences which bear on the study of antiquities more apparent than in the present state of our public collections. The British Museum contains the elements of a collection which, if arranged ethnographi-

cally and chronologically, would form the most valuable school of popular instruction that Government could establish ; and no other country rests under the same manifest duty to form a complete ethnological museum as Britain : with her hundred colonies, and her tribes of subject aborigines in every quarter of the globe, losing their individuality where they escape extinction, by absorption and assimilation to the European masters. Were an entire quadrangular range of apartments in the British Museum devoted to a continuous systematic arrangement, the visitor should pass from the ethnographic rooms, showing man as he is still found in the primitive savage state, and destitute of the metallurgic arts ; thence to the relics of the Stone Period, not of Britain or Europe only, but also of Asia, Africa, and America, including the remarkable primitive traces which even Egypt discloses. To this would then fitly succeed the old monuments of Egyptian civilisation, the Nimrud marbles, the sculptures of India, and all the other evidences of early Asiatic arts. The Archaic Greek and Colonial works should come after these, followed by the masterpieces of the age of Pericles, and these again by the monuments of imperial Rome. Thus by a natural sequence we return to British remains : the Anglo-Roman relics piecing on like a new chapter of European history, at the point where our island first appears as a part of the old Roman world, and followed in succession by our native Anglo-Saxon, Scandinavian, Norman, and Medieval antiquities. The materials for all this, if we except the primitive British relics, are already acquired ; and while, to the thousands who annually throng the Museum, in idle and profitless wonder, this would at

once convert into intelligible history what must now be to the vast majority of visitors a confused assortment of nearly meaningless relics, even the most profound scholar might derive from it information and pleasure, such as would amply repay the labour of the re-arrangement. The immense practical value of collections to the archæologist renders their proper arrangement a matter of grave importance, and one which cannot be allowed to rest in its present extremely imperfect state.

In Scotland no national collection exists, though a small body of zealous men have struggled to maintain an Archæological Museum in the Scottish capital for the last seventy years, in defiance of obstacles of the most harassing nature. Not the least of these is the enforcement of the law of treasure-trove, by which all objects of the precious metals are held to be the property of the Crown. Notwithstanding the earnest zeal for the preservation of national relics which has actuated both Sir Henry Jardine and John Henderson, Esq., the late and present Crown and Lord Treasurer's Remembrancers for Scotland, and the liberal construction of the law by its administrators, as shown in their offer of full value for all objects of the precious metals which may be delivered up to them, its operation has constantly impeded researches into the evidences of primitive art, and in many cases has occasioned the destruction of very valuable relics.¹

In a letter on this subject with which I have been favoured by the distinguished Danish antiquary, Mr. J. J. A. Worsaae, he remarks : " In Denmark, in former

¹ Since this was first published, the working of the Scottish law of Treasure Trove has been amended, with the happiest results.

times, all hidden treasures, when found, belonged to the king. They were called *Danefa*. The finder had to give them up to the Crown without any remuneration. The effect of this was that very few or no antiquities of gold or silver were preserved for the Museum [of Northern Antiquities at Copenhagen], as the finders secretly sold the antiquities. For the purpose of putting an end to this, a law was passed in the middle of last century, in which the king declared himself willing to give the full value to the finders, and in some cases still more than the value; but, at the same time, he ordered all such things to be given up to the public museums, and in case of concealment the finders were to be tried and punished. This law is still in operation. It is the rule that *the finder*, in the strictest sense of the word, gets the remuneration, as the king, the real owner, has renounced his rights to him. The owner of the soil only gets the value if he has ordered a servant expressly to dig for any such thing, or, of course, if he is the finder himself. This has proved most effective. Another measure which has secured a good many objects for the Museum is the payment of the finder *as soon as possible*. Poor people, as the finders generally are, do not like to wait for money. They get easily anxious, and prefer to sell the things for a smaller price, if they only get the money without delay. It has now come to this here, that very few antiquities of gold or silver are lost. The peasants and workmen are perfectly well aware that they get more for the things dug up, at the Museum in Copenhagen, than in the shop of a goldsmith. This has been effected by publication in the almanacs, newspapers, etc., of the payments given to finders of valuable antiquities."

Some of the wretched fruits of the different system still pursued in this country are referred to in the following pages ; yet with the earnest desire of the officers of the Scottish Exchequer, to whom the enforcement of the present law is committed, to avert, if possible, the destructive consequences which it has heretofore operated to produce, it is manifest that nothing more is needed than to adopt the essential practical feature in the Danish plan, which gives the actual finder the sole claim to reward, and also holds him responsible and liable to punishment. Until this indispensable change is effected, the Scottish archæologist must continue to deplore the annual destruction of national treasures, not less valuable to the historian than the chartularies which are being rescued with so much labour and cost from their long-neglected repositories.

In attempting to arrange the elements of a system of Scottish Archæology, as a means towards the elucidation of prehistoric annals, I have had frequently to regret the want of any national collection adequate to the object in view. That the Museum of the Society of Antiquaries of Scotland is one of considerable value must I think be apparent, even from the materials it has furnished for this volume. Some private collections, it will be seen, add a few more to the rescued waifs of Scottish national antiquities ; but the result of an extensive correspondence carried on with a view to obtain the necessary facts which no books at present supply, has forced on me the conviction that, even within the last dozen years, such a number of valuable objects have been destroyed as would alone have formed an important nucleus for a complete Archæological Museum. The new Statistical Accounts,

along with some periodicals and other recently published works, contain references to discoveries made within that period in nearly every district of Scotland. From these I selected upwards of two hundred of the most interesting and valuable examples, and the result of a laborious correspondence is the establishment of the fact, that scarcely five per cent. of the whole can now be ascertained to be in existence. Some have been lost or broken; some thrown away, sold or stolen,—which in the case of objects of the precious metals involves their absolute destruction; in other cases, the proprietors themselves have disappeared—gone to India, America, Australia, or no one knows where. Of the few that remain, the jealous fear which the operation of the present law of treasure-trove excites has rendered a portion inaccessible, so that a sufficiently meagre handful of so prominent a harvest was left to be reaped.

When it is considered that in Scotland we have no such treasuries of the facts on which an archæological system must be built, as the *Archæologia*, the *Vetusta Monumenta*, the *Nenia Britannica*, the *Ancient Wiltshire*, and a host of other works, supply to the English antiquary: I have a right to expect that some forbearance be shown in contrasting this first attempt at a comprehensive treatment of the subject, with the works which other countries possess. I do not desire to offer it to the reader with an apology, or to seek to deprecate criticism by setting forth in array a host of difficulties surmounted or succumbed to. It has been the work of such leisure time as could be snatched from less congenial but engrossing pursuits, and will probably be found to contain some recurrence to the same ideas, to

which a writer is liable when only able to take up his theme at intervals, and to pursue it amid repeated interruptions. Nevertheless, I have aimed at treating the subject as one which I esteem a worthy one ought to be treated, and if unsuccessful, it is not for want of the zeal which earnest enthusiasm commands. Some new ground I believe has been broken in the search after truth, and as a pioneer I am fully prepared to see my footsteps erased by those who follow me. It will be found, however, that truth is the goal which has been aimed at; and if it be but as a glimmering that light appears, it is well, so that its streaks are in the east, and the clouds which begin to break make way before the dawn.

It only remains for me to acknowledge some of the many favours received in the progress of the Work; though it is impossible to mention all to whose liberality I have been indebted during the extensive correspondence into which I was led while collecting needful materials for substantiating the positions assumed in the following argument. The want of such resources as in other countries supply to the Archæologist the means of constructing a system based on trustworthy evidence, has compelled me to draw largely on the courtesy of private collectors; and with very few exceptions, the cordial response returned to my applications has rendered the otherwise irksome task a source of pleasure, and even in some cases the beginning of valued friendships.

The Council of the Society of Antiquaries of Scotland have afforded the utmost facilities in regard to their important national collection, and have accorded to me an

equal freedom in the use of the extensive correspondence preserved in their Library, from which it will be found that some curious information has been recovered, not otherwise attainable. From my fellow Associates in the Society I have also received the most hearty sympathy and coöperation. To the kind services of Sir James Ramsay, Bart., I am indebted for obtaining from Lady Menzies one of the beautiful gold relics figured in the work. To my friend Professor J. Y. Simpson, M.D., I owe the contribution of one of the illustrations, and to Albert Way, Esq., and George Seton, Esq., others of the woodcuts, presented to me as the expression of their interest in my labours; while I have to thank my friend James Drummond, Esq., A.R.S.A., for drawings from his faithful pencil of several of the examples of ancient Scottish arms, as well as of other relics figured in the work. The many obligations I owe to the freedom with which Charles Kirkpatrick Sharpe, Esq., has long permitted me to avail myself of the treasures of his extensive collection, will appear in some degree from the use made of them in the following pages; while John Bell, Esq. of Dungannon, has obviated the difficulties which would have prevented my turning his no less valuable archæological treasures to account, by forwarding to me drawings and descriptions, from which some portions of this work derive their chief interest. Others of the objects selected for illustration are from the collection of W. B. Johnstone, Esq., R.S.A., the whole rare and costly contents of which have been placed completely at my disposal.

Nor must I omit to acknowledge the kind assistance I have received in various ways from David Laing, Esq.,

William B. D. D. Turnbull, Esq., W. H. Fotheringham, Esq., the Rev. James Mather, J. M. Mitchell, Esq., William Marshall, Esq., as well as from other Fellows of the Society of Antiquaries of Scotland.

The Council of the Archæological Institute, with a liberality altogether spontaneous, offered, in the most gratifying and flattering terms of cordial sympathy with the object of my work, the beautiful series of engravings of the Norrie's Law silver relics, which illustrate the account of that remarkable discovery.

The Council of the British Archæological Association have placed me under similar obligations in regard to the woodcuts which illustrate the sepulchral discoveries at Pier-o-waal in Orkney.

To Sir George Clerk, Bart., I owe the privilege of access to the valuable and highly interesting collection of British and Roman antiquities at Penicuik House, formed by the eminent Scottish antiquary Sir John Clerk.

The very great obligations I am under to Lieutenant F. W. L. Thomas, R.N., are repeatedly noticed in the following pages, though in no degree adequately to the generosity with which the knowledge acquired by him during his professional exploration of the Orkney Islands, while engaged in the Admiralty Survey, has been placed at my disposal.

I have also to acknowledge the contribution of valuable information from my friend Professor Munch of Christiania, and from George Petrie, Esq. of Kirkwall ; as well as kind services rendered me in various ways by Charles Roach Smith, Esq., J. C. Brown, Esq., William Nelson, Esq., by my indefatigable friend and correspon-

dent, John Buchanan, Esq., of Glasgow, and others referred to in the course of the work.

My special thanks are due to Robert Hunter, of Hunterston, Esq., for his courteous liberality in forwarding to me the valuable Scottish relic found on his estate,—engraved as the frontispiece to Volume II.—after I had despaired of making anything of its remarkable Runic inscription from various copies obligingly furnished. Whatever opinion may be formed as to the value of the interpretation of its inscription offered here, the archæologist and philologist may both place the utmost reliance on the fidelity of the engraved facsimile of this interesting monument of the palæography, and, as I believe also, of the language of our ancestors. Besides putting into the engraver's hands a carefully executed drawing, he had the advantage of having the brooch itself before him while engraving it ; after which I went over the copy in his presence, comparing it letter by letter, and checking the minutest deviations from the original. It is justly remarked in the *Guide to Northern Archæology*, that “in copying Runic inscriptions great accuracy is required ; for a point, a small, scarcely perceptible line, changes the value of the letter, or occasionally adds a letter, which may easily escape notice.” When, however, it is added that “one of the best helps in copying Runic, and indeed all other inscriptions, is a knowledge of the language in which they are written,” I am inclined to question its strict justice. Most authors, I believe, who have had any experience of the matter, would much prefer a compositor entirely ignorant of the language for setting up Latin, or any foreign tongue, at least to one short of being a perfect master of it. Where

there is the total absence of knowledge of it, the imagination is entirely at rest ; and the patient copying of letter after letter insures the accuracy which often surprises the young author when revising his first proofs. Even so I would, in most cases, place more faith in the version of an inscription by an engraver accustomed to accurate copying, though entirely ignorant of the language, than in that of the ablest philologist, with his head full of speculations as to its meaning. A direct example in point is found in the Cardonell or "Thorkelin" print of the Ruthwell inscriptions, where the Scottish antiquary has given a more faithful version of the Runic than of the Latin legends. Notwithstanding the extravagant flights which Professor Finn Magnusen permitted his imagination to take relative to the supposed personages named on the Hunterston brooch, little blame can attach to him for having missed its true meaning with nothing but imperfect copies to guide him ; but the fact that this inscription should have been copied from the original brooch by two Scandinavian scholars familiar with the Runic alphabet, without either of them detecting the name *Maolfridi*, so palpably engraved on it, proves how completely, though unconsciously, they were blinded by their knowledge of the old Norse language, and their belief that it must contain the word *Dalkr*, a brooch. The recognition, indeed, of this proper name proved to me the key to the whole inscription, as it immediately suggested the probability of the N of former translators in the first line being also an Y , and so led to a new and intelligible reading of the remainder. The word *dìol*, which I have rendered according to its significance as a substantive, is also employed as the

verb *to avenge*. One Gaelic scholar to whom I showed the inscription, accordingly suggested as a more characteristic old Celtic interpretation of the Runes : *O Malbritha, thou friend, avenge Malfridi!* “The difference,” he adds, “between the ancient and modern orthography is not greater than frequently exists between the present spelling of familiar terms, as written or pronounced in two contiguous Highland districts.”

It is a customary conclusion to a preface to crave the forbearance of the reader for all faults and shortcomings: the which, as readers and critics make an equally general custom of paying no attention to it, may as well be omitted. I can only say, that while writing this work with an honest and earnest desire for the discovery of truth, I have done it no less under the conviction that anything I could now set forth on the subject must be modified by more extended observations, and superseded ere long by works of a more complete character.

EDINBURGH, *January* 1851.

PREHISTORIC CHRONICLES.

INTRODUCTION.

“ Large are the treasures of oblivion. Much more is buried in silence than recorded ; and the largest volumes are but epitomes of what hath been. The account of Time began with night, and darkness still attendeth it.”—SIR THOMAS BROWNE.

HISTORY derived from written materials must necessarily begin only where civilisation has advanced to so ripe a state, that the songs of the bard, and the traditions of the priest, have ceased to satisfy the cravings of the human mind for mastery over the past and the future. But a growing conviction presses on many minds that under such limitations the historian deals with a very fragmentary portion of available chronicles, and leaves wholly out of account materials not less interesting, and often more trustworthy, than the authorities on which he depends. Their subject is the history, not of men, but of man ; not of nations, but of the race ; though in the hands of the local and national archæologist they furnish introductory chapters for the historian full of interest in relation to the origin of historic nations. It has been too generally assumed that such history is an inconceivable thing independent of written materials ; and the national biographer, even when dallying with the perplexing myths which embody the fabulous infancy of nations, has employed them, for the most part, for other purposes than the elucidation of prehistoric times.

But the infancy of the human race, which lies at the foundation of all national history, is now awakening an interest, and receiving an amount of illumination, undreamt of by the most sanguine archæologist in very recent years; and while such researches lie altogether beyond the range of the historian, they are not without their influence on the efforts with which industrious scholars are striving to analyse the myths rejected by their predecessors as mere fable. The age of the world and of man challenges reconsideration with every fresh discovery of primeval arts; and epochs which only a few years ago seemed too remote to be embraced within the human era, have already become so recent that some of the speculations of geological and archæological science slight them as the mere waymarks of its modern phases. The monkish chronicler deemed a history of the creation the indispensable preliminary to the annals of his monastery or the story of his age; and we are returning with more than all the earnestness of the cloister, though also with a critical discrimination undreamt of there, to the same old chroniclings, seeking, as best we may, a place for the infant race and island home of Gael and Saxon in the first chapters of human history; or searching amid the darkness for a historic oasis: the birth of Aryan civilisation at the sources of the Indus, or the first establishment of the human race on the banks of the Nile.

Wilkinson, concurring in the later calculations of Reginald Stuart Poole, places the era of Menes, the founder of Egyptian monarchy, and the earliest of recorded wanderers from the eastern cradle of our race, some 2717 years B.C. Bunsen, aiming, in his *Ægyptens Stelle in der Weltgeschichte*, at fixing the exact year, assigned that of 3643 B.C., or, in other words, 1295 years before the commonly accepted era of the Deluge. Yet this fails

to satisfy the requisites of newly discovered data. Fleury, in his *L'Égypte Pharaonique*, carries back the Menean age some 1600 years farther into the past; and Böckh, following out an independent series of investigations, fixes the same era, in his *Manetho und die Hundstern-periode*, for the year B.C. 5702. The world's early historic chronology, it is now universally admitted, has been misinterpreted. The last date is just 1698 years before the creation of the world, if we are still implicitly to accept Archbishop Usher for our guide. But even this must be revised, as too scanty for the events which it fails to comprehend; unless, following the example of more than one modern critic, we consign all early Egyptian history to the same order of fabulous or mythic inventions as the crude traditions of our own chroniclers, and esteem Menes as no more than the classic Saturnus, or the Scandinavian Odin. It is not our province here to do more than indicate the fact, that all early chronology is liable to correction by the contributions of new truths, its most accredited data being at best only approximations to the desired end. "Oblivion is not to be hired. The greater part must be content to be as though they had not been: to be found in the register of God, not in the records of men. Twenty-seven names make up the first story before the Flood, and the recorded names ever since contain not one living century. The number of the dead long exceedeth all that shall live. The night of time far surpasseth the day; and who knows when was the Equinox?"¹

Similar necessities and difficulties meet us when we would investigate the beginnings of younger nations. Among the oldest intelligible inscriptions known in Scotland, subsequent to those which mark the influence of the Roman invader, is that graven in Anglo-Saxon

¹ Sir Thomas Browne, *Hydriotaphia, or Urn Burial*.

Runes on the Ruthwell Cross, Dumfriesshire, and dating not earlier than the ninth century. The oldest written historic documents are probably the charters of Duncan, engrossed about the year 1095, and still preserved among the muniments of Durham Cathedral. Prior to those the Romans furnish some few scanty notes concerning the barbarian Picti. The Irish annalists contribute brief but valuable additions. The northern sagas contain a still richer store of early historic notes, which the antiquaries of Copenhagen are busily digesting for us into available materials. Yet, after all those are ransacked, what shall we make of the long era which intervenes between the dispersion of the human family and the peopling of the British Isles? When did the first rude prow touch our shores? Who were its daring crew? Whence did language, manners, nationality, civilisation, and letters spring? All these are questions of the deepest interest; but on nearly all of them history is as silent as on the annals of Chaos. With reverential piety, or with restless inquisitiveness, we seek to know somewhat of the rude forefathers of our island race. Nor need we despair of unveiling somewhat of the mystery of their remote era, though no undeciphered hieroglyphics, nor written materials, preserve one solitary record of the MENES of the British Isles.

Intelligent research has already accomplished so much, that ignorance alone can presume to resign any past event to utter oblivion. Between "*the Beginning*," spoken of in the first verse of the Book called Genesis, and the creation of man, the most humble and devout of Biblical students now acknowledge the intervention of ages, compared to which the duration of our race is but as the progression of the shadow one degree on the dial of time. Our whole written materials concerning these ages are comprehended in the few introductory

words of the Mosaic narrative, and for a term embracing, according to the lowest computation, thousands of years, no more was known. But all the while their history lay in legible characters around the generations who heeded them not, or read them wrong. At length this history is being deciphered. The geologist has mastered the characters, and page after page of the old interleaved annals of preadamite existence are being reduced to our *enchorial text*, to the writing of the people. The dislocated strata are being paged, as it were, and rearranged in their primary order. The palimpsests are being noted, and their double readings transferred to their correct places in the revised history. The whole accumulations of those ages between Chaos and man are, in fact, being dealt with by modern science much in the same way as the bibliographer treats some monkish or collegiate library suddenly rescued from the dust and confusion of centuries.

It is in curious consistency with human nature that we find the order of its investigations in the inverse ratio of their relation to itself. In the infancy of our race men studied the stars, bringing to the aid of their human sympathies the fancies of the astrologer to fill the void which Astronomy could not satisfy. The earth had grown older, and its patriarchal age was long past, when Cosmogony and Geology had their rise. Now at length when the studies of many generations have furnished materials for the astronomer, and the history of the earth's crust is being patiently unravelled by numerous independent labourers, some students of the past have inquired if the annals of our own race may not also be recoverable. Men with zeal no less earnest than that which has done so much for Astronomy and Geology, have found that this also lay around the older generations, recorded in characters no less intelligible,

and containing the history of beings not less interesting to us than the saurians or mammoths, to whose inheritance we have succeeded. Pursuing their inductive researches independently and from opposite points, the geologist and archæologist have at length met and compared notes, and the former now discovers an interest and value in formations long slighted by him as recent, which pertain to no other strata of the earth's crust. The process by which the rocks have been built up, with their countless records of pre-existent life, continued uninterruptedly after the advent of man. The post-tertiary strata, as it proves, are rich with the chronicles of human story; nor does the present differ from the past. Not a day passes that some fact is not stored in that strange treasury, some of them wittingly, but far more unwittingly, as the chronicles of man. To decipher these, and to apply them as the elements of a new historic chronometry, are the legitimate ends of Archæology.

Slowly and grudgingly is its true position conceded to the study of the archæologist. The world has had its laugh at him, not always without reason. The antiquary, indeed, in our own day, has taken the first of the laugh himself, feeling that it was not unmerited, so long as he was the mere gatherer of shreds from the tattered and waste leaves of the past. Now, however, when these same shreds are being pieced together and read anew, it is found that they well repay the labours both of collector and decipherer. But Archæology is yet in its infancy. Little more has been done for it than to accumulate and classify a few isolated facts. We are indeed only learning the meaning of the several characters in which its records are engrossed.

The history of one of the oldest and most faithfully studied branches of the science, may afford an example,

as well as encouraging assurance, for the whole. In 1636 the learned Jesuit, Father Kircher, published his *Œdipus Ægyptiacus*, a ponderous treatise on Egyptian hieroglyphics, completed in six folios, containing abundance of learning, and no lack of confident assurance, but never a word of truth in the whole. It is a fair specimen of the labours of hieroglyphic students down to the year 1799, when M. Bouchard, a French officer of Engineers, in digging the foundation of Fort St. Julien, on the western bank of the Nile, between Rosetta and the sea, discovered a mutilated block of black basalt, containing three versions of one inscription graven in the year B. C. 196, or 1995 years prior to its discovery. Inscribed in this late era of hieroglyphic literature, Epiphanes, whose accession it records, had decreed it to be graven not only in the hieroglyphic or sacred characters, but also in the enchorial or popular Egyptian writing, and in the Greek character and language. Here then seemed to be the long-coveted key to the mysterious records of Egypt. Casts of it were taken, facsimiles engraved and distributed throughout Europe; and expectation, roused to the utmost pitch of excitement, paused for a reply. But eighteen years elapsed before Dr. Thomas Young, one of the greatest scholars of his age, mastered the riddle of the key, established beyond doubt the alphabetic use of hieroglyphics, and demonstrated the phonetic value of five of its characters. It seems, perhaps, a small result for so long a period of study, during which the attention of many learned men had been directed to the critical investigation of the inscriptions of the Rosetta stone, and the comparison of their diverse characters. Nevertheless, it was the insertion of the point of the wedge. All that followed was easy in comparison with it. What has since been accomplished by the scholars of Europe in

this old field of archæological investigation, where they dealt with written though unread materials, is now being attempted for the whole compass of its legitimate operations by a similar union of learning and zeal, and Archæology at length claims its just rank among the inductive sciences.

The visitor to the British Museum passes through galleries containing fossil relics of the secondary and tertiary geological periods: the gigantic evidences of former life, the tropical flora of the carboniferous system, and all the organic and inorganic proofs by which we are guided in investigating the physical changes, and classifying the extinct beings, that pertained to the older world of which they speak. Thence he proceeds to galleries filled with the inscribed sarcophagi and obelisks, the votive tablets, the sculptured altars, deities, or historic decorations of Assyria, Egypt, India, Greece, and Rome: relics which belong no less to extinct, though newer systems and orders of being. "The antiquities," says an eminent geologist, when instituting a nearly similar comparison, "piece on in natural sequence to the geology; and it seems but rational to indulge in the same sort of reasonings regarding them. They are the fossils of an extinct order of things newer than the tertiary; of an extinct race, of an extinct religion, of a state of society and a class of enterprises which the world saw once, but which it will never see again; and with but little assistance from the direct testimony of history, one has to grope one's way along this comparatively modern formation, guided chiefly, as in the more ancient deposits, by the clue of circumstantial evidence."¹ Such are the reflections of an intelligent geologist, suggested by a similar combination of geological and historic relics to that which offers itself to the visitor of our great National

¹ Hugh Miller's *First Impressions of England and its People*.

Museum. But it is even in a more absolute sense than the geologist dreamt of, that the antiquities piece on to the geology, and show the researches of the archæologist following up the closing data of older systems without a pause. He labours to build up that most important of all the branches of palæontology which pertains to ethnological investigations; and which when brought to maturity will be found not less valuable as an element in the elucidation of the history of nations and of mankind, than the grammatical construction and the affiliations of languages, which the ethnologist now chiefly favours. The archæologist applies to the accumulated facts of his own science the same process of inductive reasoning which the geologist has already employed with such success in investigating earlier orders of being. Both deal with unwritten history, and aim at the recovery of annals long deemed irretrievably erased. Nor is it merely in a parallelism of process, or a continuity of subject, that the affinity is traceable between them. They meet on common ground, and dispute the heirship of some of old Time's bequests. The detritus records archæological as well as geological facts. The more recent alluvial strata are the legitimate property of both; while above these lie the evidences of still later changes on the earth's surface,—the debris of successive ages, the buried ruins, the entombed works of art, and “the heaps of reedy clay, into which chambered cities melt in their mortality,”¹—the undisputed heirlooms of the archæologist. The younger science treats, it is true, of recent periods, when compared with the eras of geological computation, and of a race newer than any of those whose organic remains are classified in the systems into which the strata of the earth's crust have been grouped. But this race which last of all has peopled the globe, once

¹ Ruskin's *Seven Lamps of Architecture*, p. 66.

teeming with living beings so strangely diverse from all that now inhabit it, is the race of man, whose history embraces nobler records, and has claims to a deeper interest for us than the most wonderful of all the extinct monsters that once

“Prone on the flood, extended long and large,
Lay floating many a rood.”

Among recent contributors to archæological science, the Danish antiquaries have surpassed all others in the value and extent of their researches. Occupying as they do a comparatively isolated seat of early northern civilisation, where the relics of the primeval and secondary archæological periods escaped to a great extent the disturbing influences of Roman invasion, they possess many facilities for its study. Notwithstanding this, however, the mute but eloquent relics of antiquity which abound there, excited, until a recent period, even less notice than similar ones have done among the archæologists of Ireland and Scotland, where also aboriginal traces have been little modified by the invading legions, whose memorials nearly superseded all others in the southern part of the British Isle. The Scandinavian nations held the chief power among the races of the remote north in early times. Rome scarcely interfered with their growing strength, and left their wild mythology and poetic traditions and myths untinged by the artificial creed which grew up amid the luxurious scepticism of the conquerors of the world. When the flood-tide of the legionary invaders had given back, and left the scenes of their occupation like the waste lands of a forsaken shore, the Northmen were among the first to step into their deserted conquests. Fearlessly navigating seas where no Roman galley had dared to sail, the Scandinavian warriors conquered the coasts of the Baltic and the German Ocean, occupied many parts of the British Isles, and

especially established permanent settlements in the north of Scotland, and the isles on its northern and western coasts. Their power was felt on the shores of France and Spain, and they retaliated even on Italy the un-avenged wrongs of the north. America was visited by them fully three centuries before Columbus steered his venturous course across the Atlantic. Greenland was colonized, and Iceland became the central point in their system of maritime operations. In that remote island the old northern language still lives, dialects of which were anciently spoken among the Scandinavian races, including the Danes of the south, and the Norsemen of the Scottish mainland and the Northern Isles.

Enduring traces of those hardy colonists still remain to furnish evidence of the source of much of our national character and hereditary customs. The religion of the Angles, the Saxons, the Scottish Norsemen, the Danish, Norwegian, and Swedish Scandinavians, was similar. Christianity, which supplanted so much else, could not root out the memorials of their wild creed, which preserve in the names of the days of the week those of Tyr, Woden, Thur, and Frea, favourite deities of the Northern mythology. In Iceland a large portion of the literature of this race still survives, in the form of mythic songs, sagas, laws, and other historic treasures. To this the attention of Danish and Norwegian antiquaries is now devoted with untiring enthusiasm, and already we are possessed of some of its fruits. These are of immense value to all the nations allied to the common stock, and among them Scotland ranks more directly than any other portion of the British Isles. The promised contribution by the antiquaries of Copenhagen to the written materials of history, of the *Antiquitates Britannicæ et Hibernicæ*, cannot fail to add a historic era to early Scottish annals, richer in suggestive interest

even than the romantic chronicles of the long lost "Vinland," by which, in their *Antiquitates Americanæ*, they have added three centuries to the history of the new world.

A mingled race now occupies Britain, diverse in name, and still distinct in blood. The names of England and Scotland, however, contradict the character of the races. While the natives of the South retain the name of Angul, the mythic father of one branch of its Teutonic colonists, the Celtic Highlanders, and the Saxon Lowlanders of the North, alike take that of the Irish Scoti, the conquerors of older Celtæ; though there is not wanting evidence to show, that the peculiar characteristics of the hardy Lowland race, including those of the whole north-eastern mainland, and the Northern Isles, are chiefly derived from the mingled Norse and Saxon blood of a Teutonic ancestry. But older races than the Scandinavian Vikings were colonists of the British Isles. Christianity has failed to obliterate the traces of the creed of Woden. Still less influential have been the modifications of Teutonic and Scandinavian dialects in supplanting the older names which cling to every hill, valley, and stream, though the Celtic race has, for nearly eight centuries, ceased to occupy aught but the north-western Highlands of Wales and Scotland. The ethnologist has yet to solve the problem as to whether there exist not among these, traces of still older tongues, pertaining to races who have left other but no less certain memorials of their former presence. From the remotest era to which historical tradition points, the Celtæ are found in possession of the north-west of Europe, whither they appear to have been gradually driven, by successive migrations of younger races from the same eastern centre to which the origin of the whole human family is referred. We can trace their gradual western migration, until we find

them hemmed in between the younger races and the sea, on the north-west coasts of France, and along the mountainous regions of the west in the British Isles, where the invaders of the more fertile regions of the low countries have not cared to follow them. Modern philologists recognise an affinity between the Celtic dialects and other languages known by the general title of Indo-European, affording confirmation of that eastern origin assigned to the Aryan nations, both by tradition and history. But the essential differences between the Germanic and Celtic stock remain markedly distinguishable after centuries of peaceful intercourse, and a common interchange of rights and privileges. The Scottish Gael, though by no means to be now regarded as a pure Celt, scarcely differs more widely in language than in moral and intellectual characteristics from the race that peoples the fertile Lowlands, where the names of river, mountain, and dale prove their possession by earlier Celtic races.

Of late years direct evidence of the characteristics of primitive races of Europe, furnished by their sepulchral remains, has been made the subject of careful investigation by distinguished ethnologists, not only of Denmark and Sweden, but more recently of Switzerland, France, and Germany. Eschricht, Nilsson, and Retzius sought by this means to recover traces of the primitive colonists of Europe, and discovered different physical types, apparently corresponding to successive stages of advancement in civilisation, which more direct archæological evidence establishes. Arguing from those results, Professor Nilsson arrived at the conclusion that the relics of the Stone Period are not the memorials of the Celtæ, but of an older and unknown race, which disappeared before the immigration of more powerful nations. Similar ideas are now gaining ground among

ethnologists. "Within their own pale," Dr. Latham remarks, "the Celts were the encroaching family of the oldest, the Romans of the next oldest, and the Anglo-Saxons and Slavonians of the recent periods of history."¹ On like grounds to those by which Professor Nilsson arrives at the conclusion that the Celtæ were preceded in the north by other races, Danish and Swedish ethnologists concur in rejecting the idea of the Fins having been the aboriginal race of Scandinavia. The earliest people, whose remains are found accompanied with the primitive class of implements, prior to the introduction of metals, appear to have belonged to a family differing in physical character alike from the modern Fin and from any of the Aryan races. Professor Nilsson, after careful examination of the skeletons of the aboriginal Swedish colonists, and especially of their crania, states that they are readily distinguished from all the subsequent inhabitants of Scandinavia.

Three races are supposed to have succeeded each other in Scandinavia prior to its colonization by the true Swea race; and Mr. Worsaae justly remarks—"It is a vain error to assume that certain races must incontestably be the most ancient, because they are the first which are mentioned in the few and uncertain written records which we possess."² Unfortunately, extremely little attention was paid until recently to the size and form of the crania found in British tumuli. Some few examples, however, have been preserved, and to these the materials accumulated by the authors of the *Crania Britannica* and other investigators have made important additions, which furnish elements for an inquiry into this department of Physical Archæology, in a subsequent chap-

¹ *Natural History of the Varieties of Man*, by R. G. Latham, M.D. p. 528.

² *Primæval Antiquities of Denmark*, by J. J. A. Worsaae, translated, etc., by W. J. Thoms, F.S.A. etc. p. 133.

ter. To this branch of evidence greater importance will be attached when it has been thoroughly investigated, since to it we may look, with confidence, for a distinct reply to the inquiry, which other departments of archæological evidence suggest, as to the existence of primitive races in Britain prior to the Celtæ. So far as present data admit of general conclusions being drawn, we find traces, as I conceive, of more than one race, differing greatly in physical characteristics from any of the successive colonists of Britain within the era of authentic records.

The infancy of all written history is necessarily involved in fable. Long ere the scattered families have conjoined their patriarchal unions into tribes and clans, acknowledging some common chief, and submitting their differences to the rude legislation of the arch-priest or civil head of the commonwealth, treacherous tradition has converted the story of their birth into the wildest admixture of myth and legendary fable. To unravel the complicated skein, and recover the pure thread divested of all its extraneous acquisitions, is the impossible task of the historian. This period past,—so momentous in the influence it exercises on all the years that follow,—the historian finds himself among materials more manageable in some respects, though not always more trustworthy. He reaches the era of chronicles, records, and, still better, of diplomas, charters, deeds of gift, and the like honest documents, which, being written with no thought of posterity by their compilers, are the most trustworthy chronicles that posterity has inherited. This historic epoch of Scotland is involved in even more obscurity than that which clouds the dim and fabulous morning of most nations. We possess indeed the few but invaluable allusions of Roman authors supplying important data. But these are only as a momentary

glimpse of sunshine. For the succeeding era we have little better than the perplexing admixture of traditions, facts, and pious legends of monkish chroniclers, furnished with a copiousness sufficiently characteristic of the contrast between the literary legionary of imperial Rome, and the cloistered soldier of her papal successor. Amid those dusty acres of parchment must we glean for older dynasties and monarchical pedigrees : not seldom tempted to abandon the weedy furrows in disgust or despair. It is with no lack of zeal or courage, however, that those soldiers of the Church have encountered the oblivious past into which we still peer with no less resolute inquisitiveness. Bede, Fordun, Wyntoun, Boece, and the other penmen of the cloisters who, more or less accurately, chronicled contemporary history, all contributed their quota to the thick mists of fable which obscure the earlier annals of the country. Wyntoun, the best of our Scottish chroniclers, following the example of other monkish historians, begins his work as near *the beginning* as may be, with a treatise on angels, before proceeding to "Manny's fyrst creatoune!" In the sixth chapter he gets so far as "ye Arke of Noe, and of the Spate," and after treating of *Ynde, Egype, Afryk*, and many other lands with an enviable and leisurely composure, he at length reaches the threshold of his legitimate subject, and glances, in the thirteenth chapter of his *Scottish Chronicles*, at "how Bretanne and Irlande lyis." This, however, is a mere passing notice ; nor is it till after the dedication of many more chapters of his first five books to the general history of the world, that the author of the *Orygynale Cronykil of Scotland* quits this ample theme, and devotes himself exclusively to the professed object of his investigation, with only such occasional deviations as might be expected from an ecclesiastical historian.

With such laborious chroniclers peering into the past, which lay fully five centuries nearer them than it does to us, there might seem little left for the men of this older generation to do. But unhappily the very best of monkish chroniclers must be consulted with caution even as contemporary historians, and scarcely at all as the recorders of what passed any length of time prior to their own day: their information being nearly as trustworthy in regard to Noah and his *spate*, as to the traditions of generations immediately preceding their own. Lord Hailes begins his *Annals* with the accession of Malcolm Canmore, "because the history of Scotland previous to that period is involved in obscurity and fable." Tytler, with even less courage than Lord Hailes, commences only at the accession of Alexander the Third, "because it is at this period that our national annals become particularly interesting to the general reader."

Till recently, the never-failing apology for all obscurities and deficiencies in Scottish history, has been the rape of our muniments by Edward and by Cromwell. The former spoliation supplied for some centuries an excuse for all degrees of ignorance, inconsistencies, or palpable blunders; and the latter came most conveniently to hand for more recent dalliers in the same pleasant field of historic rambling. Edward and Cromwell both contributed a helping hand to the obscurity of Scottish history, in so far as they carried off and destroyed national records which could ill be spared. The apology, however, has been worth far more to such manufacturers of history than the lost muniments could have proved. Not a few of these irrecoverable national records, so long deplored, it begins to be shrewdly suspected, never had any existence. Many more of them, it is found, were not sought for, or they might have been discovered to have never left their old repositories. Diligent Scottish

antiquaries, finding this hereditary wail over lost muni-ments a very profitless task, have of late years betaken themselves to the study of what remained, and have been rewarded by the recovery of chest-loads of dusty charters and deeds of all sorts, of the twelfth, thirteenth, and fourteenth centuries, containing mines of historic information. The Scottish chartularies, now printed by various Clubs of literary antiquaries, disclose to us information scarcely open to a doubt, concerning old laws, feudal customs, servitude, tenure of property, ecclesiastical corporate rights, the collision of lay and clerical interests, and the final transference of monastic lands to lay proprietors. The old apology, therefore, of muni-ments lost or destroyed, will no longer serve the Scottish historian. Imperfectly as these treasures have been turned to account, medieval history is no longer obscure. Many fallacies are already exploded, and many more must speedily follow. The legends of the old chroniclers must be tried by the tests of documents written some-times by the same authors, but with no thought that history would ever question them for the truth.

Yet ample as is the field thus open to the literary antiquary, these will very partially satisfy earnest longings after a knowledge of the past, and a clue to the old ancestral chain whereof they are but middle links. Ritson carried back the supposed limits of authentic Caledonian history fully a thousand years before the *obscurity* that daunted Lord Hailes. Chalmers, Gregory, Skene, and other zealous investigators, have followed or emulated him in the same bold inquiry. But neither do they reach the BEGINNING which we still desiderate. Much *obscurity* indeed vanishes. We begin to discover that the Northern and Southern Picts, so long the sub-ject of mystery and fable, were no other than the Celtæ; while the Scots who founded the Dalriadic kingdom in

Argyleshire, and ultimately conferred their name on the whole races occupying ancient Caledonia, were only an Irish branch of the same Celtic race, who so readily amalgamated with the older occupants of Caledonia, that the change which is known as the "Scottish Conquest" long puzzled the historian, from the absence of any defined traces of a progress at all commensurate with its results. This is somewhat gained on the medieval *beginning* which could alone be previously held tenable. But this also begins in the wake of much progression, and glances at a period which likewise had its old history, of no less interest to us, could its annals be recovered.

In one of the few records of Sir Isaac Newton's reflections which he has left for the help of others, the following comprehensive thought occurs: — "It is clearly apparent that the inhabitants of this world are of a short date, seeing that all arts, as letters, ships, printing, needle, etc., were discovered within the memory of history." The reflection is a very pregnant one. The data it suggests to us as land-marks of time are well worth extending and turning to account, if so be that with their aid we may arrive at some trustworthy system of chronology, whereby to travel back towards that date which we conceive of as the beginning of things.

In this inquiry the labours of the literary antiquary, however zealously pursued, will but little avail us in reaching the desired point. The antiquary, nevertheless, has been long familiar with the elements of this older history, though turning them to very much the same profitable account as, till a very recent period, he did the hieroglyphic records graven on the granite tablets along the Nile. The first of arts mentioned by Newton is letters: justly first in point of dignity and universal value. Far homelier arts, however, sufficed the primitive races of mankind. Humble were their wants, and limited

their desires ; and if we are justified by the records of creation preserved to us in the Mosaic narrative, in assuming that man, beginning with the woven garment of fig-leaves and the coat of skins, has slowly progressed through successive stages to the knowledge of nobler arts, and the higher wants of an intelligent being, then we have only to establish evidence of the most primitive arts, pertaining to the primeval race, in order to be assured that we have reached the true beginning at which we aim. In the general investigation, indeed, allowance must be made for the speedy loss of primitive metallurgic arts which would follow almost of necessity on the exodus of the earliest nomades from their Eastern birthland, though preserved perhaps by the founders of the Asiatic kingdoms, and probably practised by the first colonists of the Nile valley. Such at least we shall find to have been the case with the primeval colonists of Britain. To this point, accordingly, the archæologist now directs his inquiries, not altogether without the anticipation that those same primitive arts, the product of the beginning of things, may also prove to contain a decipherable alphabet, which may furnish the key to many inscriptions no less curious and valuable than the parchments of medieval charter-chests, or even the tablet of Abydos and the Rosetta Stone.

It is long since the evidences of a primitive state of society, still abounding in the midst of modern civilisation, attracted the attention of the antiquary. It was indeed almost a necessary consequence of the accumulation of large collections of antiquities. The private hoards of "nick nackets,"—including in general a miscellaneous assortment of relics of all ages, only sufficient to produce a confused notion of useless or obsolete arts, without creating a definite idea of any single era of the

past,—may be aptly compared to the *disjecta membra* of some beautifully-proportioned and decorated vase. Hoarded apart, the pieces are nearly without value, and to new possessors become even meaningless. But should the whole, by some fortunate chance, be reassembled in a single collection, it becomes possible for a skilful manipulator to piece the fragments together, and replace them with an elegant and valuable work of art. Thus it has proved with more than one archæological museum. In 1780 the Society of Antiquaries of Scotland was established, and its collection of national antiquities begun. A brief but most suggestive paper, read at one of its meetings in 1782, and published in the first volume of its Transactions, shows the early results of such valuable reconstructions, by means of an intelligent comparison of the primitive relics of Scotland.¹ But the resources of private zeal proved inadequate to the effective pursuit of such researches into Scottish Archæology, and the national funds found other, though not always more valuable objects for their expenditure. The hint was lost, but the accumulation of materials for future students was happily not altogether abandoned.

“About forty years ago,” says the eminent Danish antiquary, J. J. A. Worsaae, writing in 1846, “the general character of scientific pursuits was in our country much the same as in most other parts of Europe. Great pains were spent in collecting all sorts of objects illustrating the changes of the globe upon which we live, and the distribution and habits of animals and plants—in short, all the departments of Natural History; whilst, strange to say, people for the most part neglected *traces of men*, the remains not only of their own ancestors, but

¹ “An Inquiry into the Expedients used by the Scots before the Discovery of Metals,” by W. C. Little, of Libberton, Esq.—*Archæologia Scotica*, vol. i. p. 389.

also of all the different races who have been spread over the world. The antiquities, with the exception of those of Roman and Greek origin, were regarded as mere curiosities, without any scientific value."¹ Notwithstanding all the zeal of British archæologists of late years, so much of this spirit still remains among us, that it would be easier, perhaps, even now, to secure the purchase by the Trustees of the British Museum, of a Roman statue or an Egyptian tablet, than of valuable relics of British antiquity.

One man has within the last forty years accomplished, not for Denmark only, but for Europe, what the whole united labours of earlier archæologists failed to do. About the year 1815, the present Danish Councillor of State, C. J. Thomsen, the son of a merchant of Copenhagen, was appointed Secretary of a Royal Commission for the preservation and collection of national antiquities. It had then been in existence some seven or eight years, and the whole result of its labours was a few miscellaneous articles, unclassified and uncared for, lying in a small room of the University Library. His enthusiasm in the study of the antiquities of his country surmounted all obstacles. He had to contend alike with the theories of the scholar and the prejudices of the unlearned. But he had succeeded to a position of the utmost value to a man of energy and enthusiasm. From the first he had grants (though exceedingly small ones) of public money at his disposal. He soon enlisted the more important elements of public sympathy and nationality of feeling in his pursuits. His little room became too small for accumulating purchases and donations. A suite of apartments was yielded, at his intercession, in

¹ "The Antiquities of Ireland and Denmark; being the substance of two communications made to the Royal Irish Academy at its Meetings, Nov. 30, and Dec. 7, 1846."

the Royal Palace of Christiansborg ; and as the varied collection increased in his hands, he found himself possessed at once of the space and the elements for systematic classification.

The Royal Museum of Northern Antiquities of Copenhagen now numbers upwards of four thousand specimens of stone weapons and implements, hundreds of bronze swords, celts, spear-heads, armillæ, torcs, etc., and a collection of native gold and silver relics unequalled in all the museums of Europe. To it we owe the valuable suggestion of the system of classification now generally adopted in the nomenclature of archæological science—the *Stone*, *Bronze*, and *Iron* periods,—which, simple as it may appear, was first suggested by Mr. Thomsen, and may justly be esteemed the foundation of Archæology as a science. By means of it the materials of antiquarian study arrange themselves according to an intelligible order of succession, adapted in an especial degree to Northern antiquities, but also applicable to those of Britain. This, therefore, is the system on which the following data are arranged, subject only to such modifications as seem naturally to arise from national or local peculiarities ; and with a full recognition of the fact that in many cases the classification into periods must be accepted rather with a view to its convenience, than from any conviction of an absolute chronological sequence. Nevertheless, when not forced beyond its legitimate application, the succession of archæological periods will be found a key to important disclosures.

It is not necessary here to enter on the question, of curious interest and value, as to whether the primeval state of man was essentially one of barbarism, from whence he progressed by slow degrees to social union, arts, civilisation, and the political organization into com-

munities and nations.¹ The investigations of chronologists, the further they are pursued, appear the more certainly to confer on primitive civilisation a remoter antiquity. At the same time, they confirm the idea, that the long accepted chronology of Archbishop Usher, still attached to many English Bibles, cheats the world, at the lowest computation, of fully 1400 years of its existence: a trifle perhaps in the age of worlds, but no unimportant element in the history of human progress, when, in the interval between the era of the Mosaic deluge and the accession of the Egyptian Menes, we are required to account for the peopling of Egypt, the establishment of its social and political constitution, and the founding of a civilisation, the monuments of which are still among the most wonderful that human intellect and labour have produced. The whole question, indeed, of Mosaic chronology, including the inquiry whether the data furnished for antediluvian history were ever intended to be literally interpreted into a sequence of annals, challenges revision; but happily it lies beyond the range of our present subject. Of the primeval inhabitants of our own quarter of the globe, we as yet know only with any degree of certainty of the Celtæ, occupying a transitional place in the history of the human family: at once the earliest known intruders and the latest nomades of Europe. It was probably more from their deficiency than their excess in the qualifications which we expect to find in the colonists of new regions, that the Celtæ were driven onward in their north-western pilgrimage, until their course was arrested by the Atlantic barriers. Nevertheless, they appear now as probably the oldest European branch of the great Aryan family of nations, to which so many evidences justify us in assuming a

¹ The author has minutely discussed this question in his *Prehistoric Man: Researches into the Origin of Civilisation in the Old and New World*. 1862.

foremost place among the gifted races of the world. The earliest literature of our country survives in Celtic manuscripts, and, until recently, the oldest of prehistoric chronicles were believed no less certainly to refer to the same ancient race. But it is no longer doubted that similar records also preserve the history of British tribes, in comparison with which the ancient Celtæ must be regarded as of recent origin. "The antiquities of the earlier periods," says a distinguished English antiquary, "including all remains which bear no evident stamp of Roman origin or influence, claim our most careful investigation. Exceedingly limited in variety of types, these vestiges of the ancient inhabitants of Great Britain are not more interesting to the antiquarian collector on account of their rarity, than valuable to the historian. They supply the only positive evidence in those obscure ages, regarding customs, warfare, foreign invasions, or the influence of commerce, and the advance of civilisation amongst the earliest races by which these islands were peopled."¹ Perhaps when we have bestowed on those primitive remains the degree of careful investigation which they merit, we shall find the variety of types less limited than is conceived to be the case. The archæologists of Denmark justly value the absence of all relics of Roman art and civilisation, from the confidence it has given to their researches into the true eras to which their own primeval antiquities belong. Such gratulations, however, can only be of temporary avail. The influence of Roman arts and arms furnishes an element in the civilisation of modern Europe too important not to be worthy of the most careful study. When the distinctive characteristics of Roman and primitive art have been so satisfactorily

¹ Mr. Albert Way on "Ancient Armillæ of Gold."—*Archæological Journal*, vol. vi. p. 55.

established as to admit of their separate classification without risk of error or confusion, the British collections, with their ample store of Anglo-Roman relics, will furnish a far more comprehensive demonstration of national history than those northern galleries, which must remain destitute of any native examples of an influence no less abundantly visible in their literature and arts, than in that of nations which received it directly from the source. In this respect the Scottish antiquary is peculiarly fortunate in the field of observation he occupies. While he possesses the legionary inscriptions, the sepulchral tablets, the sculptures, pottery, and other native products of Roman colonists or invaders, he has also an extensive and strictly defined field for the study of primitive antiquities, almost as perfectly free from the disturbing elements of foreign art as the most secluded regions of ancient Scandinavia.

PART I.

THE PRIMEVAL OR STONE PERIOD.

“Cum prorepserunt primis animalia terris,
Mutum et turpe pecus, glandem atque cubilia propter
Unguibus et pugnis, dein fustibus, atque ita porro
Pugnabant armis, quæ post fabricaverat usus ;
Donec verba, quibus voces sensusque notarent,
Nominaque invenerent.”—HORACE, *Sat.* lib. 1. 3.

CHAPTER I.

THE PRIMEVAL TRANSITION.

THE closing epoch of geology, which embraces the diluvial formations, is that in which archæology has its beginning. In a zoological point of view, it includes man and the existing races of animals, as well as the extinct races which appear to have been contemporaneous with indigenous species. Archæology also lays claim to the still more recent alluvium, with all its included relics pertaining to the historic period. Within the legitimate scope of this department of investigation are comprehended the entire evidence of changes on the geographical features of the country, on its coasts and harbours, its estuaries, rivers, and plains: all properly coming within the limits of Archæology, though too extensive to be embraced in the present review of its elements. This much, however, we learn from an examination of the detritus and its included fossils, that at the period immediately preceding the occupation of the British Islands by their first colonists, the country must have been almost entirely covered with forests, and over-

run by numerous races of animals long since extinct. Much has been done in recent years to complete the history of British fossil mammalia; and though less attention has been paid to the question in which we are here most deeply interested, as to what portion of them are to be considered as having been contemporaneous with man, yet on this also interesting light has been thrown. The most extensive discoveries of mammalian remains and recent shells generally occur along the valleys by which the present drainage of the country takes place, and hence we infer that little change has taken place in its physical conformation since their deposition. These, however, include the mammoth, elephant, rhinoceros, cave tiger, with other extinct species, and are referrible to the earlier portion of an epoch, with the close of which we have alone to deal. They belong to that period in which our planet was passing through its very latest stage of preparation prior to its occupation by man; a period on which the geologist, who deals with phenomena of the most gigantic character, and with epochs of vast duration, is apt to dwell with diminished interest, but which excites in the thoughtful mind a keener sympathy than all that preceded it. The general geographical disposition of the globe was then nearly as it still remains. Our own island was, during a great portion of it, insulated, as it is now. Yet it is of this familiar locality that the palæontologist remarks:—"In this island, anterior to the deposition of the drift, there was associated with the great extinct tiger, bear, and hyæna of the caves, in the destructive task of controlling the numbers of the richly developed order of the herbivorous mammalia, a feline animal [the *Machairodus latidens*] as large as the tiger, and, to judge by its instruments of destruction, of greater ferocity."¹ It was

¹ Owen's *British Fossil Mammals*, p. 179.

within the epoch to which those strange mammals belong, and while some of them, and many other contemporaneous forms of being, still animated the scene, that man was introduced.

Of this the evidence has accumulated in recent years to an extent which startles the most ardent inquirer by its novel revelations. In the drift gravel of France and England the flint implements which reveal the presence of man have been found by hundreds, in immediate juxtaposition with the bones of the fossil mastodon, rhinoceros, and other extinct mammals; and, as it now appears, the evidence of this had long since been known, though misinterpreted, until attention was recalled to the unheeded disclosures of implements of flint in the drift-gravel of Kent and Suffolk, by recent discoveries of a like nature at Abbeville and Amiens.¹ The remains of the gigantic fossil elk (*Megaceros Hibernicus*) have been found under circumstances which appear to prove its co-existence with man. Its bones occurred along with those of the *Rhinoceros tichorhinus*, the *Elephas primigenius*, and numerous other extinct mammals, in the sepulchral cave at Aurignac, in the south of France, along with human bones; and in a condition which satisfied their discoverer, M. Lartet, and other intelligent observers, that they were the refuse left from human repasts.² In the recently explored Brixham cave, on the Devonshire coast, similar remains of the fossil rhinoceros, along with the *Equus caballus*, the *Cervus tarandus*, or rein-deer, and several of the extinct cave carnivora, lay embedded in the same breccia with flint knives;³ and by more direct and ample evidence it has been shown that the north of Europe was occupied by the human race at a

¹ *Archæologia*, vol. xiii. p. 204; xxxviii. p. 301.

² *Natural History Review*, January 1862.

³ *Journal of Geological Society*, vol. xvi. p. 189.

time when not only the *Bos primigenius*, and the *Bison priscus*, but the *Ursus spelæus*, existed.¹ Of the *Ursus spelæus*, or great cave bear, a skeleton is preserved in the museum of Lund, found in a peat-bog in Scania, under a gravel or stone deposit, alongside of primitive implements of the chase ; and Professor Owen, after referring the period of its existence to earlier geological epochs, adds, as the conclusion suggested by present evidence, “ that the genus surviving, or under a new specific form reappearing, after the epoch of the deposition and dispersion of those enormous, unstratified, superficial accumulations of marine and fresh-water shingle and gravel, called drift and diluvium, has been continued during the formation of vast fens and turbaries upon the present surface of the island, and until the multiplication and advancement of the human race introduced a new cause of extermination, under the powerful influence of which the Bear was finally swept away from the indigenous fauna of Great Britain.”² To the native mammals may be added the roebuck, the red and fallow deer, the wild boar, the brown bear, the wolf, the beaver, and the goat, all of which have undoubtedly existed as wild animals in this country, and been gradually domesticated or extirpated by man.³

¹ British Association for Advancement of Science, Report for 1847, p. 31 ; and Owen, *Introd.* p. xxxiii. ; p. 462.

² Owen's *British Fossil Mammals*, p. 107.

³ *Ibid.* p. 197. The abundance of wild beasts and game of all kinds in the Caledonian forests is frequently alluded to. Boece describes “ gret plente of haris, hartis, hindis, dayis, rais, wolffis, wild hors, and toddis ” (Bellenden's *Boece. Cosmographie*, chap. xi.) The following curious enumeration in Gordon's *History of the House of Sutherland* (fol. p. 3.) circa 1630, furnishes a tolerably extensive list of wild natives of Sutherland even in the seventeenth century :—“ All these forrests and schases are verie profitable for feiding of bestiall, and delectable for hunting. They are full of reid deir and roes, woulffs, foxes, wyld catts, brocks, skuyrrells, whittrets, weasels, otters, martrixes, hares, and fumarts. In these forrests, and in all this province, ther is great store of partridges, pluivers, capercalegs, blackwaks, mure-

The most interesting species for our present inquiry are those adapted for domestication, among which the *Bovidae* occupy a prominent place. Of these, the great fossil ox (*Bos primigenius*) is very frequently found in Scotland. Dr. Fleming describes a skull of one in his possession measuring $27\frac{1}{2}$ inches long,¹ and a still larger one from Roxburghshire, now in the Scottish Antiquarian Museum, measures 28 inches in length. No evidence leads to the conclusion that any attempt was made by the native Britons to domesticate either of the two kinds of gigantic oxen, the bison or great urus,

fowls, heth-hens, swanes, bewters, turtledoves, herons, doves, steares or stirlings, lair-igigh or knag (which is a foull lyk vnto a paroket or parret, which maks place for her nest with her beck in the oak trie), duke, draig, widgeon, teale, wildgouse, ringouse, routs, whaips, shot-whaips, woodcock, larkes, sparrows, snypps, blakburds or osills, meweis, thrushes, and all other kinds of wildfowle and birds, which are to be had in any part of this kingdome. Ther is not one strype in all these forrests that wants trouts and other sorts of fishes. . . . Ther is vpon these rivers, and vpon all the cost of Southerland, a great quantitie of pealoks, sealghes or sealls, and sometymes whaills of great bignes, with all sorts of shell fish, and dyvers kynds of sea-foull." When we remember that this ample inventory is of a late date, and lacks not only the Caledonian bull, the elk, and "the wild-boar, killed by Gordoun, who for his valour and great manhood was verie intire with King Malcolm-Keane-Moir," but also, in all probability, many more of the older prizes of the chase, we can readily perceive the abundant stores that lay within reach of the thinly-peopled districts of the primitive era. One of the most interesting of the extinct animals of Scotland, on many accounts, is the beaver (*Castor Europæus*). Its remains have been discovered under circumstances indicative of equal antiquity with the extinct mammoth (Owen, p. 191). But their most frequent situation is at the bottom of the peat-bog; as in the Newbury peat-valley, where they were found twenty feet below the present surface, associated with the remains of the wild-boar, roebuck, goat, deer, and wolf (*Edin. Phil. Jour.* vol. i. p. 183; New Series, vol. viii. p. 1; and *Wern. Mem.* vol. iii. p. 207). In an Act of David I. fixing the rate of custom-duties, beavers' skins are mentioned among the Scottish exports, along with those of the fox, the weasel, the martin, the wild cat, the ferret, etc.—"Of Peloure.—Of a tymmyr of skynnys of toddis, quhytredis, mertrikis, cattis, *beueris*, sable firettis, or swylk vthyr of ilk tymmyr at þe outpassing, iijj ð. Of þe tymmer of skurel, ij ð." etc. (*Act. Parl. Scot.* vol. i. p. 303).

¹ *History of British Animals*, p. 24.

which the Romans discovered on first penetrating into the north of Europe; though both undoubtedly formed a source of food. Mr. Woods refers to the discovery of the skull and horns of the great urus in a tumulus on the Wiltshire Downs, along with bones of deer and boars, and fragments of native pottery, in proof of the existence in this country originally of a "very large race of *taurine* oxen, although most probably entirely destroyed by the aboriginal inhabitants before the invasion of Britain by Cæsar." But besides these there was also the smaller native *Bos longifrons*, the fossil bones of which have been found associated with those of the elephant and rhinoceros, though their more frequent occurrence is in ancient British graves or alongside of Roman urns and Samian ware. Thus we learn of the existence of three species of wild oxen, associated with geological indications and fossil remains which serve to demonstrate that they roamed the uninhabited wastes of northern Europe ere Britain had been insulated from the continent; while we not only ascertain that they survived to be the contemporaries of the first colonists of the British Isles, but we have abundant evidence of the domestication of one at least, prior to the date of Roman invasion, and of its perpetuation in later Saxon times.¹ Scarcely less interesting is the evidence which British fossil mammalia furnish of the existence of the horse among the native wild animals of the country, since we find proof, both in the early tumuli and the subterranean dwellings, not only of its domestication, but also of its use for food.

This slight glance at the most prominent indications of the primeval state of the country, will suffice to convey some idea of the circumstances under which the

¹ *British Fossil Mammals*, p. 500. *Archæol. Jour.* vol. vi. p. 35; vol. x. p. 223.

aboriginal colonists entered on the possession of the British Isles. Other portions of the same line of argument, derived from the fossil mammalia, and the circumstances under which they are discovered, will come under review in the course of our inquiries. The fossil Cetacea, especially, furnish interesting and conclusive evidence of the very remote period of the presence of man in Scotland; while the beaver (*Castor Europæus*), frequently found in a fossil state, is proved to have existed as a living species, both in Scotland and Wales, down to the twelfth century. The abundance of wild animals which continued to occupy the moors and forests of Scotland, long after the primitive states of society had entirely passed away, also serve to illustrate the long transitional period of displacement of the older fauna by man. The same causes which exterminated the huge urus, the cave bear, and others of the largest and most intractable of the wild denizens of the British forests, ultimately led to the extinction of the greater number of those which either supplied objects of the chase, or were inimical to social progress. Thus we observe, in the economy of nature, that one species after another disappears, to make way for newer occupants, until at length the last of those huge preadamite races of being give place before the gradual advancement of man to assume possession of terrestrial dominion. But while the novel disclosures of geology have startled us by the antiquity which they appear to establish for the human race, they lend no countenance to the idea that man entered upon this earth after some tremendous cosmical revolution, which made way for an entirely new race of beings, but on the contrary all its latest disclosures confirm the opinion that he was introduced as the lord of an inheritance already in possession of many inferior orders of creation. Contemporary with the most remarkable drift and cave fossils

are found the remains of many historic, or still existing species ; and the precise line has yet to be drawn which shall determine how many of these were extinct at the period when man appeared, and the dawn of rational intelligence began. The remains, both of the large cave hyæna (*Hyæna spelæa*), and of the great cave tiger (*Felis spelæa*), occur not only in ossiferous caverns, but have been found in superficial unstratified deposits. Considerable portions of the skeleton of the latter were discovered in 1829, along with remains of the mammoth, rhinoceros, ox, stag, and horse, in a marl-pit near North Cliff, Yorkshire. Under precisely similar geological circumstances the *Bos primigenius* has frequently been brought to light in Scotland. It is of this animal that Sir R. I. Murchison remarks, in a letter to Professor Owen, descriptive of an example found in a bog in Scania : “This urus is most remarkable in exhibiting a wound of the apophysis of the second dorsal vertebra, apparently inflicted by a javelin of one of the aborigines, the hole left by which was exactly fitted by Nilsson with one of the ancient stone javelins. . . . This instrument fractured the bone, and penetrated to the apophysis of the third dorsal vertebra, which is also injured. The fractured portions are so well cemented, that Nilsson thinks the animal probably lived two or three years after. The wound must have been inflicted over the horns, and the javelin must have been hurled with prodigious force.” Sir Henry De la Beche also refers, not only to the discovery of the skulls and horn-cores of this gigantic ox, along with the remains of the common red and fallow deer, in various submarine forests : but also to footprints, apparently of an ox greatly exceeding in size the largest domestic cattle, mingling with the footprints of the common deer, and which he conceives may have been those of the extinct ox.¹ Of the existence,

¹ *Geological Observer.*

therefore, of the *Bos primigenius* within the historic epoch, we can entertain no doubt, and it is requisite to give full weight to the influence which its presence must have exercised on the general condition of our island. Professor Owen remarks, after showing the erroneous nature of the usually received opinion, that the lion, the tiger, and the jaguar, are peculiarly adapted to a tropical climate :—"A more influential, and, indeed, the chief cause or condition of the prevalence of the larger feline animals, in any given locality, is the abundance of the vegetable-feeding animals in a state of nature, with the accompanying thickets or deserts unfrequented by man. The Indian tiger follows the herds of antelope and deer, in the lofty Himalayan chain, to the verge of perpetual snow. The same species also passes that great mountain barrier, and extends its ravages with the leopard, the panther, and the cheetah, into Bocharia, to the Altaic chain, and into Siberia, as far as the fiftieth degree of latitude ; preying principally, according to Pallas, on the wild horses and asses."¹ No change, therefore, of climate, nor any remarkable geological revolution, is needful to account for the disappearance of the huge British carnivora, the remains of which abound in the ossiferous caves. They pertain to the closing transition-period of the preadamite earth, and, as in other transition-periods which we shall have to consider, some traces of them survived among the inheritors of the new era. It is therefore a legitimate source of interest to the archæologist, to observe the mingling of extinct and familiar species among the fossil mammals found in the superficial deposits, wherein so much of the evidence of his own science must be sought. It discovers to him the links by which his pursuits take hold of the great chain of truth ; and in a new sense shows man, not as an

¹ *British Fossil Mammals*, p. 162.

isolated creation, but as the last and best of an order of animated beings, whose line sweeps back into the shadows of an unmeasured past.

How far back man himself is to be looked for in the palæozoic chronicles of former life is a question on which novel issues have been raised since the first edition of this work. In the interval, Professors Forchhammer and Steenstrup have been associated with the distinguished archæologist, Mr. Worsaae, in exploring the Danish peat-mosses, and minutely investigating the contents of a remarkable series of ancient shell-mounds or coast refuse-heaps, called by the Danish antiquaries *Kjöekkenmoeddinger*; the supposed kitchen refuse of the aborigines in primeval centuries. The results of the exploration of the peat-mosses show that the country was covered within the human period with indigenous pine forests, among which the Scotch fir (*Pinus sylvestris*) predominated, though this tree is now unknown as a native of Denmark. The peat has been found to vary in depth from ten to thirty feet; and Professor Steenstrup specially notes his recovery of a flint implement from beneath a buried trunk of one of the fossil pines. The age of the pine forests appears to have been succeeded by one of oak, in which trees of large growth of the *Quercus robur sessiflora* predominated. To this succeeded other varieties of oak, along with the alder, birch, and hazel; whilst throughout the whole historic period the predominant arborescent vegetation of Denmark has been the beech (*Fagus silvatica*), which still flourishes there with great luxuriance. There thus appears to have been a succession of periods in Denmark distinguished by their arborescent vegetation: first, the age of pine; second, the age of oak; and third, the age of beech, which still continues. Such varying successions of trees have already been recognised among the

phenomena of the New World, where the destruction of the ancient forest is followed by the growth of entirely different species. The change, therefore, does not necessarily imply any essential variation in the climate ; but is probably chiefly dependent on alterations of the soil consequent on protracted accumulations of vegetable mould. Doubtless, corresponding researches in the Scottish peat-mosses would bring to light no less interesting evidence of the changes which this country has undergone since it was in the occupation of man.

It has also been observed that along the shores of most of the Danish islands immense mounds exist, composed chiefly of the shells of edible molluscs, but interspersed with bones of quadrupeds, birds, and fish, the refuse of ancient repasts ; and also with bone, horn, flint, and stone implements, fragments of coarse pottery, and other rude products of human industry. Similar accumulations of the refuse of ancient feasts are not unknown on some of the Scottish mainland and island coasts, though they have not been subjected to any such systematic exploration as those of Denmark. True shell - mounds, precisely corresponding to the Danish kitchen-middens, have been noted on different parts of the Morayshire coast, and especially in the vicinity of Burghead, and along the shores of the Loch of Spynie. In those mounds the oyster abounds, but mingled with shells of the cockle and other edible molluscs. In a corresponding shell-heap at Savrock, in Orkney, more minutely described on a subsequent page, the periwinkle (*Turbo littoralis*) constituted the most abundant contents, though mixed with the oyster, scallop, and whelk, and with bones of the whale, deer, ox, horse, and sheep. Some of the latter, and also portions of deer's-horn, were fashioned into implements ; and in the Morayshire shell-mounds similar remains have been found, intermingled

with flint-flakes, knives, and arrow-heads, and with bones of the ox and red-deer, broken lengthways, precisely as in those of the Danish mounds, with a view to extract the marrow. In the recent construction of a railway at Clachnaharry, near Inverness, a shell-mound of the same class was brought to light; and traces of others have been observed on the neighbouring coasts. Now that attention has been directed to this interesting department of archæological evidence, we may expect results no less valuable than those which have already rewarded the intelligent zeal of Danish archæologists. Among the mounds explored in Denmark, many have been found of enormous extent, and accompanied in some cases with evidence of considerable changes on the coast-line, and even on the elevation of the land, since their deposition. But it will be seen from what follows that evidences of similar changes within the human period present themselves in Scotland on a gigantic scale; and that the disclosures of the peat-moss and alluvium of the carse of Falkirk and Stirling, and of the valley of the Clyde, indicate not only a considerable elevation of the whole area between the Forth and the Clyde, during the presence of man; but that some portion of this upheaval has been subsequent to the Roman period.

The Danish archæologists estimate for the duration of their stone-period a lapse of not less than four thousand years. But more recent explorations of the Pfahlbauten or lacustrine habitations of Switzerland, have disclosed a vast amount of evidence bearing on the same question of relative chronology, and suggesting for the European stone-period a much longer duration. Now, however, that the antiquity of man is referred by the geologist to pliocene or post-tertiary geological eras, the computations of the archæologist sink into insignificance; and estimations formed as to the succession of races, the progress

of arts, and the duration of time, since man's presence in Scotland, which were advanced as deductions from imperfect evidence, in the former edition of this work, have already become obsolete in the view of interpretations based on geological calculations of the apparent lapse of time. So far, however, as Scotland is concerned, while abundant proofs suffice to establish the remote antiquity of the presence of man, no evidence has yet come under my notice which necessitates the idea of any break in the continuity of the primeval stone period—embracing the allophylian whalers of the Forth, and the canoe-builders of the carse of Falkirk and the Clyde, referred to in the following pages,—and the succession of that primitive age which has left as its memorials the rudiments of metallurgic arts. The divisions of stone, bronze, and iron periods, require however to be used with great caution, for they present no analogy to the periods of the geologist. There have, indeed, been epochs of long duration, during which man has wrought in certain localities, and practised many ingenious arts, without any knowledge of metals; or with only the partial mastery of metallurgy which limited him to the working in copper and bronze; and such periods can undoubtedly be traced in Britain. But it must not be overlooked that the use of flint and stone for missile weapons and the ruder domestic implements has been abandoned only in comparatively recent times in the north of Europe.

Future explorations, and chance discoveries in the alluvial strata and peat-mosses, will doubtless extend our knowledge of the condition of the country in the earliest ages in which the traces of man's presence can be detected, and may greatly modify the opinions based on such evidence; but this much is apparent from the most superficial glance at the geological evidence already

produced, that though corresponding in geographical outline to its present condition, it differed, in nearly every other respect, as widely as it is possible for us to conceive of a country capable of human occupation. A continuous range of enormous forests covered nearly the whole face of the country. Vast herds of wild cattle, of gigantic proportions and fierce aspect, roamed through the chase; while its thickets and caves were occupied by carnivora, preying on the herbivorous animals, and little likely to hold in dread the armed savage who intruded on their lair. The whole of those have existed since the formation of the peat began, and therefore furnish some evidence of the very remote antiquity to which we must refer the origin of some of the wastes that supply, as will be seen in subsequent chapters, an important element in the elucidation of primitive chronology. Upon this singular arena Archæology informs us that the primeval Briton entered, unprovided with any of those appliances with which the arts of civilisation arm man against such obstacles. Intellectually, he appears to have been in nearly the lowest stage to which an intelligent being can sink. Morally, he was the slave of superstitions, the grovelling character of which can be partially inferred from the indications of his sepulchral rites. Physically, he differed little in stature from the modern inheritors of the same soil; but the form of skull indicated diverse ethnical relations; his cerebral development was poor, his hands, and probably his feet also, were small; while the weapons with which he provided himself for the chase, and the few implements that ministered to his limited necessities, disclose only the first rudiments of that inventive ingenuity which distinguishes the reason of man from the instincts of the brutes. The evidence from which such conclusions are deduced, forms the subject of the following chapters.

CHAPTER II.

ABORIGINAL TRACES.

THOUGH we cannot doubt that man was created an intelligent being, capable of enjoying the high faculties with which he alone of all the denizens of earth is endowed, we have no reason to assume that he had any conception of the practical arts by which we are enabled to satisfy wants of which he was equally unconscious. We know that there existed a period in the history of our race, ere Zillah, the wife of Lamech, had born to him Tubal-cain, "the instructor of every artificer in brass and iron," when men tilled the ground, pursued the chase, made garments of its spoils, and constructed tents to dwell in, without any knowledge of the working in metals, on which the simplest of all our known arts depend. Through such a stage of primitive arts most, perhaps all nations have passed. We detect evidences of it among the Egyptians, old as the date of their civilisation appears, in the stone knives of the embalmers, still frequently found in the catacombs. By such only could the incision be made in the side of the dead, through which to extract the intestines; and when they had been cleansed and replaced, the eye of Osiris, the judge of the dead, was placed as a mysterious seal over the sacred incision. The feeling in which such a custom originated, arising from the veneration which appears to be universally attached to whatever is ancient, is easily

understood. While the knife of bronze or iron was freely employed for all ordinary purposes, the primitive stone implement was retained unchanged for the sacred incision in the dead. So also, the stone or flint knife appears to have been used by the early Hebrews in circumcision. Zipporah, Moses' wife, took a sharp stone, or stone knife, and cut off the foreskin of her son. The like was done when Joshua renewed the same rite at Gilgal in the east border of Jericho; while an equally remarkable community of feeling with the veneration of the ancient Egyptians for the otherwise obsolete implement of stone, is discernible in the retention of the obsidian knife by the priests of Montezuma as the instrument of human sacrifice, notwithstanding the familiarity of the Mexicans not only with copper but bronze.

The substitution of flint, stone, shell, horn, and wood, in the absence of metal weapons and implements, is familiar to all, in the customs of society when met with in a rude and primitive condition. The Fins and Esquimaux, the African bushmen, and the natives of such of the Polynesian Islands as are rarely visited by Europeans, still construct knives and arrow-heads of flint, marine shells, or fish-bones, and supply themselves with wooden clubs and stone adzes and hammers, with little consciousness of imperfection or deficiency in such appliances. Examples of such a primitive state of art meet us alike among the novel disclosures of the drift, when man was contemporary, as is now assumed, with the mastodon and the tichorine rhinoceros, and in the works of the modern savage in the volcanic and coral islands of the Pacific. This seems indeed the initial stage of mechanical and inventive skill, through which all nations have passed, not without each developing a sufficient individuality to render their arts well worthy of investigation by their descendants. To this

primitive era of human history we refer under the name of **THE STONE PERIOD**.

In this state were the Scottish, and indeed the whole British aborigines, at an era much more remote than chronologists have been willing to assign for the occupation of the island by a human population, and for a period which appears to increase with every new attempt to test its duration.

There is one point of probable certainty in this inquiry into primitive arts which the British antiquary possesses over all others, and from whence he can start seemingly without fear of error. From our insular position, we must either assume the existence of a human population prior to the submergence of the great plain beneath the waves of the German Ocean, and the excavation of the English and Irish Channels, or accept as our primary postulate that the first colonist of the British Isles must have been able to construct some kind of boat, and have possessed sufficient knowledge of navigation to steer his course through the open sea. Contrasting the aboriginal arts to which we have referred with the appliances of later navigators, it seems only reasonable to conclude that the bark of the primeval Columbus, who led the way from the continent of Europe to the untrodden wilds of Britain, differed no less from the caravel of the bold Genoese, than that did from the British ship that now follows in its course. Can we recover the history of such primitive caravel? It seems not improbable that we may. Time has dealt kindly with the frail fleets of the aboriginal Britons, and kept in store some curious records of them, not doubting but these would at length be inquired for.

It is by no means to be presumed as certain that the early navigators chose the Straits of Dover as the readiest passage to the new world they were to people.

Both Welsh and Danish traditions point to a migration from Jutland, though in reality such can only preserve the memory of intrusive colonisation long subsequent to the first peopling of the British Isles. Whencesoever the first emigrants came, Providence alone could pilot their frail barks. Successive migrations, the chances of shipwreck, or the like independent causes, may have landed the fathers of the British race on widely different parts of our island coast. It is a well-established fact, that at later periods many distinct and rival centres of population were thus established throughout the British Isles.

Lochar Moss, a well-known tract in Dumfriesshire, occupies an area of fully twelve miles in length, by between two and three miles in breadth, extending to the Solway Firth. Its history is summed up in an old popular rhyme, still repeated in the surrounding districts :—

“ First a wood, and next a sea,
Now a moss, and ever will be !”

Lying as it does on the southern outskirts of the Scottish kingdom, the track of many successive generations has lain along its margin or across its treacherous surface, beneath which their records have been from time to time engulfed, to be restored in after ages to the light of day. To those we shall have occasion again to refer ; but among them our chief attention is meanwhile attracted by its ancient canoes, repeatedly found, along with huge trunks of trees, hazel-nuts, acorns, and other traces of the forest ; and also, according to the old statist of Torthorwald parish, “ anchors, cables, and oars,” the no less obvious heirlooms of the sea. During the last century peats cut from this moss formed almost the sole supply of fuel to the inhabitants of Dumfries ; and the process, not yet entirely abandoned, has partially accomplished results aimed at elsewhere by systematic research.

In 1782 Pennant examined one of the rude barks, formed from the trunk of an oak, which he thus describes: "Near a place called Kilblain, I met with one of the ancient canoes of the primeval inhabitants of the country, when it was probably in the same state of nature as Virginia when first discovered by Captain Philip Amidas. The length of this little vessel was eight feet eight inches, of the cavity six feet seven inches, the breadth two feet, depth eleven inches, and at one end were the remains of three pegs for the paddle. The hollow was made with fire in the very manner that the Indians of America formed their canoes. Another was found in 1736, with its paddle, in the same morass. The last was seven feet long, and dilated to a considerable breadth at one end; so that in early ages necessity dictated the same inventions to the most remote regions."¹ In 1791 the minister of the parish describes another found by a farmer while digging for peats, at a depth of between four and five feet from the surface, and four miles from the highest reach of the tide, resting apparently on the alluvial soil which is there found beneath the moss. Near to the same spot a bronze vessel, apparently of great antiquity, was recovered; and numerous relics of various kinds, including what are described as anchors, oars, and other naval implements, have been found even at a distance of twelve miles from the present flood-mark: attesting at once the former populousness of the district, and the remote period to which such evidences of its occupation belong.² Another canoe of the same character as those already described, was dug up in 1814, at a depth of seven or eight feet in the Moss of Barnkirk, Wigtonshire, and has been preserved, owing to its being converted by the farmer into

¹ Pennant's *Tour*, vol. ii. p. 107.

² Sinclair's *Stat. Acc.* vol. i. p. 160.

the lintel of one of his cart-sheds. Mr. Joseph Train mentions having seen "a ball of fat or bannock of tallow, weighing twenty-seven pounds,"¹ found in the moss immediately above the canoe, which it may be presumed was a mass of adipocere, indicating the spot where some large animal had perished in the moss: possibly sinking along with the rude vessel that lay below. On the draining of Carlinwark Loch, Kirkeudbright, in 1765, a stone dam, a causeway constructed on piles of oak, the vestiges of an iron forge, and other evidences of a crannoge, or ancient lake-dwelling, were brought to light, including various canoes, described, like those of Lochar Moss and others found in Merton Mere, as apparently hollowed by fire.²

Lochwinnoch in Renfrewshire, and the Loch of Doon in Ayrshire, have at different periods furnished similar illustrations of ancient naval art. The fall of the waters of Loch Doon in 1832, owing to an unusually protracted drought, permitted the recovery of two of these in a perfect state: one of them measuring about twenty-three feet in length, formed of a single oak-tree, with an upright plank let into a broad groove for the stern. Numerous relics of similar canoes were found imbedded in the same place; and the head of an ancient battle-axe, a rude oak club, with other remains, gave further clue to the character of their builders.³

Sir John Clerk, well known as an enthusiastic Scottish antiquary of last century, describes with great minuteness a vessel found in the Carse of Falkirk, more remarkable from its size and construction than any of those yet noticed, and which he pronounces, from the

¹ *New Stat. Acc.* vol. iv. Wigtonshire, p. 179.

² Sinclair's *Stat. Acc.* vol. viii. p. 305; *New Stat. Acc.* vol. iv. Kirkeudbrightshire, p. 155.

³ *Archæologia Scotica*, vol. iv. p. 299; Sinclair's *Stat. Acc.* vol. xv. p. 68.

series of superincumbent strata, to have been *an antediluvian boat*. In the month of May 1726, a sudden rise of the river Carron undermined a portion of its banks, and exposed to view the side of this ancient boat lying imbedded in the alluvial soil, at a depth of fifteen feet from the surface, and covered by successive strata of clay, shells, moss, sand, and gravel. The proprietor immediately ordered it to be dug out. It proved to be a canoe of primitive form, but of larger dimensions than any other discovered to the north of the Tweed. It measured thirty-six feet long by four feet in extreme breadth, and is described in a contemporary newspaper as finely polished and perfectly smooth both inside and outside, formed from a single oak tree, with the usual pointed stem and square stern.¹ At a later period, a second canoe was discovered in the immediate vicinity of Falkirk, at a depth of five fathoms.² Nor are traces of the ancient boat-builders altogether wanting. In the year 1843, a human skull was dug up on the outskirts of the same alluvial valley, twenty-one feet below the surface, in enlarging the entrance to one of the canal locks at Grangemouth. It needed not the discovery of such human remains to prove the former presence of man, where the traces of his arts are so abundant; but in this interesting relic—described in a subsequent chapter,—it is no improbable conjecture that we recover a clue to the physical characteristics of the monoxylous artificers of Britain's prehistoric times. The circumstances attendant on the recovery of such long-buried relics, tend to illustrate the extensive modifications which the general surface of the country has undergone, since the broad carse land emerged from beneath the waves amid which the allophylian Briton piloted his canoe.

¹ *Bibliotheca Topog. Britan.* No. II. Part iii. p. 242.

² *Beauties of Scotland*, vol. iii. p. 419.

But those are not the only memorials of ancient life which modern discoveries reveal to us. Mingling with such indisputable traces of the presence of man, are deposited evidence of changes involving the extinction of many elder occupants of the same historic area, and suggesting the strange characteristics of that primeval era in which he first appeared. Among older relics from the same carse of Falkirk, now preserved in the Museum of the University of Edinburgh, is the tusk of a fossil elephant found at Cliftonhall, at a depth of some twenty feet in the boulder-clay, during the excavation of the Union Canal. So little was the tusk affected by age, that it was purchased and wrought by an ivory-turner, and is now in detached fragments as it was rescued from his lathe. At higher levels in the valley of the Forth, and farther from the sea, still more remarkable evidence of the primitive occupants of the country has been found; while its fossil mammals and its traces of earliest human art are so intermingled, as to leave no reasonable ground for doubt that man was there contemporaneous with some at least of the extinct orders of life, known only to us now by remains recovered from the drift, or embedded in rocky slabs, the valued treasures of the geologist. The ingenious operations by which the Blair-Drummond moss has been converted into fertile fields, have rendered it famous in the annals of modern engineering and agriculture; and during the process of transformation some of the most remarkable traces of primitive arts were brought to light. Near the base of Dunmyat, one of the Ochills, in an alluvial soil covered with a thin moss, the surface of which stood some twenty-five feet above the full tide of the Forth, there was discovered, in 1819, the skeleton of a whale, with a perforated lance of deer's-horn lying beside it. The locality was examined at the time by

several scientific men, peculiarly competent to the task, and it was specially noted that the cetacean remains lay fully twenty feet above the highest tide-level of the present day.¹ A few years later the same proceedings disclosed the bones of another whale ;² and still later, in 1824, a third skeleton was found, seven miles farther inland, and overlaid with a thick bed of moss. Alongside of the latter, another example of the rude harpoon of the Caledonian whaler was found ; in this instance retaining, owing to the preservative nature of the moss, some remains of the wooden handle by which the pointed lance of deer's-horn was wielded.³ This primitive relic was deposited in the Museum of the University of Edinburgh, along with the remains of the whale, which not improbably received the death-wound by its means. The situations of those cetacean remains manifestly prove a gain of dry land from the sea ; nor is this without abundant confirmation from other sources. One geological observer has indeed undertaken to show, not only that within a comparatively recent geological period the shores of the Firth of Forth have risen from twenty to twenty-five feet, but that this has taken place not only since man appeared, but in some localities since the Romans left the traces of their presence there.⁴ But in the case of the stranded whales of the Blair-Drummond moss, we have the slow silting up of the estuary preceding or accompanying the upheaval of the original bed of the sea, with the embedded skeletons of balænæ, and the evidence of the contemporaneous presence of man ; nor was it till the bed of the ancient estuary had been spread out as carse land, channeled by the winding Forth, that the Roman legionaries left their

¹ *Edin. Phil. Jour.* vol. i. p. 395.

² *Ibid.* vol. xi. pp. 220, 415.

³ *Wernerian Trans.* vol. v. p. 440.

⁴ Geikie, *Edin. Phil. Jour.* New Series, vol. xiv. p. 102.

footprints on its soil. The great extent of the changes wrought on this locality by the combined process of upheaval, the filling up of the ancient estuary, and the growth of the peat, only become fully apparent when we further note the discovery of some of the bones of another whale at Dunmore Rock, nearly forty feet above the sea-level, while the alluvial silt of the district is in some places one hundred feet deep.

But the weapons of the primeval whalers are not the only traces of ingenious art recovered in the course of removing the Blair-Drummond moss. The collection of the Society of Antiquaries of Scotland includes a querne or hand-mill fashioned from the section of an oak, such as the Red Indians of America still use for pounding grain, found, in 1831, at a depth of nearly five feet ; and a wooden wheel of ingenious construction, dug up at more than double that depth in the same locality, with several well-formed flint arrow-heads lying alongside it. The wheel has been formed in sections made to fit into each other, and measured, when complete, about two feet in diameter ; but it has shrunk and cracked since its exposure to the air, and only very partially preserves its original form.

Upwards of fifteen years have elapsed since M. Boucher de Perthes announced the discovery of traces of human art in the same undisturbed gravel of the north of France from which the bones and teeth of the fossil elephant and other extinct mammals have been obtained. Since then, numerous fresh discoveries have tended to show that the statements set forth by the author of the *Antiquités Celtiques et Antédiluviennes* merited greater attention than, on various accounts, they received. Similar flint implements have been recovered from the post-pliocene drift of Middlesex, Surrey, Kent, Bedford, and Suffolk ; until it turns out that a flint spear dug up in

Gray's Inn Lane, apparently alongside of the entire skeleton of a fossil elephant, has lain unheeded for upwards of a century in the British Museum ;¹ and so early as 1797, a similar discovery in the stratified gravel at Hoxne, in Suffolk, was communicated to the London Antiquaries, and specimens of the implements deposited in the Society's collection.² The testimony on which those important discoveries rest has been confirmed by the observations of the most eminent English and French geologists ; and thus places before us evidence of the presence of man in the north of Europe at a period compared with which the Roman era is but as yesterday. No such post-pliocene flint implements have yet been discovered in Scotland, and it is even doubtful if they may be looked for. In the comprehensive scheme of interpretation by means of which science grapples with such startling phenomena, it seems not improbable that in the glacial period of northern Europe, the Grampians may have formed a lofty chain of Arctic Alps, from the icy glaciers of which the drift was borne southward, until in southern England it embedded the traces of man's presence on the verge of what then seemed the eternal polar ice. Such interpretations of recent disclosures naturally startle the mind, conflicting as they do with so many preconceived opinions ; but the analogous evidence long since produced in the lances or harpoons, and other traces of human art, found alongside the buried whales of the carse of Stirling, if it indicate a later era than that of the Drift-folk of Abbeville and Hoxne, practically involves the same perplexing evidence of an antiquity for man which sets at defiance all previously received systems of chronology.

But leaving those oldest chapters of the prehistoric chronicle ; other indications of the presence of man at

¹ *Archæologia*, vol. xxxviii. p. 301.

² *Ibid.* vol. xiii. p. 204.

a later period, but still in a condition of primitive rudeness, meet the inquirer wherever the newer superficial formations are laid open. In the progress of improvements on the Kincardine moss, remains of a singular roadway were discovered, after the peat moss had been removed to a depth of eight feet. Seventy yards of the ancient viaduct were exposed to view, formed of trees about twelve inches in diameter, having branches of half this thickness crossing them, and brushwood covering the whole. This road crossed the moss of Kincardine northward, from a narrow part of the Forth, towards a well-known line of Roman road which has been traced from a ford on the river Teith to Camelon on the Antonine wall. This singular structure, though so unlike anything usually found on the line of the legionary iters, has had a Roman origin assigned to it, as a work designed to keep up communication with the well-known station at Ardoch. But the length of time required for so great a growth of peat has yet to be determined. If it does indeed belong to the Roman period, we have here evidence of the fact that in the second century of our era the Kincardine moss was an unstable and boggy waste, which the Roman engineer could only pass by abandoning his favourite and durable causeway, for such a road as modern ingenuity has revived in the backwood swamps of America.

Such are some of the ancient chronicles of Scotland, garnered for us in the eastern valley of the Forth. The banks of the Clyde have been scarcely less liberal in their disclosures. In 1780, the first recorded discovery of one of the primitive canoes of the Clyde was made by workmen engaged in digging the foundation of Old St. Enoch's Church. It was found at a depth of twenty-five feet from the surface, and within it lay a no less interesting and eloquent memorial of the simple arts of

the remote era when the navies of the Clyde were hewn out of oaks of the Caledonian forests. This was a beautifully-finished stone celt, represented in the woodcut: doubtless one of the simple implements of its owner, if not, indeed, one of the tools with which such vessels were fashioned into shape. It measures $5\frac{1}{2}$ inches in length, by $3\frac{3}{8}$ inches in greatest breadth; and is apparently formed of dark green-stone. It is now in the possession of Charles Wilson Brown, Esq. of Wemyss, Renfrewshire, having descended to him from a maternal relative who chanced to be passing at the time of the discovery, and secured the curious relic.¹

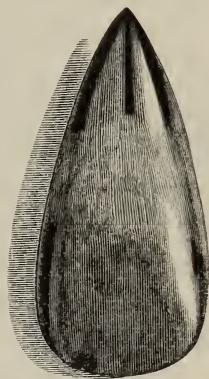


FIG. 1.—Clyde Celt.

The excavations of the following year brought a second canoe to light, at a higher level, and still farther removed from the modern river's bed. Close to the site of Glasgow's ancient City Cross, and immediately adjoining what was once the Tolbooth of the burgh,—more memorable from the fancied associations with which genius has endowed it, than for the stern realities of human misery which were its true attributes;—there stands a quaint, but not inelegant building, adorned with an arcade curiously decorated with grim or grotesque masks on the keystone of each arch. It was erected on the site of older and less substantial tenements, in the year 1781; and in digging for a foundation for it, in a stratum of laminated clay that lies beneath a thick bed of sand, another primitive British canoe was discovered, hollowed as usual out of a single trunk of oak.² Another is noted to have been

¹ For access to this interesting relic, as well as for much other valuable information, I am indebted to John Buchanan, Esq., of Glasgow.

² Chapman's *Picture of Glasgow*, 1818, p. 152.

found about 1824, in Stockwell, near Jackson Street, while cutting the common sewer; and a fourth, at a much higher level, on the slope of Drygate Street, immediately behind the prison.¹ In 1825, a fifth canoe was discovered, scarcely a hundred yards from the site of the former at the City Cross, when digging the sewer of London Street, a new thoroughfare opened up by the demolition of ancient buildings long fallen to decay. This boat, which measured about eighteen feet in length, exhibited unusual evidences of labour and ingenuity. It was built of several pieces of oak, though without ribs. It lay, moreover, in a singular position, nearly vertical, and with its prow uppermost, as if it had foundered in a storm.

To those older instances, recent and large additions have been made. The earlier discoveries point to a period when the whole lower level on the north side of the river, where the chief trade and manufactures of Scotland are now transacted, was submerged beneath the sea. What follows affords similar evidence in relation to the southern bank of the Clyde. Extensive operations were carried on for some years for the purpose of enlarging the harbour of Glasgow, and providing a range of quays on the grounds of Springfield, corresponding to those on the older Broomielaw. There, at a depth of seventeen feet below the surface, and about 130 feet from the river's original brink, the workmen uncovered an ancient canoe, hewn out of the trunk of an oak, with pointed stem, and the upright groove remaining which had held in its place the straight stern. The discovery was made in the autumn of 1847; and the citizens of Glasgow having for the most part a reasonable conviction that boats lose their value in proportion to their age, the venerable relic lay for some

¹ Chambers's *Ancient Sea Margins*, pp. 203-209.

months unheeded, until at length the Society of Antiquaries of Scotland made application for it to the Trustees of the river Clyde, and the rude precursor of the fleets that now crowd that noble river is safely deposited in its Museum. Meanwhile, the excavators proceeded with their labours, and in the following year another, and then a third canoe of primitive form, were disclosed on the southern bank of the Clyde. One of these, which has been since removed to the Hunterian Museum, measures $19\frac{1}{2}$ feet long, by $3\frac{1}{2}$ feet wide at the stern, 2 feet $9\frac{1}{2}$ inches wide midway, and 30 inches deep. The prow is rather neatly formed with a small cut-water, near to which is an oblong hole, apparently for running a rope through to anchor or secure the vessel. There had been an outrigger, described by the workmen as adhering to it when first discovered, and the holes remain for receiving the pins by which it was fastened. About the centre are small rests inside the gunwale for the ends of a cross seat, and others for a broader seat are at the stern, both being projections formed by leaving the wood when the trunk was originally hollowed out into a boat. The stern remains nearly in a perfect state, consisting of a board inserted in grooves, beyond which the bottom and sides project about eight inches. The other canoe was chiefly remarkable for a circular hole in the bottom, stopped by a plug embedded in very tenacious clay, evidently designed to admit of the water it had shipped being run off when on shore. But the most curious, and indeed puzzling feature is that this plug is not of oak but of *cork*: a discovery suggestive of intercourse with the Iberian peninsula, or perhaps serving to indicate the route pursued by some of the early colonists of the British Isles.¹

¹ MS. Letters of J. Buchanan, Esq.

Other examples add to our knowledge of the ingenious devices of primitive sea-craft. A fourth canoe found at Springfield, in 1849, at a depth of about twenty feet from the surface, is hollowed out of the single trunk of an oak, only thirteen feet in length, but on either side of it lay two additional planks of curious construction, each pierced with an elongated hole, which appeared to have been made with a sharp tool. They indicate some ingenious contrivance of the ancient seaman, not improbably designed for use when the bold navigator ventured with his tiny bark into the open sea, to be applied somewhat in the way a Dutch lugger fends off the dashing waves from her side. This boat, which differs from those previously discovered, in having a rounded bow both fore and aft, is rude enough to seem in some respects the most ancient of the whole, and could hardly accommodate more than one man. Its workmanship is extremely rough, and it bears obvious marks of having been hollowed by fire. Yet the wooden appendages found alongside of it suffice to prove that its maker was not unprovided with efficient tools, nor devoid of some skill and experience in their use. Since the first edition of this work appeared, additional discoveries have been made in the same locality, the most novel of which is a "clinker-built" boat eighteen feet long. The base and keel were ingeniously cut out of a huge oak trunk, and to this were attached ribs, planks, and a prow with a cut-water rising a foot above the gunwale, somewhat like the beak of an antique galley.¹ Thus within a comparatively brief period this limited area has furnished seventeen ancient canoes, in proof of the presence of a maritime population, in the earliest ages thronging the same river-valley, where now space fails to accommodate the merchant fleets of the Clyde.

¹ *Glasgow Past and Present*, vol. iii. p. 565.

The antiquity of the rude British monoxyla, shaped and hollowed out by stone axes with the help of fire, receives confirmation from the discovery in other localities of the remains of ancient boats of more artificial construction. One of these, dug up, about the year 1830, at Castlemilk, Lanarkshire, measured ten feet long, by two broad, and was built of oak, secured with large wooden pins.¹ Nearly contemporary with some of the later disclosures in the valley of the Clyde, workmen cutting a drain on the farm of Kinaven, Aberdeenshire, discovered an ancient boat of the same form as most of those previously described, and measuring eleven feet long, by nearly four broad. It is hewn out of the solid oak, with pointed stem, and at the stern a projection formed in the piece, and pierced with an eye, as if to attach a mooring cable. Like the Glasgow canoes, it is rudely finished, and exhibits the rough marks of the instrument with which it was reduced to shape. It lay imbedded in the moss, at a depth of five feet, at the head of a small ravine; and near it were found the stumps and roots of several large oaks. The nearest stream, the Ythan, is several miles off, and the sea is distant many more. A few years previous to this discovery, a similar canoe, of still smaller dimensions, was dug up in the moss of Drumduan, in the same county. It is described as quite entire, and neatly formed out of a single block of oak; but being left exposed, it was broken by the rude handling of some idle herd-boys.²

Such are a few examples of the aboriginal fleets of ancient Caledonia, found at different dates, and in various localities, yet agreeing wonderfully in every essential element of comparison. With them might also be noted the frequent discovery in bogs, or in alluvial strata, of trees felled by artificial means, and accompanied

¹ *New Stat. Acc.* vol. vi. p. 601.

² *Ibid.* vol. xii. p. 1059.

by relics of the most primitive arts. In 1830, for example, workmen engaged in constructing a sewer in Church Street, Inverness, found at a depth of fourteen feet below the surface, in a stratum of stiff blue clay, numerous large trunks of fossil oak; and along with these several deer's-horns, one of which, bearing unmistakable marks of artificial cutting, is now deposited in the Museum of the Society of Antiquaries of Scotland.¹ Here is common ground for the antiquary and the geologist. The rude harpoon left beside the bones of the stranded whale, far up in the alluvial valley of the Forth; the oaken querne, the wheel and the arrow-heads; the boats beneath the City Cross of Glasgow, the centre of a busy population for the last thousand years; the primitive ship, as we may almost term the huge canoe on the banks of the Carron; and the tiny craft found near the waters of the Ythan: all speak, in no doubtful language, of the presence of man, at a period when the geographical features of the country, and the relative levels of land and sea, must have differed very remarkably from what we know of them at the earliest ascertained epoch of definite history. They point to a time within the human era, when the ocean tides ebbed and flowed over the carse of Stirling, at a depth sufficient to admit of the gambols of the whale, where now a child might ford the brawling stream; and when the broad estuary of the Clyde flung its waves to the shore, not far from the high ground where the first cathedral of St. Mungo was founded, A.D. 560. These evidences of population, prior to the latest geological changes which have affected the surface of the country, are indeed all found on old historic ground, according to the reckonings of written chronicles. The first of them, in the south

¹ "MS. Letter of Lieut. Claudius Shaw, R.N." Lib. Soc. Antiq. Scot. April 19, 1833.

country, have been met with in localities where the traces of Roman invasion in the second century remain uneffaced. The carse of Falkirk is still indented with the vallum of the Antonine wall. Its modern church preserves the old tablet, which assigned to the ancient structure on its site a date coeval with the founding of the Scottish monarchy under Malcolm Canmore ; and the broad level ground, which has disclosed evidence of such remarkable changes, alike in natural features and in national arts and manners, was the battle-field of Wallace in the thirteenth century, as of Prince Charles Edward and the Highland clansmen in the eighteenth century. Trivet, in describing the invasion of Edward I., refers to the carse of Falkirk, affording curious evidence of its state at that period as a marshy fen impracticable for cavalry.¹ Nor are the historic associations of the broad carse which the Forth has intertwined with its silver links a whit behind those of the vale of Carron. There, in all probability, Agricola marshalled the Roman legions for his sixth campaign, and watched the mustering of the army of Galgacus on the heights beyond. The ever memorable field of Bannockburn adds a sacred interest to the same soil. There, too, are the scenes of James III.'s mysterious death on the field of Stirling, and of successive operations of Montrose, Cromwell, Mar, and Prince Charles. But the oldest of those events, long regarded as the beginnings of history, are modern occurrences when placed alongside of such as we now refer to. Guiding his team across the "bloody field," as the scene of English slaughter is still termed, the ploughman turns up the craw-foot, the small Scottish horse-shoe, and the like tokens of the memorable day when Edward's chivalry was foiled by the Scottish host. Penetrating some few feet lower with his spade, he finds the evidences of

¹ Hailes's *Annals*, vol. i. p. 266.

former changes in the level of land and sea, but with them stumbles also on the relics of coeval population. Lower down he will reach the stratified rocks, including the carboniferous formation, stored no less abundantly with relics of former life and change, but no longer within the historic period, or pertaining to the legitimate investigations of archæological science : unless in so far as they confirm its previous inductions, and prove the slow but well-defined progress of the more recent geological changes on the earth's surface. Such reflections are not suggested for the first time in our own day. "Nature," says Sir Thomas Browne, "hath furnished one part of the earth, and man another. The treasures of time lie high, in urns, coins, and monuments, scarce below the roots of some vegetables. Time hath endless rarities, and shows of all varieties, which reveals old things in heaven, makes new discoveries in earth, and even earth itself a discovery. That great antiquity, America, lay buried for thousands of years, and a large part of the earth is still in the urn unto us."¹

Some of the historic phenomena which such disclosures illustrate required only time to produce them. The beds of sand and loam at Springfield, in which the ancient fleets of the Clyde have lain entombed for ages, and the shell and gravel from which the Grangemouth human skull was disintombed, are such as the slow depositions of winter floods will for the most part account for, if the chronologist can only spare for them the requisite centuries. Others seem to point to geological changes within the historic era, of a more remarkable and extensive character. But whatever may be the theory most consistent with the established laws of geological science whereby to account for such phenomena, this at least must be conceded : that the lapse of many

¹ Sir Thomas Browne's *Hydriotaphia*.

ages is required for the changes which they indicate, and we can hardly err in inferring that civilisation had advanced but a little way on the plain of Nimroud, or the banks of the Nile, when the tiny fleets of the Clyde were navigating its estuary, and the hardy fishermen were following the whale in the winding creeks of the Forth.

CHAPTER III.

SEPULCHRAL MEMORIALS.

THE raising of sepulchral mounds of earth or stone to mark the last resting-place of the loved or honoured dead may be traced in all countries to the remotest periods. Their origin is to be sought for in the little heap of earth displaced by interment, which still to thousands suffices as the most touching memorial of the dead. In a rude and primitive age, when the tomb of the great warrior or patriarchal chief was to be indicated by some more remarkable token, the increase of the little earth-mound, by the united labours of the community, into the form of a gigantic barrow, would naturally suggest itself as the readiest and fittest mark of distinction. In its later circular forms we see the rude type of the great Pyramids of Egypt, no less than of the British moat-hills and other native earthworks; until at length, when the aspiring builders were rearing the gigantic monoliths of Avebury, they constructed, amid the tumuli of the neighbouring downs, the earth-pyramid of Silbury Hill, measuring 170 feet in perpendicular height, and covering an area of five acres and thirty-four perches of land.

Priority has been given to the primitive relics of naval skill, which the later alluvial strata of Scotland supply, for reasons sufficiently obvious, and specially pertaining to the antiquities of our insular home. But for the

surest traces of primitive arts and a defined progress in civilisation, the archæologist will generally turn with greater propriety to the grave-mounds of the ancient race whose history he seeks to recover; for, however true be "the words of the preacher," in the sense in which he uttered them: there is both device, and knowledge, and instruction in the grave, for those who seek there the records of the dead. This fact is in itself an eloquent one in the evidence it furnishes, that in that dim and long-forgotten past, of which we are seeking to recover the records, man was still the same, "of like passions with ourselves," vehement in his anger, and no less passionate in unavailing sorrow.

No people, however rude or debased be their state, have been met with, so degraded to the level of the brutes as to entertain no notion of a Supreme Being, or no anticipation of a future state. Some more or less defined idea of a retributive future is found in the wildest savage creed, developing itself in accordance with the rude virtues to which the barbarian aspires. While the luxurious Asiatic dreams of the sensual joys of his Mohammedan elysium, the Red Indian looks forward to the range of ampler hunting-grounds, and the enjoyment of unfailing victory on the war-path. All, however, anticipate a corporeal participation in tangible joys; and, to the simpler mind of the untutored savage, affection dictates the provision of means to supply the first requisites of this new state of being. Hence the bow and spear, the sword, shield, and other implements of war and the chase, laid beside the rude cinerary urn, or deposited in the cist with the buried chief. Refinement, which added to the wants and acquirements of the warrior, in like manner furnished new means for affection to lavish on the loved or honoured dead. Personal ornaments were added to the indispensable weapons,

that the hero might not only stand at no disadvantage amid the novel scenes into which he had passed, but that he might also assume the insignia of rank and distinction which were his right. The feelings prompting to such tributes of affectionate sorrow are innate and indestructible. They manifest themselves under varied forms in every state of social being, and may be readily traced amid the struggle for decorous and costly sepulchral honours, no less universal now than in the long-forgotten era of the tumulus and cinerary urn.

From the contents of the tumuli we are able partially to apply to them a relative system of chronology, the accuracy of which appears to be satisfactorily borne out. No archæologist has yet done for any district of Scotland what the intelligent research of Sir Richard Colt Hoare effected for Wiltshire. No other single district, indeed, offers the same tempting field for study, and few archæologists possess his ample means for carrying out such investigations. He adopted a subdivision, which embraces fourteen different kinds of barrows, classified according to their shape, and distinguished by a systematic nomenclature. But more recent observations tend to modify this system, and reduce the number of variations; while even of these some are probably only the result of accident, or the caprice of individual taste. Among the best defined varieties are: 1. The long barrow, resembling a gigantic grave; 2. The bowl barrow, from its similarity to an inverted bowl; 3. The bell-barrow; 4. The twin barrow, consisting of two adjacent tumuli, one generally larger than the other, and both enclosed in one fosse or vallum; 5. The chambered barrow, designated by Sir R. C. Hoare the "stone barrow,"¹ most frequently a long mound of gigantic proportions, covering one or more megalithic cists, or a

¹ *Archæologia*, xix. p. 47.

series of cruciform chambers and galleries, constructed of huge masses of unhewn stone. The evidence derived from various minute observations not only assigns this class of barrows to the Stone Period, but seems to point to it as the most ancient of all existing memorials of regular sepulture;¹ while the crania recovered from such primitive catacombs present, for the most part, an entirely different type from those of the ordinary tumuli and cists. Other distinctions appear to be either accidental, or referring to earthworks certainly not sepulchral. Among this last are the "pond barrows," hereafter referred to as remains of primitive dwellings; and the conical mounds or moat-hills, of which Silbury Hill is probably the largest in the world, designed as the lofty tribunal where the arch-priest or chief administered, and frequently executed, the rude common law of the northern races. The laborious excavations carried out under the direction of the Archæological Institute during the Salisbury Congress in 1849, seem at least to put an end to the idea of Silbury Hill being a sepulchral mound.

Much similarity is naturally to be expected between the primitive antiquities of England and Scotland, where the imaginary border-land that so long formed the marches between rival nations presents no real barrier calculated to interpose an impediment to the free interchange of knowledge or arts. Nevertheless there are many of those distinctive peculiarities observable in Scotland well calculated to encourage further investigation: though, for the purposes of a just and logical distinction, the Scottish archæologist must, in reference to one comprehensive period, note the intimate cor-

¹ *Jour. Archæol. Assoc.* vii. p. 211; Bateman's *Ten Years' Diggings in Celtic and Saxon Grave Hills*, p. 146, etc.; *Crania Britannica*, plates 5, 24, 50.

respon- dence between the Celtic remains of Scotland and Wales ; while in dealing with the later Saxon and Danish periods, he ought to include the ancient kingdom of Northumbria within the region of his researches, and draw his comparisons between the antiquities found to the north and the south of the lower Roman wall.

The barrows of Scotland, in so far as they have yet been carefully observed, may be described as consisting of the Long Barrow ; the Bowl Barrow ; the Bell Barrow ; the Conoid Barrow ; the Crowned Barrow—such as that of Stoneranda in Birsa,—with one or more standing stones set upon it ; the Enclosed Barrow : a circular tumulus of the usual proportions, and most frequently also conoid in form, but environed by an earthen vallum ; and the Encircled Barrow, generally of large proportions, and surrounded by a circle of standing stones. The two latter are of frequent occurrence in Scotland. The evidence of their contents indicates that they belong to a comparatively late era, and their correspondence to some of the most common sepulchral memorials of Norway and Sweden suggests the probability of a Scandinavian origin. The twin barrow, with its enclosing vallum, as described by Sir R. C. Hoare, and still to be seen in Wiltshire, does not, I think, occur in Scotland. But it is not uncommon to find a large and smaller tumulus placed near together ; and these pairs occur so frequently, especially in Orkney, that I incline to apply to them the term of twin-barrows, believing them to have more than an accidental relation to each other. This is one of the points on which the intelligent researches now in progress by Mr. James Farrer may be expected to throw light. In the parish of Holm in Orkney, there is a cluster of eight tumuli of different sizes, all enclosed within one earthen vallum. Another group consists of one large and three smaller tumuli, sur-

rounded by a double ditch, with the remains of a third on one side ; and occasionally clusters of tumuli, though without any enclosing work, suggest the probability of their vicinity being the result of design. Another arrangement is also deserving of note, where a group of eight or nine of these earth-mounds occur forming a continuous chain, in a nearly straight line, and separated from one another by regular intervening spaces. Whatever appears to indicate design in the form or arrangement of those primitive structures is worthy of study. Wherever we can trace the motives of their constructors, we recover some clue to the character and history of the race.

The remarkable cluster of megalithic groups and earth-works at Stennis in Orkney, includes a variety of sepulchral mounds, probably belonging to very different periods. Scattered around the great circle, or Ring of Broidgar, as it is commonly called, there are many tumuli differing considerably in size and form, but all known to the peasants under the general title of the Knowes of Broidgar. The dimensions of some of the largest of these were taken, during the Admiralty Survey of 1850, by Captain F. W. L. Thomas, R.N., to whom I am indebted for valuable notes on the antiquities of Orkney :—“The most remarkable tumulus, which is of elliptical shape, stands at the shore of the north or fresh-water loch. It measures one hundred and twelve feet long by sixty-six feet broad. The level ridge on the top measures twenty-two feet in length, and its height is nearly the same. It has been greatly destroyed by excavators at some former period. Near to it is a small standing-stone. No other tumulus of this shape exists in Orkney. A large conoid tumulus, fifty feet in radius and twenty-eight feet in height, stands to the westward of the great circle, also pillaged at some former time ;

and in the same neighbourhood are ten smaller tumuli of various dimensions. Five of these are of equal size : radius six feet, height three feet, and only from two to three feet apart ; four of them in a line." But the most interesting of all is the Maeshowe, ninety-two feet in diameter, thirty-six feet high, and about three hundred feet in circumference, which was explored by James Farrer, Esq., M.P., in 1861, and found to cover a massive central chamber with a covered gallery and lateral vaults. Into this chambered tumulus the Northmen of Orkney had penetrated at an early date ; and its recent explorer was rewarded by finding the evidence of his precursors' presence in a series of runic inscriptions chiefly covering the walls of the central chamber, and constituting altogether by far the most extensive and curious literate memorials of the Northmen hitherto discovered in the British Islands.

Besides those tumuli, or Knowes of Broidgar, there stands, at a short distance to the northward of the elliptical tumulus, and near the shore, a large earthwork of peculiar form, which can hardly be more definitely described than by comparing it to a colossal plum-cake. It rises perpendicularly five feet, and is nearly flat on the top, assuming the form of a greatly depressed cone, the apex of which is nine feet high. The radius of the whole measures thirty-one feet. This mound, however, is most probably not sepulchral, but rather the platform on which a building of wood had been reared, though its present symmetrical form may render this doubtful. The Ring of Bookan, in the same neighbourhood, appears to be a similar platform, but it is enclosed with an earthen vallum, and exhibits abundant traces of ruined works on its irregular area. Various other, though less regular mounds, of this character, occur in Orkney. The burgh of Culswick is represented as having stood on such

a platform, the shape of which nearly corresponded with that of Stennis when drawn in 1774, but the materials of this venerable ruin have since furnished a quarry for the neighbouring cottars.¹ It is doubtful if the larger tumuli in the neighbourhood of the great circle of Stennis would now repay the labour of exploring them. They exhibit, as has been observed, abundant traces of former investigation; and there is reason to believe that most, if not all of them, have already been spoiled of their historic contents. Wallace remarks, in his *Description of Orkney*:—"In one of these hillocks, near the circle of high stones at the north end of the Bridge of Stennis, there were found nine fibulæ of silver, of the shape of a horse-shoe, but round."² Unfortunately the dimensions of these silver relics are not given; but from the engraving of one of them, it seems more likely that they consisted chiefly of gorgets, though, in all probability, including a variety of objects of great interest. But the view of the great circle of Stennis, which accompanies that of the fibula found in its neighbourhood, is sufficient to satisfy the most credulous how little faith can be put in the engravings.

The most numerous and remarkable of all the Scottish sepulchral mounds, are the stone tumuli or CAIRNS, many of which are works of great labour and considerable skill; and enclose megalithic cists and galleries corresponding to those of the Chambered Barrows. These singular monumental pyramids are by no means to be accounted for from mere local peculiarities furnishing the requisite supply of loose stones. They abound in almost every district of the country, and are frequently of much larger dimensions than the earthen tumuli, though the nature of their materials has led to the destruction of

¹ Herbert's *Shetland*, p. 452.

² *Account of the Islands of Orkney*, by James Wallace, M.D., 1700, p. 58.

many of them in the progress of enclosing lands for agricultural purposes. We learn from the Book of Joshua of the practice of raising heaps of stone over the dead as a mark of indignity or abhorrence. The contents of the Scottish sepulchral cairns, however, prove for them an altogether different origin, as will appear when we come to review them in detail. They are generally designed on a large scale, and must have ranked at a remote period among the most distinguished honours awarded to the illustrious dead.

Another remarkable, though much rarer sepulchral monument, is the Cromlech, or "Druidical altar," as it was long erroneously termed, until archæologists, abandoning theory for observation, discovered that such megalithic structures invariably mark the sites of ancient sepulture. Similar primitive colossal works are found, not only throughout the whole British Isles, and on many parts of the continent of Europe, but they appear to be no less common in Asia; and are occasionally discovered, like the slighter cist, entombed beneath the earth-pyramid or tumulus, affording thereby singular evidence of the unostentatious liberality with which the honours of the dead were rendered in the olden time to which they pertain.

The Wiltshire of Scotland, in so far as the mere number of sepulchral mounds along with megalithic groups and other aboriginal structures, can constitute this distinction, is the mainland of Orkney, with one or two of the neighbouring isles. Their contents have rarely proved of the same value as those which have been discovered, not only in Aberdeenshire, Fifeshire, and some of the southern Lowland counties, but also in the Western Isles. But abundant evidence testifies to the occupation of the Orkney Islands at a very remote era, and no Scottish locality has furnished a

greater variety of interesting relics of the primeval period. The single parish of Sandwick, near Stromness, included upwards of a hundred tumuli of different sizes, many of which have been opened, and their contents described. In the parish of Orphir, in like manner, considerable research has been made into the character and contents of these ancient memorials; while throughout nearly the whole of the neighbouring islands, the mosses and moors which have escaped the obliterating inroads of the ploughshare, are covered with similar monumental heaps.

It is not to be doubted that such evidences of ancient occupation were once no less common throughout the whole mainland of Scotland, and especially in the fertile districts of the low country, where the earliest traces of a numerous population may reasonably be sought for. A sufficient number still remain in Fife and the Lothians, as well as in the southern counties, to afford means of comparison with other localities; while numerous discoveries of cists, urns, and ancient implements, prove that the same race once occupied the whole island, and practised similar arts and rites in the long-cultivated districts of the low country, as in the remotest of the northern or western isles.

Extended observation may hereafter suggest a more minute classification of the primitive sepulchral monuments of Scotland than has been attempted above, and establish a relative chronological arrangement of them on a satisfactory basis; but with our present imperfect knowledge, any theoretic system would only embarrass future inquiry.

The Scottish long barrow is generally somewhat depressed in the centre, and more elevated towards one end than the other. It is now comparatively rare, and as the work of a thinly-scattered population, probably

examples of it were never very numerous. Of these we may perhaps assume that the greater number have been gradually obliterated by structures of more recent date. So far as I am aware, no metallic implements have been found in them. Examples of pottery are also of rare occurrence, and it is doubtful if any of them have furnished instances of the presence of the cinerary urn and its imperfectly burned contents. It is indeed the absence of traces of art or ingenuity that chiefly suggests the assignment of greater antiquity to this class of mounds. But the form of the long barrow seems in itself to suggest an earlier origin than the circular tumulus, since it is only an enlargement of the ordinary grave-mound which naturally results from the displacement of the little space of earth occupied by the body. In this respect it strikingly corresponds with the most primitive ideas of a distinctive sepulchral memorial: a larger mound to mark that of the chief or priest, from the encircling heaps of common graves. In a long barrow opened in the neighbourhood of Port Seaton, East-Lothian, in 1833, a skeleton was found laid at full length within a rude cist. It indicated the remains of a man nearly seven feet high, but the bones crumbled to dust soon after exposure to the air. One of the largest Scottish earthworks of this form is that already referred to, situated on the margin of the loch of Stennis, in the vicinity of the celebrated Orcadian Stonehenge. It is the only long barrow on the mainland of Orkney, but its proportions differ considerably from those commonly met with; and it seems probable that it owes its origin to the same Norwegian source as the neighbouring conoid earth-pyramids that tower above the bowl barrows of the aboriginal Orcadians.

The practice of cremation, and the use of the cinerary urn, were probably not introduced until near the close

of the primitive era to which we give the name of the Stone Period. This, however, is one of the many points that must be left for final determination when an adequate number of accurate and trustworthy observations has been accumulated. Meanwhile it may be assumed that simple inhumation is the most ancient of all modes of disposing of the dead; and abundant evidence proves its use in this country, apparently by the earliest colonists of whom any definite traces exist. We are not without proof also that a long transition-period intervened after the remarkable change consequent on the acquisition of metals, before the stone implements and arts were completely superseded by those of bronze; and to this era we shall most probably have to assign the first practice of cremation. Both the introduction of the metallurgic arts and the change of sepulchral rites may indeed be equally supposed to mark the influence, if not the advent, of new races. In nearly every state of society the burial of the dead is associated with the most sacred tenets of religion, and its wonted rites are among the very last to be affected by change. It accords therefore with all analogy that the source of so remarkable a change should come from without, and accompany other equally important social revolutions. It will be seen in a succeeding chapter, that some of the very rudest and apparently most primitive of cinerary urns yet found in Scotland have been associated with relics of the bronze period. But the prevailing fault of British antiquaries has not hitherto been to assign too remote an era to the introduction of the funeral pile. It has rather been one of the endless blunders springing from a too exclusively classical education, to assume for it a Roman origin, and to accept the urn as an evidence of Roman influence and example, even where it was owned to be the product of native art. If, however, we

make sufficient allowance for the poetical preference of the funeral fire and inurned ashes, over the more common rite; and so reject allusions such as some of those of Virgil and Ovid, as historic evidence of ancient Roman usage: we shall find reason for inferring that the funeral pile should rank among the later introductions of luxury among the Romans. But the sepulchral honours of the funeral pile, the urn, and the monumental tumulus, are proved to have pertained to a far older period, by the descriptions of the funeral rites of Patroclus and Hector in the Iliad. The whole circumstances are characterized by much simple grace and beauty: the burning of the body during the night, the libations of wine with which the embers were quenched at the dawn, the inurning of the ashes of the deceased, and the methodic construction of the pyramid of earth which covered the sacred deposit, and preserved the memory of the honoured dead. The testimony of Pliny, on the contrary, is most distinct as to the introduction of a similar practice among the Romans at a comparatively late period.¹

Apart from the consideration of Roman usage, it is unquestionable that the funeral pile must have been in use in the British Isles for many generations before the era of the Roman invasion, if not indeed before that of Rome's mythic founder. But the evidence of the Scottish tumuli, while it proves the ancient practice of cremation, shows also the contemporaneous custom of inhumation; nor is it possible, so far as I can see, to determine from the amount of evidence yet obtained, that one of those was esteemed more honourable than the other. It is not, indeed, uncommon for the larger tumuli to contain a single cist, with the inhumed remains untouched

¹ *Ipsum cremare apud Romanos non fuit veteris instituti: terra condebantur.*—*Hist. Nat.* lib. vii. c. 54.

by fire, and around it, at irregular intervals, several cinerary urns, sometimes varying in size and style, but all containing the half-burned bones and ashes of the dead. The inference which such an arrangement suggests would seem to point to inhumation as the more honourable rite ; but even where either inhumation or cremation has been the sole mode of disposing of the bodies, we still detect obvious marks of distinction, and of superior honours conferred on one or more of the occupants of the tumulus. In one of the largest of a group of tumuli near Stromness, in Orkney, opened by the Rev. Charles Clouster, minister of Sandwick, in 1835, evidences of six interments were found, all so disposed on the original soil, and in contact with each other, as scarcely to admit of doubt that the whole had taken place prior to the formation of the earthen mound beneath which they lay. Two large and carefully constructed cists occupied the centre, and contained burnt bones, but without urns ; while around these were four other cists, extremely rude, and greatly inferior both in construction and dimensions. In such we probably should recognise the cemetery of some distinguished leader : the two larger and more important cists containing, it may be, the chief and his wife, and the surrounding ones their favourite dependants or slaves.

One of the most interesting examples of simple interment accompanied with urns and relics belonging to the primitive period, of which the details have been carefully noted, was discovered on the opening of a small tumulus in the parish of Cruden, Aberdeenshire. Within it was found a cist containing two skeletons nearly entire. One was that of an adult, while the other appeared to have been a youth of twelve or thirteen years of age, in addition to which there were also portions of the skeleton of a dog. Beside the skeletons

stood two rude clay urns, slightly ornamented with encircling lines, but containing no incinerated remains ; and within the cist were also found seven flint arrow-heads, two flint knives, and a polished stone, similar to one described in a succeeding chapter. It is slightly convex on one side, and concave on the other, with small holes drilled at the four corners, by which it would seem to have been attached, most probably, to the dress, as an article of personal adornment. These curious relics are now in the Arbuthnot collection at Peterhead.

Cæsar relates of the Gauls that they burned their honoured dead, consuming along with them not only the things they most esteemed when alive, but also their dogs and horses, and their favourite servants and retainers.¹ The system of human sacrifices was not unknown among early Roman sepulchral rites, and has been traced in the usages of many nations in ancient and modern times. It is scarcely possible to overlook the evidence which suggests the idea of some such Suttée system having prevailed among the aboriginal Britons, when observing the opening of a large tumulus, as it discloses its group of cists or urns, or of both combined. It is totally irreconcilable with the customs or ideas of a primitive community, to suppose that the earthen pyramid was systematically husbanded by its ancient builders like a modern family vault, or disturbed anew for repeated interments, unless by those who had lost all remembrance of its original object. Towards the close of the Pagan era, and in that transition-period which extends in Scotland from the fifth to about the ninth century, during which the rites of the new faith were still blended with older Pagan customs, it was no doubt different : and regular cemeterial tumuli are found,

¹ *De Bell. Gall.* lib. vi. cap. 19.

which must have accumulated during a considerable period. These, however, differ essentially from the earlier tumuli; and if we are to suppose the whole group of urns or cists in the latter to have been deposited at once, it is difficult to conceive of any other mode of accounting for this than the one already suggested: so congenial to the ideas of barbarian rank, and of earthly distinctions perpetuated beyond the grave. Instances do indeed occur both of cists and urns found in large tumuli near the surface, and so far apart from the main sepulchral deposit as to induce the belief that they may have been inserted at a subsequent period, as is still the practice of the Red Indian in the ancient mounds of the New World; while the large chambered tumuli and cairns indicate essentially different ideas, and may be supposed to have been burial-places of a privileged order, tribe, or sept. But it must not be overlooked that the tumuli are not common graves, but special monumental structures for the illustrious dead; including, no doubt, those who fell in battle, and over whom we may therefore conceive the surviving victors to have erected those gigantic cairns which are occasionally found to cover a multitude of the dead. But some of the Scottish cairns which have been found only to enclose a solitary cist, must have occupied the labour of months, and required the united exertions of a numerous corps of workmen, to gather the materials, and pile them up into such durable and imposing monuments.

The remembrance how greatly the dead of a few generations outnumber the living is alone sufficient to satisfy us that the tumuli cannot be common sepulchral mounds. Such a custom universally adopted for a few generations in a populous district, would surpass the effects of deluges and earthquakes in the changes

wrought by it on the natural surface of the ground. The laws of Solon interdicted the raising of tumuli on account of the extent of land they occupied ; and the Romans enacted the same prohibitory restrictions prior to the time of Cicero. We are familiar with the common modes of British sepulture, contemporaneous with the monumental tumulus. Both the cist and urn have been frequently found without any artificial increase of the superincumbent soil to mark the spot where they are deposited. Their inhumation beneath the soil, as well as the frequent occurrence of numbers together, point out such as the common and undistinguished graves of the builders of the tumuli. But where the tumulus was to be superimposed, interment rarely took place. The cist was constructed on the natural surface of the soil, and over this, earth—brought from a distance, or occasionally cut away from the surface immediately surrounding the chosen site, so as thereby to add to its height,—was heaped up and moulded into the accustomed form. In its progress the accompanying urns were disposed, frequently with little attention to regularity, in the enclosed area ; nor is it uncommon to find along with these the bones of domestic animals : the remains, in all probability, of the funeral feast. In the later tumuli are occasionally found the bronze bridle-bit and other horse furniture, and sometimes teeth and bones, and even the entire skeleton of the horse. The skeleton of the dog is still more frequently met with ; and it is to be regretted that in Scotland the fact has hitherto been recorded without any minute observations being attempted on the skeleton, from which to ascertain its species, and perhaps thereby trace the older birthland of its master. The Rev. Alexander Low, in a communication laid before the Society of Antiquaries of Scotland in 1815, refers to the entire skeleton of a horse dis-

covered interred between two cists, in the parish of Cairnie, Aberdeenshire, where a large cairn had been demolished. Other examples will come under notice, indicating the prevalence of the same custom, so consonant with barbarian ideas of rank, and with the rude conceptions of a future state which still linger among many barbarous tribes both in the Old and the New World.

The change to the circular tumulus is unaccompanied with indications of alteration in the arts of its constructors. Stone weapons and implements are of frequent occurrence in the latter, and particularly in the bowl barrow; though no distinctive evidence has yet been noted in relation to the most common forms of tumuli, sufficiently marked to be resolved into any general rule, save the very natural and obvious one, that the larger ones appear from their contents to be the more important. It is manifest, however, that some art was always exercised in giving to the tumulus an artificial form. Neither the bowl nor the bell shape is that which earth naturally assumes when thrown up into a heap. The form is therefore a matter worthy of further observation, and may yet prove a legitimate basis of stricter classification in reference to the era or race. The bell-shaped tumuli are not very common in Scotland, but where they do occur they are generally of the larger class, though not always distinguished by any marked peculiarity in their contents. The Black Knowe, one of the largest tumuli in the parish of Rendale, Orkney, was explored in February 1849 by Mr. George Petrie, a zealous Orkney antiquary, in company with Captain Thomas, R.N., while engaged in the Admiralty Survey. Its shape, however, was by no means uniform, and viewed from some points it differed little from the common bowl barrow, of which it is computed that above two thousand are still to be found scattered

over the Orkney Islands alone. In the centre and on a level with the natural surface of the soil, a small chamber or cist of undressed stones was found, measuring eighteen by twelve inches, and containing only an extremely rude cinerary urn, filled with bones and ashes mixed with clay.

Both the Enclosed and the Encircled Barrows are frequently of large dimensions, and some of their contents belong to the later era, when the metallurgic arts were in general use. In several instances the contents of the enclosed barrow, or tumulus surrounded with an earthen vallum, pertain to the Roman era. In one, for example, in the neighbourhood of Rutherglen, Lanarkshire, 260 feet in circumference, a gallery or long chamber was discovered, constructed of unhewn stones, and containing two brass vessels, which from the description appear to have been Roman patellæ. On the handle of each was engraved the name of CONGALLUS or CONVALLUS; and along with these were deposited various native relics, including a perforated stone and three large glass beads, such as are frequently found in British tumuli.¹ Examples, however, are not wanting of the same barrow with contents belonging to an earlier period. An enclosed barrow or cairn, the largest of a group which occupied the summit of one of the Cathkin hills in the parish of Kilbride, measured eighteen feet in height and 120 feet in diameter, and bore the name of Queen Mary's Law, from a popular tradition that the hapless Mary watched from its summit the ebbing tide of her fortunes on the fatal field of Langside. This interesting memorial, thus associated with two widely severed periods of Scottish history, afforded building materials to the district for many years, until in 1792 some workmen, while employed in removing stones from

¹ Ure's *History of Rutherglen*, p. 124.

it, exposed to view a vault or chamber situated towards the west side of the mound, and containing twenty-five rude cinerary urns. They were placed, as is most usual in the earlier sepulchres, with their mouths downward, and underneath each urn lay a piece of white quartz. Exactly in the centre of the cairn a rude cist was discovered measuring nearly four feet square, and among a quantity of human bones which surrounded it were two rude fibulæ of mixed metal, and an armilla or ring of cannel coal. Another fibula and an equally rude metal comb were found in one of the urns.¹

The Crowned and the Encircled Barrows closely resemble a class of monuments which abound in Sweden and Denmark, while they are of rare occurrence in England. In the *Samlingar för Nordens Fornälskare*,² a variety of examples of both have been engraved; some of which have a second circle of stones placed about half-way up the mound, and a large standing-stone on the summit. Such correspondence, however, is not necessarily a proof of Scandinavian origin; nor do they generally occur in districts of Scotland where the long residence or frequent incursions of the Norwegians would lead us to expect Scandinavian remains. A large encircled barrow called Huly Hill, opened in 1830, at Old Liston, a few miles to the west of Edinburgh, contained a bronze spear-head, along with a heap of animal charcoal and small fragments of bones, but neither cist nor urn. A solitary standing-stone, measuring about nine and a half feet in height, occupies a neighbouring field, a little to the east of it. Another barrow which stood near the Abbey of Newbattle, Mid-Lothian, was of a conical form, measuring thirty feet in height, and ninety feet in circumference at the base. It formed a

¹ Ure's *History of Kilbride*, pp. 216-219.

² By N. K. Sjöborg. Two vols. quarto. Stockholm, 1822.

prominent and beautiful object in that noble demesne, surrounded at its base with a circle of standing-stones, and crowned on the summit with a large fir-tree. On its removal to make way for some additions to the Abbey, it was found to contain a cist nearly seven feet long, enclosing a human skeleton. A remarkable skull, hereafter referred to, preserved in the Edinburgh Phrenological Museum, and described as found in a stone coffin in a tumulus opened at Newbattle in 1782, appears to belong to this memorial mound.

One other form of barrow occasionally, though very rarely, found in Scotland, probably owes its origin to the Northmen who invaded and colonized our coasts at the close of the Pagan period. This consists of an oblong mound of larger size than the primitive long barrow, terminating in a point at both ends. Some examples are also enclosed with stones, having one of considerable size at each end; and from their rarity and their remarkable resemblance to the *Skibssætninger*, or ship-barrow of Sweden, there can be little hesitation in assigning them to the same class and origin as those described by Worsaae, in which have been found large nails and other traces of the Norse ship-builders' art: confirming the accounts given in the sagas, of the dead Viking's ship being converted into his bier and funeral pile, and its memorial perpetuated in the form of the superincumbent mound. One example of an encircled ship-barrow was only demolished a few years since, on the farm of Graitney Mains, Dumfriesshire, but no record of its contents has been preserved. A much more celebrated one, and, according to venerable traditions, of native origin, is the Mound of St. Columba, at *Port a Churaich*, or the Bay of the Boat, supposed to mark the spot where the Saint first landed on Iona. It measures about fifty feet in length, and is assigned by ancient

popular belief as the model of St. Columba's *currach*, or boat of wicker and hides, built by him in commemoration of his landing on the sacred isle. An upright stone formerly stood at each end, and near it a smaller mound still remains, representing, as is said, the little boat towed astern.¹ An investigation of the contents of this traditional memorial would probably prove its sepulchral character; nor, from the frequent ravages of the sacred isle by the pagan Northmen, is it at all improbable that the spot should have furnished a site for the ship-barrow of some fierce Viking, associated by the traditions of a later age with the landing of St. Columba.

To the same class probably belongs a very large earth-work, styled the Hill of Rattray, Perthshire; and perhaps also another of still larger dimensions, called Ternavie, in the parish of Dunning, in the same county. It is a mound of earth, resembling a ship with the keel uppermost, and occupying several acres of ground. The name has been supposed to be a corruption of *terræ navis* or earth-ship, and superstition has conferred a sacredness on it, by the association of legends evidently of primitive character. It is told that a profane hind, having proceeded to cut turfs on the side of the Ternavie, was suddenly appalled by the vision of an old man, who appeared in the opening he had made, and after demanding, with an angry countenance and voice, why he was tiring (unroofing) his house over his head, as suddenly vanished.² Remains of ancient armour were dug up a few years ago, on the farm of Rossie, a little to the east of Ternavie; of these, "two helmets, a small hatchet of yellow metal, and a finger-ring, are preserved in Duncruib House."³

¹ Graham's *Antiquities of Iona*, Plate III.

² Sinclair's *Statist. Acc.* vol. xix. p. 441.

³ *New Statist. Acc.* vol. x. p. 717.

The barrow was not, in all probability, entirely superseded until some time after the introduction of Christianity into Scotland. Several examples seem to indicate that the Anglo-Saxons were wont to convert an accumulating barrow into the general place of sepulture of a locality, interring the body apparently in its ordinary dress, but without any cist. The tumular cemetery at Lamel Hill, near York, of which a minute account is given by Dr. Thurnam, in the *Archæological Journal*, was of this class; and so also was a large sepulchral mound, levelled near the beach at North Berwick, East-Lothian, in 1847, in preparing a site for new gas-works. The latter was in the immediate vicinity of what appears to have been used as a general burial-ground probably till a late mediæval era, but its contents were clearly referrible to the Anglo-Saxon period; while in the same neighbourhood many cists and other relics of older races have been found. This last adaptation of the primitive memorial mound as the cemetery of a whole race, ere it was abandoned along with the creed to which it had been allied, is thus beautifully referred to in the description by Dorban, an ancient Irish poet, of the *Relec na Riogh*, the place of interment of the kings of the Scotie race, of which the last Pagan monarch was killed in the year 406 :---

“ Fifty mounds, I certify,
 Are at Oenach na Cruachna ;
 There are under each mound of them
 Fifty fine warlike men.
 Every hill which is at Oenach
 Has under it heroes and queens,
 And poets and distributors,
 And fair fierce women.
 The host of Connaught that was energetic,
 A truly warlike host,
 Beautiful the valiant tribe,
 Buried in Cathair Cruachna.
 There is not at this place

A hill at Oenach na Cruachna,
 Which is not the grave of a king or royal prince,
 Or of a woman or warlike poet."¹

The Cruachan, or Cruithne, the older Pictish or Celtic race, particularly referred to hereafter, are numbered among the Pagans in the same poetic description of the great regal cemetery of Ireland :—

“The three cemeteries of idolaters are
 The cemetery of Tailten, the select ;
 The cemetery of the ever-fair Cruachan,
 And the cemetery of Brugh.”

But to the Cairn must be assigned the foremost rank among Scottish sepulchral memorials. It is found, scattered through many districts, and corresponding in form to nearly every class of earthen tumuli. So common, indeed, are cairns in many parts of the country, that they give names to the farms on which they stand ; *cairn* being of very frequent occurrence as a prefix or termination in the designations of property, particularly in Aberdeenshire. The cairn appears to have been the favourite native memorial, from the remotest period of rude stone implements to the close of Pagan customs and sepulchral rites. In the agreement between Jacob and Laban, we see an example of the standing-stone and cairn, the “pillar and heap,” employed as the memorials of a covenant by the Hebrew patriarch. Again, the sepulture of Achan and of Absalom are examples of the cairn as a mark of obloquy and contempt ; but no traces of the latter associations are discoverable in Scotland, unless in very recent times. Occasionally we meet with examples of the pillar and heap united in a memorial cairn : as in one of large dimensions, situated at the junction of two roads, near the village of Fowlis, Perthshire, which is surmounted by a large standing-stone, corresponding

¹ Petrie's *Eccles. Architect. of Ireland*, pp. 103-5.

to the crowned tumuli. The estimation of the cairn as an honourable memorial of the dead, is proved not only by the valuable contents, more frequently discovered in cairns than in any other Scottish sepulchral mounds, but also by the associations which popular tradition has preserved. A proverbial expression, still in use among the Scottish Highlanders, is *Curri mi clach er do cairn*, I will add a stone to your cairn: *i.e.*, I will honour your memory when you are gone. The conical cairn must have been in use in Scotland by its earliest mound-builders. It undoubtedly belongs to the Stone Period, during which it was frequently constructed of proportions no less gigantic than in later eras, and with megalithic chambers and galleries like those of the celebrated West Kennet and Uley barrows. But the stone tumulus appears to have been one of the most distinguished sepulchral memorials, throughout every successive period prior to the revolutions effected by Roman civilisation and the introduction of Christianity. Cairns are either still found, or are known to have existed, in nearly every parish of Scotland. One of the most remarkable groups associated with other primitive monuments, occurs on a small plain washed by the river Nairn, about a mile to the east of the field of Culloden. The whole plain, for upwards of a mile in extent, is occupied with large cairns, encircled by standing-stones at uniform intervals. Numerous megalithic circles occur in the same neighbourhood, with detached monoliths and circular enclosures of small stones, scarcely visible amid the thick covering of moss and heath, but indicating in all probability, the sites of ancient dwellings of the cairn-builders; and pointing out localities rich in such evidences of primitive ages as have already rewarded the researches of northern antiquaries and geologists in the Danish peat-mosses. Many of the cairns have been works of

great labour, being regularly built of stones of considerable size, and approach more to the character of pyramids than mere stone heaps. Their form is most frequently conical, but several varieties occur, including occasionally, though rarely, the primitive shape of the long barrow. Ure describes two of this form, in the parish of Baldernoch, Stirlingshire, near the large cromlech, styled, *The auld wives' lift*. The largest of these cairns measured sixty yards in length, and only ten yards in breadth. On its demolition it was found to cover a sepulchral chamber of about four feet in width, constructed of rows of broad stones set on edge, covered with large flat stones, and containing numerous human remains. The other long cairn was opened in 1792, and exposed to view a similar chamber enclosing both urns and human bones. The same minute observer furnishes interesting notices of various large pyramidal cairns demolished during last century, such as that of Knocklegoil, from which some thousands of stones were removed before the cinerary urns of the *Knoc-kill-goill*, or hill of the grave of the strangers, were discovered. Other cairns remain unopened in the same district, and many of equal magnitude are to be met with in different parts of the country.

The Chambered Cairn properly possesses as its peculiar characteristic the enclosed catacombs and galleries of megalithic masonry, branching off into various chambers symmetrically arranged, and frequently exhibiting traces of constructive skill, such as realize in some degree the idea of the regular pyramid. In an account of several remarkable cairns in the parish of Minniegaff, Kirkcudbrightshire, from the pen of the well-known Scottish antiquary, Mr. Joseph Train, he describes one called *Drumlawhinnie*, on the moor of Barely, which measures nearly nine hundred feet in circumference. Another of equal dimensions on the moor of Dranadow, is called

the Boss, *i.e.*, the hollow, Cairns. It has been partially demolished to construct neighbouring field enclosures, and by this means a series of cruciform sepulchral chambers has been exposed, similar to those of the English Chambered Barrows, and to the galleries found in several of the gigantic Irish cairns. It measures internally eighty feet in length, from the corresponding limbs of the cross each way, while the gallery is only four feet wide and about three feet high. The stones in the middle of the cairn are very large, and are laid in regular courses, from the bottom to a considerable height, becoming gradually smaller as they recede from the centre. The chamber of the Grey Cairn, on the neighbouring Drum of Knockman, closely resembles this in form and dimensions; and various others occur in the district. One of these called the White Cairn has also its later historical associations, owing to its having furnished a safe concealment to the Laird of Glencaird and his two sons, when pursued by Claverhouse for harbouring some of the persecuted Covenanters. Some of the stones used in constructing the internal chamber where they lay hid are upwards of a ton weight.¹

In the year 1828 a remarkable cairn was opened on Airswood Moss, Dumfriesshire, by a party of labourers, seeking for stones with which to build a "march dyke," or boundary wall. It consisted, as usual, of a heap of loose stones, surrounded by larger ones, closely set together, forming a regular circle, fifty-four feet in diameter. Its form, however, was singular. For about fourteen feet from the inner side of the encircling stones it rose gradually, but above this the angle of elevation abruptly changed, and the centre was formed into a steep cone. Directly underneath this a cist was found, lying north and south, composed of six large unhewn stones,

¹ *New Statist. Acc.* vol. iv. Kirkeudbright, pp. 132, 133.

and measuring in the interior four feet two inches in greatest length, with a depth of two feet. It contained only human bones, indicating a person of large stature, laid with the head towards the north. But the further demolition of the cairn disclosed a curious example of regular internal construction on a systematic plan. From the four corners of the central cist there extended, in the form of a St. Andrew's cross, rows of stones overlapping each other like the slating of a house. At the extremity of one of these, about fourteen feet from the central chamber, another cist was found of corresponding structure and dimensions, but laid at right angles to the radiating row of stones. Another is said to have been found at the extremity of one of the opposite limbs of the cross ; and most probably the whole four were originally conjoined to corresponding cists, but a considerable portion of one side of the cairn had been removed before attention was directed to the subject. Between the limbs of the cross a quantity of bones, in a fragmentary state, were strewn about.¹ Such a disposition of a group of cists, under a large cairn, though rare, is not without a parallel, and may perhaps be characteristic of a class. The Rev. Harry Robertson of Kiltearn describes one in that parish, about thirty paces in diameter, which contained a central cist three and a half feet long, and at the circumference on the east, south, and west sides, three others of similar dimensions. As the cairn was in this case also imperfect, and partly demolished, it is not improbable that a fourth, on the north side, may have been previously destroyed.² Here, as in the tumuli with cinerary urns around the central cist ; the group of small urns surrounding a large one in the chambered catacomb

¹ *Dumfries Journal*, June 24, 1828 ; MS. Communication, Soc. Antiq. Scot., Andrew Brown, Esq., read March 9, 1829.

² *Sinclair's Statist. Acc.* vol. i. p. 292.

of a cairn on the hill of Down near Banff;¹ and in numerous other instances: we find a singular arrangement, apparently designed as subservient to the honours lavished on some distinguished chief; but perhaps also deriving its most striking characteristics from the ceremonial rites and symbolism of a long forgotten creed.

Such are a few illustrative examples, selected from numerous notices of Scottish mounds and cairns, for the purpose of indicating the variety in dimensions, structure, and contents of those remarkable memorial heaps. Indestructible except by violence, and characterized in some cases by the massive grandeur of primeval masonry, such as the classic Greek assigned to the fabled Cyclops: it seems vain to attempt to determine the antiquity of monuments, within some of which have been found the same kinds of implements as those which prove the existence of man contemporaneously with the fossil mammals of the diluvium and drift. It is obvious, however, that they belong to diverse periods. Until regular architecture took the place of such imperfect constructive art, the rude memorials of unhewn stone, and pyramidal mounds and cairns, necessarily presented a general correspondence, not only throughout the British Isles, but wherever the infantile architectural instinct employed itself on such works. The cairns and mounds of the Old and New World correspond in form and materials; but it is by an intelligent comparison of their varied contents that we are able to discriminate between races diverse in physical form, in sepulchral rites, and in the style and development of their distinctive arts; and thereby to determine a relative, if not a positive chronology.

An interesting natural chronometer is of frequent occurrence in connexion with those rude memorials of primitive ages, furnishing unmistakable evidence of the

¹ Pennant's *Tour*, vol. i. p. 156.

remoteness of the era to which some of them belong, and supplying data which may hereafter prove to be reducible to definite computation. The accumulation, not only of alluvium, but of peat-moss over the structures of early art, has already been referred to in describing the ancient boats, harpoons, etc., discovered in various localities; and will repeatedly recur in the course of our inquiry in relation to various classes of memorials of the past. The traveller, in passing from Bunaw Ferry, on Loch Etive, to Beregonium, Argyleshire, passes over an extensive moor, known by the name of the "Black Moss." On this, or rather rising up through it, are several large cairns, with here and there the remains of others which have been demolished for the purpose of enclosing fields or building cottages. In various parts considerable portions of the moss have been cleared away, exposing, at a depth of from eight to ten feet, the original soil upon which these sepulchral mounds have been reared, and bringing to light other memorials of their builders, hereafter referred to. With such evidence of the slow growth of centuries obliterating the traces of primitive occupation, and effecting such changes on the natural features of the country, it is no vague conjecture which refers to an era altogether prior to that of its earliest historic occupants, the period when this wild and barren moor was the scene of life and intelligence, and, it may be, of many useful arts. Along with the Black Moss cairns may be mentioned another group, including one of unusually large dimensions, not enclosed by the gathered moss of ages, but surrounded by the encroaching tide, on the north shore of the Firth of Beaully, Ross-shire, affording no less striking, though diverse evidence of the remoteness of their era. In one of them sepulchral urns have been found, leaving no room to doubt their monumental character. The largest stands about 400

yards within flood-mark ; and an ingenious writer in the *Philosophical Transactions* arrives at the conclusion that an area of fully ten miles square, now flooded by the advancing tide, has once been the site of the dwellings of the ancient cairn-builders. Thus is it, while Time is sweeping away the hoar relics of the past, the traces of his footprints enable us occasionally to return upon his track, and learn how great is the interval that separates our own age from the era of their birth-time.

The Cromlech, which is now almost universally recognised as a sepulchral monument, forms another laborious and costly memorial dedicated by the veneration or gratitude of primitive ages to the honour of their illustrious dead. It consists of three or four unhewn columns, supporting a huge table or block of stone, and forming together a rectangular chamber, which is occasionally further enclosed by smaller stones built into the intervening spaces. Beneath this there is generally found a corresponding cist or sepulchral chamber enclosing the skeleton, disposed in a contracted position, and accompanied with urns, stone implements, and other relics of an early period. As the sepulchral tumulus is justly regarded as only a gigantic grave-mound, so the origin of the cromlech may be traced to the desire of providing a cist for the last resting-place of the chief or warrior, equally distinguished from that which sufficed for common dust ; and as such, repeated discoveries serve to indicate that the cromlech was sometimes buried beneath a huge mound of earth, so as to constitute in its complete form a chambered tumulus. A distinction, however, must be made between the buried megalithic cist and the true cromlech, which was not in itself the sepulchral chamber, but a monumental structure reared over the grave. This class of monuments is rare in Scotland, when compared with other megalithic structures that

abound in almost every district. Some few interesting examples, however, are still found perfect, while partial traces of a greater number remain to show that the cromlech was familiar to the builders of the Scottish monolithic era. One of the most celebrated Scottish cromlechs is a group styled, *THE AULD WIVES' LIFT*, near Craigmadden Castle, Stirlingshire. It is remarkable as an example of a trilith, or complete cromlech, consisting only of three stones. Two of nearly equal length support the huge capstone, a block of basalt measuring fully

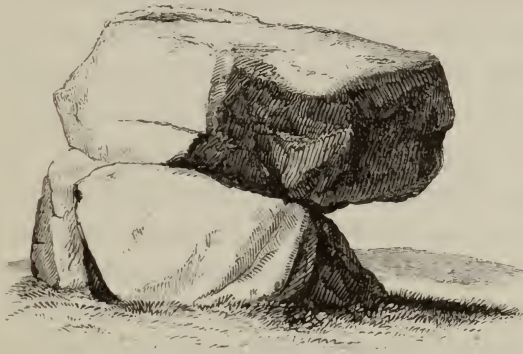


FIG. 2.—The Auld Wives' Lift.

eighteen feet in length, by eleven in breadth, and seven in depth. A narrow triangular space remains open between the three stones, and through this every stranger is required to pass on first visiting the spot, if, according to the rustic creed, he would escape the calamity of dying childless. It is not unworthy of being noted, that though the site of this singular cromlech is at no great elevation, a spectator standing on it can see across the island from sea to sea; and may almost at the same moment observe the smoke from a steamer entering the Firth of Clyde, and from another below Grangemouth, in the Forth.

From the traces of ruined cromlechs still visible in various parts of the country, some of them appear to have been encircled, like a class of barrows described

above, with a ring of standing-stones ; and it is probable that many of the smaller groups throughout the country, designated temples, or Druidical circles, belong to this class of sepulchral memorials. Such is the case with a megalithic group in the parish of Sandwick, Orkney, and it is still more noticeable in the ring of Stennis, where the cromlech lies overthrown beside the gigantic ruins of the circle which once enclosed it. Various other cromlechs still remain in Orkney. One called the Stones of Vea, situated on the moor about half a mile south of the manse of Sandwick, though overthrown, is otherwise uninjured. The capstone measures five feet ten inches, by four feet nine inches, and still rests against two of its supporters. A group, which stands on the brow of Vestrafiold, appears to have included two if not three cromlechs. There is another remarkable assemblage, in a similarly ruined state, near Lamdash Bay, in the island of Arran ; and a single cromlech stood—if it does not still stand,—in the centre of a stone circle in the same island.¹ A fine one also remains, in perfect preservation, on the southern declivity of the hill of Sidla, Forfarshire ; another good example has been preserved on the farm of Ardnadam, in the parish of Dunoon, Argyleshire ; and others, more or less complete, are to be seen at Achnacreebeg, Ardchattan, at Nisibost in the Isle of Harris, and in various other districts of the West Highlands. Others of those gigantic structures in all probability still lie buried under their tumular mounds. In 1825 one was discovered on the removal of a tumulus of unusual size, situated near the west coast of the peninsula of Cantyre. It contained only the greatly decayed remains of a human skeleton, but in the superincumbent soil were found many bones, and the teeth of the horse and ox, also in a state of decay. The capstone of this megalithic cist

¹ Martin's *Western Isles*, p. 220.

measured five by four feet, and its four supporters were each about three feet high.¹ More recently the cromlech unexpectedly brought to light under nearly similar circumstances, on the levelling of a large mound in the Phoenix Park, Dublin, has attracted unusual attention alike from its locality, and the interest of its disclosures.

The whole of those examples are constructed of rough and entirely unhewn blocks. The annexed figure represents a partially ruined cromlech, at Bonnington Mains, near Ratho, a few miles west of Edinburgh, which is specially interesting from some traces it retains of artificial tooling. Along the centre of the large capstone shallow perforations have been made at nearly regular intervals, possibly indicating a design of splitting it in two; though on first visiting it, my rustic guide pointed them out to me as the impressions of a dog's feet! The idea curiously corresponds with an ancient monument recorded by Nennius as the tenth wonder of the Island of Britain. It is "a stone upon the cairn in Bocuilt with the impression of the paws of Arthur's dog in it; and though it should be carried away to any part of the world, it would be found on the same cairn again." The more practical idea suggested above corresponds to that formed by Mr. F. C. Lukis in a somewhat parallel case, though any indication of artificial formation in such primitive structures is of the very rarest occurrence. Mr. Lukis remarks in a communication to the Archæological Association:—"I send a sketch of the cromlech on L'Anresse Common, Guernsey, on which we have discovered a string of indentations, probably made with a view to trim the side prop to the required size of the capstone. These are the first appearances of art in any of the primeval monuments, and nowhere have we found anything of the kind excepting on a menhir in the parish

¹ *Archæol. Scot.* vol. iii. p. 43.

of the Forest. . . . The use of these indents we can only guess at; but as they follow the fracture of the stone (granite), the early method of breaking stones would be explained."¹ The Bonnington Mains Cromlech is of large size. The capstone, which now rests on only two of its supporters, measures 11½ feet in length, and 10½ feet in greatest breadth. It bears the name of THE WITCH'S STONE, in accordance with the rustic legend which ascribes its origin to an emissary of the famed old Scottish wizard, Michael Scot. I had an opportunity of



FIG. 3.—The Witch's Stone, Bonnington Mains, Mid-Lothian.

partially exploring this cromlech in 1850. The natural rock was laid bare at a little depth without meeting with any traces of sepulchral remains; but it was found impossible to get directly under the great stone, without the risk of overthrowing the whole. The term cromlech is probably derived from *cromadh* (Gaelic) or *cromen* (Welsh), signifying a *roof* or *vault*, and *clach* or *lech*, a stone. But the compound word is of ancient use in Scotland. An extensive district in the neighbourhood of Dunblane, Perthshire, which still bears the name of the Cromlix, is remarkable for numerous large transported

¹ *Journal of Brit. Archaeol. Association*, vol. iii. p. 342.

blocks scattered over its surface. One of these, which has been supposed to have formed the capstone of a large cromlech, measures $15\frac{1}{2}$ by 10 feet; but it is very doubtful if it owes either its form or position to human hands. According to the proposed derivation the name may be rendered *the suspended*, or *vaulted stone*; and its application to a district covered with transported rocks from the neighbouring Ochills, of a date long prior to the historic era, is in no way inconsistent with its more usual application to the primitive megalithic structures. We have no evidence that these are Celtic monuments. The tendency of present researches rather leads to the conclusion that they are not, but that they are the work of an elder race, of whose language we have little reason to believe any relic has survived to our day. On this supposition the old name of Cromlech is of recent origin compared with the structures to which it is applied; and of this its derivation affords the strongest confirmation. It is just such a term as strangers would adopt; being simply descriptive of the actual appearance of the monument, but indicating no knowledge of its true character as a sepulchral memorial.

Such are the monumental structures belonging to primitive periods; but examples of the cist and cinerary urn, deposited without any superincumbent mound, are of frequent occurrence. They are commonly grouped in considerable numbers, indicating the ordinary rites of sepulture contemporary with the monumental tumulus or cairn. In the first of those, as in cists found underneath ancient cairns and tumuli, the body appears to have been generally interred in a contracted posture, with the knees drawn up to the breast; and some examples would even seem to indicate that the limb bones were broken when the body could not otherwise

be disposed within the straitened dimensions which custom prescribed for the primitive tomb. The practice may perhaps be traced to the idea prevalent long after the Christian era, that it was unworthy of a warrior to die in his bed. The rude Briton was accordingly interred seated, or lying on his side with his knees drawn up to his breast, and with his weapons of stone or bronze at his side, ready to spring up when the sound of the war-cry should summon him to renew the strife. Some few cists of full proportions belong to a period so remote that it is possible such were in use prior to the adoption of this custom; but it undoubtedly prevailed for ages, and probably did not disappear till after the introduction of Christianity. The short stone cist has been discovered of late years in the immediate vicinity of some of the most ancient Christian churches in the Orkneys; while examples of a full-sized cist, with the enclosed skeleton extended at length, are met with under circumstances, and with accompanying relics, which leave no doubt that they belong to both of the earlier pagan periods.

A very general impression long prevailed that the primitive cists are invariably found lying north and south. But this is a hasty conclusion, which has been the more readily adopted, from the distinction it seems to furnish in contrast to the medieval custom of laying the head towards the west, that the Christian might look to the point from whence he expected his Saviour at his second coming. Abundant evidence exists to disprove the universal use of any particular direction in laying the cists or interring the dead in the primitive period. A few examples will suffice to show this. In 1824 a number of cists were discovered in making a new approach to Blair-Drummond House, near the river Teith, Stirlingshire. They were of the usual character, varying in

size, but none of them large enough to hold a full-grown body laid at length. Some contained urns of various dimensions, with burnt bones and ashes, while in others the bones had no appearance of having been exposed to fire. The urns were extremely rude and simple in form, and no metallic relics were discovered among them. Here, therefore, we have a primitive place of sepulture, in a locality already noted for some remarkable evidences of very remote population. But the cists lay irregularly in various directions, giving no indication of any chosen mode or prevailing custom.¹ In 1814 several cists were discovered in the parish of Borthwick, Mid-Lothian, of the ordinary character and proportions, and in some cases containing urns, one of which is now in the Museum of the Society of Antiquaries of Scotland. Others have since been discovered in the same neighbourhood at various times, but like those on the banks of the Teith, "they were placed without any regard to order."² In constructing the new road to Leith, leading from the centre of Bellevue Crescent, Edinburgh, in 1823, several stone cists were found, of the usual circumscribed dimensions and rude construction of the primitive period, but being disposed nearly due east and west, were assumed without further evidence to be "of course since the introduction of Christianity."³ Another similar relic of the aboriginal occupants of the site of the modern Scottish capital was found in 1822, in digging the foundation of a house on the west side of the Royal Circus. In this case the cist lay north and south, but the head was laid at the south end. The whole skeleton, with the exception of a few of the teeth, crumbled to dust on being touched.⁴ In a cist discovered in 1790, under a large cairn in the parish of Kilbride, the skeleton lay

¹ *Archæol. Scot.* vol. iii. p. 42.

² *Archæol. Scot.* vol. ii. pp. 77, 100.

³ *Archæol. Scot.* vol. iii. p. 49.

⁴ *Archæol. Scot.* vol. iii. p. 48.

with its head to the east. Such was its great age, that it also speedily crumbled to dust.¹ Within the district of Argyleshire now occupied by the villages of Dunoon and Kilmun, many primitive cists have been exposed, rudely constructed of unhewn slabs of the native schistose slate, and some of them containing lance and arrow-heads of flint, and other equally characteristic relics, but the irregularity of their disposition proved that convenience alone dictated the direction in which the bodies were laid. Other examples of irregular though methodic arrangement of the cists found in cairns have already been noted, and it would be easy to multiply similar instances.

It is obvious that the mere direction in which either the body or its enclosing cist is disposed, is not in itself conclusive proof either of Pagan or Christian sepulture. But there does also occur a class of instances, which seem to indicate that at some early period importance was attached to the direction in which the body was laid, and then the cist was placed north and south, or rather north-east and south-west, with the head towards the north, and designed, it may be, to look towards the meridian sun. So many instances of this are familiar to archæologists, that it seems hardly necessary to produce examples: but two of a peculiar character may be deserving of special notice. In March 1826, a farmer on the estate of Wormeston, near Fifeness, in levelling a piece of ground, discovered, at a depth of ten feet from the surface, thirty cists, disposed in two regular rows, at equal distances apart, and with the heads towards the north-east. Their arrangement was peculiar, and obviously the result of some special design. A line drawn along their ends was nearly due east and west, and from this they declined obliquely, in the direction of north-

¹ Ure's *Kilbride*, p. 213.

east and south-west. The whole lay parallel, and equidistant from each other, and in the centre of each of the intervening spaces an oblong stone was placed so as to abut against the sides of the adjacent cists.¹ Another group, disposed nearly similar to this, was brought to light on the levelling of a long barrow of unusually large dimensions, in the parish of Strathblane, Dumbartonshire. The position of the bodies appears to have been north and south, as the barrow, which measured sixty yards in length, lay east and west.² Urns were found within the cists full of earth and burnt bones; and alongside of each was a column of about three feet in height, selected from basaltic rocks in the neighbourhood, many of which assume regular crystalline forms.

The discovery of any important deviation from the customary rites of sepulture has already been referred to as probable evidence of some unwonted change in the social condition of a people: marking, it may be, the introduction of a new element into the national creed, or the violent intrusion of some foreign race of conquerors, displacing older customs by the law of the sword. In the introduction of the funeral pile and the cinerary urn, we have important evidence of the adoption of novel rites. In the systematic disposition of the body in a fixed direction, it is probable that we may trace another and still earlier change. Both practices are deserving of more careful investigation than they have received, in the relation they bear to the progressive advances of the primitive races of Scotland. Without the opportunity of comparing more extensive and trustworthy observations than we yet possess, it would be premature to insist upon the inferences suggested by them. But it accords with many other indications that we should find

¹ MS. Letter, G. W. Knight, *Libr. Soc. Antiq. Scot.* 1829.

² Ure's *Rutherglen*, p. 223.

less method or design in the rude sepulchres of the earliest aborigines, than of those who had long sheltered themselves in the glades of the old Caledonian forests, and abandoned nomadic habits for the cares and duties of a pastoral life. The establishment of such a distinction would furnish a valuable chronological guide to the archaeologist in the arrangement of his materials for primitive history. The early Christian adapted the position of his grave to the aspirations of his faith ; and a similar practice among older races, in all probability, bore a kindred relation to some lesson of their Pagan creed, the nature of which is not yet perhaps utterly beyond recall. The question of divers races is at least one of comparatively easy solution. On this the investigations of the practical ethnologist may throw much light, by establishing proofs of distinct craniological characteristics pertaining to the remains interred north and south, from those belonging, as I conceive, to a still earlier period,—before the rude Caledonian had learned to attach a meaning to the direction in which he was laid to rest in the arms of death, or to dispose himself for his long sleep with thoughts which anticipated a resurrection.

CHAPTER IV.

DWELLINGS AND CATACOMBS.

BEFORE proceeding to examine in detail the varied contents of the Scottish tumuli, it may be well to glance at the evidence we possess of the nature of the habitations reared and occupied by the constructors of such enduring memorials of their dead as have been described in the preceding chapter. Scattered over the uncultivated downs both of England and Scotland, there still remain numerous traces of the dwellings of our barbarian ancestry, which have escaped the wasting tooth of centuries, or the more destructive inroads of modern cultivation. In many parts of Wales also they are no less common, and are there known as *Cytiau r' Gyddelod*, or cots of the Gael. Sir Richard Colt Hoare remarks, in his *Ancient Wiltshire*,—"We have undoubted proofs from history, and from existing remains, that the earlier habitations were pits, or slight excavations in the ground, covered and protected from the inclemency of the weather by boughs of trees and sods of turf." Of these primitive pit-dwellings numerous traces are discernible on Leuchar Moss, in the parish of Skene, and in other localities of Aberdeenshire; on the banks of Loch Fyne, Argyleshire; in the counties of Inverness and Caithness; and in various other districts of Scotland still uninvaded by the plough. They are almost invariably found in groups, affording evidence of the

gregarious and social habits of man in the simplest state of society. The rudest of them consist simply of shallow excavations in the soil, of a circular or oblong form, and rarely exceeding seven or eight feet in diameter. Considerable numbers of these may be observed in several districts both of Aberdeenshire and Inverness-shire, each surrounded with a raised rim of earth, in which a slight break generally indicates the door, and not improbably also the window and chimney of the aboriginal dwelling. To this class belong the "pond barrows," already referred to as erroneously ranked among sepulchral constructions. Within a few miles of Aberdeen are still visible what seem to be the remains of a large group, or township, of such rude relics of domestic architecture, which Professor Stuart suggests may mark the site of the capital of the Taixali, when the Roman legions passed the river Dee in the second century.¹ They consist of some hundreds of circular walls scattered over more than a mile in extent, of two or three feet high, and from twelve to twenty feet in diameter. Their varying sizes may be presumed to indicate gradations of rank, such as we know were established among the northern Britons at the period of Roman invasion. But no traces of Roman arts have been discovered to give countenance to this comparatively recent date. On digging within the area of the pit-dwellings, a mass of charred wood or ashes, mingled with fragments of decayed bones and vegetable matter, are generally found; and their site is frequently discernible on the brown heath, or the grey slope of the hill-side, from the richer growth and brighter green of the grass, within the circle sacred of old to the hospitable rites of our barbarian ancestry, where the accumulated refuse of their culinary operations have thus sufficed to enrich the soil.

¹ *Archæol. Scot.* vol. ii. p. 54.

The first evidence of a slight advancement in the constructive skill of the primitive architect is discernible in the strengthening of his domestic enclosure with stone. This is not infrequently accompanied with small circular or oblong field enclosures, as if marking the dawn of civilisation, manifested in the protection of personal property, and the rudiments of a pastoral life, in the folding of sheep and cattle. Still greater social progress would seem to be indicated in those examples, also occasionally to be met with in various districts, where a commanding site appears to have been chosen for the settlement; and traces still remain of an earthen rampart enclosing the whole, as on the Kaimes Hill, in the parish of Ratho, Mid Lothian. Such, perhaps, may be the remains of a British camp, or of a temporary retreat in time of war.

With the same class may be grouped the "Picts' kilns," on which Chalmers, Train, Scott, and other antiquaries, have expended much conjecture and useless learning. These are of frequent occurrence in Wigton and Kirkcudbright shires, as well as in parts of the neighbouring counties. They consist of elliptical or pear-shaped enclosures, measuring generally about sixteen feet in length and seven or eight feet in breadth. Externally the walls appear to be of earth, sometimes standing nearly three feet high. On removing the surface they are found to be constructed internally of small stones, frequently bearing marks of fire. They are popularly believed to be ancient breweries reared by the Picts for the manufacture of a mysterious beverage called *heather ale*. Sir Walter Scott suggests, with not much greater probability, that they are primitive lime-kilns. They are said by Mr. Train to be invariably constructed on the south side of a hill, close to the margin of a brook, and with the door or narrow passage facing the stream.

Future excavations on their sites may perhaps furnish more conclusive evidence of their original purpose.

Greater art is apparent in the relics of another class of ancient Scottish dwellings occasionally met with in different parts of the country. In the Black Moss, already referred to, on the banks of Etive, Argyleshire, at various points where some advance has been made in recovering the waste for agricultural purposes, the progress of cultivation has uncovered rough oval pavings of stone, bearing marks of fire, and frequently covered with charred ashes. These are generally found to measure about six feet in greatest diameter, and are sometimes surrounded with the remains of pointed hazel stakes or posts, the relics, doubtless, of the upright beams with which the walls of the ancient fabric was framed. Julius Cæsar describes the dwellings of the Britons as similar to those of the Gauls;¹ and these we learn, from the accounts both of Strabo and Diodorus Siculus, were constructed of wood, of a circular form, and with lofty tapering roofs of straw. Such apparently were the structures, the remains of which are now brought to light within the limits of the Dalriadic possessions. But these ancient Caledonian hearths, now quenched for so many centuries, are discovered beneath an accumulation of from eight to ten feet of moss, under which lies a stratum of vegetable mould about a foot deep, resting upon an alluvial bed of gravel and sand: the original soil upon which the large sepulchral cairns of the same district have been reared. In so far as such accumulations furnish any trustworthy chronometer of intervening centuries, they seem to point to an era greatly more remote than that of the Sicilian historian or the Roman Cæsar.

Among the relics of primitive domestic architecture

¹ *De Bell. Gall.* lib. v. cap. 12.

brought to light in later times, no class is more remarkable than the *weems*, or subterranean dwellings which have been discovered in different parts of Scotland. Of this class are two structures discovered in the parish of Tealing, Forfarshire. One of them consisted of several apartments formed with large flat stones without any cement; and in it were found wood-ashes, several fragments of large earthen vessels, and an ancient stone hand-mill, or *querne*. The other was a single vault constructed in the same manner, measuring internally about four feet both in height and width, and containing a broad earthen vessel, and a stone celt or hatchet.¹ In another opened in the parish of Monzie, Perthshire, a stone celt and bronze sword were found, both of which are preserved at Monzie House. Chalmers supplies a curious list of similar subterranean dwellings discovered at various times in Forfar, Perth, Aberdeen, Ross, Sutherland, and Inverness shires, and in the Orkney Islands.² The like structures are noted by Martin, among the antiquities of the islands of Walay, Erisca, and Skye;³ and by Pennant also in the latter island. They are described by Martin as "little stone houses, built under ground, called *earth houses*, which served to hide a few people and their goods in time of war."

The general name applied in Scotland to these subterranean habitations is *Weems*, from the Gaelic word *uamha*, a cave; and as this name is in use in the low countries, where nearly all traces of the Celtic dialect have been lost as a living language, probably since the era of the "Saxon Conquest," it may be accepted as no insignificant evidence of their pertaining to an older race. In Aberdeenshire, where they have been found

¹ Sinclair's *Statist. Acc.* vol. iv. p. 101.

² *Caledonia*, vol. i. p. 97. *Vide* also *New Statist. Acc.* vol. vii. Renfrewshire, p. 502, etc.

³ Martin's *Western Isles*, pp. 67, 87, 154.

in greater number than in any other single district, they are more generally known, as in the Hebrides, by the name of *eirde* (i.e., *earth*) *houses*.

An interesting account of a large group of weems discovered in Aberdeenshire, is given by Professor Stuart in the *Archæologia Scotica*,¹ and since then many more have been brought to light in the same district. Several of these opened of late years in Strathdon are described with great minuteness in the Statistical Account of that parish.² On a bleak moor in the adjoining parish, not far from the old castle of Kildrummie—which, from many large fossil trees dug up in it, appears to have once been an extensive forest,—the largest assemblage of those singular habitations occurs which has yet been discovered in Scotland. Others have been found about six miles farther up the country, at Glenkindrie, at Buchan, and near the source of the Don, one of the wildest districts of the Highlands. They are indeed scarcely less common than the sepulchral cairn. My object, however, is not so much to accumulate numerous examples, as to select a few characteristic types of each class of Scottish antiquities; though the weems appear to possess peculiar claims to minute description, from their very frequent occurrence, and the massive character of their unhewn masonry. In general, no external indication affords the slightest clue to their discovery. To the common observer, the level heath or moor under which they lie presents no appearance of having ever been disturbed by the hand of man; and he may traverse the waste until every natural feature has become familiar to his eye, without suspecting that underneath his very feet lie the dwellings and domestic utensils of remote antiquity.

The Aberdeenshire weems are constructed of huge

¹ *Archæol. Scot.* vol. ii. p. 52.

² *New Statist. Acc.* vol. xii. p. 545.

masses of granite, frequently above six feet in length ; and though by no means uniform either in internal shape or dimensions, a general style of construction prevails throughout the whole. Some of them have been found upwards of thirty feet long, and from eight to nine feet wide. The walls are made to converge towards the top, and the whole is roofed in by means of the primitive substitute for the arch which characterizes the cyclopean structures of infant Greece, and the vast temples and palaces of Mexico and Yucatan. The huge stones overlap each other in succession, until the intervening space is sufficiently reduced to admit of the vault being completed by a single block extending from side to side. They have not infrequently smaller chambers attached to them, generally approached by passages not above three feet in height ; and it affords a curious evidence of the want of efficient tools in the builders of those subterranean structures, that where these side apartments are only separated from the main chamber by the thickness of the wall, the stones, though placed flush with the walls of the latter, project irregularly into the small cells, giving them a singularly unshapely and ragged appearance. Similar structures, but of smaller dimensions, have been discovered in Lanarkshire, at Cartland Craigs, in the neighbourhood of Stonebyres, and at Cairney Castle. In these last were found quernes, deers' horns, and bones. On opening one in the parish of Auchterhouse, Forfarshire, a bronze ring was found ; and both there, and in another in the same parish, were ashes, bones, and quernes.¹ The Rev. Thomas Constable furnishes a very interesting description of one near Lundie House, in the latter county, which was minutely surveyed by the eminent antiquary, Lord Hailes. Its contents were of the usual description, including several

¹ Sinclair's *Statist. Acc.* vol. xiv. p. 526.

quernes about fourteen inches in diameter.¹ So also, in a minute account of similar structures in Caithness and Sutherland, communicated to Pennant by the parish minister of Reay, the writer remarks :—"We found in them nothing but hand-mills, or what the Highlanders call quernes, which were only eighteen inches in diameter, and great heaps of deers' bones and horns, as they (the Piets) lived much more by hunting than any other means."² The discovery, indeed, of the primitive hand-mill in those ancient dwellings is so frequent as to be worthy of special notice, and might seem to indicate that their original destination had been for store-houses or granaries, did not the constant occurrence of the bones of domestic animals, or of those most prized in the chase, intermingled with the charred embers of the domestic hearth, leave no room for doubt that they were occupied as places of habitation. They agree very nearly with the description furnished by Tacitus of the winter dwellings of the Germans, whom he represents as digging caves in the earth, in which they laid up their grain, and whither they retired in the winter, or on the advance of an enemy to plunder the open country.³ The entrance to such of those subterranean dwellings as have been found sufficiently perfect to afford indications of their original character, appears to have generally been by a slanting doorway between two long, upright stones, through which the occupant must have slid into his dark abode. Occasionally a small aperture has been found at the further end, apparently to give vent to the fire, the charcoal ashes of which lie extinguished on the long-deserted floor. In some a passage of considerable length has formed the vestibule; but so far as now

¹ Sinclair's *Statist. Acc.* vol. xiii. p. 117.

² Pennant's *Tour*, vol. i. Appendix, p. 339.

³ *De Moribus Germanorum*, c. 16.

appears, a solitary aperture served most frequently alike for doorway, chimney, ventilator, and even window, in so far as any gleam of daylight could penetrate into the darkened vault. One is forcibly reminded, while groping in these aboriginal retreats, of Elia's realizations of the strange social state to which they pertain, in his quaint rhapsody on Candle-light, "*our peculiar and household planet!* Wanting it, what savage unsocial nights must our ancestors have spent, wintering in caves and unilluminated fastnesses! They must have lain about and grumbled at one another in the dark. What repartees could have passed, when you must have felt about for a smile, and handled a neighbour's cheek to be sure that he understood it! This accounts for the seriousness of the elder poetry. It has a sombre cast, derived from the tradition of these unlanterned nights!" The grave humorist goes on to picture a supper scene in those unlighted halls, rich with truthful imaginings, mingled with his curious but thoughtful jests:—

"Things that were born, when none but the still night,
And his dumb candle, saw his pinching throes."

In truth, these dwellings, constructed with such laborious ingenuity in every district of Scotland, seem to throw a strange light upon that dim and remote era to which they belong, giving us some insight into the domestic habits and social comforts of a period heretofore dark as their own unilluminated vaults.

Adjoining many of the weems small earthen enclosures are discernible. Some of these are square, measuring about fifteen paces each way, with the area somewhat below the surrounding soil, and have probably been constructed for folding sheep or cattle. Others are circular, and so small as to leave little doubt that there must have stood the slight huts, constructed of turf and branches of trees, in which the architect of the cyclopean

structure dwelt during the brief warmth of summer, while he sought refuge from the frosts and snows of our northern winter in the neighbouring subterranean retreat. The number of weems frequently found together appears altogether inconsistent with the idea of their construction as mere places of concealment. They are manifestly the congregated dwellings of a social community, though strangely differing from any that have dwelt in the land within the era of authentic history. When we compare these dwellings with the clay huts still common in many a Highland district, or with such humble Lowland biggings as those which have won a new sacredness as the birthplaces of Hogg and Burns, it is impossible to overlook the remarkable differences presented by the two states of society, separated not more widely by time than by variance of habits and ideas. How striking is the contrast between the artlessness of the Ayrshire cottage, that sufficed, with its straw roof, to satisfy the wants of one among the great master-spirits of all times, and the labour and ingenuity expended in producing those retreats of the Scottish aborigines. In rudeness of result perhaps both are on a par. The ingenious and methodic skill, however, entirely belongs to the old builders. Their mode of constructing with huge unhewn stones, frequently brought from a considerable distance, seems to point them out as the architects of that same remote era in which the rude monumental standing-stones and circular groups of monoliths were reared, which still abound in so many districts of the Scottish mainland and surrounding isles.

Similar subterranean structures have been discovered at different times in Orkney, some of them of considerable extent, and including various recesses and chambers branching off from the chief central apartment. An unusually minute and interesting account of one in the

parish of Shapinshay is given in the Old Statistical Accounts,¹ by the Rev. Dr. George Barry, the historian of Orkney, in which was found a beautiful torquated ring. In 1855, James Farrer, Esq., M.P., effected a thorough exploration of a weem on the Isle of Eday, Orkney, recovering from it a variety of implements of stone, horn, bone, bronze, and iron; among which one of the most interesting is a large drinking-cup (Fig. 4) made from the vertebra of a whale.

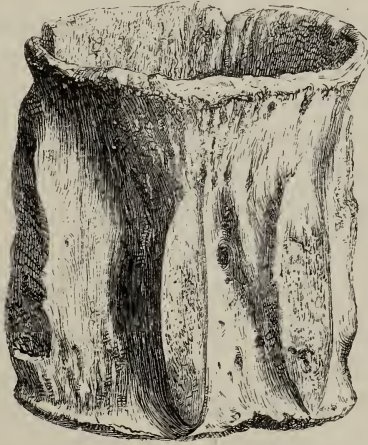


FIG. 4.—Whale-bone Cup.

Structures of the same character, on the mainland of Orkney, were explored by Captain F. W. L. Thomas, R.N., in 1848. In the course of his investigation of one of these at Savrock, about a mile to the westward of Kirkwall, and close to the sea-shore, some curious evidence was disclosed, showing the primitive arts of its builders, and their inability to overcome an obstacle requiring unusual skill or effective tools. In excavating the site for this subterranean dwelling they appear to have cleared away the soil till they reached the natural rock, which forms the floor of the vault. Pillars con-

¹ Sinclair's *Statist. Acc.* vol. xvii. p. 237.

structed at irregular intervals admit of the whole being covered by immense slabs resting on them, where the width is too great to be overarched at so slight an elevation by converging walls. A long passage leads from this chamber, floored, like it, with the natural rock. In one place, however, an irregular elevation of the strata occurs. Such an obstacle was either beyond the skill of the laborious architects, or demanded more exertion than they cared to expend on its removal; and the roof has accordingly been elevated so as to admit of free passage by ascending and descending over the irregular surface of the rock. The passages, as in nearly all the structures of this class which have been carefully explored, are extremely straitened. Unfortunately this primitive dwelling supplied materials for building a neighbouring farm-house and offices before Captain Thomas had an opportunity of exploring it; so that what remained was in a very imperfect and dilapidated state. Portions of the roof still entire, constructed of masses of unhewn stone,—one of them measuring about five feet long,—afforded abundant evidence that no amount of mere physical labour was grudged in the completion of the edifice, and seem to justify the probable assignment of it to a period prior to the introduction of metallic tools. In another of these subterranean buildings, however, situated on the Holm of Papey, Captain Thomas observed some doubtful indications of the use of tools. “On the side wall, near the entrance,” he remarks, “and about six feet from the floor, there is a neatly engraved circle, about four inches in diameter; there is also another stone, with the appearance of two small circles touching each other, cut upon it; but it is so common to find geometrical figures upon the Orkney flags, arising from a semi-crystallization of the pyrites which they contain, that I am unable to decide whether

these are natural or not." The height of the passage where it remains perfect is only two feet seven inches ; but nearly one-half of it is unroofed, and heaps of large stones lying scattered about afford evidence of the great extent of the building when complete. Within and around the area of this ancient structure abundant indications were discovered of its having been used as a dwelling-place. A large accumulation of wood or peat-ashes showed that it must have been occupied for a lengthened period ; and this was further proved by the great quantity of the bones of domestic animals scattered about the place. Those of sheep, apparently of the small northern breed still found in Orkney, were the most numerous ; but besides these, there were skulls and bones of horses and oxen, the skull and portions of the horns of a deer, and a large bone of a whale. A thick layer of the shells of the periwinkle, covered the building and the adjacent ground, mixed sparingly with the oyster, the scallop, the common whelk, and other edible mollusca, which had evidently been consumed in great quantities on the spot. Along with those were also found the antler of a deer artificially severed from the tyne, and a few extremely rude implements, roughly fashioned from the thigh-bone of an ox, and designed apparently as handles for some weapon or cutting implement, most probably of shell or flint. Other Orkney relics of the same class, but exhibiting more completeness of design, and accompanied with attempts at ornament, are described and figured in a subsequent chapter.

This large, though very imperfect example of the dwellings of primitive communities of the ancient population of the Orkneys, may be properly classed with the weems of the Scottish mainland, though it is not entirely subterranean. The floor is nine feet below the natural surface of the ground ; and from the mode by which the

whole appears to have been inroofed with immense overlapping stones, it must have projected somewhat above the surface, and was probably covered over with a raised mound of earth. In this respect it approaches, in some degree, to another class of buildings, chiefly met with in Orkney and the neighbouring districts of Caithness and Sutherland, but which may have been at one time no less common on the whole Scottish mainland. These structures, for which it may be convenient to retain the popular name of *Picts' houses*, are not, strictly speaking, subterranean, but erected generally on the level ground, or, at furthest, excavated in part out of the side of a hill, so as to admit of a level entrance. Externally they are scarcely distinguishable from the larger tumuli, but on digging into the green mound it is found to cover a series of large chambers, built generally with stones of considerable size, and converging towards the centre, where an opening appears to have been left for light and ventilation. These differ little from many of the subterranean weems, excepting that they are erected on the natural surface of the soil, and have been buried by means of an artificial mound heaped over them. Barry has minutely described one, which he calls an "ancient Pick house," opened at Quanterness, near Kirkwall.¹ Another relic of the same class was explored by Mr. George Petrie of Kirkwall, through whose kindness I have been favoured with a minute account of the result of his labours.

In the month of October 1849, attention was directed to a large tumulus or green knoll, which stands about half-way up the western declivity of Wideford-hill, overlooking the beautiful bay of Firth on the mainland of Orkney, and within a short distance of the Pict's house of Quanterness, described in Barry's *History of Orkney*.

¹ *History of Orkney*, p. 99.

Mr. Petrie employed men to make a section into the mound, and himself superintended and assisted in the operation, which proved one of considerable labour, from the large stones and the quantity of clay used in completing the external mound, as well as in the masonry underneath. The building appeared to have been constructed in the following manner. A place for the site having been scooped out of the side of the hill, the cells or apartments were built of large unhewn stones, the walls being made to converge as they rose in height, until they approached to within a foot at top. Externally the work was bounded by a wall of about two feet high. The entire structure was then brought to a conical shape with stones, disposed with considerable regularity and intermingled with clay, over which a thick layer of turf or peat had been laid. The inclosing mound is about one hundred and forty feet in greatest circumference, and forty-five feet in diameter. On penetrating towards the centre, a stone was exposed placed on edge, underneath which lay another, which was found to cover a hole of about a foot square, at the top of one of the lateral chambers. On obtaining entrance to this cell, it proved, like those subsequently opened, to be constructed with walls gradually converging on all sides towards the top; and measured five feet nine inches in length from north to south, four feet eight inches in breadth, and five feet six inches in height. On the west side a low, narrow passage communicated with the central chamber.¹ This was about three-fourths filled with stones and rubbish, heaped up under an opening in the vaulted ceiling. On digging into this, bones and teeth of the horse, cow, sheep, boar, etc., were discovered

¹ A description of this "Pict's house," accompanied with ground-plan and elevations, is given by Captain Thomas, R.N., in his valuable monograph on Orkney Antiquities, in the *Archæologia*, vol. xxxiv. plate xv. p. 136.

mixed with the rubbish, and also some which were supposed to be those of deer, but not a vestige of human bones, or any traces of sepulture.

The main apartment is an irregular oblong vault, ten feet long, five feet in greatest width, and $7\frac{1}{2}$ feet in height from the bottom to the lower edge of the opening already referred to, which had no other covering than the outer layer of turf. Mr. Petrie came to the conclusion, after a thorough examination of the whole, that the rubbish found in this chamber was the debris of some later building erected above the mound, the materials of which must have been precipitated through the narrow opening, as no part of the subterranean structure was found imperfect with the exception of one of the lateral passages. From the floor to the extreme height of the mound is twelve feet. The central chamber is connected by a passage with another cell, measuring five feet seven inches long, four feet wide, and six feet high, from the east side of which a gallery extends a considerable way, until it is abruptly terminated by the native rock. Directly opposite to a short passage by which the cell first entered communicates with the central apartment, is the long gallery, forming the entrance to the building from the western side of the mound. Nothing found in this chambered structure gives countenance to the idea that it was designed as a place of sepulture; though it is possible that the necessities of a ruder, though later age, might lead to the conversion of the rifled catacombs of the dead into abodes for the living. The domestic character of all the contents of the many Scottish weems, however, amply accords with references made by Tacitus to corresponding dwellings constructed by the barbarian Germans; and it appears to be a legitimate inference from some of the remarkable disclosures which have rewarded recent explorations in

the Orkney and Western Islands, that the same ancient people were in the habit of constructing subterranean dwellings and sepulchral chambers, characterized by certain features common to the arts of the period. A careful comparison, however, renders the discrimination between the two sufficiently obvious. The dimensions of the smaller chambers in the Maes-How tumulus and other Orkney chambered barrows, and the stones with which their entrances appear to have been closed, point to the destination of the latter as final resting-places for the dead, and not as the abodes of the living. Perhaps the most remarkable feature about the former, and the one least compatible with their use as dwelling-places, is the extremely circumscribed dimensions of the passages. The whole of them measure about fifteen inches in height by twenty-two inches in breadth, so that entrance could only be obtained by crawling on the ground. But the galleries of some of the sepulchral mounds are still narrower; and it is little less difficult to conceive by what process the deceased were placed in the central vaults, unless they were let down through an opening in the roof. But a recent discovery has placed the sepulchral character of the latter structures beyond dispute. Early in the present year (1863) some labourers employed in trenching a piece of ground on the North Fields farm, in the island of Burray, laid bare a massive stone wall, which proved to be of circular formation. On pursuing their excavations an entrance appeared, similar to that of the gallery leading into the chamber of the Maes-How tumulus, hereafter described, and which conducted to a central compartment containing ten human skeletons and the skulls of four dogs. Continuing their explorations, seven smaller chambers or cists were discovered, each separated from the adjoining compartment by a large flagstone, and containing human skeletons

along with those of dogs. A number of small fish-bones were also observed among the debris. A correspondent of the *Orkney Herald*, who had an opportunity of examining some of the crania, describes the features as of the Esquimaux type, short and broad. Twenty-seven human skulls were counted among the contents of this ancient tumulus, specimens of which, it is to be hoped, have been preserved to illustrate the character of the ancient builders. The arrangements of their low vaults and straitened galleries strikingly illustrate the barbarous state of the people, who were nevertheless capable of displaying so much skill and ingenuity in the erection of these cyclopean structures. It is curious indeed that as civilisation progressed, primitive architecture became not only simpler but meaner. The ingenious builder learned to supply his wants by easier methods; while also the gregarious social ties which such laborious and extensive structures indicate, were exchanged for the more refined separation into families; with, as we may assume, the gradual development of those virtues and affections which flourish only around the domestic hearth.

The first step in the descending scale indicative of the abandonment of cyclopean architecture for simpler and less durable modes of construction, appears in a class of structures of similar character to the "*Picts' houses*," but inferior in their masonry, and generally smaller in size and less complete in design. Examples have been found in various parts of Scotland. They are generally more entirely subterranean than the "*Picts' houses*," and have obviously been retreats of the living, and not sepulchral vaults. They occupy an intermediate position between the "*Picts' house*" and the weem, being excavated for the most part in the side of a hill, so as to admit of an entrance level with the

ground. They are also found more frequently in groups, and have probably been each the dwelling-place of a single family.

Oaken rafters appear to have supplied in these the place of the more ancient cyclopean arch, and the walls are generally built of smaller stones. Weems of this more fragile character have been discovered at Prieston, near Glammis, in Forfarshire; at Alyth and Bendochy, Perthshire; and at Pennycuick, Mid-Lothian, as well as in other districts. One in particular, found at Alvie, Inverness-shire, measured sixty feet in length. These may be regarded as works of a later age than the more massive and enduring structures previously described, contrived when the domestic habits of the old builders had survived their laborious arts and megalithic taste. One of the most singular groups of this class is a series of contiguous excavations, on the ridge of a hill immediately to the north of Inchtuthill, Inverness-shire, known in the district by the name of "the steed's stalls." Seven circular chambers are cut in the side of a steep bank, separated by partitions of about twelve feet thick. The floors are sunk about twenty feet, and each chamber measures fifteen feet in diameter. A long passage of about four feet wide has formed the original ingress; but the rafters, which most probably formed the roof, have long since disappeared, and only a very partial estimate can now be formed of the appearance presented by those singular chambers when complete. What interval of time has elapsed since such primitive dwellings on the mainland were inhabited it is not easy to determine; but the analogous "bothan" or bee-hive houses of Lewis and Harris, occupied down to the present day as the summer shielings of the Hebrideans,—though acknowledged by their modern occupants to be of unknown antiquity,—prove how near to our own time some of those singular

traces of a barbarous condition of society may prove to be.¹

Akin to such subterranean structures are the natural and artificial caves which, in Scotland, as in most other countries, have supplied hiding-places, retreats for anchorites, and even permanent native dwellings; and may be described along with this class, though belonging to many different periods. The natural cave is indeed the most primitive refuge of savage man; and amid the remarkable disclosures which the osseous caverns of England have furnished to Buckland, Owen, Prestwich, Falconer, and other palæontologists, the proofs of the presence of the British Troglodyte and the practice of his simple arts contemporaneously with some at least of the long-extinct fossil mammals, are only less conclusive than those already derived from the Scottish alluvium and superimposed moss. Among the rich fossil treasures which the Rev. J. MacEnery's researches in the famous Kent's Hole Cavern brought to light, the remains of man and his works were only noticed to give weight to geological theories long since abandoned. Professor Owen refers to it with special admiration as "the richest cave-depository of bears hitherto found in England." More recent discoveries, however, have recalled attention to the neglected traces of man; and later explorers revert with ever-increasing interest to the indications of his presence in caverns where some, at least, of the extinct fauna buried beneath its stalagmitic flooring, disputed with him the shelter that it yielded. Fragments of older natural pavings, as well as of the stalactites once pendent from the ceiling, which mingle with the evidences of human sepulture, or the traces of rude arts, in Brixham and Kent's Hole caverns, render man's first appearance there less definite than that which is recorded for us in the

¹ *Proceed. Soc. Antiq. Scot.* vol. iii. p. 127.

harpoons of the Blair-Drummond Moss, or even in some of the primitive canoes of the Carron and the Clyde. But the human remains discovered in those Derbyshire caves are by no means the only examples of such. In the cavern of Goat Hole, at Paviland, in Glamorganshire, Dr. Buckland records the discovery of a female skeleton in close proximity to the skull of a fossil elephant, and both embedded in a mass of argillaceous loam. The human skull, unfortunately, was wanting; but beside the skeleton lay fragments of cylindrical rods of ivory of various diameters, and portions of large rings or armlets of the same material. No traces of metallic instruments were observed, but among the disturbed fragments of limestone and earth was, what Dr. Buckland describes as "a rude instrument resembling a short skewer or chopstick, made of the metacarpal bone of a wolf: sharp, and flattened to an edge at one end, and terminated at the other by the natural rounded condyle of the bone."¹ The aim of the author of the *Reliquiæ Diluvianæ* was to trace the fossil remains of the extinct mammals to the Noahic deluge, and to assign the human remains to a subsequent date. Nevertheless, he remarks:—"The charcoal and fragments of recent bone that are apparently the remains of human food, render it probable that this exposed and solitary cave has at some time or other been the scene of human habitation. The ivory rods and rings are certainly made from part of the antediluvian tusks that lay in the same cave; and as they must have been cut to their present shape at a time when the ivory was hard, and not crumbling to pieces as it is at present on the slightest touch, we may from this circumstance assume to them a high antiquity." In Somersetshire, Glamorgan, Caermarthen, and Yorkshire caverns, similar traces of man have been found, with fragments of his imple-

¹ *Reliquiæ Diluvianæ*, p. 87.

ments and rude pottery, in the same osseous breccia composed in part of human teeth and bones, and of remains of the extinct mammals of the drift. In some, if not in all of the cases referred to, the remains of man may have been inhumed at periods long subsequent to the natural deposition of those of the fossil elephant or cave-bear; but the accompanying works of art in the Paviland cavern furnish remarkable suggestive evidence of the remoteness of the era when they were wrought, and seem to transfer them to a much older period than the remains and works of man exhumed from the drift of Kent's Hole Cave. In the latter case, however, the recovery of portions of the human skull confer on the discovery a special interest. The skeleton was found lying about eighteen inches below the surface, and underneath the superficial deposits in which traces of human art chiefly abounded. "From the tumbled state of the earth," says Mr. MacEnery, "the admixture of flags of stalagmite, added to the presence of flint articles and pieces of slate, it was manifest that the floor had been dug up for the reception of the body, and that it was again covered over with the materials thrown up from the excavation. The earthy covering consisted of the red soil, containing fossil bones mixed up with recent mould."¹ The presence of slabs of stalagmite in the rubble, and the traces of the edges adhering to the sides, showed that the floor was covered with a continuous crust, previous to its disturbance for the admission of the body. The repetition of similar crusts, as indicated by the broken edges at the sides, also showed the recurrence of periods of repose during which new floors were allowed to form, and then were broken up, in some cases at least by the hand of man.

¹ *Cavern Researches, etc., in the Caves of Kent's Hole, Anstis Cove, etc.* By the Rev. J. MacEnery, F.G.S.

The cavern-drift thus enriched with the evidences of many successive changes, also included fragments of pottery, calcined bones, charcoal, and ashes, with other abundant traces of the ancient hearth of the cave-dwellers; over all which the stalagmitic concretions of many centuries had accumulated, sealing up the treasures of the geologist and the archæologist for the instruction of later times. Mantell, indeed, assumes that the Derbyshire caverns were visited by man, and some, at least, of his implements left there before the soft ossiferous mud had received its first stalagmitic covering.¹ Thus the British Troglodyte takes his place among the earliest allophylian colonists of the British Isles; and his remains show that prior to all knowledge of metallurgy, or the practice of any but the rudest primitive arts, the caverns along the Devonshire coast, and doubtless in many other localities, had become the dwellings, the workshops, and also the cemeteries of man.

Both natural and artificially wrought caves abound in Scotland, and especially along the coasts; but no ossiferous caverns of the limestone formation have hitherto been found revealing traces of extinct mammals, or of the remains and works of man, such as render some of those in the southern part of the island the centres of such peculiar interest. In general their archæological attractions depend, for the most part, on the associations of popular traditions connected with comparatively modern history; and with the names of national heroes. Among the latter none are more remarkable, either for constructive art, or historic associations, than the well-known caves beneath the old tower of Hawthornden, near Edinburgh. They have been hewn, with great labour and ingenuity, in the rocky cliff which overhangs the river Esk. No tradition preserves the history or

¹ Mantell's *Petrifactions and their Teachings*, p. 482.

date of their execution, but concealment was evidently the chief design of the excavators. The original entrance is ingeniously made in the shaft of a very deep draw-well, sunk in the court-yard of the castle; and from its manifest utility as the ordinary and indispensable appendage of the fortress, it effectually conceals its adaptation as a means of ingress and communication with the rock chambers beneath. These are of various forms and sizes; and one in particular, pierced with a series of square recesses, somewhat resembling the columbaria of a Roman tomb, is assigned by popular tradition as the library of its later owner, Drummond the Scottish poet. Whatever was the purposé for which these were thus laboriously cut, the example is not singular. A large cave in Roxburghshire, hewn out in the lofty cliff which overhangs the Teviot, has in its sides similar recesses; and from their supposed resemblance to the interior of a pigeon-house, the cavern has received the name of the *Doo-cave*. Authentic notices of the Hawthornden caves occur so early as the reign of David II., when a daring band of Scottish adventurers made good their headquarters there, while Edward held the newly fortified castle of Edinburgh, and the whole surrounding district.

In the glen of the river Ale, which falls into the Teviot at Ancrum, extensive groups of caves occur, all more or less indicating artificial adaptation, as human dwellings; and in other districts similar evidences may be seen of temporary or permanent habitation, at some remote period, in such rude recesses. Along the coast of Arran there are several caves of various dimensions; one of which, at Drumandruin, is noted in the older traditions of the island as the lodging of Fin M'Coul, the Fingal of Ossian, during his residence in Arran. Though low in the roof, it is sufficiently capacious for a hundred men to sit or lie in it. In this, as in pre-

vious examples, we find evidences of artificial operations, proving its connexion with periods greatly more recent than those with which we have chiefly to deal in this section of archæological inquiry. In the farther end a large detached column of rock has a two-handed sword engraved on it, surmounted by a deer; and on the southern side of the cave a lunar figure is cut, similar in character to those repeatedly found on the sculptured pillars and crosses which abound in Scotland. It is now more frequently styled the King's Cave, and described as the retreat of Robert the Bruce, while he lurked as a fugitive in the Western Isles; but, like many traditions of the Bruce, this seems to be of recent origin.

Others of the caves in the island of Arran are variously associated with popular traditions; as, indeed, is generally the case wherever subterranean retreats of any considerable extent occur. Some are the supposed dwellings of old mythic chiefs, whose names still live in the traditional songs of the Gael. Others are the retreats which the primitive confessors of Scotland excavated or enlarged for their oratories or cells. Of the latter class are the cave of St. Molio, with its runic inscription, on the little island of Lamdash; those of St. Columba and St. Cormac, on the Argyleshire coast; of St. Ninian, in Wigtonshire; the Caplawchy cell of St. Adrian, on the east coast of Fife; the celebrated "ocean cave" of St. Rule, in St. Andrews Bay; and that of St. Serf, at Dysart, on the same Fifeshire coast, from which, according to the Aberdeen Breviary, the devil was summarily expelled by its saintly eremite, after he had worsted the intruder in debate. St. Rule's cave consists of two chambers hewn out of the sandstone cliffs of the exposed coast. The inner apartment is a plain cell, entered from the chapel, which is nearly circular, measuring about ten feet in diameter, and has a stone altar hewn in the solid rock

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on its eastern side ; but the action of the sea has of late years greatly injured the venerable oratory. Possibly the singular dwarfish stone of Hoy, in Orkney, owes its origin to a similar source. A huge mass of square sandstone rock, which appears to have tumbled from a neighbouring cliff, has been hollowed out into three apartments, with a fireplace, vent, stone bed, pillow, etc. The traditions of the island preserve strange tales of a giant and his wife who dwelt in this abode, and the *Descriptio Insularum Orcadium*, written by Jo. Ben. (John the Benedictine), in 1592, adds to the account of its internal accommodation the following somewhat whimsical provision for the comfort of the latter,—“Tempore camera-tionis fœmina gravida fuit, ut lectus testatur ; nam ea pars lecti in qua uxor cubuit effigiem habet ventri gravidi.” Others of the rock-hewn oratories are partially completed by means of masonry, as is the case with St. Modan’s Chapel, near the Mull of Galloway, of which a ground-plan is given in the *Characteristics of Old Church Architecture, in the Mainland and Western Islands of Scotland*. St. Carmaig’s Chapel, in Eilean Mor, in the Sound of Jura, and another in the island of Lewis, described by Mr. Muir as almost suspended midway between Dun Othail and the sea, in like manner combine the rock-hewn oratory with artificial masonry. But such cells and chapels, primitive though they seem, belong altogether to the era and arts of very modern times compared with those now under review. Other Scottish caverns of inartificial character and undeterminate age are abundant in the Western Isles, and on the neighbouring coast, where the waves of the Atlantic have wrought them out on a scale far surpassing in extent and magnificence the largest in the interior of the country. Few of these, however, possess features sufficiently marked to distinguish them from similar natural recesses, to be met

with on every rocky coast exposed to the rude buffets of the ocean waves. One exception, indeed, may well claim to be singled out as unmatched by any other work of nature or art, though belonging to an older system than the primeval period of the archæologist. Amid scenery unsurpassed in the interest of its historic associations, or its venerable relics of medieval skill, stands the wondrous natural cave which popular tradition has associated with the favourite name of Fingal.

“Nor doth its entrance front in vain
 To old Iona’s holy fane,
 That nature’s voice might seem to say—
 Well hast thou done, frail child of clay!
 Thy humble powers that stately shrine
 Tasked high and hard—but witness mine!”¹

To those who are curious in investigating such ancient relics, Chalmers furnishes a very ample list of “Natural Caves in every part of North Britain, which have been improved into hiding-places by artificial means.”² The associations with many of these retreats are of the most varied and romantic character; and few districts of the country are without some wild or thrilling legend or historic tradition relating to such caverned shelters of the patriot, the recluse, or the persecuted devotee.

¹ *Lord of the Isles*, Canto iv.

² *Caledonia*, vol. i. p. 97.

CHAPTER V.

TEMPLES AND MEMORIAL STONES.

THE ideal associations with the future and the past, which find some outward manifestation even in the rudest state of society, seem to spring from that longing after immortality which affords so strong an evidence of its truth. To this principle of the human mind is clearly traceable the origin of the commemorative erections which abound wherever man has fixed his resting-place. The most primitive of these ancient memorials are the unhewn columns or *standing-stones*, as they are called, which abound in nearly every district of Scotland. Occasionally they are found in groups, as the celebrated "standing-stones of Lundin," near the Bay of Largo, Fifeshire, the largest of which measures sixteen feet in height above ground. Three only now exist, singularly rude and irregular in form, but the stump of a fourth remained when the account of Largo parish was written in 1792.¹ It has since been destroyed by treasure-seekers, tempted probably by the good fortune of others; for in the vicinity have been discovered, during the present century, some of the most interesting and valuable antiquities ever found in Scotland.

Of single memorial stones examples might be cited in nearly every Scottish parish; nor are they wanting even in the Lothians, and in the immediate vicinity of Edin-

¹ Sinclair's *Statist. Acc.* vol. iv. p. 546.

burgh, where the presence of a busy population, and the unsparring operations of the agriculturist, have done so much to obliterate the traces of older generations. But nearly all are of the same character, differing in nothing but relative size, and the varying outlines of their unhewn masses. They have outlived the traditions of their rearers, and no inscription preserves to us the long-forgotten name. We are not left, however, to look upon them as altogether dumb and meaningless memorials. The history of a people contemporaneous, it may be, with their builders, reminds us how even the unsculptured obelisk may keep alive records committed to its trust, and prove faithful to those for whom it was designed. "It came to pass," says Joshua, "when all the people were clean passed over Jordan, that the Lord spake, saying: Take you hence out of the midst of Jordan, out of the place where the priests' feet stood firm, twelve stones; that when your children ask, in time to come, saying, What mean these stones? then ye shall answer them." Some of those rude memorials still remaining in the districts immediately surrounding the Scottish capital, suffice to show the enduring tenacity of popular tradition. The *Hare Stane* on the Borough Moor of Edinburgh, celebrated in the lay of Marmion as the support of Scotland's royal banner—

"The massive stone,
Which still in memory is shown,"

affords one example of this. Kemble regards *ða hára stán*, so frequently mentioned in the boundaries of the *Codex Diplomaticus*, as signifying nothing more than the hoary or ancient stone.¹ But an earlier writer, Mr. William Hamper, has elaborately elucidated the derivation of the name as applied in England, and the use of the HOAR STONES,² the *menhars*, or bound stones, as stones of

¹ *Archæol. Journ.* vol. xiv. p. 132.

² *Archæologia*, vol. xxv. p. 24.

memorial, like "the stone of Bohan, the son of Reuben," and other ancient landmarks of Bible story.¹ As such the "Hare Stane" may be regarded with considerable probability as marking the western boundary of the ancient chase, claimed from time immemorial by the neighbouring capital; but if so, its name has long survived all popular recollection of the meaning which it bore. The same term, *hare stanes*, is applied to a circular group of stones near Kirkdean, in the parish of Kirkurd, Peeblesshire. It would appear, however, to have been more frequently used in Scotland in the most sacred sense of a memorial: judging from examples of its application as the designation of cairns, some of which, at least, and probably all, are sepulchral monuments. Among these are the Haer Cairns in the parish of Clunie; the Haer Cairns of Blairgowrie and Kinloch, Perthshire; the Hier Cairns of Monikie, Forfarshire; the Herlaw, a gigantic cairn in the parish of East Kilbride, Lanarkshire; the more celebrated Harlaw of Aberdeenshire; the Harelaw at Lochore, Fifeshire; and another in the same county, near Burntisland, where were found underneath the cairn a cist containing a skeleton with a bronze spear-head lying beside it.

Not far from the Hare Stone on the Borough Moor of Edinburgh, formerly stood another monolith termed the Camus Stone, occupying the brow of the hill at Fairmilehead, about two hundred yards south of the present toll-house; but which, though it gave name to a neighbouring estate, and formed the march-stone of its eastern bounds, was barbarously destroyed within memory of the present generation, to furnish materials for repairing the road! This name, whatever be its true derivation, is attached to numerous Scottish localities. In the example here referred to, as well as in the Camus Stone of Kintore,

¹ Deut. xix. 14; Joshua xv. 6; xviii. 17; Prov. xxii. 28, etc.

Aberdeenshire, and in that near the village of Camus-town, Forfarshire, vague traditions associated the stones with the name of a supposed Danish chief; but these are probably comparatively modern inventions. The name of Combust figures among the list of Pictish kings;¹ but the meaning of the term is rather to be looked for in the correspondence of local peculiarities, as in Cambusbarron, Cambuslang, Cambusnethan, etc., where it is understood to indicate a promontory or bank enclosed by a crooked stream, from the Celtic, *cam*, crooked.² These Cambus-stones have all probably served as landmarks, or hoar stones; though answering also, it may be presumed, at times, like Laban and Jacob's Pillar, as the memorial of some high contract between friendly or rival chiefs.

Other stones are associated with a variety of historical and legendary traditions, altogether modern when compared with the periods which our investigations aim at elucidating; though it must not be overlooked that the associations of a later age may frequently attach themselves to the memorials of earliest times. Such is the case, for example, with the "King's Stane" of Clackmannan, associated even in the days of Blind Harry, with a local tradition of the Bruce. According to the authority of an eminent Celtic antiquary,³ the name, Clack-mannan, is derived from a great stone which was there when the territory was called *mannon*, as the debateable ground on the confines of the Scots, Picts, Britons, and Saxons. Of the same class is the "Witch

¹ Wyntoun's *Cronykis*, book v. chap. vii. fol. 88.

² Gael. *cam*, crooked; *camus*, a bay. The prefix *cam*, or crooked, enters into many Gaelic compounds and proper names. Dr. Reeves remarks (*Life of St. Columba*, p. 97), "The name *camas* is supposed to be compounded of *cam-as*, crooked stream; and in Ireland there are twelve townlands of the name. In Scotland it is sometimes called *camus*, as in Argyleshire, and sometimes *cambus*, as in Lanark and Perth."

³ Dr. Reeves, *Adarnan's Life of St. Columba*, p. 371.

Stane" near Cairnbeddie, Perthshire, associated with local traditions rendered world-famous by Shakspeare's great drama ; where, according to ancient belief, Macbeth met by night with two celebrated witches to advise on the fate of his kingdom. When Cairnbeddie Mound was opened, about thirty years since, a quantity of very small iron horse-shoes, with fragments of swords, and other weapons of the same metal, were found ; so that it is doubtless the sepulchral memorial of some old and hard-fought battle-field, in which, perchance, the great usurper may have played his part. Another stone in the neighbouring parish of Meigle, a huge mass of unhewn trap, bears the name of "Macbeth's Stane ;" and various local traditions with which his name is associated, add



FIG. 5.—Dunbar Standing Stone.

to the probability of some true foundation for popular belief.

Grey memorial stones, of which all the associations of venerable tradition have perished with the generations that are gone, still survive in dumb forgetfulness, in many

a populous centre of the low country, as well as on the lonely highland moor. But it is needless to enumerate them. The accompanying illustration, Fig. 5, shows one such fine monolith, which stands in massive rudeness in the vicinity of Dunbar, amid scenes associated with Scottish warfare of many widely separated eras. In a neighbouring field a number of rude cists, containing sepulchral urns, were dug up in the early part of the present century; but no local tradition pretends to associate the Dunbar Stone with any definite deeds of olden times.¹ Proofs, however, of the use of the rude pillar-stone, as well as of the megalithic group, as land-marks, stones of memorial, or evidence of treaties and solemn engagements, occur at comparatively recent dates; though in most cases these are mere reappropriations of the monuments of ages beyond the memory of man. Their mention is not uncommon in charters and deeds relative to the holding of courts and the boundaries of lands, as in the following, in the *Registrum Episcopatus Aberdonensis*:—"Thir are the boundis own my lord of Athollis syde, the stannande staine merkit like a horse-sho, and the dik passande fra the samme staine to the burg, and syne be zound the stripe beweste the smedy of Balmany." The *Saxum Falconis*, or "Hawk Stane," at St. Madoes, Perthshire, which stands on the marches of what is known to have been the ancient possession of the Hays of Errol, and still bounds the parishes of St. Madoes and Inchtute, is referred to by Boece as existing in his day (1500), and as having been set up immediately after the defeat of the Danes in the battle of Luncarty, fought *circa* A.D. 990. The victory is ascribed, according to a well-known tradition, still commemorated in the armorial bearings of the Hays, to the timely interference of a Scottish peasant and his two sons:—"Sone

¹ *Notices of Stone Crosses, etc.*, by James Drummond, R.S.A., F.S.A. Scot.

after ane counsal was set at Scone, in the quhilk Hay and his sonnys war maid nobil, and dotad, for their singular virtew provin in this feild, with sindry landis to sustene thair estait. It is said that he askit fra the King certane landis liand betwixt Tay and Arole ; and gat als mekil thairof as ane falcon flew of ane mannis hand, or scho lichtit. The falcon flew to ane toun four milis fra Dundee, called Rosse, and lichtit on ane stane, quhilk is yit callit The Falcon Stane ; and sa he gat al the landis betwix Tay and Arole, six milis of lenth, and four of breid ; quhilk landis ar yit inhabit be his posterite.”¹ Here it will be seen that the “ Hawk Stane,” which still perpetuates historical traditions concerning the pagan Danes, is described as even then standing, the work of far older generations, appropriated by the peasant founders of a noble line to be a memorial of their patriotic deeds.

The sacredness which naturally attached to landmarks, in early times, and of which we have remarkable evidence in Old Testament references to them, was doubtless no less strongly felt in relation to all stones of memorial, the enduring parchments of an unlettered age. When their specific purpose had been forgotten, their sacredness survived ; so that they seem to have been regarded, long after the close of pagan centuries, like the mediæval altar, as the inviolable witness of any agreement. The following curious evidence of this feeling occurs in a deed in the possession of Mr. W. H. Fotheringham, dated at Kirkwall in 1438 :—“ Till all and synd lele folk in Cryste, to quhais knowlege yir pnt. wris. sal cum, Henry Randall, lawman of Orknay, John Naraldson, balze off Kirkwaw, Jamis off Lask, Greeting in Gode . . . make kend that we, the forsaide, bystude saw and onherde, and for witesse wes taue, quhene y^t John off Erwyne and Will. Bernardson swor on the Hirdmane Stein before owre

¹ Bellenden's *Boece*, book xi. chap. viii.

Lorde y^e Erle off Orknay and the gentiless off the cuntre, that thay bystude saw and onherde, and for witsesse wes tane quhene that Tho^s. Sincler, y^e son off quihln Davy Syncler, callit in y^e vestre in Sant Mawing Kirk, John of Kirkness," etc. In this comparatively recent transaction we have probably a very accurate illustration of the ceremonial which accompanied the erection of a hoare-stone, or stone of memorial, whether as a landmark or the evidence of some solemn treaty. The document from which it is extracted has a further interest in connexion with early Scottish history. Its date is thirty years prior to the marriage of James III. of Scotland with Margaret of Denmark, when Orkney was first annexed to the Scottish Crown; yet it is written throughout in the language of Saxon Scotland.

The Cat Stanes found in various parts of Scotland, apparently derive their name from the British *Cad* or the Gaelic *Cath*, signifying a battle, and therefore may be assumed to mark the scene of some ancient conflict. In the immediate neighbourhood of the Camus Stone near Edinburgh, formerly stood two very large conical cairns, styled the Cat-stanes, until demolished by the same irreverent utilitarians who had found covetable materials in the rude memorial stone. Underneath the cairns were cists containing human skeletons and various bronze and iron weapons. Two iron spear-heads found in them are now preserved in the mansion of Mortonhall; and according to the description of other relics formerly possessed by a neighbouring farmer, they would appear to have also contained celts and other weapons of bronze. A few yards to the north-west of the site which these cairns occupied, there still stands the Kel or Caiy Stone, a mass of the red sandstone of the district, measuring above eleven feet in height. On digging in the neighbourhood of this primitive monument a quantity

of human bones were found, irregularly interred, without cists or urns; and not far from it are still visible the rude earthworks of a British camp. Much more extensive intrenchments of an oval form existed in the immediate neighbourhood, prior to the construction of the new road, and are described by General Roy in tracing one of the Roman iters.¹ Another monolith stands within the Mortonhall grounds, at about half a mile distant from the site of the Cat-stanes, and two larger masses lying together in its vicinity are not improbably the remains



FIG. 6.—The Cuiy Stone.

of a ruined cromlech. Here, perchance, has been the battle-ground of ancient chiefs, contending, it may be, with some fierce invader, whose intruded arts startle us with evidences of an antiquity which seems primeval. The locality is peculiarly suited for the purpose. It is within a few miles of the sea, and though enclosed in an amphitheatre of hills, it is the highest ground in the immediate neighbourhood, and the very spot on which a retreating host might be expected to make a stand ere

¹ Roy's *Military Antiquities*, p. 103.

they finally betook themselves to the neighbouring fastnesses of the Pentland Hills.

The rearing of stones of memorial on the scenes of victory is a custom of many early nations, and one so consonant to our natural instincts that it has not even now entirely fallen into disuse. The Bauta-stein of Norway and Denmark corresponds in its signification with the Cat-stane of Scotland, nor are there wanting examples of Scottish monoliths surrounded like the Danish ones with a pile of small stones at their base; such as the Clach Stein at Bible in Lewis, and the remarkable Clach an Druidean, or Stone of the Druids, in the same island, which stands above sixteen feet high.

“The Gaelic people,” says Chalmers,¹ “did sometimes erect memorial stones; which, as they were always without inscription, might as well have not been set up.” But, independently of the fact that these monuments of the remote past have long since accomplished the original purpose of their erection, it is obvious that some of them can still furnish an intelligible response to those who ask, “What mean these stones?” Many, however, it is true, have waxed dumb in the lapse of ages, and hold a more mysterious silence than that which surrounded the long-guarded secrets of Egypt’s memorial stones. Some are perhaps the last solitary columns which mark the site where once the “Druid circle” and its mystic avenue covered the plain. Remote and widely severed stones may thus be parts of the same systematic design: as is rendered sufficiently probable when we remember that that of Avebury numbered even in the days of Stukeley six hundred and fifty stones, though then by no means perfect; and that of Carnac in Brittany extends over an area of eight miles in length. So common are

¹ *Caledonia*, vol. iii. p. 233.

they still in Scotland that Chalmers, dispensing with his usual laborious accumulation of references, contents himself with this very comprehensive one: "See the Statistical Accounts *everywhere!*"

Other monoliths are probably the TANIST STONES,¹ where the new chief or king was elected, and sworn to protect and lead his people. One at least, the most famous of Scottish Tanist Stones exists, and still mingles the primitive elements of our most ancient popular elective monarchy, with the gorgeous coronation services in Westminster Abbey. The celebrated *Lia Fail*, or Stone of Destiny, is that which, according to Scottish chroniclers, Gathelus, the Spanish King, a contemporary of Romulus, sent with his son when he invaded Ireland; and on equally trustworthy authority it is affirmed to have been the veritable pillow of the Patriarch Jacob, which he set up as a memorial stone, on the scene of his wondrous vision!

"A gret stane this Kyng than had,
That fore this Kyngis sete was made,
And haldyne wes a gret Jowale
Wytht-in the Kyuryk of Spayne hale.
This Kyng bad this Symon ta
That stane, and in-tyl Yrland ga,
And wyn that land and occupy,
And halde that stane perpetually.

Fergus Erc son fra hym syne
Down descendand ewyn be lyne
In to the fyve and fyfty gre,
As ewyne recknand men may se,
Broucht this Stane wytht-in Scotland,
Fyrst quhen he come and wane that land.

Now will I the werd rehers,
As I fynd of that Stane in wers;
*Ni fallat fatum, Scoti, quocumque locatum
Invenient lapidem, regnare tenentur ibidem.*"²

¹ Gael. *Tanaiste*, a thane or lord, the next heir to an estate.

² Wyntoun's *Chronykil*, book iii. chap. ix.

The Lia Fail is believed to have served for many ages as the coronation throne of the monarchs of Ireland; and according to Irish bardic traditions, to have borne testimony to the divine right of sovereignty by roaring beneath the legitimate monarch when seated on it at his inauguration! It was removed to Scotland, and deposited at Icolmkil or Iona, for the coronation of Fergus Mor Mac Eare, a prince of the blood-royal of Ireland.¹ It was finally translated from Iona to the Abbey of Scone, when the Scotie kings had extended their sovereignty over the ancient kingdom of the Picts. In Saxon Scotland it bore the name of the "King's Stone," and was regarded as the national palladium, until Edward I. in 1296 ordered it to be conveyed to Westminster, as an evidence of his absolute conquest of the kingdom.² But the evidence failed, and the older prophecy holds good that wherever that stone rests princes of Scottish blood shall rule the land; though the Lia Fail no longer gives audible testimony to the legitimate heir. It can hardly fail to impress the thoughtful mind, as a singular link between eras so widely severed, not by time only but by every social and political change, that the rude Tanist Stone belonging to a period dimly cognisable in the remotest past, still forms a part of the coronation chair of the British sovereign in Westminster Abbey. The use of the Tanist Stone, like so many other primitive customs, appears to be of Eastern origin, and is traceable to a very remote era. Thus when Abimelech was made king, it was *by the pillar which was in Shechem*;³ and when Jehoshaphat was anointed king by Jehoiada, *the king*

¹ *Transac. Royal Irish Academy*, vol. xviii. p. 159. Dr. Petrie challenges the pedigree of the Scottish Lia Fail, and even goes some length to establish the reputation of a stone at Tara as the genuine one; but the Scottish stone has too faithfully fulfilled its character as the Stone of Destiny to admit of any such unaccredited rival!

² *Vide Hailes' Annals*, vol. ii. p. 242, *note*.

³ Judges ix. 6.

stood by a pillar, as the manner was.¹ Whilst, therefore, this Tanist Stone preserves for us a memorial of our most ancient hereditary monarchy, it serves to connect the dawn of Scottish historic ages with rites and institutions inherited from prehistoric times. From the earliest trace of definite traditions, the standing-stone appears to have been among the most sacred attestations of every solemn covenant, including that between the elected chief or king and his people; and hence the superaddition of those peculiar virtues supposed to attach to the ancient Scotie Lia Fail.

The perforated standing-stones constitute another class specially inviting notice, from curious traditions which still survive connecting them with Pagan rites and superstitions. Such stones were probably once common both in Scotland and England. The Anglo-Saxon laws repeatedly denounce the superstitious practices to which they were applied; and the ecclesiastical authorities no doubt followed up these by the destruction of the abused monuments of antiquity, so that they are now of very rare occurrence. One of those perforated stones occupies the centre of a megalithic circle at Applecross, in the west of Ross-shire. Another forms one of the stones of the double circle at Tormore, in Arran, styled *Siudhe choir Fhionn*, or Fingal's caldron seat; and is commemorated in venerable Highland traditions as the stone to which the Celtic hero was wont to tie his dog Bran. Immediately adjoining the Tormore circle are three rude monoliths, rising about fifteen feet above the surface of the moor. At Onich, in Balahulish, Argyleshire, a monument of the same class, nearly seven feet high, bears the name of *Clack-charra*, or the stone of vengeance; and is associated with a tradition of the slaughter of two sons of Cummin of Inverlochic, in

¹ 2 Kings xi. 14.

revenge for wrongs perpetrated on the bride of one of his vassals. The stone stands on a wild moor, opposite the entrance to Glencoe, and is perforated with two circular holes, large enough to admit of the arm being passed through them.

Along with those Scottish examples a group in the parish of Maddern, Cornwall, may be noted, consisting of three stones, the centre one of which is pierced with a large circular hole, through which, Borlase informs us,¹ rheumatic patients were wont to crawl as a sovereign remedy for their disease. Tradition has preserved curious associations of a more modern character with one of the most interesting Scottish examples, which may throw some light on the use to which such perforated pillars were devoted at an earlier period of our island history. The celebrated *STONE OF ODIN*, near the Loch of Stennis, in Orkney, which has had a new interest added to it by being interwoven with the romantic incidents of Scott's "Pirate," was one of the remarkable monolithic group called *The Stones of Stennis*. It formed no part, however, either of the Great Ring of Brogar, or of the neighbouring circle of Stennis, but stood apart, to the north-east of the latter group; though it can scarcely be doubted that it bore some important relation to those ancient and mysterious structures. The Stone of Odin is described as standing about eight feet high, and perforated with an oval hole large enough to admit a man's head. A curious, though rudely executed bird's-eye view of the Stones of Stennis is given in the *Archæologia Scotica*,² from a drawing executed by the Rev. Dr. Henry, about the year 1780; and there a man and woman are seen interchanging vows, plighted by the promise of Odin, which Sir Walter Scott refers to as "the most sacred of northern rites yet

¹ Borlase, p. 177, Plate xiv.

² *Archæol. Scot.* vol. iii. p. 122.

practised among us." The vow was sworn while the engaging parties joined hands through the perforation in the stone ; and though it is difficult to decide how much of the tradition may be ascribable to modern embellishment, and the adaptation of a genuine heirloom of primitive superstition to the preconceived theories of local antiquaries, there cannot be a doubt of the popular sacredness attached to this sacramental stone. An illustration of the practice, adapted to the refinements of a later age, is supposed to be traceable in an ancient Norse custom, described in the *Eyrbyggja Saga*, by which, when an oath was imposed, he by whom it was pledged passed his hand, while pronouncing it, through a massive silver ring sacred to this ceremony.¹

The solemnity attached to a vow ratified by so awful a pledge as this appeal to the Father of the Slain, the severe and terrible Odin, continued to maintain its influence on the mind till a comparatively recent date. Dr. Henry, writing in 1784, refers to the custom as having fallen into disuse within twenty or thirty years of the time he wrote, and adds : " this ceremony was held so very sacred in those times, that the person who dared to break the engagement was counted infamous, and excluded all society." Principal Gordon, of the Scots College, Paris, who visited Orkney in 1781, thus refers to a curious illustration of the latest traces of this venerable traditionary relic of Scandinavian superstition :²—" At some distance from the semi-circle stands a stone by itself, eight feet high, three broad, nine inches thick, with a round hole on the side next the lake. The original design of this hole was unknown, till about

¹ *Eyrbyggja Saga* : *Abstract Illust. of Northern Antiquities*, p. 479.

² Sir Walter Scott speaks of this ceremony as confined to the lower classes, at the time of his writing the *Pirate* ; but this is contradicted by the statement of Dr. Henry, and there is every reason to believe that it had fallen at a much earlier period into disuse.

twenty years ago it was discovered by the following circumstance: A young man had seduced a girl under promise of marriage, and she proving with child, was deserted by him. The young man was called before the Session; the elders were particularly severe. Being asked by the minister the cause of so much rigour, they answered: You do not know what a bad man this is; he has broke the promise of Odin. Being further asked what they meant by the promise of Odin, they put him in mind of the stone at Stenhouse, with the round hole in it, and added, that it was customary when promises were made, for the contracting parties to join hands through this hole; and promises so made were called the promises of Odin."¹

It is possible that the awe which the vow of Odin so recently inspired may have originated in the use of the stone for more dreadful purposes than the most solemn contract, sealed with imprecations derived from a barbarous Pagan creed; though little value can be attached to a tradition—described by Dr. Henry as existing in his time,—that human victims destined for sacrifice were bound to the perforated column, preparatory to their slaughter as an acceptable offering to the terrible god. Another stone, on the north side of the island of Shapinshay, bears the name of the Black Stone of Odin; but no definite associations are now attached to it, and its sole value is as the march stone between the grounds of two conterminous heritors.² A more trustworthy tradition which ascribed peculiar virtues to the Stennis Stone, manifestly corresponding with those referred to by Borlase in connexion with one at Maddern, and denounced in ancient Anglo-Saxon laws, is interesting from the proof it affords of the uniform character of the ancient superstitions, from Land's End to the re-

¹ *Archæol. Scot.* vol. i. p. 263. ² *Sinclair's Statist. Acc.* vol. xvii. p. 235.

mote Orkney Isles. According to this a child passed through the hole would never shake with palsy in old age. The practice exhibits a sagacious anticipation of future ills, the hole being too small to admit of the remedy being made available when most required.

A view of this remarkable memorial of ancient manners and superstitious rites, is given in Lady Stafford's *Views in Orkney, and on the North-eastern Coast of Scotland*, drawn in 1805. But the stone itself no longer exists. After having survived the waste of centuries, until it had nearly outlived the last traditional remembrance of the strange rites with which it had once been associated, it was barbarously destroyed by a neighbouring farmer, in the year 1814, along with two stones of the adjacent semi-circle. Had it not been for the interference of Mr. Malcolm Laing, the historian, the whole group of Stennis would have suffered the same fate, to furnish building materials for the ignorant Goth's cow-sheds. The act was the less culpable, perhaps, as the perpetrator was a stranger who had only recently taken up his abode in Orkney. Proof, however, was thereby afforded that the native reverence for the venerable memorial had not entirely disappeared; as its destroyer's life was rendered miserable by the petty persecutions with which his neighbours sought to revenge the loss of their sacramental stone. So far, indeed, was this manifestation of popular indignation carried, that various conspiracies are said to have been formed to injure him, and two different attempts were made to set fire to his dwelling and property:¹ sufficiently manifesting that the old spirit of veneration for the stone of Odin was not unknown to the modern Orcadian.

A more remarkable class of monumental stones remains

¹ Peterkin's *Notes on Orkney*, p. 21.

to be described, including the singular sculptured pillars peculiar to Scotland, the runic monuments of the islands and mainland, and the inscribed crosses and slabs of early Christian workmanship. But those necessarily belong to periods long posterior to that when the rude aboriginal Caledonian possessed no other tools than the stone hammer and the flint chisel or arrow-head ; and will be more properly considered along with other memorials of later origin.

In the investigations of the archæologist, even though devoted, as this inquiry is, to the monuments of a single nation, and limited to an extremely circumscribed area, he frequently finds that he is dealing with the evidences of certain phases of progressive civilisation in the history of the race. The further research is pursued, this becomes the more apparent ; and we learn, without much surprise, that the ancient tumuli of the American continent, which present an external resemblance to those of Europe, are found to contain, amid many relics peculiar to the new world, stone celts, flint and bone arrow and lance heads, and other primitive weapons and implements so precisely resembling those disinterred from early British barrows, that the most experienced eye could hardly tell the one from the other. Yet in this we have no evidence of affinity of race, or of mutual intercourse between the rude aborigines of Europe and America. The same correspondence characterizes the primitive arts found in the north of Europe, in the steppes of Asia, in the ancient tumuli near the Black Sea, and even mingling with the evidences of earliest civilisation on the banks of the Tigris and the Nile ; and reappears in the ingenious handiwork of the Polynesian and Red Indian savage. We must look, therefore, for the means of accounting for it, to some cause operating naturally at a certain stage of development

in the human mind. It is the first manifestation of man's skill as a tool-making and tool-using animal, and furnishes singular evidence of the instinctive faculties which belong to him in common with the lower animals; though few and uncertain traces of these remain distinguishable where civilisation has fostered the nobler faculty of reason, and brought it into healthy and vigorous play.

It is not unworthy of note, in the exhibition of a more advanced stage of the same development of features pertaining to the human mind in its progressive civilisation, that there seems also to have been an epoch in the early history of man, when what may be styled the megalithic era of art has been developed under the utmost variety of circumstances. In Egypt it was carried out, with peculiar refinement, by a people whose knowledge of sculpture and the decorative arts proves that it had its origin in a far deeper source than the mere barbarous love of vast and imposing masses. In Assyria, India, Persia, and throughout the Asiatic continent, this megalithic taste appears to have manifested itself among many independent and widely severed races. In Central America and Peru, nations parted apparently by impassable oceans from the Old World, have left enduring evidences of the same psychological phenomenon; and in the north of Europe, under circumstances no less widely different from all, numerous monolithic columns and groups attest the pervading idea. In our own island, more especially, where now we are content to build a monumental obelisk, just as we do a cotton-mill chimney, with successive tiers of stone, we possess some of the most remarkable remains of this peculiar class. The destructive encroachments of civilisation, and the ruthless assaults of the quarrier and builder, have done much to obliterate those sin-

gularly interesting memorials of primitive antiquity. Already the vast temple of Avebury has all but disappeared, like an old ripple-mark of the tide of time. But there still remain, in the huge cromlechs, circles, and standing-stones scattered throughout the land, abundant evidence of the influence of the same peculiar taste on the early races of the British Isles, originating, as I conceive, in an unconscious aim at the expression of abstract power.

The convenient terms of Druid temples and altars long supplied a ready resource, in the absence of all knowledge of the origin or use of the megalithic circle and cromlech. But the latter has at length been restored to its true character as a sepulchral monument by the very simple process of substituting investigation for theory ; and guided by indications recovered in the course of similar research, some intelligent observers have been tempted to ascribe a sepulchral origin to the stone circle also. In some cases, as in the smaller circle at Stennis surrounding a ruined cromlech, and in others which are still accompanied by traces of the enclosed barrow or cairn, the inference is well founded ; but as a theory of general application, it is unsustained either by evidence or probability. Mr. John Stuart appends to his descriptions of the sculptured stones of Scotland, a valuable summary of the results of investigations made within the areas of Scottish circles, and disclosing abundant proofs of their selection at some period as places of sepulture.¹ The inference, however, that this was their primary purpose is very imperfectly sustained by such evidence. No central cist or catacomb, as in the encircled tumulus or buried cromlech, shows the subordination of the megalithic group to some royal mausoleum or cemetery of the tribe. A people in the condition

¹ *Sculptured Stones of Scotland*, pp. xii.-xxv.

indicated by the primitive arts and sepulchral rites of early British graves, would naturally select such spots for interment. They accord with the principle of selection even of civilized man, under circumstances where he is compelled to choose a comrade's grave remote from the sacred soil in which he might rest with kindred earth ; and the practice of barbarian tribes, such as the Red Indians of America, amply illustrates the same tendency. They constantly inter their dead in the ancient mounds, or alongside of any standing-stone or prominent landmark ; and thus appropriate memorials which originally bore no sepulchral significance. The cists and urns, therefore, found within the megalithic circles, may rather be assumed to mark a stage subsequent to that of their erection and the practice of the rites to which they were set apart. But the specific idea implied in their popular name of Druids' temples may be considered as finally abandoned, along with much else on which that convenient term was supposed to confer some significance. After the devotion of many learned volumes to the attempted elucidation of Druidism, the subject has lost little of its original obscurity ; and we follow a safer, if it be a less definite guide, in tracing the peculiar character of the so-called Druidical monuments to feelings which appear to have exercised so general an influence on the human race. The idea of the origin of these megalithic structures from some common source seems to have suggested itself to many minds. Colonel Howard Vyse, when describing the great hypæthral court, surrounded with colossal figures, which stands before the rock temple of Gerf Hossein, the ancient Tutziz, remarks :—“ The massive architraves placed upon the top of these figures reminded me, like those at Sabooa, of Stonehenge ; and it is not improbable that, together with religious traditions, the art of build-

ing temples may have even reached that place from Egypt."¹

To speak, as some writers do, as if the mechanical and engineering knowledge by which the Egyptians were able to quarry and erect their gigantic monoliths had become even a greater mystery to us than the hieroglyphic legends which they inscribed on them; is manifestly a hasty and unfounded assumption. It is the taste, and not the skill, which is wanting. The modern eye is satisfied with the perfect proportions of the monumental column, without seeking the barbaric evidence of difficulties overcome implied in the lifting of it in one mass upon its pedestal. A few years since the workmen in Craigleith quarry, near Edinburgh, disengaged a mass of the fine sandstone of the district, capable of rivalling the colossal obelisks of Egypt; but the proprietor in vain advertised the feat, in the hope that some committee of taste would avail itself of the opportunity of once more erecting a British monolith of primitive mass; and he had at last to break it down into cubes adapted to the ordinary wants of the modern builder. When, however, such a feat has to be accomplished as the spanning of the Menai Straits with a railway viaduct, no lack of engineering skill is felt in coping with difficulties which may stand comparison with the most gigantic of the self-imposed feats of the old Egyptian builder.² We may fairly presume, therefore, that we have left the megalithic era behind us, not by the oblivion of former knowledge, but by the progress of the human mind beyond that stage of development when it finds its

¹ *Pyramids of Gizeh*, vol. i. p. 54.

² The Menai tubes, composed of wrought-iron plates, measure each 1524 feet in length, and the weight of the whole is estimated at 10,540 tons. This enormous structure had to be raised a height of 100 feet, and thrown over an arm of the sea 1100 feet in width, and navigable by the largest ships.

highest gratification in such displays of rude magnificence and vast physical power.

The Stones of Stennis, already referred to as the Orca-dian Stonehenge, are unquestionably the most remarkable megalithic group in Scotland, and indeed, if we except the great temple of Salisbury Plain, in the British Isles. Without entering meanwhile into any investigation of the evidence which various writers have derived from northern mythology or popular traditions, with a view to throw light on the probable date of their origin, or the character of their builders: it furnishes a rational basis for the classification of such ancient monuments among the remains of the Primeval Period, that they exhibit no indication of having been hewn or shapen with tools. Unless the perforation of the stone of Odin be an exception, the columns have been set up just as they were dislodged from the earth; and we have only to account for their separation from the parent strata, and their erection on the site which they still occupy. In this respect they correspond with the more ancient English temple of Avebury rather than with that of Stonehenge; which belongs to an era when efficient metallic tools, whether of bronze or iron, must have supplied the means of hewing the gigantic columns into some degree of uniformity, and fitting the lintels to the upright columns by means of the mortice and tennon, still discoverable amid the ruins of that wonderful monument of ancient skill. We are not altogether without some evidence to induce the belief that the early Caledonian did dislodge and cleave into amorphous columns the unquarried rocks with which his native soil abounded, when armed with no fitter tool than the stone wedge and hammer. Reference has already been made to the process of rubbing or grinding a series of indentations in the line of fracture, resorted to in the Guernsey crom-

lech of L'Ancrese Common, as well as in the Witch's Stone of Bonnington Mains, apparently for the purpose of reducing such amorphous masses to the desired proportions ; and other disclosures seem to furnish illustrations of the same process. The Rev. James Little, in communicating to Sir John Sinclair an account of the antiquities of the parish of Southwick, in Kirkecudbright, mentions the discovery, on the estate of Southwick, "in the middle of a large granite stone, when blasted with gunpowder, in a socket exactly fitted to it, of a piece of the same kind of substance, smooth and polished, in form somewhat resembling a rude hatchet, about nine inches long. The virtuosi to whose inspection it was submitted did not hesitate immediately to pronounce it to be a hatchet which had been used by the Druids in performing sacrifices ; which conjecture they imagined warranted by the vestiges of a Druidical temple very near where it was found."¹ The reverend Statist rather inclines to regard it as a *lusus nature*. A few years later another was found, under similar circumstances, in a cavity of an enormous mass of stone, on the farm of Mains, near Dumfries. It was also of polished granite ; and from the outline of it in the *Archæologia*, no doubt can be entertained of its being a genuine stone wedge or celt.² Still it is not meant to assume from this that all such monuments were erected prior to the introduction of metals, but only that they indicate an origin coeval with the state of civilisation in which the use of metallic implements was, at best, but imperfectly known ; and when the massive size of those rude unhewn monoliths abundantly satisfied the human mind, in its desire for a visible shrine adequate to the awful mysteries shadowed forth in the mythology of a primitive people.

¹ Sinclair's *Statist. Acc.* vol. xvii. p. 110.

² *Archæologia*, vol. vii. p. 414.

The site of the celebrated Orkney group is perhaps little less remarkable than the venerable monuments to which it owes its name. The Loch of Stennis, a salt-water lake into which the tide rises and falls, is separated by a long and narrow neck of land from the fresh waters of the Loch of Harray, save at the narrow strait of Brogar, where at times the tidal wave mingles with the tideless waters of Harray. On this promontory the great circle or Ring of Brogar, as it is most commonly styled, is reared. Judging from the regularity with which such of the stones as still remain are disposed, the number of columns originally forming the circle appears to have been sixty, on the assumption that they were placed at nearly equal distances apart. Of these sixteen remained *in situ* in 1792, and eight lay prostrate near their original sites; but now only twenty-three stones remain, ten of which are prostrate, and the broken stumps of a few more serve to indicate the places they once occupied. The whole is enclosed by a deep trench, except at two opposite points, where a level break occurs, affording the means of entrance and exit. The diameter of the great circle, from the inner edge of the trench, measures 366 feet. It is possible that an avenue of stones may have once led from the eastern entrance to the Bridge of Brogar, as the stepping-stones are styled by which the shallow channel between the Lochs of Harray and Stennis is crossed. On the eastern side of this channel one column still remains, bearing the name of the Watch Stone: derived apparently from its position on the brink of the ford commanding the passage between the great circle and the opposite shore; but which may be the only relic of an avenue once connecting the circles on each side of the loch. The smaller group is now frequently designated, from its crescent form, the temple of the moon, and the larger circle that of the sun; but these are modern and

spurious designations. Stennis Circle, as the smaller group is properly termed, is situated on a nearly level piece of ground, and its semicircular outline is further indicated by an enclosing mound of earth presenting its opening to the south; whereas the larger circle is environed only by a fosse. This group was composed, at no very remote period, of seven or eight stones, but no doubt can be entertained that the figure was originally a circle, enclosing with its vallum, a large cromlech, the ruins of which still remain within the area. It is described by Wallace in 1700 as "a round set about with high smooth stones or flags;"¹ so that it would appear to have been complete at that comparatively recent period. It stood upon a raised circular platform, part of which still remains about three feet above the surrounding level. Beyond this is the embankment, forming a circle, the radius of which, measured from its outer edge, is 117 feet. The radius of the circle, on the circumference of which the stone columns were placed, is about fifty-two feet; and judging from the space between those still standing, twelve stones may be supposed to have completed the circle. But though so small a group when compared with the Ring of Brogar, its columns are fully double the average height of the great circle, and it must have presented, when perfect, a far more magnificent and imposing aspect. It is painful to think that within our own time those most interesting memorials of an era far beyond the date of written records, have fallen a prey to ignorance, in that dangerous transition state when the trammels of superstition are broken through, without being replaced by more elevated principles of veneration. An intelligent native of Orkney, who appears to have left his home about 1789, remarks in his MS. notes accompanying a valuable donation of

¹ Wallace's *Orkney*, p. 53.

books relating to the northern islands presented to the Society of Antiquaries of Scotland :—" If Mr. Daniell's sketch of the Stones of Stennis (taken in 1818) be at all accurate, many of them have disappeared, and others fallen to the ground, since I can remember."¹ It was in the immediate neighbourhood of the smaller circle of Stennis that the Stone of Odin stood ; completing along with the adjacent earthworks alluded to in a former chapter, a group of primitive monuments, which, though inferior in magnitude to the vast temples of Wiltshire, or of Carnac in Brittany, are scarcely surpassed in interest even by those remarkable monuments.

I am indebted to Captain Thomas, R.N., to whose liberal communications of the result of his observations in Orkney I have already referred, for careful observations and measurements made by him on the Stones of Stennis, of which the following are the most important results :—The Great Circle of Stennis, or Ring of Brogar, is a deeply entrenched circular space, 366 feet in diameter, containing nearly two acres and a half. Around the circumference, but about thirteen feet within the trench, are the erect stones, standing at an average distance of eighteen feet apart. They are totally unhewn, and vary considerably in form and size. The highest stone measures 13·9 feet above the surface, and, judging from some others which have fallen, it is sunk about eighteen inches in the ground. The smallest stone is less than six feet, but the average height is from eight to ten. The breadth varies from 2·6 to 7·9 feet, but the average may be stated at about five feet, and the thickness about one foot : all of the old red sandstone formation.

¹ A. Z., a native of Orkney, resident in London, who under this title presented to the Society from time to time a curious and valuable collection of books relating to the Orkney and Shetland Islands, accompanied with copious MS. notes, some of which contain touching allusions to the fond recollections cherished by him of his native place.

The trench around the area is in good preservation. The edges of the bank and of the two foot-paths, or entrances, which are placed exactly opposite to each other, are still sharply defined. The entrances are formed by narrow earth-banks across the fosse, and have no relation to the true or magnetic meridian, but are parallel to the general direction of the neck of land on which the circle is placed. The trench is twenty-nine feet in breadth, and about six in depth; but the surface of the area which it encloses has an average inclination to the eastward. It is highest on the north-west quarter; and the extreme difference of level is estimated to be from six to seven feet; so that, as the trench has the same inclination, it could never be designed to hold water.

DIMENSIONS OF THE RING OF BROGAR.

Radius to outer edge of fosse,	212·2 feet.
Radius to inner edge of fosse,	183·2 „
Radius of circle on which the stones are placed,	170·0 „
Distance of pillars from edge of fosse,	13·2 „
Breadth of fosse,	29·0 „
Depth of fosse, average,	6·0 „
Distance of columns apart, average equal to breadth of causeways,	17·8 „
Highest column,	13·9 „
Lowest column,	5·9 „
Average height of columns,	9·0 „
Broadest column, stump only remaining,	7·3 „
Narrowest column,	1·6 „
Average breadth,	5·0 „
Average thickness,	1·0 „

The neighbourhood of Stennis seems to have been consecrated ground to the ancient Orcadians. Within no great distance there are two circles of standing-stones, two others all the remaining stones of which are prostrate, and four single standing-stones, besides about twenty sepulchral mounds and earthworks of various forms and dimensions.

It was long the fashion with antiquaries to receive as an established and altogether incontrovertible position

the Druidical origin of all symmetrical groups of standing-stones in the British Islands. The more careful researches of later writers into the early history of the Orkney and Shetland Isles, and of their intimate connexion with Scandinavia prior to the Christian era, led to a revision of this opinion; and to an almost universal abandonment of a Druidical for a Scandinavian origin of the great Temple of Stennis, and the numerous other corresponding structures in the north of Scotland and the Western Isles. Barry, Hibbert, Scott, and Macculloch have each assailed the old Druidical fancies with considerable learning and ability. "Dr. Macculloch," says Dr. Hibbert, "has wielded the hammer of Thor with very signal success in aid of the demolition of the Druidic theory." But notwithstanding so powerful an array of authorities in support of this newer line of argument, I venture to think, that when the exclusive Scandinavian theory has been demolished with equal success, we shall be nearer the truth than has been yet attained. The common Gaelic phrase, *Am bheil thu dol d'on chlachan*,—Are you going to the stones? by which the Scottish Highlander still inquires at a neighbour if he is bound for church, seems in itself no doubtful tradition of worship within the megalithic ring, at an older date than that of the Norsemen. Some of them indeed were not temples but sepulchral monuments; nor is their uniformity sufficiently marked to prove either a common origin or purpose for all. Sir Walter Scott remarks, in his *Abstract of the Eyrbyggja Saga*:¹—"The Temple of Thor is described as a circular range of upright stones, within which one more eminent marked the Stone of Thor, where human victims were immolated to the Thunderer, by breaking or crushing the spine. And this description may confute those anti-

¹ *Illustrations of Northern Antiquities*, p. 480.

quaries who are disposed to refer such circles exclusively to the Celtic tribes, and their priests, the Druids." Dr. Hibbert has quoted this paragraph as a refutation of those who would contend that the Temples of Orkney had been used by Celtic tribes, before they were occupied and dedicated anew by later Scandinavian worshippers. But in this, as in too many other instances, the "Abstract" furnishes a very partial rendering of the original saga : where the Temple of Thor is described as a vast enclosed edifice, with chambers constructed of wood, and a chancel or sacrarium specially dedicated to the Deity, of which the stone circle formed only one of its complicated features.¹ Doubtless in some at least of the megalithic groups, we see but the skeletons of structures which have outlived many no less indispensable features of the original plan, formed of more perishable materials. Modern agricultural operations have occasionally brought to light very obvious evidences of this. An intelligent observer who resided on the spot, and closely watched the operations of workmen employed in trenching and levelling the site of a "Druidical Circle" on Donside, in the parish of Tullynessle, Aberdeenshire,

¹ The following is the passage to which Sir Walter Scott refers :—"Visitur ibi hodiedum circulus concessus judicialis intra quem homines, Diis victima fieri jubebantur. Eminensque in isto circulo Saxum Thoris, in quo hominibus sacrificio destinatis terga confracta sunt, quodque sanguinem adhuc colorem conspiciendum præbet," etc.—(*Eyrbyggja Saga* ; G. J. Thorkelin, 1787 ; p. 27.) But a much more minute account is given in an earlier portion of the Saga, where Thorolf ascertains the destined site of the new temple by casting its wooden pillars into the sea, and accepting as the sacred spot a promontory to which they were borne by the tides. This is the description of the erection, which it will be seen is something different from a mere circle of stones :—"At Hofsvog he caused a temple to be erected, a house of vast magnitude, with doors in the side wall, somewhat near to either extremity. Within the doors were the pillars of the chief seat, secured with nails, and called sacred or divine. In the interior another chamber was constructed in the shape which the chancels of churches now have, in the middle of the pavement of which stood the pulvinar, as well as the altar," etc.—*Vide Ibid.* p. 11.

has furnished the following account of their disclosures : —“ The upright stones were mostly gone ; but it was evident that they had enclosed a circle of about fifty feet diameter. The ground on which the temple stood was sloping, and within the circle it had been levelled by removing the earth on the upper side, so as to present a bank, nearly perpendicular, of not less than five feet, gradually decreasing to the east or lower part, when it became level. The upright stones were on the top of the bank. From the circle, in a south-eastern direction, a paved road could be traced to the distance of at least six hundred yards through a bog, which at the farther end was about six yards wide, but nearly twenty yards wide when it approached within fifty yards of the circle, and here the paving was covered with ashes. The stones were not squared, but very neatly fitted into each other.”¹ In the course of those operations, two curious stone vessels were found, hereafter described, one of which is now in the Museum of the Scottish Antiquaries. But so striking are the differences among the Scottish megalithic groups, that we look in vain for evidences of uniformity of faith or object in their builders. Some are single circles, others several concentric circles. There are ovals, ellipses, and semicircles, and even cruciform groups, as in the famous Hebridean group of Callernish, which a hasty generalizer might accept as an evidence of primitive Christian art. But one thing common to the whole, and found to characterize similar structures throughout Europe and Asia, is the huge unhewn monolithic columns: the evidence not of a single creed, but of one remarkable phase of the human mind, the influence of which has long since disappeared. Diverse as were the pagan Celtic and Scandinavian creeds, their temples

¹ MS. Letter, John Stuart, Esq., Aberdeen, 1838 ; Libr. Soc. Antiq. Scot.

may have been of similar character; and the rude Norsemen who possessed themselves of the Orkney Islands in the ninth century, found far less difficulty in adapting the Temple of Stennis to the shrine of Thor, than the Protestants of the sixteenth century had to contend with when they appropriated the old Cathedral of St. Magnus to the rites of Presbyterian worship. It is opposed to all probability that the Great Circle of Stennis, with its grand but rude monoliths, was the work of Norse rovers of the ninth century, long after the Christian missionaries of Iona had waged successful war with the Pagan creed of the native Orcadians. But the question of Scandinavian origin is put to rest by evidence of a direct and conclusive character. Professor Munch of Christiania, who visited this country in 1849, with a view to investigate the traces of Norwegian intercourse with Scotland, was gratified by the discovery that the name of Havardsteigr, which was conferred on the scene of Earl Havard's slaughter by his nephew, about the year 970, is still applied among the peasantry to the promontory of Stennis: the Stones of which we may well believe were grey with the moss of centuries ere the first Norwegian prow touched the shores of Pomona.¹ No direct reference to Stennis occurs in the Orkneyinga Saga, but the remarkable passage referred to is to be found in that of Olaf Trygvesson, where it is said:—

¹ The name Stennis, of Norwegian origin, was obviously the apposite description suggested to the first Scandinavian voyagers by the appearance of the singular tongue of land, crowned by its megalithic circle; but the death of Earl Havard, as mentioned in the Northern Sagas, conferred on it new associations and a corresponding name. Professor Munch, whose natural bias as a Norwegian might have inclined him to claim for his countrymen the erection of the Great Scottish Circle, remarks, in a letter to me:—"Stennis is the old Noru *Steinsnes*, that is, 'the promontory of the stones;' and that name it bore already when Hávard fell, in the beginning of the island being Scandinavian. This shows that the Scandinavian settlers found the stones already standing;—in other words, that the standing-stones belonged to the population previous to the Scandinavian settlement."

“Havard was then at Steinsnes, in Rossey. There was meeting and battle about Havard, and it was not long ere the Jarl fell. The place is now called Havardsteigr.” It was so called in the tenth century, and so, Mr. George Petrie writes me, it is still occasionally named by the peasantry at the present day.

A few examples of remarkable megalithic structures of the Scottish mainland may be noted here. Careful and minute accounts have already been furnished of those of Inverness-shire by Mr. George Anderson in the *Archæologia Scotica*;¹ and of those of Aberdeenshire, Argyle-shire, and other Scottish districts, in a series of illustrated papers in the *Archæologia*.² The varieties apparent in their grouping and structure are such as may well justify the conclusion that, instead of being the temples of a common faith, they are more probably the ruins of a variety of edifices designed in different ages for diverse purposes, and it may be even for the rites of rival creeds. The temple group at Leuchar, in the parish of Skene, Aberdeenshire, consists of a circle measuring internally thirty-four feet in diameter, composed of eight large stones disposed at regular intervals. In the centre of this another circle is formed of smaller stones, measuring about thirteen feet in diameter, and around it six smaller stone circles are disposed, two of them touching one another, and the remainder separated by regular intervals. At a short distance from this group, nine other circles occur, similar to the smaller ones, and two large cairns occupy commanding sites in the neighbourhood. Other examples of combinations of circles somewhat resembling this have been noted; and many of the larger ones have a stone laid flatways in the circumference of the circle, usually designated the altar stone. Concentric circles

¹ *Archæol. Scot.* vol. iii. p. 211.

² *Archæologia*, vol. xxii. p. 55; vol. xxv. p. 614, etc.

are still more common. The great temple or Clachan of Inches, situated about two miles south of Inverness, the largest and most entire in that part of the country, consists of two circles, the inner one of which is composed of twenty-eight stones, and measures about forty feet in diameter. The outer circle is now only partially traceable. Fifteen stones remain, including one nine feet in height above ground, and the diameter measures above seventy feet. Another remarkable group occurs about half-a-mile eastward from a stone avenue near the farm of Milltown of Culloden, which may possibly have been once connected with it. Three concentric circles are nearly united to an adjoining one which encloses a group of five cairns, or what might be more accurately described as one gigantic cruciform cairn. The contents of this singular structure would probably amply repay the archæologist for the labour and cost of exploration. A



FIG. 7.—Leys Funicular Rod of Gold.

funicular rod or torc of gold was dug up within the great circle of Leys, in the same district, in 1824, and was produced at a meeting of the Society of Antiquaries of Scotland as a golden sceptre or rod of office. It is engraved here from a cast taken at the time; but when found it appears to have been more perfect. It measured twenty-two inches long, and was hooked at both ends; but one of the terminal hooks, broken off by the plough, was retained when the other portions were given up as treasure-trove.¹

The latest if not the only unquestionable evidence

¹ *Inverness Courier*, March 13, 1851.

we possess of the use of the Stone Circles is not as religious temples, but as courts of law and battle-rings, wherein the duel or judicial combat was fought; though this doubtless had its origin in the invariable union of the priestly and judicial offices in a primitive state of society. The several concentric circles so frequently characterizing them, add to the probability of their adaptation to the purpose of judicial or deliberative assemblies. Such is one of the most common marks of the Law Tings of Orkney and Shetland, and of the Isle of Man. "Not unfrequently the fences of a ting were concentric: the intent of which was to preserve among the different personages of the ting a proper distinction of rank. The central area was always occupied by the laugman, and 'those who stood with him;' and the outer spaces by the laugrettmen, out of whom the duradom was selected, the contending parties, and the compurgators."¹ Mr. George Petrie has called my attention to several evidences of this in relation to the Orkney circles; and no less remarkable proofs appear in various chartularies and other authentic records, showing at how early a period all ideas of association with the rites of Pagan superstition had been lost. Thus in the Aberdeen Chartulary a notice occurs of a court held "apud stantes lapides de Rane en le Garuiach," on the 2d May 1349, when William de Saint Michael was summoned to answer for his forcible retention of certain ecclesiastical property;² and again in the Chartulary of Moray the Bishop of Moray is summoned, in the year 1380, to attend the court of Alexander, Lord of Regality of Badenoch, and son of Robert II., to be holden "apud le standand stanys de la Rathe de Kynguey estir." Part

¹ "Hibbert on the Tings of Orkney and Shetland."—*Archæol. Scot.* vol. iii. p. 141.

² *Regist. Episcop. Aberdon.* vol. i. p. 79.

of the business of the court was to inquire into the titles by which the Bishop held certain of his lands, and as he is summoned as a vassal, and had to protest against the proceedings, he is described as standing "*extra circum.*"¹

Megalithic groups and circles abound on many parts of the mainland as well as in the Western Isles, but nearly all are characterized by some peculiarity. Some are enclosed by a trench, others by a fosse; and frequently the space between the great stones is filled up by an earthen wall. In several districts in the south of Scotland single and double ovals are found; and fragments of ancient groups, more or less imperfect, are com-



FIG. 8.—Standing Stones at Pitlochrie.

mon throughout the country. The woodcut represents an imposing group in the neighbourhood of Pitlochrie, Perthshire. One of the great level Highland moors stretches away beneath the eye, like a dark waveless lake, contrasting with the distant heights, among which Benvrackie rears its pyramidal summit to an elevation of upwards of 4000 feet above the level of the sea. Amid this wild Highland landscape the huge standing-stones, grey with the moss of ages, produce a singularly

¹ *Regist. Episcop. Morav.* p. 184.

grand and imposing effect; and from the idea of lofty height which the distant mountains suggest, they convey a stronger impression of gigantic proportions than is produced even by the first sight of the giant monoliths of Salisbury Plain.

The most remarkable of the Hebridean groups is that of Callernish, near Loch Roag, in the Lewis, of which an accurate view is given in the frontispiece to this volume, from a sketch by my friend, George Harvey. It occupies the summit of a ridge of hilly ground, and embraces a cruciform group of monoliths attached to a central circle about forty feet in diameter. In the centre is

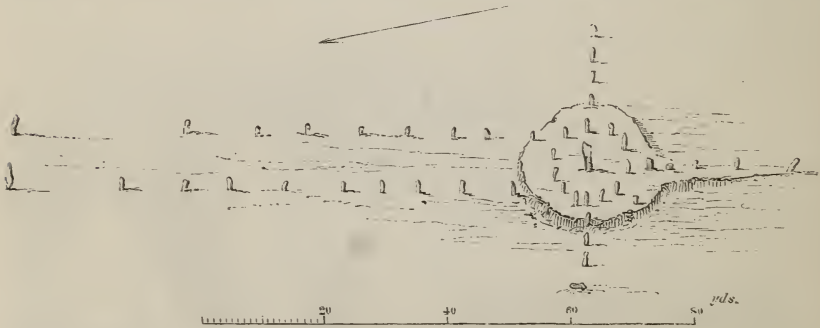


FIG. 9.—Callernish Circle.

a column measuring nearly seventeen feet in height, around which the circle is formed of flat columnar blocks of gneiss. From this an avenue of similar stones stretches two hundred and seventy feet to the north, while single rows placed towards the other cardinal points complete the cruciform arrangement of the whole. Its greatest length is stated by Logan as 558 feet, and by Macculloch as about 680 feet; but its present actual measurement, from the most southern stone to the northern end of the avenue, is barely 380 feet. Attention has been recently directed to an interesting fact, which seems to confirm the idea that this megalithic group has been expressly arranged with refer-

ence to the cardinal points by astronomical observation. Mr. Henry Callender remarks, in a communication on this subject:¹ "That the position was chosen and laid down from astronomical observation, can easily be demonstrated by visiting the spot on a clear night, when it will be found that by bringing the upper part of the single line of stones extending to the south to bear upon the top of the large stone in the centre of the circle, the apex of that stone coincides exactly with the pole-star; this is more readily done from the south line being on sloping ground, so that looking along the line upwards to the higher level of the centre stone is very much the same as taking an observation through the incline of a telescope." The peculiar arrangement of the Callernish group, with its northern avenue, and cardinal rows of columns, strongly confirms the conviction, that we have here a memorial of primitive astronomical knowledge; of the observation of that one ever-resting polar star, around which all others seem to revolve; and of the study of the motions of the heavenly bodies in connexion with native rites of worship in prehistoric times. Until recently, many of the stones were completely buried in the moss, and of two other circles lying about a mile to the eastward on a low moor, nothing could be seen but a few grey blocks slightly protruding above the heather and rushes. But since the first edition of this work appeared, the liberal zeal of Sir James Matheson has effected the removal of the superincumbent peat from all the three circles, to a depth of between five and six feet; thereby leading to important discoveries. Beneath the moss surrounding the great Callernish circle, the disclosure of a rough causeway basement, and other equally conclusive proofs, showed that the stones had been founded on the boulder-clay, apparently before the

¹ *Proceedings of Soc. Antiq. Scot.* vol. ii. p. 382.

growth of the peat commenced. This received confirmation from evidence of a still more comprehensive character, by the fact that fallen stones of the smaller circles were uncovered, lying upon the clay, with the whole growth of peat above them ;¹ so that the commencement of the peat-forming epoch appears to date subsequent to their desertion and ruin. We have thus a singularly suggestive evidence of their remote antiquity ; and a gauge of the lapse of time since the abandonment of those megalithic temples : which, though as yet undefined, only requires some approximate determination of the annual rate of growth of the peat, to enable us to apply it to such purposes of chronology.

But other discoveries rewarded the labours of the explorers. As the excavations at the great temple proceeded, a circular stone building was disclosed on the east side of the central stone, with its diameter equal to the radius of the circle, as shown in the accompanying ground-plan, and containing two chambers, the largest

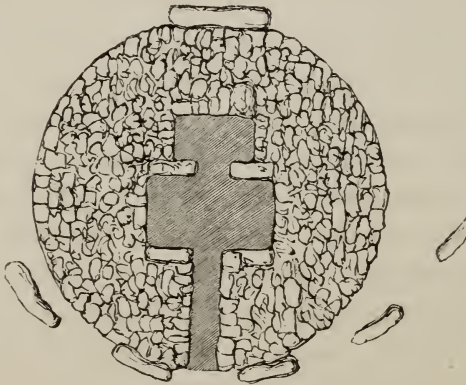


FIG. 10.—Chambered Structure, Callernish.

of which measures six feet nine inches by four feet three inches. Within this, embedded in an unctuous substance, consisting apparently of peaty and animal mat-

¹ *Edin. Phil. Jour.* New Series, vol. xv. p. 236.

ter, fragments of human bones were found, which seem to have been subjected to the action of fire.¹ The disclosures are altogether replete with interest; and reveal some novel features in connexion with this class of monuments, which tradition has associated with such unvarying tenacity with the worship of the Druids. But the buried monoliths of the Lewis circles are not the only examples of such change of level in the slow lapse of time. On various parts of the mainland similar megalithic groups remain partially entombed in like manner in the slowly accumulating mosses, the growth of unnumbered centuries. On one of the wildest moors in the parish of Tongland, Kirkcudbrightshire, an example may be seen, consisting of a circle of eleven stones, with a twelfth of larger dimensions in the centre, the summits of the whole just appearing above the moss. Adjoining the group there stands a large cairn with its base doubtless resting on the older soil beneath. With such evidence at command, it is obvious that however vague many of the speculations may be which have aimed at the elucidation of rites and opinions of the Celtic Druids; and have too often substituted mere theory for true archæological induction: we shall run to an opposite error in ascribing to a Scandinavian origin structures manifestly in existence long prior to the earliest Norwegian or Danish, or even perhaps Celtic, descent on our coasts.

One other remarkable class of works, the Rocking Stones, remains to be noted. These are found among the ancient monuments of England and Ireland, as well as on various parts of the Continent, and are no less frequent in Scotland; and no illustrations of ancient skill, or of primitive superstitious rites, are more calculated to awaken astonishment, and admiration of their singular

¹ *Proceedings Soc. Antiq. Scot.* vol. iii. p. 112.

constructors. So strange a mixture of extreme rudeness and great mechanical skill appears to be combined in these memorials of the remote past, that they excite greater awe in the thoughtful mind than even the imposing masses enclosing the sacred area of Stonehenge or the circle of Stennis. Nor is such an estimate of them unjust; for it would undoubtedly prove a much more complicated problem for the modern engineer to poise the irregular and amorphous mass on its point of equilibrium, than to rear the largest megalithic group that still stands to attest the mechanical power which the old builders could command.

It has indeed been supposed by some that the origin of Rocking Stones may be traced entirely to natural causes; and this opinion is adopted by Worsaae and other Danish and Norwegian antiquaries.¹ Such a theory, however, seems to stand still more in need of proof than that which regards them as stones of ordeal, by which Druid or Scandinavian priests were wont to test the guilt or innocence of the accused. Apollonius Rhodius speaks of rocking-stones placed on the apex of tumuli, and Mr. Akerman refers, in his *Archæological Index*, to the famous Agglestone Barrow, in the island of Purbeck, as having been similarly surmounted. One such undoubted example would abundantly suffice to overthrow this geological theory of natural formation. It is a less conclusive, though not altogether valueless argument, that some of the most remarkable logan stones of Scotland are found in the immediate vicinity of other undoubted primitive stone-works. The great rocking-stone in the parish of Kirkmichael, Perthshire, for example, has already been referred to as one of a large group of circles, cairns, and other monuments of the same class. Its form is that of a rhombus, of which

¹ *Primeval Antiquities of Denmark*, p. 110.

the greater diagonal is seven feet, and the less five feet, and its weight is calculated at about three tons and half a hundredweight. On pressing down either of the extreme corners, a rocking motion is produced, which increases until the arc through which its longest radius moves exceeds a foot. When the pressure has been continued so as to produce this effect, the stone makes from twenty-six to twenty-eight vibrations from side to side after it is withdrawn. A much larger rocking-stone is situated on the Hill of Mealyea, in the parish of Kells, Stewartry of Kirkecudbright. Its weight is estimated at from eight to ten tons; and it is so nicely poised that it can be set in motion with the pressure of the finger. To this the name of the Logan Stone is popularly applied in the Stewartry, therein corresponding with the term used in Cornwall and other districts of England. A second rocking-stone formerly existed on the same range of hills, but it was thrown down about forty years since. Others remain in the parish of Dron, Perthshire, on a hill in the neighbourhood of the manse; in the parish of Abernethy, celebrated for its venerable ecclesiastical relics; and on the north side of the Cuff Hill, in the parish of Beith, Ayrshire.

It seems opposed to every doctrine of probabilities, that nature in the course of her ceaseless operations of denudation and attrition should in numerous instances have *chanced* to wear away an amorphous rock so as to leave it poised in its centre of gravity on a single point. But if we adopt the theory that those singular "Stones of Ordeal" are accidental creations resulting from natural causes, it is easy to conceive what must have been the surprise and awe with which the motion of their huge masses by such seemingly inadequate force would be viewed. The appropriation of them to specific uses in the judicial system of a ceremonial religion

would be the next natural step ; and thus, even on the theory of their chance origin, the rocking-stones still come within the legitimate range of archæological studies : as it can hardly admit of doubt that they were objects of reverent estimation by the old megalithic builders. It is rare to find them far removed from a stone circle or other primitive structure. This may indeed have owed its erection to the prior existence of the rocking-stone as a work of nature ; but the arrangement in which the latter forms only one feature in a group of unhewn but symmetrically disposed monoliths, naturally suggests the conclusion that it also originated in the same laborious contrivance and skill which reared the ponderous dolmens, cromlechs, and standing-stones already described.

CHAPTER VI.

WEAPONS AND IMPLEMENTS.

THE essential characteristics of the stone period, though illustrated by every trace of its arts, customs, and social condition, are embodied and epitomized in its weapons and implements. They mark alike in their material and workmanship, that primitive stage of man, which reappears wherever he is found in the same condition in relation to external appliances and undeveloped mechanical skill. Alike in the mechanician of the primitive stone period, and in the modern worker in stone, shell, and bone, of the Pacific coral islands or the American forests : man is seen employing his inventive ingenuity on the most imperfect materials, with results which, however rude, are recognised as embodying the tentative use of experience and reason which distinguishes him from the most ingenious of Nature's instinctive artificers.

Reference has already been made to the remarkable discoveries of flint instruments embedded in the same drift gravel or clay with the remains of the *Elephas primigenius* and other extinct mammals. Some of the specimens of primitive art found under such notable circumstances on British sites have long been preserved in the Collections of the British Museum and the Society of Antiquaries, though their true significance is only beginning to be understood. A comparison between the true drift implements of flint and the more familiar

weapons and implements of early British barrows, prove that they are distinguished by some very noticeable characteristics. The former are larger and ruder; and suggest the idea of their fabrication by a race endowed with great physical strength, but of inferior, and indeed infantile skill. At the same time it appears to me that this difference has been exaggerated, by instituting comparisons between stone chisels and axes of late workmanship and the drift flints; and assuming as essential distinctions what may be to some extent traced to the mode of working required by the diverse material employed. It is altogether exceptional to find the flint arrow or lance head ground to an edge; and even with the flint axe or wedge the grinding process is only rarely used. But when porphyry or granite is the material employed, no natural fracture or cleavage aided the operations of the primitive tool-maker; and the resort to the process of rubbing or grinding it into shape was inevitable at the very earliest stage of its use.

The significance of the remarkable discoveries in the London clay and the Suffolk gravel beds remained wholly unappreciated for upwards of a century after the earliest of this class of discoveries, made in Gray's Inn Lane, London, in 1715;¹ nor was it till corresponding discoveries in the French drift had attracted the attention alike of archæologists and geologists, that their comprehensive bearings were fully recognised. But now that such is the case, the idea of allophylian races having long preceded the oldest of the historical nations in northern Europe can no longer be resisted; and the limitation of its Stone Period to the era of the Gaulish and British Celtæ must be abandoned as wholly inconsistent with their very modern place among the successive occupants of its historic areas. But other traces of British Allo-

¹ *Archæologia*, vol. xxxviii. p. 301.

phyliaë will come under review when considering the characteristics of their crania. Startling as are the disclosures suggestive of the contemporaneous presence of man with the long extinct mammals of the drift, many discoveries in Scottish alluvial strata prove that extensive areas have risen from the bed of the ocean since his primitive fleets were launched on the Clyde, or he pursued the whale in an estuary of the Forth which swept the base of the Ochil Hills. But, apart from such discoveries, belonging to a human period so remote that we find it scarcely possible to fit it into its place in any revised system of chronology which embraces the history of man: the numerous stone implements recovered from Scottish cairns and barrows, or found scattered through the superficial soil, furnish a highly interesting subject of study, illustrative of the development of mechanical ingenuity and the simple appliances which preceded the discovery of metallurgic arts.

The rude and unshapely fragments of flint known by the name of Flint Flakes, and now recognised as specimens of the first stages of weapon-manufacture of the period to which they belong, have only recently received the attention of archæologists. The merit in this, as in so many other important elementary principles of the science, is due to the intelligence and sagacity of the antiquaries of Copenhagen, and the admirable facilities afforded by the liberality of the Danish Government. The flakes of flint, which are met with in considerable abundance, appear to have been struck off from a solid mass. They are ordinarily found from about one to six inches long, and frequently present a curved form, owing to the conchoidal fracture of the flint; while they are occasionally accompanied by the flint-core from which they have been struck. Sometimes such flakes occur in the simplest state; in other cases they are partially

reduced to their intended form. But rude as they are, they are of great interest to us, from the insight obtained by their means into the process of manufactory of the primitive lance and arrow head. It is obvious, from the frequent discovery of such among sepulchral deposits, that considerable value was attached to them; nor must we overlook the fact, that while flint is found in the greatest abundance both in Denmark and the south of England, there are many parts of Scotland where it is scarcely to be met with. Here, therefore, we discover the first traces of primitive trading and barter. The flint flakes were, in fact, the raw material, which had to be imported from other districts before the hunter of the Stone Period could supply himself with the indispensable requisites for the chase. A few examples will suffice to show the abundance of such materials, and the circumstances under which they are found; though it is only rarely that their occurrence has been noted, or falls under the observation of those who consider them of the slightest value.

Among the varied objects in the collection of the Society of Antiquaries of Scotland is a skull found in an ancient cist on the farm of Clashfarquhar, parish of Banchory-Devenick, Kincardineshire, in 1822. On the crown of the head is a hole, nearly circular, and rather more than an inch in diameter, which there can be little doubt was occasioned by the death-blow. In form and cerebral development it corresponds to a class of skulls found in the earliest cairns and barrows; and it is not difficult to conceive of the wound having been inflicted with the narrow end of a stone celt. In each corner of the cist a few flint flakes were carefully piled up into a heap. Alexander Thomson, Esq. of Banchory, remarks of them, in a letter which accompanied the donation of the skull:—"They are very proper for being made into

arrow-heads, but none of them appear to have been wrought."¹ Similar relics of early art have been noted at various times in the same district of country :—“ On the alluvial soil near the sea,” remarks the author of the *New Statistical Account of Belhelvie*, “ there is a bed of yellow flints, in which a number of very well formed arrow-heads are frequently found ;” and in no part of Scotland are these primitive relics more abundant than in the landward districts of Aberdeenshire. In the large cairn of Menzie, on Cairn Moor, Buchan, there lay within a stone cist, “ along with earth and bones, a dart-head of yellow flint, most perfectly shaped, and a little block, also of yellow flint, as if intended to furnish the deceased with more darts, should he have occasion for them on the passage.”² In 1821 several flint-flakes, and imperfectly formed flint implements, were found, along with two arrow-heads of the same material, in an urn containing incinerated bones, on the estate of Closeburn, Dumfriesshire. The urn, and several of the half-formed flints, are now in the Scottish Museum. A similar deposit was discovered in 1849, by workmen engaged in digging for stones to build a march-dyke between the farm of Swinie and an adjoining one on the neighbouring estate of Wells, Roxburghshire. There were four cairns, two of which, on being demolished, disclosed cists containing urns, and beside them a quantity of flint-flakes of various sizes, several of which are now in my possession. Similar examples are of frequent occurrence, but one other may be noted from the unusual amount of flint-flakes found with it. North of the Mull of Islay, Argyleshire, a road leads from Port Ellen, in a north-easterly direction, towards the shooting-lodge of Islay. At a point distant about four miles from Port Ellen, where the road is cut into the side of the hill, some

¹ *Archæol. Scot.* vol. iii. p. 46.

² *Scots Mag.* Feb. 7, 1790.

workmen engaged in widening it exposed a cist, within which lay a skeleton with a large quantity of flint-flakes and chips beside it. A distinguished artist, who happened to be in the neighbourhood at the time of this discovery, has furnished me with sketches of the locality. He describes the flint-flakes as so numerous, that they formed a heap of from eighteen inches to two feet in height when removed from the cist.¹

The arrow and lance heads constructed from the amorphous masses of native flint, often brought from distant localities, furnish evidence of patient ingenuity, and exhibit considerable variety of form. It is difficult, indeed, to conceive of the process by which workmen, provided with such imperfect tools as we must presume them to have possessed, were able to split the flint into flakes, and reduce these to such regular forms. But the manufacture of implements of obsidian, flint, and shell, is still practised by modern nations no less poorly provided with the requisite appliances. The remoteness of the period when this primitive art was superseded by the workers in metal, is illustrated by the incorporation of the ancient flint implements into some of the most prevalent popular superstitions of the north. The terms Elf-bolt, Elf-shot, or Elfin-arrow, are invariably applied to the flint arrow-head throughout the Scottish Lowlands. The Gaelic name, *Sciat-hee*, is completely synonymous; while in Shetland and Orkney the same idea, suggested there by the corresponding term Thunderbolt, is more frequently applied to the stone celt. This variation in the popular mode of giving expression to the idea of a supernatural origin for those primitive weapons, among the inhabitants of the mainland and the northern isles of Scotland, is worthy of passing note, from the definite evidence it affords of a period when stone

¹ MS. letters, Mr. J. C. Brown, A.R.S.A.

weapons were fully as much relics of a remote past, and objects of popular wonder, as now. The name still applied to the Elf-bolt, by the Norwegian peasantry, is *Tordenkiler*, or thunderstone,¹ so that we can feel little hesitation in assigning to the old Norse colonists of Orkney, the difference still discernible in these expressions of the same popular idea; and inferring from thence, what all other evidence confirms, that the close of the Scottish Stone Period belongs to an era many centuries prior to the oldest date of written history. The Elf-bolt is associated with many rustic fancies not yet altogether eradicated from the popular mind. It occupied no unimportant part among the paraphernalia of Scottish witches of the sixteenth and seventeenth centuries; and the occurrence of any sudden disease amongst cattle was ascribed until a comparatively recent period, to their having been shot by the fairies with Elfin arrows. The feats of the witches of Auldearn furnish some of the most marvellous narratives embodied in Pitcairn's *Criminal Trials*; and, among other disclosures, they describe a cavern in the centre of a hill where the Archfiend carries on the manufactory of such Elf-arrows, with the help of his attendant imps. The latter perform the preparatory work, shaping the crude blocks, and chipping the arrows out from the flint-flakes; after which they receive their finishing form and edge from the Masterfiend. Pepys records, on the authority of Dr. Hickes, a very circumstantial story of Elf-arrows with which Lord Tarbut entertained the Duke of Lauderdale; and he adds: "I remember, my Lord Tarbut did produce one of these elf-arrows, which one of his tenants took out of the heart of one of his cattle that died of an unusual death." This ancient superstition is not peculiar to Scot-

¹ They are described by this name of *thunderstones* in Sir Robert Sibbald's *Portes Colonie et Castellæ*, Plate II. Nos. 1-6.

land. In Norway similar diseases, not only of cattle but of men, were called by the same name of *Alfskot*, and in Denmark, of *Elveskud*, that is, Elf-shot ; though the flint arrow-head is not recognised there as the bolt which furnishes for such purposes the quivers of the malignant elves. But other, and probably more ancient Scandinavian legends, prove the existence of similar northern associations with the primitive arrow-head. In the *Fornaldar Sögur Nordlanda*, or Legends from the primitive period of the North, derived from ancient manuscripts, Orvar Odd's Saga furnishes a curious evidence of this. The hero, who is already furnished with three iron arrows, the gift of Guse, a Fin king possessed of magic power, in the course of his wanderings is hospitably entertained by an old man of singular appearance. "On the side where the old man sat he laid three stone arrows on the table near the dish. They were so large and handsome that Orvar thought he had never seen anything like them. He took them up and looked at them, saying, 'These arrows are well made.' 'If you really think them to be so,' replied his host, 'I shall make you a present of them.' 'I do not think,' replied Orvar, smiling, 'that I need cumber myself with stone arrows.' The old man answered, 'Be not sure that you will not some time stand in need of them. I know that you possess three arrows, the Guse's gift, but, though you deem it unlikely, it may happen that Guse's weapons prove useless ; then these stone arrows will avail you.' Orvar Odd accordingly received the gift, and chancing soon after to encounter a foe who by like magic was impenetrable to all ordinary weapons, he transfixed him with the stone arrows, which immediately vanished."¹

From references to the geographical divisions of Russia, as well as other internal evidence, this version of the

¹ *Fornaldar Sögur Norlanda*, Copenhagen, 1829.



FIG. 1 .



FIG. 12.



FIG. 15.



FIG. 13.



FIG. 14.

legend appears to have been written not later than the twelfth century. The tradition, however, is doubtless based on a much older belief; so that we cannot err in assuming that at the earliest period of the Northmen exercising an influence in Scotland sufficient to assimilate the popular superstitions, the period to which the flint implements pertain was only known as a state of society so different from every historic tradition with which the people were familiar, that they referred its weapons and implements to the same invisible sprites by whose agency they were wont to account for all incomprehensible or superhuman occurrences.

The Elf-arrow continued till a very recent period to be universally esteemed throughout Scotland as a charm equally effectual against the malice of Elfin sprites, and the spells of witchcraft. Dipt in the water which cattle were to drink, it was supposed to be the most effectual cure for their diseases; while sewed in the dress, it was no less available for the protection of the human race; and it is still occasionally to be met with perforated or set in gold or silver, for wearing as an amulet. Like other weapons of Elfin artillery, it was supposed to retain its influence at the will of the possessor, and thus became the most effective talisman against elvish malice; witchcraft, or the evil-eye, when in the hands of man. Such traditional myths of vulgar superstition are not without their value, however humble their direct origin may be. They are frequently only distorted images of important truths, and we shall find more than one occasion to recur to them for aid in reuniting the broken skein of primitive history.

Arrow-heads are found in Scotland in great numbers, and of a considerable variety of forms. They are for the most part made of flint, though also met with of agate, cornelian, and other native pebbles. On Plate II.

specimens of flint arrow-heads are grouped, the size of the originals, showing the progress from the first rude shaping of the flint in Figs. 11 and 12, to the small leaf-shaped and barbed heads, Figs. 13, 14, and the remarkably large example of the latter, Fig. 15, found in the Isle of Skye. Pennant has engraved a large cinerary urn, discovered along with three others, on opening a cairn on the hill of Down, near Banff, which contained, in addition to the incinerated remains, bone implements and flint arrow-heads. The largest of them had in it thirteen of the latter, all of the barbed shape, along with others of diverse forms, from the rude flint-flake to the most finished weapon that the material is capable of.



FIG. 16.—Killearn Arrow-head.

Among those, the barbed arrow-head, while it appears to involve the greatest amount of labour and skill in fashioning the material, is also a type of very frequent occurrence in Scotland. Those already referred to as found, along with an ancient wooden wheel, in the Blair-Drummond Moss, are of the same shape. So also were some obtained on opening a tumulus in the parish of Killearn, Stirling-shire; and indeed they have been met with in nearly every district of the mainland, and of

the northern and western isles. Lance and spear heads of flint are also not uncommon, both in the tumuli and among objects turned up where the scenes of primitive population are subjected for the first time to the plough. A very fine flint spear-head, fifteen inches long, and beautifully finished, was discovered a few years since, on

the demolition of a cairn on the estate of Craigengelt, near Stirling. Another of somewhat smaller dimensions, also found in a cairn, on the estate of John Guthrie, Esq., Forfarshire, about 1796, is figured and described in the *Gentleman's Magazine* of the following year.¹

Flint knives, though less abundant than in the different Scandinavian countries, and especially in Denmark, are frequently turned up in the course of agricultural operations. In no instance that has come under my notice have implements been found in Scotland exactly resembling the curious lunar flint knives and saws of such common occurrence in Denmark and Sweden; yet examples of similar form are familiar to American archaeologists among the singular contents of the great mounds explored of late years in the valley of the Mississippi, and in other districts of the North American continent. These are generally made of slate; and stone knives analogous to them appear also to have been used in the Scottish primitive periods, to supply similar necessities. In the Shetland and Orkney islands especially, stone knives are common; and in other districts, knives of flint, styled by the Shetlanders Pechs' knives, are found. These are shaped like a shoemaker's paring-knife, with the semicircular line wrought to an edge, while the straight side is left broad and blunt. Others are oval or irregular in form, and thinning off to an edge round the whole circumference. One of the latter, in the Scottish Antiquarian Museum, formed of a thin lamina of madreporite, was found at one of the burghs or round towers of Shetland. It measures $4\frac{1}{2}$ by 4 inches, and does not exceed, in greatest thickness, the tenth of an inch. Similar implements, in the collection of the London Antiquaries at Somerset House,² are mentioned by

¹ *Gentleman's Mag.* 1797, Part II. p. 200.

² *Catalogue of Antiquities, Soc. Antiq. Lond.* p. 14.

Mr. Albert Way, as probably the ancient stone instruments transmitted to Sir Joseph Banks by Mr. Scott of Lerwick, in Shetland, and communicated to the Society, March 9, 1820. Sixteen were found by a man digging peats in the parish of Walls, Shetland, placed regularly on a horizontal line, and overlapping each other like slates upon the roof of a house, each standing at an angle of 45° . They lay at a depth of about six feet in the peat moss, and the line of stones ran east and west, with the upper edge towards the east. A considerable number of implements, mostly of the same class, were found on the clay under the ancient mosses of Blair-Drummond and Meiklewood. Some of them are composed of slate, and others of a compact green-stone. They are from four to six inches long, flat and well polished. There were also along with them a number of stone celts and axe-heads, mostly made of the same hard green-stone. The Scottish collection includes, along with examples of the Shetland and Orkney stone knives, another of an entirely different form, made of light grey flint, which was found, along with a stone celt of unusual shape, within the area of a "Druidical circle," in Strachur parish, Argyleshire. Two others, recently discovered in ploughing a field in the neighbourhood of Largo, Fifeshire, totally differ from any of the numerous examples found in Denmark or Sweden. They are turned back at the point, finished with great care, have a fine edge, and appear to have been attached to bone or wooden handles.

Celts and hatchets, or wedges, are among the most abundant of all the relics of the Stone Period. They have been discovered in considerable quantities in almost every part of Scotland, from the remote Orkney and Shetland Isles,¹ to the shores of the Solway and the

¹ *Vide* Hibbert's *Shetland*, pp. 247-250.

banks of the Tweed. Examples are frequently found rudely executed, with little appearance of labour except at the edge; while others are characterized by the highest finish and the utmost degree of polish that the modern lapidary could confer on them. The manner of hafting the stone celt has been made the subject of much discussion, though this is sufficiently illustrated by the practice of modern savage tribes still using weapons of stone. Various recent discoveries indicate that one of the earliest methods consisted in inserting the flint or stone wedge into the hollow portion of a stag's horn, having a perforation to receive the handle.¹ Implements brought from the islands of the Pacific illustrate other and equally simple modes still employed among races in a corresponding stage of progress; and a tool in common use among the Clalam Indians shows the more ingenious application of the stone blade as an adze by the canoe-makers on the coast of Oregon.² Other methods, however, have been suggested by which this primitive weapon could be hafted, so as to become available for the war-axe of the northern warrior. The example found in the earliest ancient canoe of the Clyde, leaves no room to doubt that it was secured by thongs, or a portion of the haft, passing round the middle. Both ends are highly polished, while the middle remains rough, having evidently been designed to be covered and concealed.³ One stone celt, dug up in the county of Tyrone, was inserted in its perforated wooden handle, in a manner the artless rudeness of which could hardly be surpassed.⁴ Much more efficient means, however, are frequently seen employed in corresponding weapons brought from the South Sea Islands, or the north-west coast of America, than any of the ancient examples dis-

¹ *Antiquités Celtiques et Antédiluvienues.*

² *Prehistoric Man*, vol. i. p. 156.

³ *Vide ante*, Fig. 1, p. 53.

⁴ *Archæol. Jour.* vol. iv. p. 3.

play; and suffice to illustrate the improved methods which experience would suggest to the rude Caledonian aborigines.

The stone celt must unquestionably be regarded as a weapon of war. With its thick round edge, when wielded at the end of a long handle, similar to those to which we see the stone axes of Polynesian savages attached, it would prove an effective lethal weapon; but few examples of it appear to be applicable to any useful purpose as tools. The flint or stone hatchet seems the



FIG. 17.—Stone Celt and Flint Hatchets.

more probable implement which, with the ever-ready aid of fire, sufficed to hew down the oak, to split and reduce it into requisite forms for domestic uses, or to shape and hollow it out into such rude canoes as have been described in a former chapter. Still, it is difficult to draw any definite line of distinction between the artificer's and the warrior's axe; the same implement having doubtless been often employed in waging war on the leafy giants of the old Caledonian forests, and on rival tribes who found a home within their fastnesses. The most perfect, indeed, of the stone hatchets seem ill adapted for the

laborious task of felling the knotty oak, and hollowing it for the primitive canoe. But in all such considerations of savage art it must be borne in remembrance that time, which forms so important an element in modern estimate, hardly comes into account with the savage. Armed with no better tools, the Red Indian, on the shores of the Pacific Ocean, is known to cut an incision in the bark round the root of the tree destined for his canoe ; into this he places glowing embers until it is charred to a considerable depth, and by the alternate use of the hatchet and the fire the largest tree is brought to the ground, and by the same ingenious process adapted to bear its owner on the open seas. The examples shown here, Fig. 17, are of the later class of flint hatchets, with the broad end ground to a fine edge. They were found near Strachur, Argyleshire, and are of a type common in Denmark, but rarely found in Scotland or any part of the British Isles.

An interesting discovery illustrative of the use of the stone battle-axe, or celt, is thus described in a letter from Captain Denniston to Mr. Train. About the year 1809, Mr. M'Lean of Mark found it necessary, in the course of some improvements on his farm, to remove a large cairn on the Moor of Glenquicken, Kirkeudbrightshire, which popular tradition assigned as the tomb of some unknown Galwegian king, styled Aldus M'Galdus :—"When the cairn had been removed, the workmen came to a stone coffin of very rude workmanship, and on removing the lid, they found the skeleton of a man of uncommon size. The bones were in such a state of decomposition, that the ribs and vertebræ crumbled into dust on attempting to lift them. The remaining bones being more compact, were taken out, when it was discovered that one of the arms had been almost separated from the shoulder by the stroke of a stone axe, and that a fragment of the axe

still remained in the bone. The axe had been of green-stone, a species of stone never found in this part of Scotland. There were also found with this skeleton a ball of flint, about three inches in diameter, which was perfectly round and highly polished, and the head of an arrow, also of flint, but not a particle of any metallic substance.”¹ Many of the most highly-finished celts and hatchets found in Scotland are made of the same green-stone, which is susceptible of a beautiful polish. Other implements of this period are chisels of flint, nearly resembling those of Norway and Denmark. Several examples are in the Scottish Museum; and a curious instance of a perforated chisel, similar to those frequently found in Denmark, was turned up in 1841, in trenching a piece of ground near the Church of Lismore, Argyleshire. It is of the usual square form, measuring four inches long, and is described in the *New Statistical Account* as a stone needle.² Another and

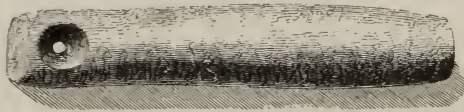


FIG. 18.—Flail Stone.

larger class of Scottish implements are cylindrical or oval perforated stones, of which no examples, I believe, have yet been found in Denmark or Sweden. The woodcut represents one of these implements, measuring $8\frac{1}{4}$ inches in length, found in a cist near North Berwick Abbey, East Lothian, where many primitive remains have been discovered. It is flattened at the end where it is perforated, and is made of a very hard polished stone. Another was found in 1832, in the parish of Lumphanan, Aberdeenshire; and similar implements are occasionally

¹ *New Statist. Acc.* Kirkcudbrightshire, vol. iv. p. 332.

² *Ibid.* Argyleshire, vol. vii. p. 243.

mentioned among the contents of Scottish tumuli. In a cist, discovered under a barrow, in Kirkurd parish, Peeblesshire, there were various weapons of flint and stone, including one described as resembling the head of a halbert, another of a circular form, and the third cylindrical; in all probability a celt, a spherical flint or stone, and one of the implements now referred to, which may be conveniently designated *flail-stones*.¹ On levelling a large tumulus a few years since, at Dalpatrick, Lanarkshire, a cist was discovered enclosing an urn. Two other specimens of fictile ware, one of them supposed to be a lamp, were found imbedded in the surrounding earth, and also a flail-stone made of trap rock. It is described as "a curious whinstone, of a roundish form, about four inches in diameter, perforated with a circular hole, through which the radicle of an oak growing near the spot had found its way."² Similar stone implements have been frequently met with in Scotland, and were perhaps designed for use as offensive weapons, attached to a leather thong, or secured by such means to the end of a shaft, like a modern flail. The Shoshonee Indians, and other North American tribes, used such a weapon under the name of a *Pogamoggon*; the stone not being perforated, but enclosed in leather, by which it was fastened to the handle. Other tribes of the Mississippi valley had a simpler form of the same weapon, possibly corresponding to the spherical objects of flint or stone occasionally found with these, consisting of a grooved ball attached to a long leather thong, which they wielded, like a slung-shot, with deadly effect.³ A medieval offensive weapon, constructed on the same principle, bore the quaint name of "The Morning Star," an epithet no doubt suggested

¹ Sinclair's *Statist. Acc.* vol. x. p. 186.

² *New Statist. Acc.* vol. vi. p. 734.

³ *Ancient Monuments of the Mississippi*, p. 219.

by its form ; as it consisted of a ball of iron armed with radiating spikes, attached by a chain to its handle. Like the ruder flail-stone, the morning-star, when efficiently wielded, must have proved a deadly weapon in the desultory warfare of undisciplined assailants ; but whenever the value of combined operations was discovered and acted upon, it would have to be thrown aside, as probably more fatal to friends than to enemies. In the Scottish flail-stones the perforation is bevelled off so as to admit of their free use without cutting or fraying the thong by which they were held.

A stone implement in my own possession, somewhat similar in general form to these flail-stones, was found beside a group of cists near North Berwick, East Lothian, but its original destination is obvious. It is made of sandstone, of a flattened oval form in section, and is worn on the two alternate sides where it has been used as a whetstone : a use to which the hardness and high polish of the others render them totally inapplicable. Not the least curious among the primitive relics in the celebrated museum of Northern Antiquities at Copenhagen, are the various whetstones, some of which have been found in barrows and elsewhere under ground, with half-finished stone-wedges lying upon them : as if the workman had been suddenly interrupted by death in the midst of his laborious industry, and his unaccomplished task had been deemed the fittest memorial to lay beside him. It formed no part of the old Pagan creed that "there is no work nor device in the grave." Possibly enough the buried celt-maker was expected to resume his occupation and finish his axe-grinding in the spirit-land. No similar example has yet been noted in Scotland, though smaller hand whetstones, like the one found at North Berwick, are not uncommon. One which is described as very smooth and neat, was obtained among-

the contents discovered on excavating within the area of the vitrified fort of Craig Phaidrick, near Inverness;¹ several such were found in cists at Cockenzie, East Lothian; and Barry mentions among the miscellaneous contents of the tumuli or cists in the island of Westray, "a flat piece of marble, of a circular form, about two inches and a half in diameter, and several stones, in shape and appearance like whetstones that had never been used."²

Among the larger and more elaborate implements of this period the most remarkable and varied are the Stone Hammers and Axes. They are of common occurrence and present a variety of forms, evidently designed to adapt them to a considerable diversity of purposes. They are therefore available as evidence in estimating the degree of inventive talent manifested in the primitive state of society in which they were produced: showing as they do the intelligent savage coping with the intractable materials with which he had to deal, and supplying many deficiencies by his own ingenuity and skill. With these, as with the Elf-bolts of the same period, we find in the reminiscences of early superstition the evidence of their frequent recurrence long after all traces of their origin and uses had been obliterated by the universal substitution of metallic implements. As we find the little flint arrow-head associated with Scottish *folk-lore* as the Elfin's bolt, so the stone hammer of the same period was adapted to the creed of the middle ages. The name by which it was popularly known in Scotland almost till the close of last century was that of the Purgatory Hammer. Found as it frequently was within the cist, and beside the mouldering bones of its old Pagan possessor, the simple discoverer could devise no likelier use for it than that it was laid there for its owner to bear with him "up the trinal steps," and with it to thunder

¹ *Archæol. Scot.* vol. iv. p. 188.

² Barry's *Hist. Orkney Islands*, p. 206.

at the gates of purgatory till the heavenly janitor appeared, that he might

“Ask,

With humble heart that he unbar the bolt.”¹

Stone hammers have been frequently found in the older Scottish cists, and dug up at considerable depths in many localities. The examples figured here illustrate a few of the most characteristic varieties. In 1832 a farm-servant, while ploughing a field on the farm of Downby, in Orkney, struck his ploughshare on a stone which proved to be the cover of a cist of the usual contracted dimensions. Within it lay a skeleton that seemed

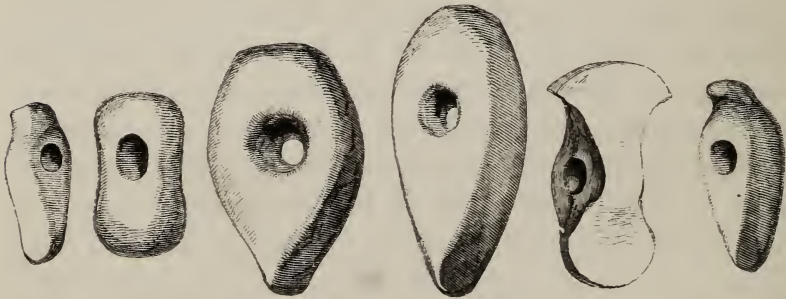


FIG. 19.—Stone Hammers and Axes.

to have been interred in a sitting posture, and at its right hand a highly polished mallet-head of gneiss, beautifully marked with dark and light streaks.² Another hammer, of fine-grained mica schist, and of a rare if not unique shape, dug up within the area of a megalithic circle at Crichtie, Aberdeenshire, and presented to the Scottish Museum, by the Earl of Kintore in 1856, is shown on Plate III. Fig. 20.

The name of Axe is, with sufficient appropriateness, applied to the double-edged stone implements, and to those of a wedge shape which have the aperture for inserting the handle near the broad end; whereas other

¹ Carey's *Dante*, Canto IX. l. 97.

² MS. Soc. Ant. Scot.; Rev. Charles Clouston.



FIG. 24.—Glasshill Stone Ball.

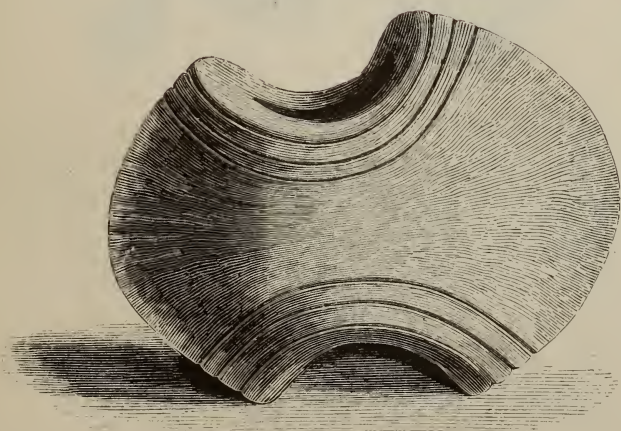


FIG. 20.—Stone Axe Head, from Crichie, Kintore.

examples, perforated sufficiently near the centre to admit of the free use of both ends, are with equal propriety styled hammers. They are often finished with great neatness and art; not formed by taking advantage of the natural fracture like the flint hatchet, but laboriously wrought in various kinds of stone, including the grey granite, of which the largest are generally made, trap, mica schist, and even sandstone. Several examples have been discovered in an unfinished state, furnishing curious illustration of the laborious process of manufacture. One

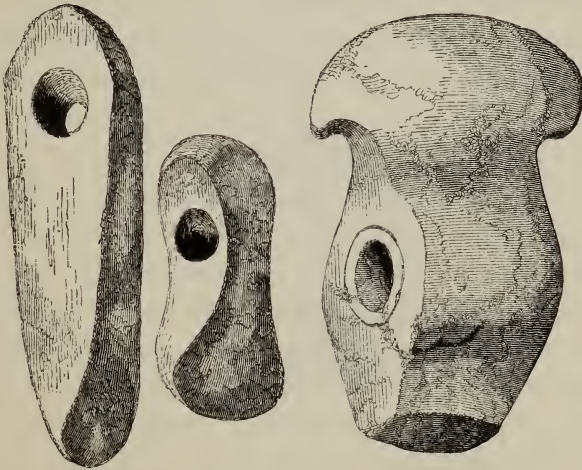


FIG. 21.—Stone Hatchets.

FIG. 22.—Dell Stone Axe.

large one in particular in the Scottish Museum, found in digging the Caledonian Canal, is made of grey granite, very symmetrically and beautifully formed, but with the hole only partially bored on both sides. This, it is obvious, was effected by a workman devoid of metallic tools, and may be assumed to have been done with water and sand by the tedious process of turning round a smaller stone until the perforation was at length completed. Tried therefore by the standard of value of the Stone Period, the hammer was perhaps a more costly deposit in the tomb of some favourite chief than the

golden armillæ of later times. The Danish antiquaries are familiar with examples of unfinished stone implements; and also with a still more curious class, consisting of broken hammers and otherwise mutilated instruments, which have been perforated with another hole or ground to a new edge, affording striking evidence of their value to the primitive owners. One implement (Fig. 22), partaking of the characteristics both of the hammer and axe, was dug up on the farm of Dell, in the parish of Abernethy, and is engraved from a sketch by the late Sir Thomas Dick Lauder, Bart. It measures eight inches in length, and was found at a depth of about five feet from the surface, in a soil consisting of two feet of mould lying above peat moss. The curious stone maul already referred to, the form of which is shown on Plate III. Fig. 20, was discovered lying, as it had been deposited, on a heap of burned bones, at the base of one of the monoliths of a stone circle at Crichtie, Kintore, Aberdeenshire. Its length is about four inches; but it is of a rare, if not unique form, and is suggestive rather of a symbolical implement or badge of office, than an instrument designed for practical use, unless it may be regarded as a working tool of the primitive goldsmith.

Unperforated spherical stones, generally about the size of an orange, have been referred to along with other contents of Scottish tumuli. It is not always possible to distinguish such objects, when free from ornamentation, from the stone cannon-balls which continued in use even in the reign of James VI. The circumstances under which they occur, however, leave no room to doubt that they rank among the articles wrought long prior to so modern an era; and were held in esteem by the primitive races of Britain, ages before the chemical properties of nitre, sulphur, and charcoal had been employed to supersede older projectile forces. The dis-

tion is further confirmed by their being frequently decorated with incised circles and other ornaments, as in the example shown here, found near the line of the old Roman way which runs through Dumfriesshire on its northern course from Carlisle. Another of highly polished flint has already been described among the disclosures of a large cairn on the Moor of Glenquicken, Kirkcudbrightshire; and two were shown me in 1850 as a part of the contents of a cist recently opened in the course of farming operations on the estate of Cochno, Dumbartonshire, one of which was made of highly-polished red granite, a species of rock unknown in that district. Several decorated examples, dredged up in

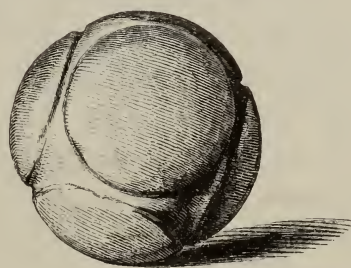


FIG. 23. -Stone Ball.

the Tay, are preserved in the Perth Museum; but by far the most remarkable one, now in the Scottish Museum of Antiquities (Plate III. Fig. 24), was dug up on the Glasshill, in the parish of Towie, Aberdeenshire, in the vicinity of several large tumuli. Four rounded projections are attached to the central ball, three of which are ornamented with elaborate incised patterns, as shown in the engraving, while the fourth is plain. The whole measures $2\frac{1}{2}$ inches in diameter. Balls similar to those previously described, occur among the relics found in the barrows at Denmark, but this example appears to be unique. Others pertain to a class of primitive objects described by the Northern Antiquaries

under the name of Corn Crushers. A rude block of stone is frequently found, flattened on the upper side, with a circular cavity in the centre, into which a smooth ball of stone has been made to fit, thereby supplying by a less efficient means the same purpose aimed at in the *querne*, discovered so frequently under a variety of shapes among the relics of various early Scottish periods. The shallow circular stone troughs or mortars so often found in Scottish burghs and weems belong to the same class. A still ruder device consists of a pair of stones which have evidently been employed in rubbing against each other, it may be presumed with the same object, of bruising the grain for domestic use. They have been occasionally noticed among the chance disclosures of the spade or plough in Scotland, and are of common occurrence in the Irish bogs. The author of the *Account of Halkirk Parish, Caithness*, thus describes the mortars above referred to, and the pestles or crushers, which are found together in the burghs:—"I have seen in them numbers of small round hard stones, in the form of a very flat or oblate sphere, of $2\frac{1}{2}$ inches thick in the centre, and about four inches in diameter; also other round stones, perfectly circular, very plain and level on one side, with a small rise at the circumference, and about a foot in diameter. The intention of both these kinds of stones manifestly was to break and grind their grain."¹ But such implements of homely industry and toil more frequently occur in the weems or burghs, or among chance discoveries in the soil, than in the cairn or cist. It may reasonably be assumed that neither the old British, nor the more modern Scandinavian warrior, deposited under the barrow of his chief, and alongside of his well-proved celt and spear, the corn-crusher with which his wives or his slaves were wont to prepare the

¹ *Sinclair's Statist. Acc.* vol. xix. p. 59.

grain for domestic use. The decoration traceable on some of the stone balls confirms this idea ; and it is more probable that they were employed either in some favourite game of chance, or as weapons of war : like the *pogamoggon* of the Chippewa and Shoshonee Indians of America, some of which consist of spherical stones, weighing from half a pound to two pounds. These they enclose in leather, and attach to a thong a yard and a half in length, which is wound round the wrist, the more effectually to secure a hold. Along with the latter objects may also be noted roughly-shaped spherical discs of flint occasionally found with other stone relics in Scotland, and much more common in Ireland, where they bear the name of "Sling Stones."

Like others of the rarer primitive relics, the spherical stones have been associated with popular superstitions of a later period ; and have been esteemed, along with crystal beads, adder-stones, or water worn perforated pebbles, and the like efficient armory of vulgar credulity, as invaluable amulets or charms. Pennant, after referring to the cure of cattle bewitched by Elf-shots, by making them drink the water in which an Elf-arrow has been dipped, adds :---"The same virtue is said to be found in the crystal gems and in the adder-stone ; and it is also believed that good fortune must attend the owner ; so, for that reason, the first is called *Clach Bhuai*, or the powerful stone. Captain Archibald Campbell showed me one, a spheroid set in silver, for the use of which people came above a hundred miles, and brought the water it was to be dipt in with them ; for without that in human cases it was believed to have no effect."¹ To this subject Professor Simpson has recently devoted his attention in his "Notes on some Scottish Magical Charm-Stones or Curing-Stones,"² and has illustrated the sub-

¹ Pennant's *Tour*, vol. i. p. 116. ² *Proceed. Soc. Antiq. Scot.* vol. iv. p. 211.

ject with his usual acumen. Among those the sphere of rock-crystal appears to have been regarded with special favour, as in the *Clach-na-Bratach* of the chiefs of Clan Donnachaidh, which tradition associates with the victory of Bannockburn ; and the *Clach-Dearg*, or stone of Ardvoirlich,—figured here with its silver setting of eastern workmanship,—the healing powers of which have been called into requisition in the same manner as the *Clach Bhuai* in very recent years. But the curative virtues

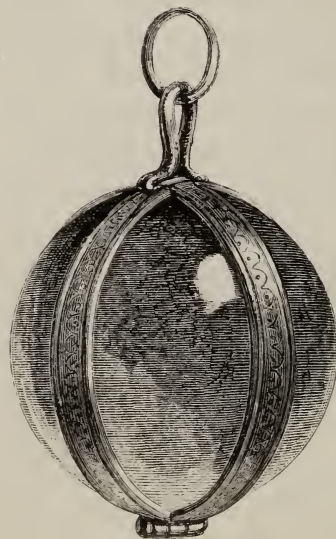


FIG. 25.—Stone of Ardvoirlich.

thus accredited to such relics are traceable to the same mode of thought which ascribes the origin of the flint arrow and stone celt to the elves. It appears to be only natural to the uninstructed mind to associate objects which it cannot explain with some mysterious and superhuman end ; and hence the superseded implements of a long extinct race become the charms and talismans of their superstitious successors.

One other class of primitive relics includes the ornaments, weapons, and tools of horn or bone ; such as the

lances or harpoons already described as found alongside of the stranded whales in the alluvial valley of the Forth, and traceable to the remotest era in which man can be recognised as an intruder among the older fauna of the British Isles. Such relics are by no means rare, notwithstanding the perishable nature of the material of which they are constructed, and doubtless belong to periods of varying antiquity. Barry describes among the contents of the Orkney tumuli, "swords made of the bone of a large fish, and also daggers."¹ The right-hand object in the group of bone implements, Fig. 26,² is a bone dagger, found lying beside a rude urn in a stone cist near Kirkwall, and drawn from the original in the possession of the late Dr. Traill. It measures $7\frac{1}{2}$ inches long, and appears to be made of the outer half of the lower portion of the right metatarsal bone of an ox. The notches cut on it are perhaps designed to give a firmer hold, while they also serve the purpose of rude attempts at ornament. Their effect, however, is greatly to weaken the weapon, and render it liable to break. Pennant has engraved an implement of horn, carved and perforated at the thick end, found in a large urn under a cairn in Banffshire; and another, closely corresponding to it, was discovered in 1829, in an urn dug up in the progress of the works requisite for erecting the Dean Bridge at Edinburgh.³ A remarkable cairn which still stands, though in ruins, on the summit of one of the Ochil Hills, on the northern boundary of Orwell parish, Kinross-shire, bears the name of Cairn-a-vain, and an ancient traditional rhyme thus refers to a treasure believed to be contained in it:—

" In the Dryburn well, beneath a stane,
 You'll find the key o' Cairn-a-vain,
 That will mak' a' Scotland rich ane by ane."

¹ Barry's *History of the Orkney Islands*, p. 206.

² *Vide post*, p. 202.

³ Minutes of Society of Antiquaries of Scotland, 27th April 1829.

Many hundreds of cart-loads of stones have been carried off by the proprietor from this gigantic pile, for the purpose of building fences, but no treasure has yet been found, though eagerly expected by the workmen. But a rude stone cist occupied the centre of the pile, within which lay an urn full of bones and charcoal; and amongst these was an implement of bone, about four inches long, very much resembling in figure a cricket-bat notched on the edges.¹

Various weapons of horn and bone are preserved in the Scottish collection, some of them so slender as to be rather pins or bodkins than lances. Deers' horns are also frequently found among the contents of tumuli, bearing marks of artificial cutting. Some years since a quantity of these, which had been sawn asunder, were discovered in a bed of charcoal, a few feet below the surface, outside the "Seamhill moat," in the parish of West Kilbride, Ayrshire.² A deer's horn of unusually large size, from which the brow-antler has been cut off, now in the Museum of the Scottish Antiquaries, was obtained with others, on levelling a large sepulchral barrow in the neighbourhood of Elphinstone Tower, East Lothian. Another of smaller dimensions, in the same collection, was discovered in a cist at Cockenzie, in the same county. Pennant mentions the similar discovery of a deer's horn, "the symbol of the favourite amusement of the deceased," lying beside the skeleton, in a stone cist, on the demolition of a cairn at Craigmills, Banffshire; and on opening the most conspicuous of a group of tumuli, in the parish of Alvie, Inverness-shire, a human skeleton was observed entire, with a pair of large hart's horns laid across it.¹ To those instances may be added the discovery, in 1850, — more particularly described in a later chapter, — of ancient oaken coffins on the Castle-hill of Edinburgh, at

¹ *New Statist. Acc.* vol. ix. p. 60.

² *Ibid.* vol. v. p. 256.

a depth of twenty-five feet from the surface, with a deer's skull and horns of unusually large proportions lying between them.

It cannot admit of doubt that bone and horn continued to supply the absence of metallic weapons to the very close of the Stone Period, and to be applied to many useful purposes in later ages. Nevertheless it suggests the probable antiquity of the examples referred to, that notwithstanding the great susceptibility of the material for receiving ornament, they present so few of those incised decorations common not only on sepulchral pottery, but on the pateræ, bead-stones, and other relics formed of the hardest materials.

One of the most interesting recent discoveries of this primitive class of implements was made by Mr. W. Watt, during his exploration of a subterranean dwelling or weem at Skara, in the Bay of Scales, Sandwich. A large accumulation of ashes, bones of domestic animals, the tusks of a very large wild boar, scales of fish, etc., indicated the refuse of many repasts of its aboriginal occupants; and alongside of it, apparently in coeval rubbish, was found a stone cist, containing, among other remains, about two dozen oyster-shells, each perforated with a hole large enough to admit the finger. Perchance they supplied to their simple owner a collar not less esteemed than the most coveted Orders of a modern peer. A variety of bone implements were discovered at the same time. The larger object to the left in the subjoined woodcut represents a pin or bodkin, formed from the left metatarsal bone of an ox of small size, in which the natural form of the joint has been turned to account for forming its head. It measures 5·3 inches long. The smaller object adjoining, also of bone, has one side of

¹ Sinclair's *Statist. Acc.* vol. xiii. p. 383; *vide* also vol. iii. p. 57; *Archæol. Jour.* vol. ii. p. 80.

the head broken away, but the perforation has not been in the centre. It measures $3\frac{1}{2}$ inches in length. Others of the tools are still more simple: mere flat pieces of bone, roughly rubbed to an edge, and indicating the merest rudiments of art and contrivance. Two other examples from the same hoard are represented here. The smaller one is formed from the lower end of the metatarsal bone of a sheep, and the larger—perhaps intended as the handle of some implement of delicate structure,—appears to be fashioned from the metatarsal or metacarpal bone of a lamb.¹ It is notched

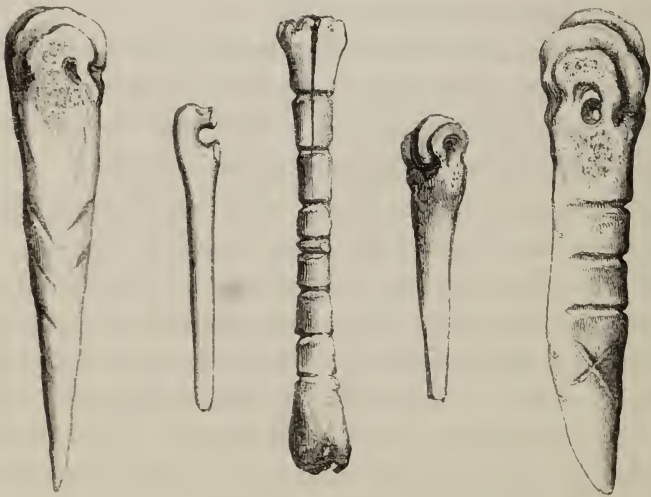


FIG. 26.—Bone Implements.

with a rude attempt at ornament, which, as in the ox-bone dagger, must have greatly impaired its strength. Along with those were also found a number of circular discs of slate, about half an inch thick, roughly chipped into shape, and about the size of a common dessert plate. The most ready idea that can be formed

¹ The inferior articular surface of the bone has separated, which supplies evidence of its having been a lamb, union not having taken place owing to the youth of the animal.

of them is, that they were actually designed for a similar purpose.

Such simple relics of the primitive period may not inaptly recall to us the evidences of another class of occupants of the old Caledonian forests. At the very era when the Briton had to arm himself with such imperfect weapons, the wolf was one of his most common foes. The wild boar continued to be a favourite object of the chase long after the era of the Roman invasion: though the huge *Bos primigenius*, whose fossil remains are so frequently found in our mosses and marl-pits, had then made way for the *Bos longifrons* and the *Urus Scoticus*, or Caledonian bull, which still forms so singularly interesting an occupant of the ancient forest of Cadzow, Lanarkshire. The large tusks frequently found among later alluvial deposits attest the enormous size attained by the Caledonian boar; and its repeated occurrence on sculptured legionary tablets of Antoninus' wall may be due in part to its pre-eminence among the wild occupants of the forests which skirted the Roman vallum in the carse of Falkirk, and along the slopes of the Campsie Hills. On constructing a new road a few years since, along the southern side of the rock on which Edinburgh Castle stands, deers' horns and boars' tusks of the largest dimensions were found; and in an ancient service-book of the monastery of Holyrood, the ground which some of the oldest buildings of the Scottish capital have occupied for many centuries, is described as "a n gret forest, full of hartis, hyndis, toddis, and sic like manner of beistis." Thus is it with all that is venerable: an older still precedes it; and the docile student, after toiling vainly in pursuit of all attainable knowledge, still seems to see behind, as before him, an unknown undiminished by all he has recovered. Meanwhile, it becomes manifest, that the more minutely we investigate

the primitive Scottish era, the further it recedes into the past: leading our thoughts, as Sir Thomas Browne quaintly, but devoutly expresses it, “unto old things and considerations of times before us, when even living men were antiquities, when the living might exceed the dead, and to depart this world could not be properly said, *abiiit ad plures*, to go unto the greater number; and to run up our thoughts upon the Ancient of days, the antiquary’s truest object, unto whom the eldest parcels are young, and earth itself an infant.”

CHAPTER VII.

STONE VESSELS.

A GREAT variety of stone vessels, of different forms and sizes, have been found in Scotland under different circumstances, but in most of them the imperfect attempts at ornament, and the whole form and character, correspond to the rudest arts of the Scottish aborigines. Even sepulchral urns of this durable material are not uncommon, especially in the northern and western isles. Wallace thus describes one found in the island of Stronsa :—"It was a whole round stone like a barrel, hollow within, sharp edged at the top, having the bottom joined like the bottom of a barrel. On the mouth was a round stone."¹ From the engraving which accompanies this description, it may be more correctly compared in form to a common flower-pot, decorated with a series of parallel lines running round it. In the Museum of the Society of Antiquaries of London there are two rude stone urns, believed to be the same exhibited to the Society by Captain James Veitch in 1822, which were discovered on the demolition of a cairn in the island of Uyea, Shetland, along with many similar urns, mostly broken, and all containing bones and ashes. They are formed of *Lapis ollaris*, and are described in Mr. Albert Way's Catalogue of the Society's Collection, as two rudely-fashioned vessels of stone, or small cists,

¹ Wallace's *Orkney*, p. 56.

of irregular quadrangular form, one of them having a large aperture at the bottom, closed by a piece of stone, fitted in with a groove, but easily displaced. The other has a triangular aperture on one side, and is perforated with several smaller holes regularly arranged. The dimensions of the larger are about $9\frac{1}{2}$ inches by 4, and the other 7 inches by $3\frac{1}{2}$. Dr. Hibbert refers to another of the same class, but probably of superior workmanship, which he saw on his visit to the island of Uyea. It was found along with other urns, and is noted as "a well-shaped vessel, that had been apparently constructed of a soft magnesian stone of the nature of the *Lapis ollaris*."

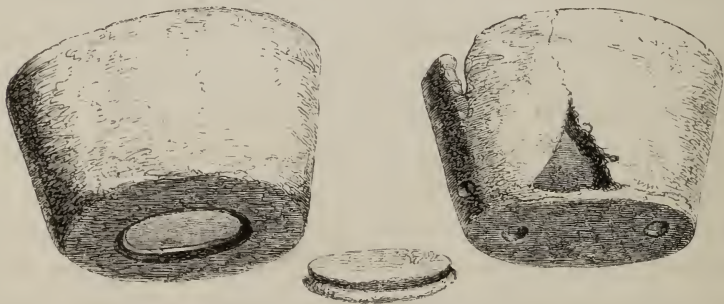


FIG. 27.—Uyea Stone Urns.

The bottom of the urn had been wrought in a separate piece, and was fitted to it by means of a circular groove. When found, it was filled with bones partly consumed by fire."¹ A fragment of another such urn in the Scottish Museum is designated by the donor part of a vase of a steatitic kind of rock, found in 1829 within a kistvaen on the island of Uyea, one of the most northern of the Shetland group. A large sepulchral urn, dug up at an earlier period on the island of Eigg, is described as consisting of a round stone, which had been hollowed, with the top covered with a thin flag. It contained human bones, and was found in a tumulus which tradi-

¹ Hibbert's *Shetland*, p. 412.

tion assigned as the burial-place of St. Donnan, the patron saint of the isle.¹ In this, however, we can be at no loss to recognise the spurious traditions of an age long subsequent to that in which the mound was reared. The works of many savage tribes suffice to show that such expenditure of laborious effort on the most intractable materials, invariably precedes the simpler, but more ingenious plastic arts; and the choice of material for such sepulchral urns or cists, confirms their origin in an age of primitive and unskilled workmanship. They appear to have been fashioned out of the most easily wrought rocks of the district; though even then they

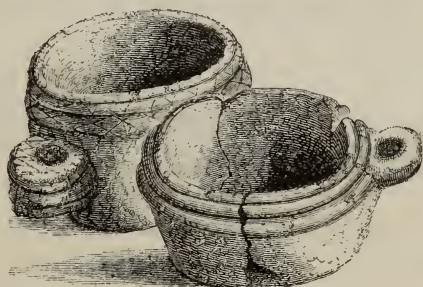


FIG. 28.—Stone Patere

must have involved much time and labour to their rude artificer, with his imperfect tools; and were reserved, we may presume, for the rare honours conferred on some distinguished chief, or perchance on the Arch-Druid or high-priest of their long-forgotten faith.

Another and much more common stone vessel is a small cup or bowl (Fig. 28), generally measuring from five to six inches in diameter, and with a perforated or indented handle projecting from one side. Many of these are more or less ornamented, chiefly with the same chevron patterns which occur on cinerary urns of rudest workmanship. They have been found of all the commoner varieties of stone, from the easily wrought steatite or

¹ Sinclair's *Statist. Acc.* vol. xvii. p. 287.

sandstone to the hardest porphyry ; and are familiarly known to the antiquary by the name of Druidical pateræ. The striking analogy presented to them by a class of stone vessels still in use in the Feroe Islands, is deserving of notice from the very suggestive elements of comparison thereby furnished. Insulated in those remote and rarely visited northern islands, where the themes of the Nibelungen Lied have survived in the traditional verse of the native popular songs, it is not difficult to conceive of arts and usages undergoing slight changes through unnumbered centuries ; and there accordingly the form at least of the ancient stone patera is retained. The accompanying woodcut is engraved

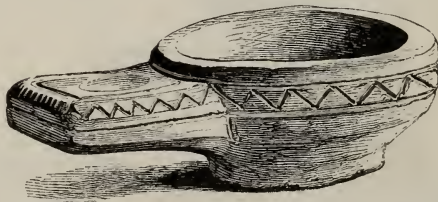


FIG. 29.—Feroe Stone Lamp.

from one selected from a collection of such vessels brought from the Feroe Islands, and described by Sir Walter C. Trevellyan, when presenting this example to the Society of Antiquaries of Scotland, as a stone vessel in use by the islanders at the present day as a lamp or chaffing-dish in which they carry about live embers. The old chevron pattern is retained in the modern ornamentation, and the only special difference from the ancient Scottish vessel is the greater length of the handle ; an improvement consonant to the inevitable refinement, or degeneracy as some would call it, of modern progress, designed to increase its adaptation for carrying glowing embers without injury to the bearer.

The correspondence traceable in the simple arts of the Feroe Islanders, though there only applied to domestic

uses, is in no degree inconsistent with the idea implied in the designation of the Scottish relics as vessels originally consecrated to the mysterious rites of the so-called Druidical temples, or megalithic circles. Certain it is, at any rate, that they have been repeatedly dug up within the charmed area of those long-deserted fanes; though by no means limited to such localities. In 1828 two of them were discovered under an ancient causeway leading from a circle of standing-stones on Donside, in the parish of Tullynessle, Aberdeenshire; both of which are now in the Scottish Museum. A similar relic was found some time before, when trenching the area of another stone circle on the farm of Whiteside in the same county; and a third is described, which was dug up within the famous Hebridean circle of Callernish. The very great labour involved in the construction of some of those stone vessels from the hardest whin and granite, seems at first sight to confirm the idea of their original destination for some special or sacred object. But this is a deceptive mode of reasoning. Time, which is of so much value in a civilized state of society, is of little moment to the rude barbarian. Captain Inglefield, in his Arctic voyage undertaken in search of Sir John Franklin, witnessed the Esquimaux on the shores of Whale Sound, engaged in the laborious process of hollowing out a stone vessel in which to melt their blubber, with no other implements than stone tools. Dr. Rae informs me that while the Esquimaux of Copper River make knives and lances of the native copper of that region, and haft them with bone, their lamps and cooking vessels are wrought of stone. The stone lamp is trimmed with moss wicks set in lard or oil; and over this he has seen them suspend their stone pot filled with melted snow, and so cook their food of whale or seal blubber. Rude as is the social condition which accompanies such

ingenious Esquimaux arts, we can scarcely imagine it to be ruder than that of the ancient whalers whose lances and harpoons have been brought to light alongside of the gigantic cetacean fossils of the Blair-Drummond Moss.

Some of the forms of stone vessels of rarest occurrence among those found in Scotland, are much more suggestive of their original construction for domestic purposes than the small lamp or patera ; and it is worthy of note that while the latter is one of the least rare among the Scottish antiquities of its class, it appears to be scarcely known either in England or Ireland. The only example figured among the antiquities of the Royal Irish Aca-

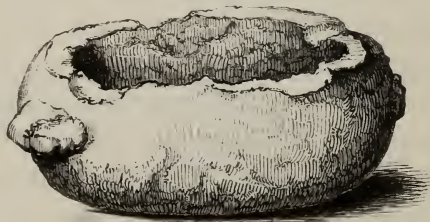


FIG. 30.—Stone Basin, Shetland.

demy, is described by Mr. Wilde as “ this great rarity found in the Shannon excavations ;” while from the indestructible nature of their materials it is inconceivable that such relics could have altogether disappeared, had they ever existed in any great number. Of the commoner forms, one, in my own possession, found in Glen Tilt, is a neatly formed shallow saucer, wrought in native green marble, with two handles, not unlike the modern quech. Another in the Scottish collection, found in Athole, is like a stone ladle ; and a third, found within the area of a “ Pech’s Burgh” at Brough, in Shetland, —of oblong form, as shown here, and measuring 12 by 8½ inches,—can hardly be more fitly described than as a stone tureen with a handle carved at each end. Others

met with under similar circumstances are wide and shallow, and nearly resemble the large stone basins found in the chambers of the celebrated cairn of Newgrange in the neighbourhood of Drogheda. In some of the remoter districts of Scotland such ancient vessels were regarded till very recently with somewhat of the same awe and dread as is still attached to the Elf-arrow and the perforated witch-stone; and Mr. Colin M'Kenzie, in describing the great circle of Callernish, towards the close of last century, refers to a stone bowl found there, which was afterwards thrown, through a superstitious dread, into the hollow round the central stone.¹

The Scottish querne, which abounds wherever the traces of ancient population are met with, and appears to have undergone little alteration since its introduction in the infancy of agricultural arts, must be ranked among the stone vessels employed for domestic use. The rudely fashioned oaken querne, or mortar for pounding grain, already noticed among the strange disclosures of Blair Drummond Moss, may be regarded as the oldest type of the primitive hand-mill, coeval with remarkable traces of human art recovered in the same alluvial valley. It is simply the section of an oak tree, measuring nineteen inches in height by fourteen inches in diameter. The centre has been hollowed out to a depth of about a foot, so as to form a mortar; in which with the help of a stone or wooden pestle, its original possessor was doubtless wont to bruise and pound his nuts or grain, preparatory to their conversion into food. But the stone hand-mill is also an invention of remote antiquity, and one so well adapted to the wants of a primitive community, that it has been perpetuated among the islanders of the western Hebrides to our own day. Its abandonment in some of the remoter districts of the mainland is

¹ *Archæol. Scot.* vol. i. p. 284.

of very recent date, if indeed it be even now totally disused ; and examples occur in contact with relics of widely separated ages, retaining the same antique form and simple structure unaltered, while the arts of its inheritors have progressed from the inartistic rudeness of the stone period to the graceful inventions of the bronze worker, and the borrowed refinements of Roman and medieval centuries.

The commonest form consists of two circular flat stones, the upper one of which is pierced in the centre with a narrow funnel, and revolves on a wooden or metal pin inserted in the other. The upper stone is occasionally decorated with various ornaments and devices. One example figured in *The Round Towers of Ireland*, is surrounded with the chevron, rope, bead, and Etruscan frette patterns ; portions of which have been defaced to convert it into the simple tombstone graven with the name of Sechnasach : the priest of Durrow, as Dr. Petrie believes, whose death is recorded in the Annals of Clonmacnoise, in the year 928. In using this simple hand-mill, the grinder dropped the grain into the central funnel with one hand, while with the other he made the upper stone revolve by means of a stick inserted in a small hole near the edge. The stone querne has already been noted as one of the most common objects found in the Scottish weems or cyclopean underground dwellings. It has also been repeatedly dug up under circumstances indicative of great antiquity ; while in other cases it occurs alongside of objects altogether modern in comparison with some of the primeval traces referred to. Among the latter class are an upper querne-stone, discovered in 1825, along with an iron sword, in digging on the summit of the Camp Hill, near Pitlour House, Fifeshire ; and another, preserved along with it in the Scottish collection, which was found built into the masonry of an

ancient wall of Edinburgh Castle. One type, apparently of the Roman period, in which the upper stone is funnel-shaped, with radiating grooves from the central perforation, is engraved in Stuart's *Caledonia Romana* as the portable hand-mill of the Roman soldier; and another of the same type in the Scottish Museum, surrounded with a greatly corroded iron band and loop for the handle, was found to the south-west of Camelon, on the Antonine Wall.

A curious allusion to the employment of the querne in less remote times occurs in the life of St. Columba, illustrative of its daily use in the preparation of grain for bread. When the saint studied under St. Finnian, every night on which it fell to his share to grind the corn he did it so expeditiously that his companions alleged he had always the assistance of an angel in turning the stone, and envied him accordingly. At that period, in the early part of the sixth century, there can be little doubt that the querne was the only mill in use. Even so late as the thirteenth century legal means were employed to compel the people to abandon it for the large water-mills then introduced. In 1284, in the reign of Alexander III., it was provided that "na man sall presume to grind quheit, maishlock, or rye with hands mylne, except he be compelled be storm, or be lack of mills, quhilk sould grind the samen. And in this case, gif a man grinds at hand mylnes, he sall gif the threttein measure as multer; and gif anie man contraveins this our prohibition, he sall tine his hand mylnes perpetuallie." The prevalence of these simple domestic utensils in the remoter districts of Scotland till the close of the eighteenth century, shows how ineffectual this law proved in superseding the querne by the public mill.

A more artificial, though very ancient form of hand-mill, is what is called the Pot Querne, consisting of a

hollowed stone basin, with an aperture through which the meal or flour escapes, and a smaller circular stone fitting into it, and pierced, as in the simpler topstones, with a hole in the centre, through which the grain was thrown into the mill. The woodcut represents one of unusually large size, found on the farm of Westbank, Gladsmuir parish, East Lothian, and now in the Scottish Museum. It is made of coarse pudding-stone, and measures 17 inches in diameter, and $8\frac{1}{2}$ inches high. It appears to have had two handles attached to it at opposite sides, as the holes in which they were inserted still

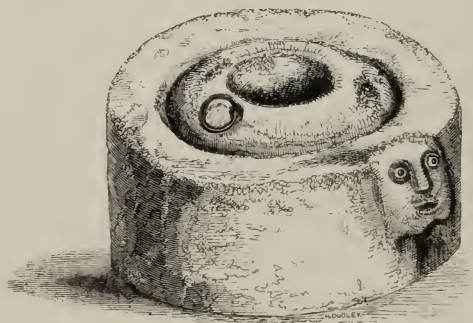


FIG. 31.—Pot Querne.

remain. The iron ring now fastened to it is a modern addition of its last possessor, who used it for securing his horse at the farm-house door. Pot quernes are common in Ireland, though somewhat differing in form from the Scottish examples. They are generally much smaller and shallower than the one described above, and are made with three, or sometimes four feet. They have likewise a cavity in the centre of the under stone, into which the upper stone fits by a corresponding projection, so as to preclude the necessity for a metal axis. They are called by the native Irish *Cloch a vrone*. From the same radical *vro* or *bro*, Gaelic *bra*, lit. to break, and signifying grindings or bruised grain, is derived our Scotch word *brose*, as the name of the homely dish of oatmeal still in com-

mon use, but which was doubtless familiar to the Scottish peasant long before he had a chance of learning the significance of the French *brouet*, *i.e.*, pottage or broth, though both are probably traceable to a common Celtic root. Such pot quernes have been frequently found at great depths in the Irish bogs, and under other circumstances indicating a very remote antiquity, though they have scarcely yet fallen into total disuse in some districts of the west.

CHAPTER VIII.

PERSONAL ORNAMENTS.

THERE only remain to be noted the earliest traces of luxury and personal adornment contemporary with the rude weapons and implements, and the simple habitations of earth or unhewn stone, described in previous chapters. These are scarcely less abundant than the implements of war and the chase; and some of them possess a peculiar value for us, not only from the evidence they furnish of the progress attained in the development of the æsthetic faculty and the decorative arts; but also as presenting the sole memorials of female influence, and of the position woman held in the primitive social state which we desire to trace out as the true rudimentary beginning of our island history. There must necessarily be some uncertainty in any attempt to assign to the two sexes their just share of the personal ornaments found in the early tumuli, or discovered in the course of disturbing the uncultivated soil. Man, in such a primitive state as we have abundant grounds for believing that of the true Stone Period to have been, delights in assuming to himself the personal ornaments with which, in a more advanced stage of social life, he finds a higher gratification in adorning woman. It need not, therefore, excite surprise, when ornaments which modern civilisation resigns entirely to the fair sex, such as bracelets, hair pins, neck

ornaments, and the like, are found mingling with the sword and spear of the rude barbarian chief. Still, there are personal decorations, and especially bead necklaces, bracelets, and some of the smaller and more delicate armillæ, which we can hardly err in classing among female adornments. The subject, however, is well deserving of further attention; and the more so, as the evidence which is available in the case of sepulchral remains is of so satisfactory and decisive a character when reported on by competent witnesses. There can be no doubt, from the disclosures of numerous tumuli and cists, that the dead were frequently buried "in their habits as they lived," and with all their most prized personal adornments upon them; though time has made sad havoc of their funeral pomp, and scarcely allows a glimpse even of the naked skeleton that crumbles into dust under our gaze.

The rudest of the personal ornaments found in sepulchral mounds, or in the safer chance depository of the bogs, are those formed of bone or horn. But such relics are necessarily of rare occurrence, not only from the remoteness of the period to which we conceive them to belong, but from the frail nature of the material in which they have been wrought. This, when deposited among the memorials of the dead, yields to decay almost as rapidly as the remains it should adorn. Still some few of those fragile relics have been preserved, consisting of perforated beads of bone, horn pins, perforated animals' teeth, and other equally rude fragments of necklaces or pendants; but very few of them present much attempt at artificial decoration by means of incised ornaments or carving, such as is found to have been so extensively practised in a later age. One curious set of bone ornaments in the Scottish Museum includes a piece of ivory pierced with a square

perforation, and another with a nut or button fitting into it: the clasp or fibula it may be of the robe of honour worn by some ancient chief.

Next in seeming antiquity to the traces of human art in the drift, if not in some cases coeval with them, are the numerous implements and personal ornaments embedded in the bone-breccia of ossiferous caverns, such as the cylindrical rods and large rings or armlets of fossil ivory lying alongside the skull of the elephant, in Goat Hole Cave, Glamorganshire; or others intermingled with the bones of extinct mammals beneath the stalagmitic flooring of Kent's Hole cavern. To some of those cave-relics attention has already been directed; but they also furnish materials illustrative of the present section, and show at how early a stage in the progress of human arts the ingenious workman found leisure to devote his skill and labour to the manufacture of personal ornaments. Near the entrance of the famous Devonshire cavern at Torbay, embedded in mould which had acquired the consistency of hard clay, Mr. MacEnery describes his discovery of numerous articles in bone, including not only arrow-heads, but also slender, rounded pins or bodkins, about three inches long, and wrought to a point; and a flat implement of polished bone, broad at one end, pointed at the other, but at the broad part retaining the form of a comb, the teeth of which had been broken off near their root. Pursuing his researches, the intelligent explorer further records:—"Towards the second mouth, on the same level, were found pieces of pottery. The most remarkable products of this gallery were round pieces of blue slate, about an inch and a half in diameter, and a quarter thick. In the same quarter were found several round pieces of sandstone grit, about the form and size of a dollar, but thicker, and rounded at the edge, and in the centre

pierced with a hole, by means of which they seem to have been strung together like beads." The perforated stones of Kent's Hole Cave are more probably the table-men used in games of chance or skill, which come under review on a subsequent page. In their rudest and most primitive forms, however, it is not always easy to discriminate between them and similar objects designed for personal decoration or for domestic industrial skill. Stone beads wrought with laborious art mingle with other relics of the same common material, in the grave-mounds, as well as in weems, and the stray deposits of drift and moss. The woodcut represents examples of perforated stone balls, such as are frequently met with, to which it may be convenient to apply the name of

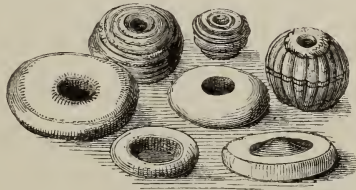


FIG. 32.—Bead-Stones.

Bead-stones. Some of them are decorated with incised lines, and may have been worn as marks of distinction, or as personal ornaments held in great esteem; as they are not uncommon among the relics deposited in the cist or cinerary urn. Others of them more nearly resemble the stone weights used with the distaff, and have accordingly received in Germany the name of *Spindelstein*. The Scottish *whorle*, or fly of the spinning-rock, however, is still familiar to us, and only very partially corresponds to these perforated balls. It consists generally of a flattened disc, much better adapted for the motion required. But independently of this, those simple ornaments have been found alongside of male skeletons, and

in such numbers as might rather induce the belief that—where they are not the set of table-men with which the deceased was wont to beguile his hours of leisure,—they had formed a badge, or official collar, esteemed as no less honourable than the golden links of rue and thistle worn by the knights of St. Andrew at the court of the Scottish Jameses.

On demolishing a cairn at Dalpatrick, in Lanarkshire, a few years ago, it was found to cover a cist enclosing an urn, and in the surrounding heap were discovered another urn about six inches high, a smaller vessel of baked clay, and a curious whinstone of roundish form, about four inches in diameter, and perforated with a circular hole.¹ Perforated balls and discs of slate are of common occurrence in Portpatrick parish, Wigtonshire, and are also met with in other districts.² “In one of the Orkney graves,” says Barry, “was found a number of stones formed into the shape and size of whorles, like those that were formerly used for spinning in Scotland.”³ Two of these bead-stones in the Museum of the Scottish Antiquaries were discovered in Dumbartonshire, along with various smaller ones, some of them of glass and undoubtedly designed as ornaments. But other examples, more in the form of a truncated cone, are referred to in a later chapter as the table-men for a game somewhat similar to that of draughts, and still called by the Germans *Brettsteine*. Larger perforated stones have also been repeatedly found. Mr. Joseph Train describes several obtained in Galloway, five or six inches in diameter, one of which, in his own possession, as black and glossy as polished ebony, had been picked up in the ruins of an old byre, where its latest use had

¹ *New Statist. Acc.* Lanarkshire, vol. vi. p. 734.

² *Ibid.* Wigtonshire, vol. iv. p. 142.

³ Barry's *Orkney*, p. 206.

no doubt been, in accordance with the ideas of that district, to counteract the spells of witchcraft.¹

Ornaments of jet or shale and cannel coal, and large beads of glass and pebble, are of frequent occurrence in the Scottish grave-mounds, and furnish extremely interesting and varied evidence of the decorative arts of remote ages. Many of those, however, are found under circumstances which leave no room to doubt that they belong to periods coeval with the introduction of metals, and the skill acquired in the practice of metallurgy ; or even to later times when the arts of historic races were effacing the last traces of primeval ingenuity.

There is another class of relics, however, which we can feel no hesitation in ranking among early remains of the Stone Period ; though it may sometimes be difficult to determine whether we should regard them as mere personal ornaments or as charms employed in the rites of Pagan superstition : as it is not uncommon to find them used, at a very recent date, by their modern inheritors in some of the remoter districts of the Highlands and Isles. One relic, for example, in the Scottish Museum, consists of a flat reddish stone, roughly polished. It measures 4 inches in length, and about $2\frac{3}{4}$ inches in its greatest breadth, and is notched in a regular form, with two holes perforated through it. It was presented to the Society of Antiquaries in 1784, as a charm in use among the population of the island of Islay for the cure of diseases. From its correspondence with others of the earliest class of relics, it can hardly admit of a doubt that it belongs to the personal ornaments of the Stone Period, and may have owed the reverence of its more recent possessor to the fact of its discovery within some primitive cist, or in the charmed circle of Taoursanan, the origin of which is commonly ascribed to superhuman

¹ *New Statist. Acc.* Kirkcudbrightshire, vol. iv. p. 196.

powers. It is worthy of note, indeed, that the word *Druidheachd* is no longer associated with the priesthood of the British groves, but is now only used by the Scottish Highlanders as applicable to sorcery or magic. Another, but much less perfect ornament of perforated reddish stone, in the same collection with the above, was found, along with several flint arrow-heads, in the island of Harris ; and a third, still ruder, was discovered, with a similar arrow-head, on the Lomond Hills of Fifeshire. But perhaps the most singular relics of this class discovered in Scotland are two stone collars, found near the celebrated Parallel Roads of Glenroy, and now pre-

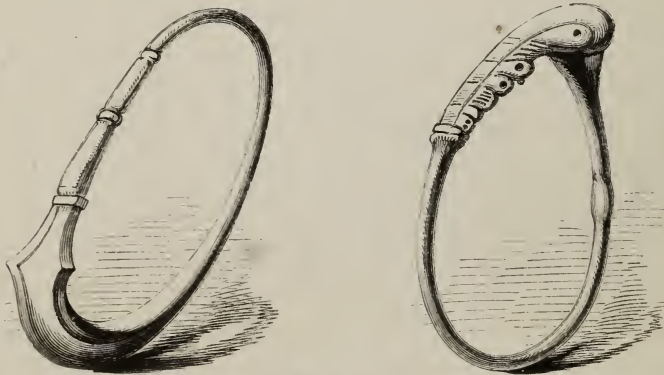


FIG. 33.—Stone Collars.

served at the mansion of Tonley, Aberdeenshire. They are each of the full size of a collar adapted to a small Highland horse ; the one formed of trap or whinstone, and the other of a fine-grained red granite. They are not, however, to be regarded as the primitive substitutes for the more convenient materials of later introduction. On the contrary, what has been supposed to be the imitation of the details of a horse-collar of common materials is attempted, including the folds of the leather, nails, buckles, and holes for tying particular parts together. They are finished with much care and a high degree of polish, and are described as obviously the

workmanship of a skilful artist. Mr. Skene, who first drew attention to these remarkable relics, suggests the probability of the peculiar natural features of Glenroy having led to the selection of this amphitheatre for the scene of ancient public games; and that these stone collars might commemorate the victor in the chariot race, as the tripods still existing record the victor in the Choragic games of Athens. But no circumstances attending their discovery are known which could aid conjecture either as to the period or purpose of their construction.¹

In the year 1832, a large tumulus, on the shore of Broadford Bay, Isle of Skye, was levelled in the progress

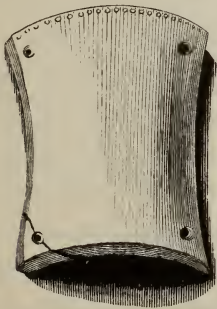


FIG. 34.—Stone Ornament.



FIG. 35.—Stone Ornament.

of some improvements on the estate of Corry, and was found to cover a rudely vaulted chamber, within which lay a cist enclosing a human skeleton, along with various bones of animals, the species of which were not ascertained. Alongside of the skeleton an ornament of polished pale green-stone was discovered, measuring about $2\frac{1}{2}$ inches in length, by 2 inches in breadth. Its form will be best understood by the annexed woodcut (Fig. 34). It is convex on the upper side, and concave on the under side, with a small hole drilled at each of the four corners, and an ornamental border of slightly indented ovals

¹ *Archæol. Scot.* vol. iii. p. 299.

along one end. It differs only in dimensions from one previously referred to, in the Arbutnot collection, obtained from a tumulus at Cruden, Aberdeenshire, but measuring $4\frac{1}{4}$ inches in length. Another ornament (Fig. 35) of polished green-stone was afterwards discovered in the neighbourhood of the tumulus at Broadford Bay, measuring about $3\frac{1}{2}$ inches in length, and nearly an inch in breadth at the centre, but tapering to about half an inch in breadth at each end, where a small hole is drilled through. It is only a fifth of an inch in thickness. Simple as are the forms of both relics, they represent a class which appears to have been common among the personal decorations of the Stone Period, whether regarded merely as ornaments, or valued for some hidden virtue which may have been supposed to pertain to them. In a sepulchral deposit, discovered by some labourers employed in sinking a ditch at Tring, in Hertfordshire, about the year 1763, the relics were entirely of the same primitive class; and the interment furnished an example in confirmation of previous remarks regarding early sepulchral rites, as the skeleton was found laid at full length, with legs and arms extended. Between the legs lay some flint arrow-heads, and at the feet ornaments closely resembling, both in form and material, those found in the tumulus at Broadford Bay.¹ Sir R. C. Hoare describes objects of similar character, found in the barrows of Wiltshire, some of which were made of blue slate;² and small perforated plates of stone or flint, of slightly varying forms, are not uncommon among the contents of the earlier British tumuli. They are not, however, confined to Britain. Simple as are the forms of the two relics figured above, there is a sufficiently marked character about them to excite our surprise when

¹ *Archeology*, vol. viii. p. 429. Plate xxx. Fig. 6.

² *Ancient Wiltshire*, Plates II. and XII.

we meet with them in the grave of the ancient native of Skye, and in the cists of Herts or Wiltshire ; but ornaments of almost exactly the same forms have been discovered in the mounds of the great valley of the Mississippi,¹ accompanied with celts, stone hatchets, and other primitive implements closely resembling those of the British Stone Period ; though also with many more so essentially differing, as to forbid the deduction from such chance coincidences of any fanciful community of origin between the Allophylian colonists of Europe and the American Mound Builders.

Still ruder are the primitive necklaces, formed of the common small shells of our coasts, such as the *Nerita litoralis*, and even the *Patella vulgata*, or common limpet, perforated, apparently, by the simple process of rubbing the point on a stone, and then strung together with a fibre or sinew. Sufficient space, it may perhaps be thought, has already been devoted to this infantile period of art ; yet childish as such decorations seem, they are found among the relics of men whose giant monuments have outlived many massive structures destined by later ages to perpetuate the memory of historic deeds, or consecrated to the services of the all-powerful Church of medieval Christendom. Underneath the cromlech or megalithic cist discovered on levelling a tumulus in the Phoenix Park at Dublin, in 1838, two male skeletons were disclosed, and beside the skull of each lay the perforated shells (*Nerita litoralis*) of a necklace, which had doubtless been placed around their necks when they were deposited in the simple but grand mausoleum that still attests the veneration of the ancient natives for their chiefs. A portion of the vegetable fibre with which the shell-beads had been strung together remained through some of them ; and the only other relics found in the

¹ *Ancient Monuments of the Mississippi Valley*, p. 237.

grave were a small fibula of bone, and a knife or lance-head of flint. The common British bivalves are also found used for similar decorations. In a cist discovered on the coast of the Firth of Forth, during the construction of the Edinburgh and Granton Railway, the only relics deposited beside the skeleton which it enclosed were a quantity of the *Cardium commune*, or cockle, of different sizes, rubbed down until they were reduced nearly to rings; while in another cist, opened at Orkney, about two dozen oyster-shells lay heaped together, each perforated with a hole nearly an inch in diameter.

CHAPTER IX.

CRANIA OF THE TUMULI.

FROM the evidence adduced in previous chapters it has been shown that we possess proofs, apparently beyond all dispute, that the first appearance of man as a colonist of the British Islands dates back to a period compared with which the earliest authentic data belong to recent times. History, indeed, only deals with the mysterious obscurities of Britain's dawn as the ante-Christian period draws to its close ; and even then with such partial and uncertain glimpses, that far more is left to conjecture than all which it reveals. Reckoning, therefore, by the most commonly received chronologies, — Septuagint, Samaritan, Hebrew, or English, — we have an interval variously estimated by their interpreters, but at the lowest computation exceeding by thousands of years Britain's chronicled era. Of all this, history makes no mention. The most we know is that when—55 years B.C.—the true historic period of Britain began, the inhabitants of the south-eastern part of the island bore a close correspondence to those of Gaul ; and when, in the following century, frequent and more direct intercourse had familiarized the Romans with the barbarian nations beyond the Rhine and the German Ocean, Tacitus considered the diverse physical characteristics traceable between the Caledonian or northern Britons, and the tribes of Wales and the south-eastern parts of the island,

as insufficient to affect the conclusion based on correspondence in language, customs, and religion, that the island population had for its common ancestry the Gauls of the neighbouring coast. The Roman historian, indeed, points out that the country of the Silures lies opposite to Spain, and refers to the assumption of their Iberian origin, as to the Germanic derivation of the Caledonians; but no reference is made by him or any later classical writer to traces of an Iberian or Germanic dialect in either region. On the contrary, while the ancient languages of Brittany, Cornwall, and Wales differ essentially from those of Scotland, Ireland, and the Western Islands, all belong to two divisions of a common family of languages, deviating from other forms of Indo-European speech in a way which precludes the idea of descent from any of the Germanic tongues. Still less can they be supposed to betray traces of an Iberian origin, since their affinities to the great Aryan family of languages, though essentially diverse from those of the Germanic group, are no less clearly established.

Two facts appear to present themselves to the inquirer in reference to the occupants of the British Islands at the commencement of their authentic history:—(1.) The inhabitants of the northern, western, and southern parts of the island differed very noticeably, in the time of Tacitus and other Roman writers, in stature, complexion, features, and colour of hair; and the population of south-eastern Britain was alone noted as corresponding in physical conformation to the neighbouring Gauls. Physical diversities of a decided character distinguished the inhabitants of different parts of the island, as they still do. But (2.) so far as we know, or can legitimately infer, what constituted the common characteristics of the insular dialects or languages, they all belonged to one or other of the two divisions of the Celtic: and this, on various grounds, appears to comprise some of the oldest languages

of that ethnic stock which embraces all existing European races, with the exception of the Allophylian or Turanian families. But, while philological affinities connect the Celtæ of Britain with the great Aryan stock which had extended its ramifications to the south of the Himalayas, as well as to the north of the Alps, before the dawn of history : they entirely detach them from the Iberians as represented by the Euskara of the modern Basques. If the Silures, or other portions of the first historic inhabitants of the British Islands could be traced to an Iberian origin, as has been attempted, we should thereby connect them with the oldest and least known of all the ancient populations of Western Europe still represented, in language as well as in blood, by lineal survivors. But of this there is no proof; and while the diversity of physical characteristics confirms the probability of different centres of origin for the population of the British Isles, the affinities of language prove the lapse of many centuries during which they had been in the common occupation of the same insular home. But assuming, as Tacitus more generally appears to do, that the whole population was derived from the Gauls of the neighbouring coasts; or, without going so far, that the inhabitants alike of southern and northern Britain were essentially Celtic : what are the probabilities in favour of their descent from the monoxylous boat-builders of the Forth and Clyde, the troglodytes of Kent's Hole or Banwell Cavern, the primitive whalers of the Carse of Stirling, or the flint-workers of Hoxne in Suffolk? Will the four or five thousand years of modern interpreters of sacred chronology suffice to embrace the oldest of those precursors of Roman Britain? and if so, What grounds have we for assuming that the Britons of B.C. 55, or the Caledonians of A.D. 83, were the lineal descendants of such prehistoric races? None other than the fact that the

Briton and Caledonian were among the oldest insular races known to us, till recent investigations revealed the traces of elder occupants, compared with whom the Celtic Britons of Roman times are altogether modern.

The evidence adduced in previous pages has been derived from works of art and construction, and the sepulchral rites of prehistoric times ; but in so far as the contents of ancient cemeteries disclose available materials illustrative of sufficiently remote periods, they include, also, illustrations of the physical characteristics of those whose primitive arts and customs have already engaged our attention. In the interval since I first invited attention to this neglected department of British ethnology,¹ it has acquired some adequate recognition of its true value, and now furnishes important contributions to primitive archæology. The physical characteristics of a race have in many cases long survived their language. The Norman on the banks of the Seine abandoned his Norse for the Romance dialect of the Romanized Gauls, almost in a single generation. Again transplanted to the banks of the Thames his adopted language was speedily superseded by that of older Anglo-Saxon colonists. The Celtic dialect of Cornwall has ceased to be a living tongue ; and those of Wales and the Scottish Highlands seem hastening to like extinction. But the physical diversities of Celt and Saxon, Anglo-Dane and Norman, survive among those who have become of one tongue ; and prove that the traces of Iberian or other foreign elements of race may yet be discoverable independent of all philological evidence. By such means we may in part determine what were the physical characteristics of the race or races of the Stone Period ; and perhaps also

¹ "Inquiry into the Evidence of the Existence of Primitive Races in Scotland, prior to the Celtæ."—*Report of Brit. Assoc. for Advancement of Science*, 1850, Ethnology, p. 142.

learn whether the Bronze Period was superinduced on that primeval one by internal improvement, and a progress altogether of native origin ; or if it resulted from the intruded arts of a superior race. This, it is obvious, can only be determined by an extensive series of observations ; since physiologists are generally agreed in admitting that the physical characteristics of races have been modified by external influences, as well as by admixture of blood. The New Englander already differs in form and features from the insular descendant of the common Anglo-Saxon race ; and more than one of the races of Europe present a like divergence from their ancestral stock. The nomadic Turk of Asia is characterized by the broad-faced, globular, or pyramidal skull ; while the long-civilized European Turk has become assimilated in those points, to a considerable degree, to the predominant European type. In the latter case, however, the change is no mere product of civilisation or of transference to a new locality ; but indicates the influence of foreign blood, through the Georgian, Circassian, Greek, or Slavonic mother of his later Roumelian home. The contrast recognisable between the head-forms of Turcomania and Roumelia is a striking confirmation of such craniological indices, and an illustration of their significance.

The precise bearings of all the evidence which craniology supplies, and the conclusions legitimately deducible from it, may be matter of dispute ; but it is unquestionable that a distinctive cranial conformation is discoverable as characteristic of modern nations, and can be clearly recognised in the different races of the British Isles. Given a sufficient number of examples of each class, the experienced eye readily discriminates between that of the ancient Briton, the modern Anglo-Saxon, or the Irish Celt. The conclusion, therefore, appears inevitable that if equally marked variations of form, systematically re-

ducible to two or more classes, occur in the tumuli, cairns, and chambered barrows, we are justified in assuming the existence of diverse primitive races; and recognising in the accompanying relics, indications of their peculiar arts and customs, as well as of their relative order as contemporary or successive occupants of the country. From our knowledge also of the comparative cranial and cerebral development of the nomade Fin, Vogul, or Ostiak of Europe or northern Asia, and the cultivated Swede, Majiar, or Anglo-Saxon, we possess some clue to the interpretation of such evidence, as a means of gauging the intellectual capacity of primitive races. "The great relative development," says Dr. Prichard, "of the jaws and zygomata, and of the bones of the face altogether, in comparison with the size of the brain, indicates in the pyramidal and prognathous skulls, a more ample extension of the organs subservient to sensation and the animal faculties. Such a configuration is adapted, by its results, to the condition of human tribes in the nomadic state, and in that of savage hunters."¹ Two important points, therefore, to be determined in relation to the British tumuli are: Whether the forms and proportions of the skulls of their builders indicate the existence of one, or of several races? and next, Whether the changes in form are sudden and decided, or are gradual, and pass by an undefined transition from the one to the other?

The archæologists of northern Europe, dealing with the traces of former ages less complicated by later intrusive elements than those of the British Islands, or of the continent of Europe lying within the compass of Roman dominion, have classified the primitive inhabitants of Scandinavia into three successive races, distinguished by their works of art, their modes of sepulture, and their

¹ Prichard's *Natural History of Man*, 3d ed. p. 21.

physical conformation, the last of which they alone regard as of Celtic origin. Of the previous allophylian colonists, the learned Swedish naturalist, Professor Nilsson, assigns to the most ancient the short brachycephalic form of cranium, with prominent parietal tubers and broad flattened occiput; and this he infers, from their implements and other remains, to have been a nomade race of hunters and fishers. To these he conceives succeeded another race, with a cranium of more lengthened oval form and prominent narrow occiput, who devoted themselves, in part at least, to agricultural pursuits. The third race, which Scandinavian antiquaries incline to regard as that of the metallurgists by whom the bronze or first metallurgic period was inaugurated, is characterized by a cranium longer than the first and broader than the second, and marked by greater prominence at the sides. This younger, but greatly superior race, Professor Nilsson at first conceived to have been of Celtic* origin; but more extended observation has increased his doubts as to the determinate form of the true Celtic cranium; and in his most recently published speculations he favours the idea of Phœnician influence being the direct source of the Scandinavian as well as the British metallurgic art of the Bronze Age. Professor Anders Retzius and other Scandinavian ethnologists have followed out the same investigations with laborious zeal. The idea generally favoured points to the intrusion of the true Scandinavian race, and the first workers of the native iron ore at a comparatively recent date; and the further the investigations of northern archæologists have been extended, their convictions have been the more strongly confirmed as to the traces of extinct races of man, compared with which those supposed to be of Celtic origin belong to a very modern period. Professor Eschricht assigns to the crania from

the barrows of the oldest Danish series an ample and well-developed form, with the forehead vaulted and tolerably spacious, and the nasal bones prominent. In a skull described by him the zygomata appear large and angular, and the cranium has somewhat of a pyramidal form. The eyes have been deeply set, and the eyebrows are strong and prominent. One of the most remarkable features of this class of skulls is their round form, approaching to a spherical uniformity.

Dr. Prichard hesitated to accept the conclusions adopted by Scandinavian ethnologists, attaching apparently too slight importance to the strictly archæological evidence on which they are to some extent based. He remarks in reference to the description of the skulls of the most ancient Scandinavian barrows :—“ They are probably the crania of Celtic races ; in Denmark of Cimbrians. The tombs containing ornaments of the precious metals are referred to a later age ; but it is uncertain as yet whether they belong to the same race as the former.”¹ One marked difference existed until recently between the systems of some of the leading continental ethnologists and those of England, which has influenced the conclusions of each. While the former set aside the idea of one primitive stock,—some of them even assuming the independent creation of numerous distinct races of men,—Dr. Prichard and other British ethnologists aimed at giving full weight to the influence of external circumstances in modifying the physical peculiarities by which races are distinguished. Progress in civilisation is inevitably accompanied with some corresponding improvement, not only in intellectual faculties, but in habits, food, and occupation, all of which tend to affect physical conformation. Long time, however, is required, even under the most favourable circum-

¹ *Natural History of Man*, p. 193.

stances, for any decisive modification affecting the form and features of a whole people; and all the observed data of physical ethnology confirm the opinion that where a race remains under the same climatic influences, unaffected by the intermixture of foreign blood, it is capable of great physical improvement under progressive civilisation without losing its special ethnic characteristics. The sudden intrusion of a foreign race must therefore be no less readily discernible in its crania than from its novel arts or sepulchral rites. When the first edition of this work appeared, the remark was fully justified that nothing had then been done by Scottish, or indeed by British archæologists, with a view to ascertain the physical conformation of primitive native races; and the small contribution then offered as a beginning was founded on too limited data to be of very great avail, except in opening up the subject and leading to more extended observation. A few skulls from Scottish tumuli and cists had been preserved in the Museums of the Scottish Antiquaries and the Edinburgh Phrenological Society. A comparison of them with others, such as those described by Dr. Thurnam, from a tumular cemetery at Lamel Hill, near York, believed to be of the Anglo-Saxon period,¹ abundantly sufficed to indicate the cranial differences and the physical development of races. The latter, though of the dolichocephalic type, are small, poorly developed, low and narrow in the forehead, and tending to a pyramidal form; but more recent investigations have greatly extended the materials for illustrating the true type of the Anglo-Saxon cranium. It differs no less essentially from the compact, truncated, brachycephalic skulls of the native British barrow, than from the narrow, elongated skull occasionally found under peculiar circum-

¹ *Archæol. Jour.* vol. vi. pp. 27-39, 123-136.

stances, and seemingly characteristic of the chambered barrow-builders. From the peculiar shape of the latter when viewed vertically, I suggested for it the term kumbecephalic, or boat-shaped; a name subsequently adopted by other craniologists for this type of skull. A similar idea appears to have since suggested itself to the mind of Professor v. Baer, who in his elaborate and valuable memoir on the macrocephalic skulls of the Crimea, proposes the term scaphocephalic to indicate the same boat-like head-form.¹ This I believe to be the most ancient type of skull found in regular sepulchral deposits of Britain. To it apparently succeeded the totally diverse brachycephalic type, with great parietal width, truncated, and frequently flattened occiput. The true Celtic skull-form is even now a subject of dispute; though the era of the race, and its order in point of time, are well known. Last of all comes the Anglo-Saxon skull, an intermediate dolichocephalic ovoid form; and also including, according to the observations of Dr. J. Barnard Davis, a low, vertically compressed form, to which he has applied the term platycephalic.

Since I ventured to submit my first ideas on the primitive races of the British Islands to the Ethnological Section of the British Association, this department of physical ethnology has received an amount of attention in some degree commensurate with its importance; and the publication by Dr. Thurnam and Dr. J. Barnard Davis, of the beautifully-illustrated decades of the *Crania Britannica*, has supplied a valuable repository of trustworthy data for testing some of the questions, then only presenting themselves to the inquirer as unsolved, if not insoluble problems. One result, however, of the great extension of the osteological evi-

¹ *Mémoires de l'Académie Impériale des Sciences de St. Petersbourg*, viii^e série, tome ii. No. 6.

dence, which this and other sources of information supply, has been to show all the more clearly the limited chronometrical range, and the very partial bearing of the data in relation to those primeval centuries which the disclosures of science in other departments are adding to the history of man. Of the numerous skulls figured and minutely described in the *Crania Britannica*, a considerable proportion are either directly connected, by the accompanying works of art, mode of sepulture, or by the clear evidence of inscriptions, with Roman times, or they belong to the still more modern Anglo-Saxon and Scandinavian periods ; and of the remaining examples, more or less minutely referred to in the same work, only a small proportion can be assigned with any probability to an older period than that which embraces the ethnical groups of Roman centuries. Of this latter period the history is chronicled for us, however imperfectly, in the pages of Julius Cæsar, Strabo, Diodorus, Ptolemy, Tacitus, and other classical writers ; and archæological evidence at best elucidates or supplements what they have written. But that Celtic era of Britain, though its beginnings are hid from us in the night of time, is modern in comparison with the age of races whose memorials have been recovered amid the fossil bones of the drift, or on areas which have risen from the bed of the ocean since the last of them passed away. We may assume the Celtic Briton to have been in possession of his insular home for a longer period prior to the first Roman invasion than the whole subsequent centuries : and yet still leave before that, even on the very lowest computation of Biblical chronologists, another period considerably longer than the Christian era, for those centuries in which we have traced the dawn of human history, and found Britain peopled by races practising arts essentially dissimilar

to those in which that Celtic Briton had acquired a reputation for special skill. The previous chapters have illustrated the arts and habits characteristic of the Stone Period, and furnish some evidence to show in how far the people of that primitive era differed from the oldest of the historic races. In the succeeding section, it will be found that similar evidence points to a transitional stage between the Stone and the Bronze Period ; and clearly indicates that if the latter resulted from the introduction of the arts of civilisation by some more gifted race, its advent was not followed by any sudden extermination of the aborigines.

For those early nations which we describe loosely as primitive, aboriginal, or primeval, Dr. Prichard suggested the conveniently indefinite term "Allophylian," whereby to characterize them as distinct from the historical and classified races, without meanwhile assuming for them any hypothetical origin. It remains to be seen whether the archæologist may not be able to supply some of the desired information relative to the habits, arts, and social condition of those unknown races. Dr. Prichard remarks of them :—"The Allophylian nations appear to have been spread, in the earliest times, through all the most remote regions of the old continent, —to the northward, eastward, and westward of the Indo-European tribes, whom they seem everywhere to have preceded ; so that they appear, in comparison with these Indo-European colonies, in the light of aboriginal or native inhabitants, vanquished, and often banished into remote and inaccessible tracts, by more powerful invading tribes. . . . If we inquire into the degree of improvement in the arts of life which the Indo-European nations had attained at the era of dispersion from their primitive abode, or from the common centre of the whole stock, an investigation of their languages will be

our principal guide. It gives us strong grounds for a belief that their advancement in useful arts had been comparatively small. The primitive ancestors of the Indo-European nations were probably ignorant of the use of iron and other metals, since the terms by which these are denoted are different in different languages, and must, as it would appear, have been adopted subsequently to the era of separation. Nothing can be more unlike than *gold*, χρυσος, and *aurum*; than *silver* and *argentum*; than *ferrum* and σιδηρος. Other considerations may be advanced to confirm this opinion, that the use of metals was unknown to the earliest colonists of the west.¹ Guided by the characteristics of the least civilized among surviving European nations which belong to other than the Aryan stock: Dr. Prichard ascribed to the Allophylians a religion consisting in mere fetisses, charms, spells, and talismans, in contradiction to the Eastern doctrine of metempsychosis, with the coincident belief in a system of retributive justice, and a future state: which appear to have been common to the Aryan nations, and to have been confined among them to a distinct order, caste, or priesthood. Of the former, the modern Fins and Lappes, now classed as Turanian, were regarded as characteristic examples; and the supposed Turanian affinities now believed to be traceable in the Euscara of the ancient Basques, discloses unlooked-for relations between those isolated fragments of non-Aryan races, helping to confirm the hypothesis of a preoccupation of Europe by Allophylian nations, in comparison with which the oldest of the Indo-European stock are intruders and supplanters. Already the accumulated observations of archæologists are throwing unexpected light on the degree of civilisation of the Aryan nomades when they reached the western borders of

¹ *Natural History of Man*, p. 186.

Europe, and on the state in which they found the countries which they colonized. The irregular or systematic arrangement of the cist, the provision for the future occupation and welfare of the deceased, and all the peculiarities of primitive sepulchral rites, more or less clearly indicate not only the arts and habits of those by whom they were practised, but still more the ideas entertained by them of a future state; and as our knowledge of the corresponding traces not only of Europe, but of Asia and America, of Africa, and even of Australasia extends, much new light may be looked for, illustrative of affinities hitherto unrecognised, and of lines of migration pointing to the centres both of historic and unhistoric races.

We have abundant proof that the human skeleton, when placed in favourable circumstances, is capable of resisting decay not only for hundreds, but for thousands of years. It is still a matter of doubt, however, whether we yet possess any such remains coeval with the earliest traces of human art. "The bones of man," says Dr. J. B. Davis, "differing in no essential respect in their structure and chemical composition from those of other mammalia, necessarily undergo the same changes when subjected to like physical conditions."¹ This, however, is a question worthy of further consideration. The state of preservation in which implements formed of bone have been frequently found in sepulchral deposits, where the human skeleton alongside of which they lay has been in a state of extreme decay, seems to militate against the idea that the bones of man are equally durable with those of other animals; and the opinion of more than one experienced physiologist confirms this indication. One distinguished anatomist, Professor Goodsir of Edinburgh, assures me his investigations have led him to the

¹ *Crania Eritannica*, chap. v. p. 49.

conclusion that the bones of the lower animals appear under some circumstances to decay less rapidly than those of man. The question is one of increasing importance, now that traces of human art are so frequently recovered in contact with the bones of extinct fossil mammals, but hitherto unaccompanied with those of man. On this point the state of the skeletons of dogs, horses, and other animals interred in ancient tumuli as part of the original sepulchral deposit, is more to be relied on than that of the accompanying implements; for independently of any special delicacy of structure characterizing the human osteology, it must not be overlooked that bone implements finished and deposited in a cist or tumulus, would be very partially exposed to influences affecting the skeleton amid the decomposition of the vascular tissues. But the proportions of the soft organic bases, and that remarkable combination of phosphorus and calcium which is apparently possible only under the influence of a living organism, vary very considerably in the bones of different animals; and present some important differences in which it is not improbable that the influence of domestication may be traced. In the following table derived from Professor Owen's comparative analyses,¹ a wide difference is shown in the relative proportions of the hard and soft component parts in the bones of the lion or hawk and man; while those of the ox very closely correspond to the latter:—

PROPORTIONS OF SOFT ORGANIC BASIS AND OF HARD EARTHY SALTS IN THE BONES OF VERTEBRATE ANIMALS.

	Man.	Ox.	Lion.	Hawk.	Lizard.	Cod.
Soft . . .	31·03	31·00	27·70	26·72	46·67	34·30
Hard . . .	68·97	69·00	72·30	73·28	53·33	65·70
	100·00	100·00	100·00	100·00	100·00	100·00

¹ Owen's *Palaeontology*, p. 295.

In the salmon, the soft matter exceeds sixty per cent. (60·62); but, on the contrary, the bones of the snake furnish results even more nearly approximating to the relative proportions of human bones than the ox (31·40). But the proportions of water and of oil or fatty matter exert a great influence on the physical properties of the bones, and increase the difficulty of comparison between fossil and recent examples. According to Stark human bones contain more water than those of any other mammal. The most important of all the mineral substances, to which the bones of vertebrate animals owe their solidity and strength, is the phosphate of lime: in addition to which the carbonate of lime is always present, though in much smaller quantity. Von Bibra and Frémy show, as the result of their analytic researches, that a larger amount of carbonate of lime occurs in the bones of herbivorous than in those of carnivorous animals. The phosphate of magnesia is also a constant, though minute element in the osseous system, derived from the plants or grain used for food. Hence it occurs in considerable quantity in the bones of herbivorous animals, while those of carnivorous animals contain very little, and its presence in the human skeleton must vary with the nature of man's diet. It is important also to note that it is found to vary in a direct ratio with the phosphate of lime. From Lehmann's investigations, compared with those of Lasaigne, De Barros, Valentin, and Von Bibra, the ratio of the carbonate to the phosphate of lime in the bones of man and other animals may be stated as follows:—In a new-born child, 1 : 3·8; in an adult male, 1 : 5·9; and in a man aged sixty-three years, 1 : 8·1; in the lion, 1 : 3·8; in the sheep, 1 : 4·15; in the hen, 1 : 8·4; in the frog, 1 : 3·9; and in a fish, 1 : 1·7. But a marked difference is to be looked for between the bones of the

carnivorous savage, and the frugivorous or herbivorous Asiatic or Pacific islander. In healthy human bones the phosphate of lime ranges from 48 to 59 per cent. ; but the fluctuations in the proportions of the different chemical constituents are considerable under varying age and physiological conditions, and different bones in the same body present a marked diversity in the relative amount of organic and inorganic matters. Lehmann deduces from the best analyses the following average :—Phosphate of lime, 57 ; carbonate of lime, 8 ; fluoride of calcium, 1 ; phosphate of magnesia, 1 ; leaving organic matter, 33. The relative chemical composition of the bones of the four classes of vertebrata is exemplified by Professor Owen in a comparative table, in which the chemical analyses of the bones of man, and of those of the hawk, tortoise, and cod, are compared, with results strikingly illustrating certain points of diversity, not only in the relative amounts of the carbonate of magnesia, and the phosphate and carbonate of lime ; but also in the gluten, chondrin, and oil ; and in the sulphate, carbonate, and chlorate of soda. Von Bibra gives the quantity of carbonate of lime in the femur of the order *Glires* as 9·48 ; in *Ruminantia* as 9·86 ; in *Pachydermata* as 10·15 ; and in man as only 8·59. It thus appears that the bones of man present certain noticeable differences in the proportions of their chemical composition, when compared with those of other animals ; and they are liable to greater inconstancy from man's omnivorous tastes, and the very diverse influences to which he is exposed. It must also be borne in remembrance that, even in the rudest states of savage life, men practise inhumation or other rites for the disposal of their dead ; and the human body, alike from design and the accidents arising from the habits of man, is

rarely exposed to the same circumstances of abandonment and decay as those of other animals.

It is obviously conceivable enough that indestructible implements of flint may multiply to us evidence of primeval arts, pertaining to races whose osseous relics have as effectually perished as their languages. But some traces of human remains of undefined antiquity seem to preserve partial glimpses of primeval man. The imperfect human skull figured here has already been referred to by me in *Prehistoric Man*. It is in the collection of Dr. G. Hamilton of Falkirk, and its history is comprised in the following authenticated note attached by the finder to the original: "This skull was found at the entrance of the Grangemouth large lock (Stirlingshire), on the 29th June 1843, twenty feet below the surface of the embankment, in a bed of shells and gravel. Thomas Wilson, Grangemouth, 24th July 1843." It consists of the frontal, the parietals, and nearly the whole of the occipital bone, apparently of a man. As shown in



FIG. 36.—Grangemouth Skull.

the accompanying woodcut, the bones of the face are entirely wanting, but the head exhibits the prominent parietal tubers and truncated occiput characteristic of one of the primitive types of Scottish crania. Its measurements are given in No. 1 of Table II. Another

skull, described by Professor Bush as probably that of a female, was found, together with less perfect skulls and bones of six or seven individuals, in a limestone quarry at Mewsdale, embedded in a narrow fissure. A third was recovered from a subterranean peat-bog, thirty feet below the present level of the sea, at Sennen, near the Land's End, Cornwall. In both of the latter the facial bones are wanting, but they are characterized as belonging markedly to the dolichocephalic type; and are further described as resembling the skull discovered by Dr. Schmerling in the cavern of Engis, in Belgium, to which the remotest antiquity has been ascribed. Another skull of the same type, in the possession of Mr. Prestwich, was found at a considerable depth in an ancient peat-bed in Northamptonshire.¹ Professor Huxley has described an imperfect skull from the valley of the Trent, found along with bones of the *Bos longifrons*, the red deer, and other animals familiar to us in association with ancient relics of man.² Other skulls accompanying the traces of a metallurgic era have also been recovered. Among numerous bronze relics dredged up, with shell marl, from the bottom of Duddingston Loch, near Edinburgh, in 1778, Sir Alexander Dick records that "There were likewise brought up several human skulls and bones which Dr. Munro and I examined very accurately, and by their very black colour we concluded they had been immersed in the marl for an immense time."³ The bronze swords and spear-heads have been preserved; but unfortunately no antiquary of the eighteenth century attached any value to evidence illustrative of the physical characteristics of those by whom such weapons had been wrought and wielded. Along with such traces of the

¹ *Nat. Hist. Review*, vol. i. p. 174.

² *The Geologist*, vol. v. p. 201.

³ "MS. Letter Book;" *Soc. Antiq. Scot.* 1780-81.

Scottish proto-metallurgists, may also be classed a skull in the collection of the late Dean Buckland, discovered at a depth of five hundred feet in a Cornish tin mine. It was produced by Dr. Norton Shaw at the Oxford meeting of the British Association in 1847, and special stress was laid on its similarity to the crania of the Scandinavian bronze period,¹ which Nilsson, the Swedish naturalist, then conceived to have been a Celtic era. "The form of the skull," he remarks, "is very different from that of the two former races; it is longer than the first and broader than the second, and withal prominent at the sides."

Renewed attention is now directed to the human remains found in alluvial and drift deposits of the limestone caves, rich with the fossil bones of extinct mammals; from which inquiry was diverted for a time owing to the supposed recentness of such interments. For the most part, however, they have hitherto been recovered in too imperfect a condition to admit of the specific determination of their craniological characteristics; as was the case with those found in Kent's Hole Cave. Their discovery is minutely described in the *Cavern Researches* of the Rev. J. MacEnery, their original explorer, along with the accompanying traces of primitive art. On excavating in the soil beneath the stalagmite numerous flint implements were found, seemingly in process of manufacture, from the first chipping of the rude mass to the perfected arrow or spear head. With these lay bodkins, pins, and other primitive implements of bone; arrow and lance heads both of bone and flint; perforated stone beads; a stone hatchet of syenite; and hair-combs, netting-tools, and other mutilated objects of bone of uncertain use. Nor was the position of such evidences of human art in any way clearly separated

¹ *Report of Brit. Association, 1847, p. 32.*

from the fossil remains intermingled in the same alluvial silt; although the broken edges of successive stalagmitic incrustations showed that the flooring had been repeatedly disturbed. "In sinking a foot into the soil," says Mr. MacEnery, "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."¹ At a depth of about a foot and a half below the surface, in the soil thus intermingling the abundant traces of human art with extinct fossil remains, there lay extended in the ordinary position of burial, portions of a human skeleton much decayed, including two pieces of the jaw and some of the teeth, with the vertebræ and ribs, of a robust adult. Of those Mr. MacEnery remarks: "As in the case of the flint-knife mass, already described, there adhered to the jaw portions of the soil on which it lay, and of the stalagmite which partly covered it. The teeth were so worn down that the flat crowns of the incisors might be mistaken for molars, indicating the advanced age of the individual. M. Cuvier, to whom I submitted the fragments in 1831, was struck with the form of the jaw. He pronounced it to belong to the Caucasian race. He promised to bestow particular notice on it, but death, unhappily for science, put a stop to his labours."

The Kent's Hole flint implements, like others discovered under similar circumstances, do not, apparently,

¹ *Cavern Researches, or, Discoveries of Organic Remains, and of British and Roman Reliques, in the Caves of Kent's Hole, Austis Cove, etc.* By the Rev. J. MacEnery, F.G.S.

correspond with those found in the undisturbed drift alongside of the bones of extinct fossil mammals ; but rather resemble those of the earliest barrows ; and confirm the probability that the human skeleton pertains to an interment long subsequent to the oldest deposits of fossil bones in the Devonshire cavern. Of like uncertain antiquity are various crania recovered at different depths in peat-mosses and bogs. One of those in the collection of the Edinburgh Phrenological Society, was found in a moss near Kilsyth, Stirlingshire. It is nearly black from the action of the peat ; but quite firm and sound, though imperfect. It has been subjected to considerable lateral pressure, and exhibits unmistakable traces of posthumous deformation. Nos. 10, 11 of Table I. are skulls recovered from considerable depths in a moss at Linton, Peeblesshire ; and Nos. 3, 4 in Table II. were obtained by Dr. Scott of Edinburgh, on their discovery, deeply embedded in a peat-moss, near Linton Loch, Roxburghshire. Like the previous examples, they are impregnated with the dark colouring matter of the moss. No. 3 of Table II. is sufficiently perfect to admit of nearly all the requisite measurements. The other consists only of the frontal, parietal, and part of the occipital bones, and is characterized by marked narrowness and length in the frontal region. The locality from which the two latter skulls were recovered is one of great interest. The moss constituting the main body of Linton Morass overlies an extensive deposit of marl, which appears to have been covered at some former era with the waters of the Loch. The lower layers of peat include abundant remains of an ancient forest of hazel, birch, and oak ; and beneath this, on the marl, or embedded in it, have been found the bones of the *Bos primigenius*, the beaver, red deer, and other animals ; and also apparently of man himself. Unfortunately in all those examples of crania from the

mosses of Scotland the lower jaw, and in most of them all the bones of the face, have been wanting.

Such are a few chance-found examples of ancient crania of great, but uncertain antiquity, which serve rather to suggest the probable sources of further knowledge, than to satisfy the cravings of the ethnologist for well-authenticated illustrations of the physical characteristics of the early workers in flint and stone. But, besides such chance deposits of human bones, scattered through anciently disturbed soil, or buried deep in morasses and the beds of ancient lakes: we must regard certain of the chambered barrows, cairns, and cromlechs, as sepulchral monuments of a megalithic period, pertaining to ages which, though modern compared with that of the flint-workers of the drift, belong nevertheless to very remote and altogether prehistoric centuries. Of the race of that megalithic period some important additions have been made to our knowledge in recent years. The results of my first investigations into the physical characteristics of the earliest races of North Britain, appeared to me sufficient to establish the fact that the Aryan nations, on their arrival, found the country in the occupation of allophylian races, by whom the wilds of Europe had already been reclaimed in part for the use of man. Still further, I was led to conceive,—contrary to the conclusions of continental investigators of the same evidence in relation to Northern Europe,—that the earliest Scottish, and indeed British race, differed entirely from that of Scandinavia, as defined by Professor Nilsson and others: being characterized by the markedly elongated and narrow cranium, tapering equally towards the forehead and occiput, already referred to here under the name of kumbecephalic or boat-shaped skull. It is a form by no means peculiar to Britain. The same contour of the coronal region characterizes the Ben-Djemma skull, one of peculiar

interest in the Mortonian Collection, from the island of Malta, and which Dr. Morton is said to have regarded as the complete embodiment of the Phœnician type of head. It is described by Dr. J. Aitken Meigs, in his Catalogue of that Collection, as "a long oval which recalls to mind the kumbecephalic form of Wilson ;"¹ and naturally suggests to the mind the possibility of Phœnician traces being thus discernible in the contents of the chambered barrows of Wiltshire and Devon. It will be seen, however, that such crania are by no means confined to the south-western counties of England ; while they appear to be accompanied there, as well as in the northern barrows, only with the rude inartistic implements of the Stone Period. It is perhaps of more importance to note the approximation to the same elongated dolichocephalic type of the remarkable skull recovered by Dr. Schmerling, from the Engis Cavern on the left bank of the Meuse, buried five feet in a breccia, along with the tooth of a rhinoceros and other fossil bones. Its frontal development is long and narrow, and its greatest relative proportions in length and breadth are 7·7 by 5·25 inches, so that it corresponds in those respects to the British kumbecephalic crania.²

Researches such as those which led to the discovery of the Engis skull have wonderfully modified the incredulous surprise with which the idea of races older than the Celtæ was first received ;³ and indeed so rapid has been the progress of this department of archaeological inquiry, in its relation to geological investigations, that the theory of a pre-Celtic race of British Kumbecephali, which in 1851, when the first edition of this work

¹ *Catalogue of Human Crania in Acad. Nat. Sc. Philadelphia*, p. 29.

² *Natural History Review*, vol. i. p. 174.

³ Inquiry into the Evidence of Primitive Races in Scotland prior to the Celtæ, *Brit. Association Report*, 1860, p. 142.

appeared, was challenged by critics as alike extravagant and untenable, is already regarded as dealing with the characteristics of a people altogether recent when compared with the Drift-folk, and the Troglodytes of post-pliocene ages. The increase in the amount and precision of evidence relative to the physical characteristics of the earliest British races whose remains have been recovered from places of regular sepulture, has placed the question on a very different footing from that which it occupied : when the whole available materials were of the scantiest description, and it was mainly due to the zeal of the phrenologist that a single ancient Scottish skull could be referred to.

Not only in the annual operations of the agriculturist, but also in the deliberate researches of the archæologist, many hundreds of tumular crania have been disinterred. Of these, however, scarcely any note had been taken ; nor could it be hoped that sufficient data for the determination of the interesting questions involved in the investigation would be obtained till its importance was more generally recognised. A few facts, however, had even then been noted from time to time, some of which, in the absence of more precise observations, helped to throw light on the physical characteristics of the primitive British races.

In 1825, for example, one of the singular northern circular forts usually styled burghs, situated at Burghar, in the parish of Evie, Orkney, was explored by the son of the resident clergyman, when there was found within its area a human skeleton, a rude bone-comb of most primitive fashion, and part of a deer's horn. The comb, which is now preserved in the Museum of the Scottish Antiquaries, is figured in a subsequent chapter ; it measures four inches in length, and could not readily be surpassed in the rudeness of its construction or attempts at

ornament. Along with this curious relic, the skull was forwarded to Edinburgh by Alexander Peterkin, Esq., but it is described in his communication as then in fragments, and has not been preserved. Mr. Peterkin remarks of it,—“Although the upper part of the skull be separated into two parts, you will observe on joining them together that it is of a very singular conformation. The extreme lowness of the forehead and length backward, present a peculiarity which may be interesting to phrenologists.”¹

Other observations on the physical characteristics of the remains found in primitive Scottish sepulchres are less definite, but in several of them attention is drawn to the unusually small size of the skull. Alexander Thomson, Esq. of Banchory, remarks, in a communication to the Society of Antiquaries of Scotland, describing two urns found in a cist on his estate in Aberdeenshire :—“The skeleton was far from entire, but there were fragments of every part of it found. The teeth are perfectly fresh, and from the appearance of the jaws, the skeleton must be that of a full-grown person, though of small size. I was told that the skeleton lay quite regular when first found.”² In this, as in other examples of the physical conformation of the primitive race, the smallness of the head was probably not a precise criterion of the dimensions of the skeleton. Another correspondent describes a cist discovered by the plough on the farm of Farrochie, in the parish of Fetteresso, Kincardineshire, within which was found a small urn and upwards of one hundred beads of polished black shale :—“The interior of the tomb measured three feet in length, two feet in breadth, and twenty inches in depth. The top, sides, and ends were each formed of one stone, and at each corner the

¹ *Archæol. Scot.* vol. iii. p. 44.

² MS. Letter. Libr. Soc. Antiq. Scot., December 8. 1817.

end of a flat stone, set on its edge, was introduced angularly between the stones of the sides and ends. The slab that formed the cover of the tomb measured three feet eight inches in length, by three feet two inches in breadth. The body had been laid upon its right side, with the face towards the south. The limbs had been bent upwards, and it was observed when the tomb was opened that one of the leg-bones had been broken near the middle. The length of the leg-bones was eighteen inches, and that of the thigh-bones twenty inches, with very strong joints. The skull appeared to be small in proportion to the other parts of the body. In both jaws the teeth were complete and in beautiful preservation. The ribs and other small bones crumbled into dust soon after they were exposed to the air. The urn was lying in the tomb as if it had been folded in the arms of the corpse.”¹

Many similar notices occur, more or less vague, but repeatedly including partial references to long, narrow, and small crania; from which I was led to deduce the characteristics of a primitive race, essentially different from that of the latest prehistoric period. To that race of *Kumbecephali* succeeded the *Brachycephali* or short-headed race, among whom, apparently, the simple arts of the stone period still prevailed; though in their later barrows, weapons and implements of bronze indicate their acquisition of the earlier metallurgic arts. To this at length succeeded, as I conceived, the true Celtic race, the earliest of the Aryan nations; the probable discoverers of the art of working the iron ore; and the oldest of the historical nations of Transalpine Europe. While I was engaged in the investigations on which those deductions were based, another inquirer, Mr. Thomas Bateman, of Lomberdale House, Derbyshire, had been pursuing

¹ MS. Letter, Mr. William Duncan, 13th December 1838.

similar researches among the ancient barrows of the district which had already yielded such interesting disclosures from its cavern alluvium; and soon after the publication of the first edition of these *Prehistoric Annals*, he confirmed the opinions therein advanced, from his own minute observations of the cranial types of the most primitive megalithic tombs or chambered barrows, and the later tumuli and cists.¹ Since then the labours of Dr. Davis and Dr. Thurnam, as set forth in the *Crania Britannica*, have largely increased the evidence bearing on the questions referred to; and while the former especially adheres to the protogenic character of the Celtæ, the evidence accumulated by their joint labours appears rather to confirm the idea of such a succession of races as was suggested in the first edition of this work, from the more imperfect evidence then accessible. I have accordingly availed myself of data furnished by that admirable national work,² and embodied them in the following tables, with a view to the determination of the important questions referred to, in so far as the amount of evidence now accessible admits of more than a provisional conclusion on inductions of so comprehensive a nature.

Deducting from ancient crania found in Britain those obtained from Roman or Scandinavian graves, or otherwise clearly pertaining to such foreign invaders; the remainder may be classed under four distinct heads:—
1st, Such chance-found crania as have already been referred to, recovered from mosses, caverns, mine-shafts, and the like deposits of indeterminate antiquity; and therefore supplying for the most part, no other clue to their classification than what may be deduced from the

¹ *Journal of Archaeological Association*, vol. vii. p. 211.

² At the date of writing, only five of the six Decades in which the researches of Drs. Davis and Thurnam are to be embraced, have been published.

significance of their forms. *2d*, Those derived from chambered barrows or cairns, cromlechs, and megalithic cists; all of which appear to be the rarely constructed mausolea of the earliest period of regular sepulture. *3d*, Those found in ordinary cairns, barrows, and cists, including both graves marked only by non-metallurgic sepulchral deposits, and others in which bronze and even iron relics afford proofs of the introduction of the metallurgic arts; and *4th*, Those obtained both from Pagan and Christian Anglo-Saxon and Anglo-Scandinavian barrows and cemeteries. Of graves or works of art of the Anglo-Saxon Pagan period, the examples hitherto found in Scotland have been exceedingly few, notwithstanding the extension of the ancient kingdom of Northumbria so far within its limits; and for that department of craniological illustration of ethnic characteristics, we must turn to the richer fields of English research. But in the north of Scotland, and in the northern and western islands, the cemeteries and works of art both of the Pagan and Christian Northmen abound; and the intelligent research of recent years has greatly extended the materials for the illustration of this department.

Among the ancient sepulchral monuments of Britain attention is specially attracted to a remarkable class of chambered barrows and cairns, already referred to, constructed internally with great and persevering labour, of huge masses of unhewn stone. They correspond, in all their rude and inartistic massiveness, to the characteristics assigned to the primitive era of megalithic art; and their contents appear to have invariably disclosed only the implements and personal ornaments of the Stone Period; unless when accompanied with manifest traces of later intruders. The crypts and galleries of these chambered barrows and cairns may not unfitly be compared to those of the pyramids, in their great size and

solid masonry, when the simple arts of their builders are considered ; and all observers concur in assigning to them a remote antiquity. They cannot be regarded as common places of sepulture, but as the costly and laboriously constructed sepulchres of royal or noble dead ; and to their conservative protection must be traced the preservation of the osteological evidences of a race seemingly essentially different from those of the ordinary earth-barrows and cists. Nevertheless a few examples of the same type of primitive dolichocephalic or kumbecephalic skull have been found beyond the limits of the mega-



FIG. 37.—Nether Urquhart Skull.

lithic vaults, and even in more modern graves : as was to be anticipated, if the chambered barrows be indeed the noble sepulchres of a race which preceded the later barrow-builders and metallurgists in the occupation of the British Isles. Of the crania of the cromlechs, too few examples have yet been preserved to determine their typical form ; but so far as means at present exist for the comparison, an approximation appears to be traceable in ethnical conformation, to that which is suggested by the megalithic character of the tombs.

Among the crania preserved in the Scottish Museum is one of this primitive type, No. 1, Table I., obtained

from a cist discovered under a large cairn at Nether Urquhart, Fifeshire. Lieutenant-Colonel Miller, by whom it was recovered, carried out a series of explorations among the cairns and tumuli of the district to illustrate his "Inquiry respecting the site of the Battle of Mons Grampius."¹ One is described as a very large cairn containing upwards of two thousand cart-loads of stones, which was found to enclose two chambers or vaults, one of them six feet in length. Others of the cairns were of still larger dimensions; but the researches of their explorer appear to have been mainly directed to the illustration of Romano-British history, with which there is little reason for supposing they had the slightest connexion. Another Scottish skull, No. 2, now in the Edinburgh Phrenological Museum, was discovered in 1782, when a large encircled tumulus in the vicinity of Newbattle Abbey, East Lothian, was levelled, and a stone chamber or cist of unusual dimensions exposed to view, enclosing a male skeleton. The cranium is long, well proportioned, and of dimensions suggestive of the unwonted stature of the buried chief in honour of whom the sepulchral mound had been reared. A remarkable example of the same elongated type, in the Scottish Museum, No. 3, was found in a rude cist in the parish of Banchory-Devenick, Kincardineshire, in 1822. The skull is that of a young man, of small size, imperfect, and extremely fragile, owing to the loss of most of its animal matter. On the top of the head is a nearly circular hole upwards of an inch in diameter, caused it may be presumed by the blow of a stone axe, which abruptly closed the career of its owner. In each corner of the cist lay a small pile of flint-flakes, the sole evidence of the rude arts of the period to which it pertained. No. 4 is from a tumulus at Montrose, and also appears to be

¹ *Archæol. Scot.* vol. iv. pp. 43, 44.

that of a male. Of the remaining Scottish crania of this type, No. 5, probably that of a female, was taken from one of thirty cists discovered near Fifeness in 1826, and described in a previous chapter. Nos. 6, 7, also in the Scottish Museum, are probably both females. They were recovered from a group of short stone cists, opened at Cockenzie, East Lothian. On the farm of Stonelaws, in the same district, another group of cists has been exposed, from one of which, containing a male skeleton laid at full length, with the head to the east, No. 8 was obtained. Since the publication of the first edition of this



FIG. 28.—Cockenzie Cist.

work I explored a number of rude stone cists, irregularly disposed, near the same locality. The rough slabs of which they were composed appeared to have been brought from the sea-coast, a distance of six or seven miles. But the only relics accompanying the human skeletons were some bones and teeth of the ox and dog; and I was led to regard them as of doubtful antiquity. No. 9, another of the skulls in the Scottish Museum, is that of a man, discovered by Captain Thomas, R.N., in exploring a cromlech called Sornach-coir-Fhinn, or Fingal's Caldron, in the Isle of Harris. To those may be added, as of the primitive elongated type, and found under circumstances

compatible with their classification among the most ancient British crania, Nos. 10, 11, already referred to, as discovered at a considerable depth in a peat-moss, near Linton, Peeblesshire. To the few Scottish examples thus accessible to me, I have added a well-authenticated series of eleven crania, chiefly from British chambered barrows and megalithic tombs, as described in the *Crania Britannica*. Throughout the whole of those a general uniformity prevails, confirmatory of the idea that an ancient race, the builders of the long barrows and the chambered cairns and tumuli of England and Scotland, characterized by a form of head not less peculiar than the megalithic art to which the preservation of their remains is chiefly due, occupied the country prior to the essentially diverse barrow-builders of the bronze period.

The chambered barrows and cairns are of rare occurrence, and their massive structure and imposing aspect have tempted treasure-seekers, at least as early as the era of Roman invasion, to despoil them, in the hope of recovering costly sepulchral deposits within their vaulted recesses; so that the researches of modern investigators have been conducted, for the most part, amid the scattered heaps left by their ravishers. Occasionally, however, the intelligent investigator has been rewarded by the discovery of the primitive catacomb revealing for the first time its long-garnered secrets to his curious gaze. Such was the case with Mr. Thomas Bateman, after repeated unsuccessful attempts to penetrate to the central vault of the barrow, or chambered cairn of Longlow, near Wetton, Staffordshire. "At length," he remarks, "on the 8th of June 1849, after having expended part of the preceding day in excavation, we had the satisfaction of discovering a very large cist or chamber." Within this lay human skulls and bones, representing at least

thirteen individuals of both sexes, ranging from infancy to old age ; and along with these, bones of the ox, hog, deer, and dog ; three finely chipped arrow-heads, and many calcined pieces of flint. " This," says Mr. Bate-man, " is the first opportunity we have had of exploring an undisturbed cist in a chambered cairn of this peculiar structure. It is on this account a discovery of unusual interest, and when compared with the results of previous or subsequent excavations in similar grave-hills, yields to none in importance. The mound, composed of stone, enclosing a chamber or cist formed of immense slabs of stone, occasionally double or galleried, indicates, in this part of the country at least, a period when the use of metal was unknown ; the sole material for the spear and arrow being flint, which is often carefully chipped into leaf-shaped weapons of great beauty. The interments within these cists have in every case been numerous, and apparently long continued. They are marked by a strongly defined type of skull, styled by Dr. Wilson kumbecephalic, or boat-shaped, the more obvious features being excessive elongation, flattening of the parietal bones, and squareness of the base : producing, when viewed from behind, a laterally compressed appearance, which is enhanced by the sagittal suture being sometimes elevated into a ridge."¹ Crania of a similar type had attracted the attention of Sir R. C. Hoare long before, when exploring a chambered barrow in Somersetshire, in 1816, from the striking contrast of their elongated form, and narrow foreheads, as compared to those familiar to him in the earth barrows of Wiltshire.² The same form reappears at nearly every fresh exploration of the most ancient megalithic tombs, and slowly forces on the mind the predominance of this remarkable type as

¹ *Ten Years' Diggings in Celtic and Saxon Grave Hills*, p. 146.

² *Archæologia*, vol. xix. p. 47.

the characteristic of a race essentially different from the Celtæ. The catacombs of the Scottish chambered cairns have been rifled hitherto without any regard to the value of their osteological contents ; and of those of the English chambered barrows, many have been recovered in too imperfect a state to admit of more being deduced from the fragments than that these conform to the perfect examples of this peculiar type. Nevertheless the number already obtained in a sufficiently perfect state to admit of detailed measurement is remarkable, when their great age, and the circumstances of their recovery are fully considered. Of this the following enumeration will afford satisfactory proof. Only two perfect crania from the chambered tumulus of Uley, in Gloucestershire, have been preserved. But in an exploration conducted by Dr. Thurnam and Mr. Freeman, in 1854, portions of eight or nine other skulls were recovered, of which the former states :—"The fragments are interesting, as proving that the characters observed in the more perfect crania were common to the individuals interred in this tumulus. Three or four calvaria are sufficiently complete to show that in them likewise the length of the skulls had been great in proportion to the breadth."¹ Again, in the megalithic tumulus of Littleton Drew, North Wilts, at least twenty-six skeletons appear to have been found, from several of which imperfect crania were recovered, and of those Dr. Thurnam remarks :—"Eight or nine crania were sufficiently perfect for comparison. With one exception, in which a lengthened oval form is not marked, they are of the dolichocephalic class."² So also four nearly perfect skulls from West Kennet are described as "more or less of the lengthened oval form, with the occiput expanded and projecting, and present-

¹ *Archæol. Jour.* vol. xi. p. 313 ; *Crania Britannica*, Decade I. plate 5 (5).

² *Crania Britannica*, Decade III. plate 24 (3).

ing a strong contrast to skulls from the circular barrows of Wilts and Dorset.”¹ To these may be added those of Stoney Littleton, Somersetshire, first pointed out by Sir R. C. Hoare ;² and examples from barrows in Derby, Stafford, and Yorkshire, described by Mr. Thomas Bateman in his *Ten Years’ Diggings in Celtic and Saxon Grave Hills*, including those from Bolehill, Longlow, Stoney Low, and Ringham Low, Derbyshire ; from the galleries of the tumulus on Five Wells Hill ; and from the Yorkshire barrow near Heslerton-on-the-Wolds. Several of the above contained a number of skulls ; and of the last, in which fifteen human skeletons lay heaped together, along with a flint arrow-head, a bone pin, and an imperfect bead of baked clay, Mr. Bateman remarks :—“ The crania that have been preserved are all more or less mutilated ; but about six remain sufficiently entire to indicate the prevailing conformation to be of the long or kumbecephalic type of Dr. Wilson.”³ The crania occurring in graves of this class mentioned by Mr. Bateman alone, exceed fifty in number, of which the majority are either of the elongated type, or too imperfect to be determined. The others include between thirty and forty well-determined examples, besides a greater number in too imperfect a state to supply more than indications of their correspondence to the same characteristic form. Alongside of some of these are also found brachycephalic crania ; but in the most ancient barrows the elongated skull appears to be the predominant, and in the majority of cases the sole type. It will be seen, moreover, that the peculiar class of ancient tombs from whence they have been chiefly recovered, belong to no such limited area as to suggest the idea of some mere tribal peculi-

¹ *Crania Britannica*, Decade v. plate 50 (4).

² *Archæologia*, vol. xix. p. 47.

³ *Ten Years’ Diggings in Celtic and Saxon Grave Hills*, p. 230.

arity in this predominant cranial form. They extend from the extreme south, through Dorset, Somerset, Wilts, Stafford, Derby, and Yorkshire, towards the borders of Scotland, where this peculiar kumbecephalic type of skull first attracted my attention. The remarkable Yorkshire long barrow of Heslerton-on-the-Wolds naturally excites a special interest here as the most northern of the class, of which the contents have been minutely observed; and the opinion finally adopted by Mr. Bateman relative to the prevalence of the same type in the most ancient Derbyshire barrows, as the matured verdict deduced from ten years' minute observation and research, has this further value, that it shows the results of his laborious and impartial investigation all tending to confirm earlier conclusions. Mr. Bateman was the first to adopt the term applied in the former edition of this work to the primitive dolichocephalic crania of the type now referred to. He unhesitatingly assigned the remotest antiquity to the chambered barrows, about six of which he had then explored; and of these he remarked:—"Although the mounds of this character have not been numerous, the interments within the chambers they contain have been many, and apparently continued over some length of time. In these the boat-shaped skull has uniformly been found by me, rarely accompanied by any instrument, but in one or two cases with arrow-points of flint."¹

Thus numerous are the illustrations of this remarkable skull-form obtained from what appear to be the earliest known examples of regular sepulture hitherto discovered in Britain. That any examples exist can only be ascribed to the cyclopean masonry of the catacombs which has resisted the erasing tooth of time, and the devastations of many revolutions. Their megalithic sepulchres are

¹ *Jour. Archaeol. Assoc.* vol. vii. p. 211.

altogether peculiar. In structure they essentially differ from the cists and barrows of later times. In their indications of repeated sepulture in the same catacombs, protracted probably throughout one or more generations, they disclose rites and customs no less markedly distinct, and furnish additional evidence that those are no chance memorials of foreign intrusion, but the national monuments of an indigenous race. Though only a small portion of the skulls recovered from the megalithic tombs are sufficiently perfect to furnish the detailed measurements requisite for tabular classification, the correspondence traceable throughout so large a number, recovered from widely separated localities, proves the prevalence of a race marked by the same characteristic cranial conformation at some remote though indeterminate period of antiquity.

The difference between this primitive and the succeeding cranial type is no slight or partial variation from some intermediate form, but an abrupt contrast, such as we recognise in that of the Pagan Anglo-Saxon or Scoto-Scandinavian graves, when compared with those of the races on which they intruded. But with this earliest, as with later prehistoric races, the traces of a transitional period have also been noted. Rare examples occur of the numerous remains of the long-headed race being accompanied by examples of crania of a different type. Among those of West Kennet long barrow, Dr. Thurnam describes two of less elongated form, and otherwise different, which appear to have been fractured during life. These he conceives to have pertained to slaves slaughtered at the grave, by cleaving the skull with a sword or hatchet, perhaps of stone.¹ Nor is this a solitary instance illustrative of the mode of immolating victims in ancient British funeral rites. Similar dis-

¹ *Archæologia*, vol. xxxviii. p. 420.

coveries were made in the long barrows of Heytesbury and Littleton Drew, as well as in a circular barrow near Stonehenge, opened by Sir R. C. Hoare; though in those cases we lack the observation of the cranial characteristics which in the Kennet barrow suggested to Dr. Thurnam that the funeral-victims must have belonged to another tribe, if not to a different race.¹

This mingling of the remains of two different nations is full of interest. It may indicate enslaved captives, the first pioneers of the race which ultimately supplanted and exterminated the megalithic builders. It presents a striking analogy to the contents of the most ancient Peruvian cemeteries, where the singularly developed crania of the noble Inca race mingle with those of a remarkably diverse type; and, if craniological evidence is of any value in reference to such ethnological and archæological inquiries, we have here proof of such an abrupt transition from one to another essentially distinct ethnical form, as marks the intrusion of the Roman or the Saxon into Britain; the Arab into Spain; and the Spaniard and Anglo-Saxon into the New World. In the following Table, which embraces all crania derived from chambered barrows, cromlechs, or megalithic cists, sufficiently perfect to admit of detailed measurement, I have not hesitated to include the remarkable skull recovered in 1859, by Captain Thomas, R.N., from the cromlech of Sornach-coir-Fhinn, in the Isle of Harris, though it is designated by Dr. J. B. Davis a Norse skull.² The results of Captain Thomas's careful researches revealed no trace of the familiar contents of Scandinavian graves;³ and while its proportions essentially differ from the brachycephalic crania of the barrows, they very partially

¹ *Crania Britannica*, Decade v. plate 50, p. 5.

² *Ibid.* Decade v. plate 48.

³ *Procced. Soc. Antiq. Scot.* vol. iii. p. 142.

correspond to those of well-defined Scandinavian skulls. It is described in the *Crania Britannica* as the skull of an aged man ; and from the aspect of it, as shown in profile, with the peculiar position of the inferior maxillary, and the alveolar processes gone, an impression of great age is suggested. But on examining the original, the jaws appear to have been reduced to this condition by posthumous fracture. With the exception of a partial ossification of the sagittal, all the sutures are open ; and the occipital and sphenoid bones are quite detached.

As the whole of the available crania from megalithic tombs are purposely given in this Table, in order to avoid the danger of forcing evidence into conformation with a pre-conceived theory, one or two exceptional deviations from the characteristic type tend to detract from the force of the mean results. Nevertheless it will be seen that the measurements, as a whole, are no mere averages of miscellaneous crania, but reveal a correspondence among those pertaining to what may be fitly designated THE MEGALITHIC ERA, no less remarkable than the contrast they present to the brachycephalic crania of the earth-barrows. The measurements are :—1. *Longitudinal diameter* ; 2. *Frontal breadth* ; 3. *Parietal breadth* ; 4. *Occipital breadth* ; 5. *Parietal height* ; 6. *Vertical diameter* ; 7. *Intermastoid arch* ; 8. *Horizontal circumference*. They supply the tests of length, breadth, height, and circumference, along with the relative frontal, parietal, and occipital breadth, and furnish a ready test of the general uniformity distinguishing each class. Minuter elements of craniological classification, which are frequently very obvious to the experienced eye, are very imperfectly indicated by any system of measurements hitherto adopted.

TABLE I.—KUMBECEPHALIC CRANIA.

	LOCALITY.	L. D.	F. B.	P. B.	O. B.	P. H.	V. D.	I. A.	H. C.
1	Nether Urquhart Cairn, ?	7·5	4·5	5·3	4·5	4·8	5·2	14·3	20·2
2	Newbattle Tumulus, . M.	7·9	4·8	5·6	4·7	5·2	...	...	21·3
3	Kincardine Cist, . M.	7·0	...	...	...	4·6	...	...	...
4	Montrose Tumulus, . M.	7·3	4·7	5·7	4·3	4·5	4·9	14·0	20·5
5	Fifeness Cist, . F.?	7·0	4·5	5·0	4·2	4·6	5·3	13·2	19·6
6	Cockenzie Cist, . F.	7·0	4·5	5·3	4·0	5·0	5·0	...	19·6
7	Do., . M.	7·0	4·6	5·0	4·1	4·6	5·3	...	19·5
8	Stonelaw Cist, . M.	7·3	5·0	5·6	4·6	5·2	5·2	14·3	20·9
9	Harris, Sornach-coir- Fhinn Cromlech, . M.	7·4	4·8	5·4	4·3	4·6	...	14·9	21·2
10	Linton Moss, . F.	6·9	4·1	4·0	...	...	...	14·3	19·0
11	Do., . M.	7·1	4·2	5·0	...	...	5·1	14·0	20·2
12	Parsley Hay Low, Stone Tumulus, . M.	7·5	4·9	5·7	5·3	4·8	...	15·0	21·2
13	Uley Chambered Tu- mulus, . M.	8·1	4·7	5·7	5·0	5·1	...	14·7	21·7
14	Littleton Drew, Crom- lech, . M.	7·7	4·8	5·5	5·6	5·1	...	16·2	20·8
15	Long Lowe, Megalithic Cist, . M.	7·9	4·2	5·2	4·4	5·1	...	...	21·5
16	Do. do., . F.	7·6	4·2	5·1	4·1	4·5	...	...	20·5
17	Bole Hill, Chambered Barrow, . M.	7·5	...	4·9	...	4·5	...	...	...
18	Five Wells Hill Cham- bered Cairn, . M.	7·7	4·5	5·1	...	4·6	...	...	20·8
19	Do. do., . M.	7·3	...	5·8	4·5	5·1	...	14·9	20·7
20	Ringham Lowe Cham- bered Cairn, . M.	7·6	4·7	5·2	4·5	4·9	...	...	20·9
21	West Kennet, Cham- bered Barrow, . M.	7·7	4·5	5·1	5·0	4·9	...	15·1	21·2
22	Do. do., . M.	7·6	4·7	5·5	5·0	4·9	...	15·1	21·2
	MEAN, . .	7·44	4·57	5·27	4·59	4·83	5·14	14·62	20·62

If the antiquity of the megalithic race is as great as I believe it to be, we owe the preservation of its characteristic crania to the chambered catacombs constructed for the sepulture of its royal and noble dead; while the remains of the common people, laid to rest in their simple graves, or earth-mounds, have long since returned to dust. The contents of the megalithic tombs, however, show that their long-headed builders were not entirely unfamiliar with a brachycephalic race; and if

the latter ultimately became their supplanters, the older race may have long lingered in diminishing numbers, ere they disappeared by extinction or by absorption into the dominant race. Hence, perhaps, the occasional reappearance of the primitive type in the barrows of a later era ; just as Stephens was startled by recognising among the Indians of Palenque, one whose face bore so striking a resemblance to the strange sculptures seen by him while exploring the ruined cities of Central America, that, as the traveller exclaims, " he might have been taken for a lineal descendant of the perished race." To whatever causes, however, the change may be traced, certain it is that in the centuries immediately preceding the Romano-British era, the occupants alike of the northern and the southern parts of the island were characterized by a head of brachycephalic proportions, and otherwise essentially differing from that recovered from the megalithic tombs. Examples of it are comparatively abundant ; for though no such extensive catacombs as those of the primitive dolichocephalic race appear to have been constructed by their successors, the ordinary earth-barrows and cists abound ; and but for the neglect of this department of archæological evidence, the crania of the later barrows might now amount to hundreds. Of these the following Table furnishes the measurements of a sufficient number for comparison with those of the previous type ; though the augmentation of both, which may be confidently anticipated from the intelligent interest now awakened relative to this department of archæological research, cannot fail to add much precision and certainty to the conclusions based on such evidence. In the following Table (Table II.) No. 1 is the imperfect but highly interesting skull already referred to, recovered from a depth of twenty feet in the alluvium at Grangemouth, and therefore of

undetermined, though possibly very remote antiquity. But for its site lying near the embouchure of a stream, and thereby suggesting the possibility of more recent local disturbances, the depth at which it lay in the stratified shell and gravel would place it among those post-tertiary traces of man that seem to be coeval with the works of human art in the drift. No. 2, Fig. 39, is a male skull recovered under circumstances of unusual interest, though, unlike the previous example, it lay in a place of regular sepulture, and surrounded with evidences of the arts and rites of the ancient people whose cranial characteristics it illustrates. On the demolition of the



FIG. 39.—Old Steeple, Montrose.

Town-Steeple of Montrose, in 1833, its ancient foundations proved to have been laid above the sepulchres of a much more remote period. Mr. William Smith of Montrose remarks, in a communication sent to the Society of Antiquaries of Scotland in 1834, along with the donation of an urn :—“The accompanying urn or vase is one of four of the same description found about the beginning of April 1833 below the foundation of the Old Steeple in Montrose, beside the skeleton of a human body,—two of them being at each side of the head, and two near the feet. . . . Exactly below the foundation of the Old Steeple the skeleton was discovered, with the vases dis-

posed about it. It measured six feet in length. The thigh bones, which were very stout, and the teeth, were the only parts in good preservation."¹ The skull is the same here referred to, presented to the Phrenological Museum by the Rev. Mr. Liddell. It is a very striking example of the British brachycephalic type; compact in form, broad and short, narrowing rapidly between the parietal protuberances and the frontal bone, but with a good frontal development, and with traces of compression in the parieto-occipital region, which in more marked examples suffices to throw some light on the habits of this long-forgotten race. This skull no doubt pertained to some primitive chief, or arch-priest, sage, it may be, in council, and brave in war. The site of his place of sepulture has obviously been chosen for the same reasons which led to its selection at a later period for the erection of the belfry and beacon-tower of the old burgh. It is the most elevated spot in the neighbourhood, and here his cist had been laid, and the memorial mound piled over it, which doubtless remained untouched so long as his memory was cherished in the traditions of his people. No. 3 was found in a moss near Kilsyth, Stirlingshire. It is nearly black, and quite firm and sound, from the action of the peat. Its general characteristics belong to this second group, but it has been injured in parts, and apparently subjected to great pressure, so as to render some of the measurements doubtful. Nos. 4 and 5 are skulls found at different times, at a considerable depth, in a moss at Linton, Peeblesshire. No. 6 is a very characteristic example of the brachycephalic cranium, from a cist discovered on opening a tumulus in the parish of Ratho, Mid-Lothian. Alongside of the skeleton stood a small rude clay urn, within which lay several bronze rings.

¹ MSS. Library Soc. Antiq. Scot. Nov. 28, 1834.

No. 7, Fig. 40, is also a good example of the same type, obtained, in 1849, from a cist partly hollowed out of the natural trap-rock on the farm of East Broadlaw, Linlithgow. It was covered with two unhewn slabs of stone, and measured internally about six feet long. The skeleton was in good preservation, and lay at full length. Only a few inches of soil covered the slabs with which it was enclosed. No relics were found in the cist, but some time prior to its discovery a bronze celt and spear-head were turned up in its immediate vicinity. No. 8 may claim a larger space for its description here, as the first example of the Scottish brachycephalic crania which



FIG. 40.—Linlithgow Cist.

attracted my attention as possibly deriving its peculiar truncated form and flattened occiput from artificial causes. Soon after the publication of the former edition of this work, I learned of the accidental discovery of an ancient tomb at Juniper Green, a few miles to the west of Edinburgh. On proceeding to the spot, a cist was found exposed, occupying a slightly elevated site, which probably marked the traces of the nearly levelled tumulus, and forming a chamber of unhewn sandstone slabs, measuring nearly four feet by two. The joints had been closed with chips, and carefully cemented with

wet loam or clay ; and owing to the sandy nature of the soil, and the covering slab projecting on all sides beyond the cist, the sepulchral chamber had been effectually protected from the infiltration of sand or water. Within this a male skeleton lay on its left side. The arms appeared to have been folded over the breast, and the knees drawn up so as to touch the elbows. The head had been supported by a flat water-worn stone for its pillow ; but from this it had fallen to the bottom of the cist, on its being detached by the decomposition of the fleshly ligatures ; and, as is common in crania discovered under similar circumstances, it had completely decayed at the part in contact with the ground. A portion of the left side is thus wanting ; but with this exception the skull was not only nearly perfect when found, but the bones are solid and heavy ; and the whole skeleton appeared to be so well preserved as to admit of articulation. Above the right shoulder, a neat earthen vase had been placed, probably with food or drink. It contained only a little sand and black dust when recovered, uninjured, from the spot where it had been deposited by affectionate hands many centuries before ; and is now preserved along with the skull in the Scottish Museum of Antiquities. Two other crania in that collection, one from Lesmurdie, Banffshire, the other from Kinaldie, Aberdeenshire, exhibit traces of the flattened occiput ; and Dr. J. Barnard Davis has introduced into the *Crania Britannica*,—where other examples, including these last, are figured,¹—a fourth Scottish example from Newbigging, in the island of Pomona, characterized by traces of the same artificial compression.

Of the causes of this peculiar occipital conformation I entertain no doubt, having—since I first was led, by an examination of the Juniper Green skull, to ascribe it to

¹ *Crania Britannica*, Decade II. plates 15, 16 ; Decade III. plates 21, 25.

some partial compression dependent on the mode of nurture in infancy—become familiar with the same skull-form produced by the use of a rigid cradle-board among the Indian tribes of North America. The light which is thrown on the condition of British prehistoric races by the study of the habits of living tribes in the same condition, is full of interest. Among the flat-head Indians of Oregon and British Columbia, where malformation of the skull is purposely aimed at, the infant's head is bound in a fixed position, and retained under continuous pressure for months. But in the ordinary use of the cradle-board by other Indian tribes, all that is aimed at is facility of nursing and transport, and perfect safety for the child. It is accordingly provided with a cradle formed of a flat board projecting beyond its head and feet, and with an arch or head-piece so arranged as to protect the face and head in case of a fall. On this cradle the infant is invariably laid on its back, with the head resting on a pillow or mat of moss or frayed cedar-bark, and is secured by bandages which hold the limbs in an extended posture, and necessarily retain the head in a nearly fixed position. The child is not removed from the cradle-board when suckling, so that the head is subjected to no lateral pressure at the mother's breast. At other times it is slung over her back, suspended from the branch of a tree, or placed leaning against any convenient rest, with the head constantly affected in the same direction. The consequence necessarily is, that the soft and pliant bones of the infant's skull are subjected to a slight but continuous pressure on the occiput, during the whole protracted period of nursing incident to nomade life, and when the occipital and parietal bones are peculiarly susceptible of change. The only modifying element is the pillow. When, as is the practice with many Indian tribes, the cradle-board is covered

only by a thin mat, the head of the infant is thrown back, and the consequent flattening chiefly affects the parietal bones, extending nearly to the coronal suture; but where a broad and high pillow is used, the weight of the head rests chiefly on the occipital bone, producing the vertical occiput. Both forms occur in ancient British crania, leaving, in my mind at least, no doubt as to their source. Nor are those features limited to the British Islands. Dr. L. A. Gosse points out, in his *Essai sur les Déformations Artificielles du Crâne*, the indications of the use of a flat and rigid cradle producing the same effects on the cranial forms of aborigines of the Old and New World; and refers to the ancient inhabitants of Scandinavia and Caledonia as those in whom such traces are specially observable.¹

The light thus thrown on the habits and social life of prehistoric times is replete with interest; and illustrates with even greater force than the rude implements of flint and stone found alongside of such artificially compressed crania, the exceedingly primitive condition of the British Islander of that remote era. Such flattened crania have a further and perhaps higher interest to the craniologist from the idea they suggest that the extremely abbreviated, and perhaps also the greatly elongated crania, owe their most characteristic proportions, in part at least, to such artificial causes; and that thereby the obvious differences in the prevalent form of head on modern Celtic areas, from that found in British graves of the Roman period, may be due in some degree to the abandonment of ancient national customs, as well as to intermixture of blood.² But whatever value may be attached to the former source

¹ *Essai sur les Déformations Artificielles*, p. 74.

² *Vide Edin. Phil. Jour.* New Series, vol. xvi. p. 269; vol. xviii. p. 51; *Canadian Journal*, vol. vii. p. 399; vol. viii. p. 127.

of change, it is altogether inadequate to account for the radical difference between such kumbecephalic crania as that of Uley chambered barrow, measuring 8·1 by 5·7, or of the Newbattle tumulus, measuring 7·9 by 5·6, and the brachycephalic type of Juniper Green or Lesmurdie, measuring respectively 7·0 by 5·8 and 7·3 by 6·2 inches. To the Scottish examples above referred to, a series of eleven crania of the same type from English barrows, is added in the following table, derived with one exception from the *Crania Britannica*. No. 24 is from a barrow at Tosson, Northumberland.¹

TABLE II.—BRACHYCEPHALIC CRANIA.

	LOCALITY.	L. D.	F. B.	P. B.	O. B.	P. H.	V. D.	I. A.	H. C.	
1	Grangemouth, . . .	M.	7·4	4·5	5·6	...	...	4·9	...	21·1
2	Montrose Cist, Barrow, . . .	M.	7·0	5·3	6·0	4·8	5·2	5·8	15·8	21·6
3	Kilsyth Moss, . . .	M.	7·0	3·8	5·3	...	4·5	...	14·6	20·7
4	Linton Moss, . . .	M.	6·6	5·0	5·8	4·9	4·5	...	...	20·0
5	Linton Moss, . . .	?	6·9	4·1	5·7	...	...	...	...	...
6	Ratho Cist, . . .	M.	6·8	5·1	6·0	...	...	5·6	15·6	20·0
7	Linlithgow Cist, . . .	M.	7·2	5·0	5·5	...	5·2	...	14·9	20·6
8	Juniper Green Cist, . . .	M.	7·0	...	5·8	5·0	4·7	5·1	14·7	20·3
9	Lesmurdie Cist, . . .	M.	7·3	...	6·2	5·0	4·8	...	15·5	21·5
10	Newbigging Cist, . . .	M.	7·1	5·1	5·7	5·3	5·1	...	15·6	21·0
11	Kinaldie Cist, . . .	M.	6·8	...	...	...	...	...	...	...
12	Birsay Knowe, Orkney, . . .	M.	7·0	4·6	5·6	...	...	5·6	14·8	20·3
13	Ballidon Moor Barrow, . . .	M.	7·0	4·8	5·4	5·3	4·8	...	15·0	20·5
14	Green Gate Barrow, . . .	M.	7·0	4·8	5·5	5·0	4·7	...	14·7	20·0
15	Arras Barrow (bronze), . . .	M.	7·6	4·7	5·6	5·2	5·2	...	15·8	21·1
16	Wetton Hill Barrow, . . .	M.	7·4	5·5	6·0	5·3	4·7	...	15·4	21·5
17	Wetton Hill Barrow, . . .	M.	7·0	...	...	...	...	...	...	...
18	Codford Barrow, . . .	M.	6·8	4·6	5·7	5·1	4·7	...	14·5	20·0
19	End Lowe Barrow (bronze), . . .	M.	7·2	...	...	5·2	4·8	...	...	...
20	Caedegai Barrow, . . .	M.	7·4	4·8	5·5	4·4	4·9	...	15·2	21·2
21	Aeklam Barrow, . . .	M.	7·7	4·5	5·6	5·5	5·1	...	16·2	21·6
22	Morgan's Hill Barrow, . . .	M.	7·6	4·6	5·6	5·2	5·5	...	16·0	21·3
23	Middleton Moor Barrow, . . .	F.	7·1	4·5	5·5	4·2	4·6	...	14·6	20·0
24	Tosson Barrow, . . .	M.	7·1	5·1	6·1	...	...	5·5	15·6	21·0
	MEAN, . . .		7·12	4·76	5·70	5·03	4·88	5·42	15·25	20·77

¹ *Proc. Soc. Antiq. Scot.* vol. iv. p. 61.

Assuming that with such obvious differences between the type of cranium of the megalithic tombs and that of the earth-barrows, the former must be regarded as the skull of a prehistoric allophylian race ; the question still remains : Are we to regard the latter as that of the Celtæ, the oldest Aryan race of northern Europe ? This much appears to be established by evidence of a sufficiently comprehensive character for some trustworthy deductions : that at some remote period, lying altogether beyond the earliest glimpses of definite British history, a race characterized by a peculiarly formed head and face ; a narrow, receding forehead and small under-jaw ; a skull of great length and narrowness, and with a tendency towards such a tapering prolongation both in the occiput and the frontal region as first suggested the term "boat-shaped : " occupied Britain in such numbers as to be capable of the combined labour required in the construction of vast chambered cairns and barrows. Their architecture is distinguished by the rude but massive simplicity of megalithic art ; and while they appear to have lavished their wealth of toil with an ungrudging hand, on the sepulchres of their honoured dead, the only works of art found in them are the bone and flint implements and the rude pottery of the stone period. This kumbecephalic race was not apparently altogether ignorant, at some period of their presence in Britain, of another, essentially different from them in craniological characteristics. But though it seems a legitimate inference that the brachycephalic race occupied an inferior, if not a servile position in relation to the long headed builders of the megalithic tombs ; when we pass on to a later, but still prehistoric era, in which the first traces of metallurgic arts appear, the kumbecephalic race has passed away, and the simpler earth-barrows and small cists reveal only the brachycephalic

cranium, with prominent parietal tubers, and truncated occiput. This I think probable was also an allophylian, perhaps a Turanian race, still rude in arts, if not indeed devoid of all metallurgic skill, until long after settlement in its insular home. The discovery of their crania in certain of the chambered long barrows suggests, indeed, their occupying servile relations to their builders. But that may have been the mere step towards conquest. The Spanish colonists of the New World, if perpetuated by such evidence among the native races of Mexico and Yucatan during the first generation after the discovery of America, would appear to occupy just such a dependent or servile position. No analogy, however, is traceable between the Brachycephali of the British Isles and any such civilized race. They appear to have been in as barbarous a condition as the rudest nomades of the American forests; ignorant for the most part of the very knowledge of metals; or at best in the earliest stage of metallurgic arts. Looking to the characteristics of the Celtic languages, and their relations to the great family of Aryan languages, which prove their branching off from the Indo-European stock subsequent to the development of numerals and many terms of art common to all: the first of the Aryan colonists of Europe seem to be very inadequately represented by the Brachycephali of the British Stone Period; and craniological evidence tends to confirm the doubt. This latter question is, however, still attended with many difficulties which must remain for future solution. To the latter type of cranium many of the skulls of the Anglo-Roman period—the historic age of Celtic Britain,—undoubtedly approximate. But on the other hand, the predominant skull-forms of the modern Welsh, the Highlanders of the most purely Celtic districts of Scotland, and the seemingly unadulterated Celtic population of the south-

west of Ireland, all differ from the ancient British brachycephalic type. Dr. Anders Retzius remarks:—"During an excursion in Great Britain, in 1855, I was able to satisfy myself anew that the dolichocephalic form is predominant in England proper, in Wales, in Scotland, and in Ireland. Most of the Dolichocephali of these countries have their hair black, and are very similar to Celts."¹ The insular Anglo-Saxon race in the Anglian and Saxon districts, deviates from its continental congeners, as I conceive, mainly by reason of a large intermixture of Celtic blood, traceable to the inevitable intermarriage of invading colonists, chiefly male, with the British women. But if the Celtic head be naturally a short one, the tendency of such admixture of races should have been to shorten the hybrid Anglo-Saxon skull, whereas it is essentially longer than the continental Germanic type. I am led, therefore, to the conclusion that the Celtæ of Britain intruded on the second allophylian or brachycephalic race, long prior to the dawn of definite history; introducing among them the higher arts of the Aryan races, and intermingling with them to fully as great an extent as the later intermixture of Celtic, Saxon, and Danish blood. It is now little more than fourteen centuries since the Anglo-Saxons intruded on the native Britons of that island which they have since made their own. We may allow the Celtic colonists an undisturbed occupation of double that number of centuries, reaching backward far into the prehistoric night, and still ample time will remain for their allophylian precursors. But there are not wanting indications of the comparatively recent intrusion of the Belgæ, and other southern tribes, found in occupation by the first Roman invaders; nor had Britain been so entirely isolated prior to their invasion as to justify the

¹ *Archives des Sciences Physiques et Naturelles*, Geneva, 1860.

idea of its undisturbed occupation by aboriginal Celtic tribes through all previous centuries. But for the evidence of history, the Norse population of the Orkneys would appear to be autochthones, and the Anglo-Saxons much more aboriginal than the Celtic Cantii, Regni, or Belgæ. Imperfect as the evidence relating to such remote events necessarily is, it suggests the same characteristics accompanying the intrusion of the Celtæ as of their Anglo-Saxon supplanters. Gradually the superior race predominated, until at length they made the island their own in race, language, creed, and arts ; but not without both retaining traces of intermixture with older occupants whom they displaced.

The revolution which has been wrought alike in the opinions of archaeologists and geologists relative to the antiquity of man, since the first edition of this work appeared, renders the reception of the idea that the oldest historical races of Britain may have been preceded by prehistoric ones comparatively easy ; whatever may be thought of the form in which it is here advanced. But looking to the present bearings of the evidence, this at least is certain : that when the craniologist attempts to classify the Pagan and Christian Celts subsequent to the Roman period, he is compelled to separate them from the brachycephalic race of the barrows. "I have seen," says Dr. Prichard,¹ "about half a dozen skulls found in different parts of England, in situations which rendered it highly probable that they belonged to ancient Britons. All these partook of one striking characteristic, viz., a remarkable narrowness of the forehead compared with the occiput, giving a very small space to the anterior lobes of the brain, and allowing room for a large development of the posterior lobes. There are some modern English and Welsh heads to be seen of a similar

¹ *History of Mankind*, vol. ii. p. 92.

form, but they are not numerous." It would seem to be an undertaking sufficiently compatible with the results already achieved by craniology, to determine the form of the typical Celtic cranium. But great as is the attention which has been devoted to the ethnical specialities both of the ancient and modern Celtæ, extended research seems hitherto rather to have complicated, than helped to elucidate the question. It must not be overlooked that in speaking of the Celtæ, we are dealing not with a single tribe or nation, but with one of the great divisions of the Aryan stock, which was found extending from the head of the Adriatic to the Atlantic Ocean, at the dawn of transalpine European history ; and, even within the British Islands, includes at least two subdivisions as essentially distinct as the Greeks and Romans. Among the Germanic nations, there is a distinct German, Scandinavian, and Anglo-Saxon cranium ; but all belong to varieties of a common class ; and the same generic character must be looked for among Celtic crania. I cannot conceive of the possibility of any such ethnical relations embracing the widely diverse cranial forms illustrated in Tables I. II. and III. ; but within the limits of one ethnical group, Gaulish, British, Gaelic, and Erse crania may admit of considerable diversity. Prichard assumed with other writers of his day, the absolutely aboriginal character of the Celtic tribes of Britain ; but in view of the ancient crania already referred to, he remarks that some remains give reason to suspect they had in early times something of the Mongolian or Turanian form of head.¹ Morton again says, when defining the Celtic family : " The features of these people are strongly marked. They are tall and athletic, and little prone to obesity. They have the head rather elongated, and the forehead narrow and but slightly arched. The brow is

¹ *Researches*, vol. iii. p. 20.

low, straight, and bushy; the eyes and hair are light, the nose and mouth large, and the cheek-bones high. The general contour of the face is angular, and the expression harsh.”¹ Dr. Kombst also states that the Celtic skull is elongated from front to back, moderate in breadth and length, and the face and upper part of the skull the exact form of an oval.² In the latest matured digest of the views of Retzius on the ethnical forms of the skull, he classes the Celts among his orthognathic dolichocephali; and when referring to a skull sent to him by Dr. Prichard as the first Roman one he had seen, he remarks—“It had been picked up on an ancient field of battle near York with another skull of different form. The latter was smaller, much elongated, straight and low, and had evidently belonged to a Celt.” This judgment, he adds, fully satisfied Dr. Prichard.³ But when commenting on the Ugrians, Turks, and Slaves of Europe, all of which he includes in his orthognathic brachycephali, he remarks:—“On different occasions, I have met with brachycephalic Scots from northern Scotland and the isles to the north. During my last sojourn in Scotland, I encountered again divers individuals pertaining to this same type, having an expression altogether peculiar, their visage being often short and somewhat large, their hair red, the skin of their faces marked with freckles. Since then I have learned from the report of travellers that this type is common in the Highlands, where it is indigenous from a remote antiquity. I suppose that it has descended from the Finns, or perhaps the Basques.” That a markedly brachycephalic form of head is common in the Highlands, is contrary to all my own observations. But examples do occur;

¹ *Crania Americana*, p. 16.

² Johnston's *Physical Atlas*, c. 8.

³ *Smithsonian Report*, 1859, p. 253.

and both in Orkney and the Hebrides the experienced eye of my friend Captain Thomas has detected a peculiar type of form and features, equally distinct from Celt and Scandinavian, which he also conceives to be Finnic.

Diverse as are the definitions of the Celtic type of head, there is considerable uniformity among the authorities referred to, in ascribing to it a moderate elongation, with no extreme parietal or frontal development. But Professor Nilsson, who, in his earlier definition, had spoken of the Celtic cranium as intermediate to the lengthened and shortened proportions of the true dolichocephalic and brachycephalic skull-forms, when writing more recently, to one of the authors of the *Crania Britannica*, remarks, in reference to the Celtic cranium:—"I consider nothing more uncertain and vague than this denomination; for hardly two authors have the same opinion in the matter. It would indeed be very desirable, if, in England, where it might most conveniently be done, one could come to a proper understanding as to what constitutes the Celtic form of cranium; and afterwards impressions of plaster of Paris be taken of such a cranium as might serve as a type for this race."¹ The demand of the Swedish naturalist is more desirable than easily accomplished; and indeed he overlooks to how great an extent we must consider such typical form rather as an ideal mean, than any approximate embodiment of all its requirements in a single head. Yet the attempt has long ago been made; and in the Museum of the Phrenological Society of Edinburgh may be seen the cast of a skull marked as the Celtic type (No. 16, Table III.), differing essentially from the brachycephalic type of the barrows, and described as one of a series of skulls "selected from a number of the same tribe or

¹ *Crania Britannica*, Decade I. p. 17.

nation, so as to present as nearly as possible, a type of the whole in the Society's Collection."¹ But it requires a rare sagacity to determine the grounds on which such a selection in comparative ethnography is to be made. Wilde describes the heads of the modern native Irish, "particularly beyond the Shannon, towards the west, where the dark, or Firbolg race may still be traced, as distinct from the more globular-headed, light-eyed, fair-haired Celtic people, who lie to the north-east of that river."² A difference in type marks the northern from the western Scottish Highlander; and the Welshman does not very closely resemble either. How much of Roman, Anglo-Saxon, Danish, or other foreign blood may have contributed to these changes it is difficult to estimate. But the population of the south-west of Ireland is the one that appears to have lain most nearly beyond the reach of such intrusive elements of change within the historic period. Taking, however, the crania from ancient Highland districts where the Gaelic language has continued to maintain its hold; and from others where the cemeteries pertain to the earliest sites of Culdee and other Celtic or Pictish Christian foundations, perhaps as fair an approximation may be made to the northern Celtic type of cranium, as to any of the others referred to. Unless the opinion is maintained that the cranium undergoes novel changes of development by the influences of time and civilisation, without any admixture of blood: examples derived from the earliest native Christian cemeteries must furnish as satisfactory illustrations of the Celtic type as any older barrow or cist. Even if allowance be made for considerable admixture with other races, Roman, Saxon, or Danish, still a general approximation to the native type-form, and its

¹ *Phrenological Journal*, vol. vi. p. 144.

² *Ethnology of the Ancient Irish*; W. R. Wilde, M.R.I.A., 1844.

frequent reappearance in full development, are to be looked for; as in analogous examples among the Red Indian and African hybrids of the New World. The following table, accordingly, embraces a series of crania obtained under circumstances suggestive of their belonging to the native Celtic population at the close of the Pagan era, or in the succeeding centuries, while the Celtic missionaries of Ireland and Scotland were still preaching to the Gaelic and Pictish tribes in their native tongue:—

TABLE III.—CELTIC CRANIA.

	LOCALITY.	L. D.	F. B.	P. B.	O. B.	P. H.	V. D.	I. A.	H. C.
1	Cladh na Druineach, Iona, M.	7·3	4·5	5·5	4·7	5·0	5·5	14·8	20·2
2	„ „ M.	7·2	4·7	5·5	4·2	...	...	...	20·6
3	„ „ M.	7·4	5·0	5·6	...	...	5·5	14·9	20·9
4	„ „ M.	7·1	4·5	5·6	...	...	5·5	14·8	20·0
5	„ „ M. ²	7·3	4·6	5·7	...	...	5·2	15·0	19·9
6	„ „ M.	7·3	4·3	5·4	...	4·5	...	14·6	20·7
7	Kirkheugh, St. Andrews, M.	6·8	4·8	5·5	4·4	4·7	...	15·0	20·4
8	„ „ M.	7·0	4·4	5·3	4·4	4·6	...	14·7	20·3
9	„ „ M.	7·3	5·0	5·8	4·5	4·6	...	15·4	21·5
10	„ „ F.	7·2	4·4	5·0	4·1	4·5	...	14·5	20·2
11	Pitchley, Northampton, M.	7·5	4·4	5·4	...	...	5·5	...	20·6
12	Cave, Kintyre, M.	7·7	4·8	5·0	...	...	5·5	14·8	21·2
13	Beach, Larnahinden, . M.	7·5	4·6	5·1	...	...	5·1	14·7	20·2
14	Knockstanger, Caithness, M.	7·7	4·3	5·5	...	...	...	14·3	20·9
15	Inchmore, Longford, . M.	7·8	5·1	5·6	...	...	5·2	15·5	21·9
16	Celtic Type, E. P. M.,	7·9	4·8	5·4	5·5	4·2	...	14·0	21·5
	MEAN,	7·37	4·64	5·43	4·54	4·59	5·37	14·79	20·69

Nos. 1-6 are an interesting group of skulls in the Museum of the Phrenological Society, brought from the sacred island of Iona, and each marked as the "skull of a Druid from the Hebrides." They were presented to the Society by Mr. Donald Gregory, secretary of the Society of Antiquaries of Scotland, and of the Iona Club, who procured them under the following circumstances. The institution of a Scottish club, specially established for the investigation of the history, anti-

quities, and early literature of the Highlands of Scotland, was celebrated by a meeting held on the island of Iona, upon the 7th of September 1833, when the sepulchres of the Scottish kings were explored. Many of the beautiful sculptured slabs of the *Relig Oran* were brought to light; and the ruins of its ecclesiastical edifices were minutely studied. Researches were also prosecuted in other parts of the island, apart from its ancient Christian cemeteries, with results detailed by Mr. Gregory in the following letter, addressed to Mr. Robert Cox, W.S., of the Edinburgh Phrenological Society:—

“Along with this you will receive six ancient skulls, procured under the following circumstances: There is a place here called *Cladh na Druineach*, i.e., the burial-place of the Druids, in which I have caused some deep cuts to be made. An incredible quantity of human bones has been found; and as it is perfectly certain that this place has never been used as a Christian churchyard, or as a place of interment at all, since the establishment of Christianity here by St. Columba, there can be no doubt of the antiquity of the skulls now sent. They are by every one here firmly believed to be the skulls of the Druids, who were probably interred here from distant parts as well as from the neighbourhood, on account of the sanctity of the island, which formerly bore the name of *Innis na Druineach*, or the Druid’s Isle. The six skulls herewith sent were selected with care by myself, from a much larger number. One you will observe is higher in the forehead than the rest. But this is an exception; for I am satisfied—and others whose attention I directed to the matter agree with me,—that the general character of the skulls is a low forehead, and a considerable breadth in the upper and posterior part of the head, which you will no doubt readily

perceive. Although, with the exception mentioned, those skulls have the same general character (as far as I can judge), yet there are sufficient differences in the individuals to make them of considerable interest to the phrenologist. I must not omit to mention that the present race in the island appear to have much better foreheads than the Druids, and in point of intellect and intelligence are perhaps above the average of the Highlanders and Islanders. Some of the skulls did not present such strong individual character as those sent, and were more equally developed. But, as I was limited in the number to be taken, I preferred choosing well-marked skulls, particularly as the general character of the whole was so much the same."

Distinguished as the author of this letter was among the Celtic scholars of his day, and equally zealous as an antiquary and a craniologist, it would be difficult to select another authority worthy of equal respect on the points referred to. As, however, the skulls have been affirmed to be those of Christian monks of the eighth or ninth century,¹ notwithstanding the reasons above specified for a different opinion: it is only necessary to recall the fact that the brethren of Iona were Celtic monks, speaking and writing their native Erse tongue; to which may be added the opinion maintained by some, that the *Tuatha De* of Ireland were the emigrant Druids of Romanized Britain.² Were the assumption, therefore, well sustained, it could not greatly detract from the value of the crania for the present object; though Mr. Gregory obviously intended by the epithet, "Skull of a Druid," to indicate that he believed them to have belonged to the native population prior to the introduction of Christianity in the sixth century, when St.

¹ *Crania Britannica*, Decade i. p. 21.

² Hon. Algernon Herbert, *Irish Nennius*, p. c.

Columba landed at *Innis nan Druidheanach*, or the Isle of the Druids, as Iona is even now occasionally styled by the native Highlander.

The group of crania, Nos. 7-10, was recovered from cists of rude structure, but full length, obtained during 1860, from excavations made at the Kirkheugh, St. Andrews. The site was that of an ancient Christian cemetery, and many other skulls were dug up; but the examples referred to were procured from stone cists, disposed in part beneath the ancient ecclesiastical foundations, and otherwise, from their position and direction, suggestive of great antiquity, and possibly even of Pagan sepulture.¹ No. 11 is one of several skulls procured under circumstances nearly similar to those of Kirkheugh. The Rev. Abner W. Brown, vicar of Pitchley, Northamptonshire, communicated to the Archæological Association, in 1846,² an interesting account of the discovery of some British kistvaens there; and since then he has favoured me with his notes, and with careful drawings and measurements of the skull referred to. The name of the locality is spelt in Doomsday Book *Pihtes-lea* and *Picts-lei*: terms sufficiently suggestive of the Celtic Picts or *Ffichti*. The venerable church of Pitchley belonged, before the Conquest, to the Abbey of Peterborough, and still retains original work of the beginning of the twelfth century. Having at length begun to exhibit alarming symptoms of decrepitude, it was carefully repaired and restored to the foundations; in the course of which an ancient cemetery was brought to light, lying entirely below that of later date, and underneath the venerable foundations of the church. In reconstructing one of the principal pillars, the startling fact was brought to light that the Norman builders

¹ *Edin. Phil. Jour.* New Series, vol. xiv. p. 199.

² *Archæol. Jour.* vol. iii. p. 113.

had laid its foundation, unconscious of the existence of a rude cist at a depth of little more than a foot below. Under the base of another Norman foundation, a similar cist, of full length, and shaped to the head and shoulders, had been hollowed out of the soft friable rock, and covered over with unhewn slabs. About twenty cists were disturbed in all; the whole of them, with the above exception, formed of unhewn stones, and lying east and west. They were minutely examined by Mr. Brown while still undisturbed; and in all of them the bodies lay at full length, on their right sides, with the face to the south, and the arms disposed in a peculiar position: the right arm across the breast, with its hand touching the left shoulder, and the left arm straight across, so that the hand touched the right elbow. The Christian edifice had obviously been unconsciously founded above the graves of an elder race, and as the work proceeded it became apparent that the ancient churchyard was entirely superimposed on a still older cemetery. Both Norman and Roman coins were found. Deeper down lay fragments of coarse unglazed British, as well as of Roman pottery; and close to, or within one of the cists, an oblong amethyst, about an inch long, and perforated lengthways, was found. The region is that occupied by the Dobuni, and the topographical nomenclature still preserves many traces of the Celtic language of its occupants. Mr. Brown infers, from the position of the cists, and other indications of Christian sepulture, that they enclose the remains of the Christianized Britons before the Saxon invasion. "The skeleton," he remarks, "which we have endeavoured to preserve, is that of a muscular, well-proportioned young man, probably five feet nine inches high. The teeth are fine; the wisdom-teeth scarcely developed. The facial line in some of the skulls appeared to be very fine. This skull exhibits the

peculiar lengthy form, the prominent and high cheek-bones, and the remarkable narrowness of forehead which characterize the Celtic races, and distinguish them from the rounder, broader skulls, and more upright facial line, of the Teutonic tribes.”¹ From the drawings furnished to me, one of the skulls appears to be marked by parieto-occipital flattening, chiefly affecting the parietal bones. The nose is prominent; the superciliary ridges are strongly developed; and the teeth are sound but greatly worn. Such are the characteristics of a highly interesting group of cists, with their enclosed remains, brought to light on one of the most ancient Christian sites. The knowledge of them had long passed away before the ancient church of the eleventh century was founded. “Below the foundation, though above the level of the kistvaens, there were common graves; in one of them was the skeleton of a beheaded person lying at full length, the head placed upon the breast, one of the neck-bones having apparently been divided.” Of the other crania in Table III., No. 12 is a skull from a cave on the sea-coast, at the Mull of Kintyre, Argyleshire; No. 13 was dug out of the sand on the sea-beach, near Larnahinden, in the same county. In both cases tradition associates the localities with contests with the invading Norsemen; and No. 13 is accordingly marked in the Catalogue of the Phrenological Society as the skull of a Dane. No. 14 was dug up at Knockstanger, Caithness, at a spot where a number of the clan Mackay were interred, after a battle fought with the Sinclairs in 1437; and No. 15, from an ancient cemetery at Columbkil, County Longford, is among the Celtic crania in the same collection. No. 16, the cast already referred to, completes the Table. It is characterized in the printed Catalogue of the Edinburgh Phrenological Society as a

¹ *Archæol. Jour.* vol. iii. p. 113.

“ Long Celtic Skull,” and described in the *Phrenological Journal* as one of a series of skulls “ selected from a number of the same tribe or nation, so as to present, as nearly as possible, a type of the whole in the Society’s collection.”¹

To the various examples of cranial forms already described, may be added the one figured here (Fig. 41), from the original in the Scottish Museum. It was found, in 1846, near the village of Newstead, in one of a series of pits filled with black fetid earth, intermingled with bones of animals, broken amphoræ, mortaria, Samian ware, and other specimens of Roman art.

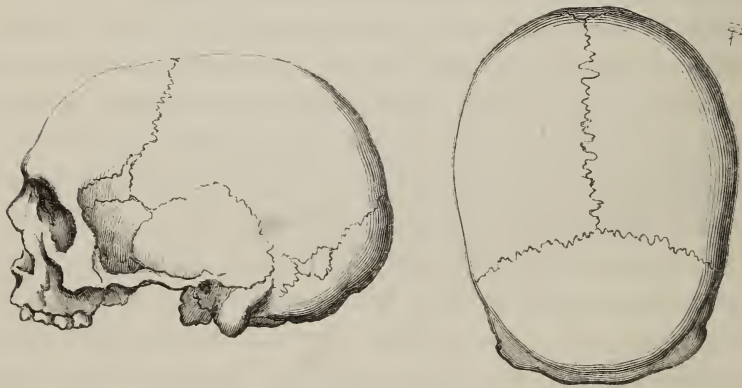


FIG. 41.—Roman Shaft, Newstead.

A long iron spear-head was also recovered from the same pit. The skull is of moderate size, but finely proportioned, and with the markings of the muscles strong and well defined.

Such are illustrations of the evidence from which some conclusions of general import have been deduced in regard to the successive races that occupied Scotland, and the whole island of which it forms a part, prior to the era of authentic historic records. In so far as the data extend, they are valuable as trustworthy examples

¹ *Phrenological Journal*, vol. vi. p. 144.

of the cranial characteristics of British races, procured from various localities, and selected with no view to any preconceived theory. Though still too few to justify the dogmatic assertion of general inferences, they furnish an interesting and highly suggestive basis for inductive hypotheses, which must await the disclosures of more extended research for their confirmation or rejection. In Scotland especially, the ruins of many a colossal chambered cairn disclose only the despoiled and empty catacomb; and statistical accounts, antiquarian reports, and county histories, tantalize us with records of the coveted evidence recovered only to be destroyed. Much therefore remains to be done before the subject discussed in this chapter can be regarded as ripe for any absolute inductive reasoning. But meanwhile not the least interesting among the indications which present results afford both to the ethnologist and the archæologist, are the evidences of one or more primitive races prior to the insular Celtæ. The discoveries of recent years, in the drift of France and England, in the *kjokkenmøddinger* of Denmark, and the *pfahlbauten* of Switzerland and France, have wrought a wonderful change in the minds of many since I first ventured to maintain this idea. Of the fact I entertain no doubt; and if cranial forms are as constant as they are believed to be, and craniological evidence is of the slightest value, we have proofs also of their physical characteristics, and the order of their succession. The variations of skull-form, it is obvious, present no gradual transition, or partial modifications of a predominant type; but an extreme dolichocephalic form is succeeded by a marked brachycephalic one; and when the Anglo-Saxon intrudes on the older historical race, a dolichocephalic form reappears, but with medium proportions and a symmetrical ovoid contour. There are thus abrupt changes, such as in the latter case the history

of Anglo-Saxon colonization abundantly accounts for ; and which in the earlier ones no other theory will satisfactorily embrace. In so far as the order of succession is established, it either points to the probable recognition of the Kumbecephali among the prehistoric races of northern Europe ; or indicates for Britain a succession of races different from the primitive colonists of Scandinavia, as determined by the investigations of Nilsson, Eschricht, and other northern archæologists and naturalists. But on points of such comprehensive bearing the investigator must be content to add his inductions, as well as his facts, to the general stock, and await the ultimate revelation of well-established truths. As for the slight contributions here offered to such accumulating evidence, when they were gathered the author regarded them as the mere gleanings of a future harvest. Now that he reconsiders their bearings, and revises his narrative of facts and deductions, his work is done on the shores of Lake Ontario, and only in fancy can he reach across the Atlantic to the favourite scenes of earlier labour and research. But the study of the aborigines of the New World in their native haunts has helped to confirm his earlier realizations of such a condition of society in Scotland's prehistoric ages, and to illustrate with singular minuteness the uniformity of the arts and social life of man in his non-metallurgic era of instinctive design.

In the kumbecephalic and the dolichocephalic crania we have the desired evidence of two essentially diverse races ; and only stand in need of the extensive illustrations derived from numerous localities, which the intelligent interest now awakened may be expected to recover : in order to confirm the proofs already obtained, of an abrupt change from one to another ethnical form, such as can alone satisfactorily establish the fact of the intru-

sion of new races. The same evidence may also be expected to show in how far the primitive occupants were displaced by later intruders. Observation of the mingled population of the New World has satisfied me that a certain amount of permanent amalgamation has resulted from admixture among races so dissimilar in every respect as the European and the Red Indian; as was the case between the intruding Romans and the Celtic Britons.¹ If, when the Celtæ, as the first wave of the Aryan migration, intruded on the Allophylian aborigines, with higher arts and more matured skill, the latter survived the shock, and were admitted to share in the superior arts of their conquerors: traces of the hybrid race may still be recoverable. To this admixture indeed may be traceable some portion at least of the aberrant cranial forms which render the craniology of the later tumuli, prior to the Saxon era, so complex. Proof also may be still accessible, by the accumulation of an adequate number of crania, tending to illustrate the change in physical conformation which must result from the abandonment of the nomadic and wild hunter state for a pastoral life; and the modifications produced by combined physical and intellectual development accompanying progress in metallurgy, agriculture, and the higher elements of social being. For all this the valuable researches of the authors of the *Crania Britannica* have already accomplished much.

One further characteristic feature in ancient skulls is the teeth. With the British Allophylian and Celt, as with all uncivilized nations, the simplicity of their diet protected them from decay. Sir R. C. Hoare remarks of those of Wiltshire: "The singular beauty of the teeth has often attracted our attention; we have seldom found one unsound, or one missing, except in the cases of ap-

¹ *Vide Prehistoric Man*, chaps. xxiii. xxiv.

parent old age." But though unaffected by decay, they are marked by peculiarities not only distinguishing them from those of modern crania, but also marking in some degree the progress from rude nomade life to that of the settled agriculturist. Dr. Thurnam remarks of the Uley-barrow cranium (Table I., No. 13)—that of a man about sixty-five years of age,—“All the teeth are remarkably worn down, and the molars, especially those of the lower jaw, have almost entirely lost their crowns. The worn surfaces are not flat and horizontal, but slope away obliquely from without inwards, there being some tendency to concavity in the surfaces of the lower, and to convexity in those of the upper teeth. The former are more worn on the outer; the latter on the inner edge. Altogether the condition is such as we must attribute to a rude people subsisting in great measure on the products of the chase and other animal food, ill provided with implements for its division, and bestowing little care on its preparation; rather than to an agricultural tribe living chiefly on corn and fruits.”¹ But while this oblique erosion of the teeth appears to be the constant characteristic of the earliest crania, they are rarely so much worn down. In the West Kennet cranium (Table I., No. 21) the enamel of the crowns is moderately reduced by attrition, but not sufficiently so to expose much of the dentine. The age—about thirty-five,—will only partially account for this; and the slight erosion is still more noticeable in another skull, from Crockenby, No. 6. The under-jaw exhibits the wisdom-teeth only partially developed, marking the youthfulness of the individual; and there the perfectly formed teeth are little more worn than those which had never pierced the gums. It is otherwise with the crania of the later barrows. In many of them, while the crowns of the teeth are worn down by

¹ *Crania Britannica.*

attrition to a great extent, the surfaces are perfectly flat and horizontal, like those of a ruminating animal. The latter condition particularly attracted my attention in several skulls obtained from a tumular cemetery at North Berwick. It is also observable in an under-jaw found with other remains of a human skull, an iron hatchet, and several large boar's tusks, in a deep excavation on the south bank of the Castlehill of Edinburgh. The same has been recognised as the common characteristic of crania recovered from Anglo-Saxon graves; and obviously points to the change of food resulting from agriculture, and the modes of preparing the grain. This peculiarity in the teeth of the more recent skulls is a familiar characteristic of those of the British sailor, produced by the mastication of the hard sea-biscuit. Thus we trace the savage Allophylian, dependent chiefly on animal food, or mingling with it the nuts and wild-fruits of the British forests. To this primitive food succeed hard grains and other triturating food, imperfectly prepared; and at a later period barley bread, parched peas, oaten cakes, or the like simple fare, constitute the prevailing repast; with results similar to those effected by the sea-biscuit on the molars of the English seaman.

The inferences to be drawn from such comparisons are of considerable value in the indications they afford of the domestic habits and social life of races, the last survivor of which has mouldered underneath his green tumulus, perchance for centuries before the era of our earliest authentic chronicles. As materials for comparison such characteristic appearances of the teeth furnish means of discriminating between an early and a still earlier, if not primeval period; and though not conclusive, may be found of value when taken in connexion with the other and more obvious peculiarities of the crania of the earliest barrows. We perceive, at least, that a decided

change took place in the common food of the country, from the era when the native of the primeval period pursued the chase with the flint lance and arrow, and the spear of deer's horn : to that recent one when Saxon and Scandinavian marauders began to effect settlements and build houses on the scenes where they had ravaged the villages of the older British natives. The first class, we may infer, attempted little cultivation of the soil ; though within their narrow insular limits only a very thinly-scattered population could long subsist on the spoils of the chase : and the combined labours of the megalithic builders were doubtless expended on other works besides their chambered barrows. Improving on the precarious chances of a mere nomadic or hunter life, we have been led to suppose, from other evidence, that the ancient islander introduced the rudiments of a pastoral life, while yet his dwelling was only the slight circular earth-pit, inclosed with overhanging bows and skins. To the spoils of the chase he would then add the milk of his flock of goats or sheep, probably with no other addition than such wild esculents, mast, or fruits, as might be gathered without labour in the glades of the neighbouring forest. But the social state in the British Isles was a progressive one. Whether by the gradual improvement of an aboriginal race, or by the incursion of foreign tribes already familiar with the fruits of agricultural labour, the wild pastoral or hunter life of the first settlers was exchanged for one more suited to call forth the social virtues. The increase of the population, whether by the ingress of such new tribes, or by the numerical progression of the first settlers, would of itself put an end to the possibility of finding subsistence by means of the chase. Thus it might be from the inventive industry which privations force into activity that new wants were first discovered, new tastes were created,

and satisfied by the annual harvests of golden grain. The ploughshare and the pruning-hook divided attention with the sword and the spear, which they could not supplant ; and the ingenious agriculturist devised his oaken querne, his stone rubber, or corn-crusher, and at length his simple yet effective hand-mill, which resisted, during many centuries of change and progress, all attempts to supersede it by more complicated machinery. Dr. Petti-grew, in communicating the results of a series of observations on the bones found in various English barrows, remarks,—“ The state of the teeth in all of them indicated that the people had lived chiefly on grain and roots.”¹ The dry, hard oaten cake of the Scottish peasant, which may have been in use almost from the first attempt at cultivation of the favourite national grain, if used as the principal food, would probably prove as effective as any of the presumed vegetable foods for producing such results. At any rate, we need no evidence to satisfy us that the luxuries which have rendered the services of the dentist so indispensable to the modern Briton were altogether excluded from the regimen of his rude forefathers.

Sir Richard Colt Hoare commences the great work which has secured for him so distinguished a place among British archæologists, with the motto—“ We speak from facts, not theory.” While seeking to render the *facts* of Scottish archæology fully available, it has been my earnest desire to follow in the footsteps of a leader so proved. The inferences attempted to be deduced from such facts as have been accumulated here, with a view to discover some elementary principles for the guidance of Scottish archæologists, are such as appear naturally and logically to follow from them. Still they are stated apart from the premises, and those who

¹ *Archæol. Jour.* vol. i. p. 272.

have followed thus far ungrudgingly in exploring the primeval sepulchres, will find no difficulty in pausing ere they commit themselves to the same guidance in seeking also some glimpses of the native hearth and pastoral enclosures, and of the evidences of that inventive skill which succeeded to such simple arts. We would fain reanimate the ashes in those long-buried urns, and interrogate the rude patriarch regarding a state of being which for centuries—perhaps for many ages,—pertained on these very spots where now our churches, palaces, and our homeliest dwellings are reared; but which seems almost as inconceivable to us as that other state of being, to which we know the old Briton, with all the seed of Adam, has passed.

PART II.

THE ARCHAIC OR BRONZE PERIOD.

“ In those old days, one summer noon, an arm
Rose up from out the bosom of the lake,
Clothed in white samite, mystic, wonderful,
Holding the sword Excalibur.”—*Morte d'Arthur*.

CHAPTER I.

INTRODUCTION OF METALS.

THE evidence adduced in the previous section furnishes the basis of the argument from whence we arrive at the conclusion, that Scotland and the whole British Isles were occupied by a human population many ages prior to the earliest authentic historical notices. Of the character and habits of the barbarian of the primeval period we have also been able to arrive at some knowledge. His dwellings, the remains of which have lain unheeded around the haunts of so many generations, show his domestic accommodation to have been of the simplest and most humble description. His imperfect tools and weapons furnish no less satisfactory evidence of his scanty knowledge, his privations, and his skill. Searching amid the records of that debatable land to which the geologist and the antiquary lay equal claim, we learn that vast tracts of country were covered at that remote era with the primitive forest ; that oaks of giant height abounded where now the barren heath and peat-bog cumber the land ; and that even, at a comparatively

recent period, the fierce Caledonian bull, the wolf, and the wild boar asserted their right to the old forest-glades. The primitive Caledonian was, in fact, an untutored savage. The population was thinly scattered along the skirts of the continuous range of forest, occupying the coasts and river valleys, and retreating only to the heights or the dark recesses of the forest when the fortunes of war compelled it to give way before some more numerous or warlike neighbouring tribe. The vast forests which then occupied so large a portion of the soil, while they confined the primitive inhabitants to the open country along the coasts and estuaries, supplied them with more valuable fruits than the unoccupied grounds could have afforded to their scanty numbers and untutored skill. Besides the wolf, the wild boar, and others of the fiercer natives of the forest, we are familiar with the remains of the whale and the seal,—the bones of both of which occur among the debris of ancient hearths ;—and with the fossil ox, the *Bos primigenius*, the *Bos longifrons*, the elk, the rein-deer, the roebuck, the red and fallow deer, and the goat, as well as smaller beasts and birds of chase : with all of which we have abundant evidence that the primitive Caledonian waged successful war. By arrow, sling, and lance, and also, no doubt, with help of gins and traps, the largest and fiercest of them fell a prey to the wild hunter. The horns especially of the deer supplied him with weapons, implements, ornaments, and sepulchral memorials. His wants were few, his tastes simple and barbarous, his religion probably as unspiritual as the most base of savage creeds. In the long wanderings of his nomade fathers across the continents of Asia and Europe, they had greatly deteriorated from the primal dignity of the race ; they had forgotten all the heaven-taught knowledge of Eden, and had utterly lost the antediluvian metallurgic arts. It may

perhaps be asked if the annals of so mean a race are worthy of the labour required in dragging them to light from their long-forgotten repositories? The answer is, they are our ancestry, even though we may question our lineal descent; our precursors, if not our progenitors. From them we derive our inheritance and birthright; nor, amid all the later mingling of races, can we assume that no drop of their blood mingles in our veins.

To the remote antiquity to which the oldest of this aboriginal race must be assigned, science hesitates in the attempt to apply a chronology measured even by thousands of years. But there can be no question that the race continued to occupy its island home, with slow and very slight progression, for many centuries. The disclosures of the latest alluvial deposits have furnished evidence of the appearance which the face of the country presented within the historic era, and leave no room to doubt that vast forests covered so large a portion of the soil even in comparatively recent ages as to afford no great area for the occupation of its aboriginal colonists. Taking into account with this the abundance of the rude weapons and implements from whence we give that era the name of the Stone Period, and the general uniformity of the circumstances under which they are discovered, we are furnished with satisfactory evidence of a thinly-peopled country, occupied by the same tribes with nearly unchanging habits for many ages.

The elements, however, of a great revolution were at length introduced, and, as usual in the history of progressive civilisation, they appear to have come from without. The change by which we detect the close of the long era of barbarism, and the introduction of a new and more advanced period, is the discovery of the art of smelting ores, and the consequent substitution of metallic weapons and implements for those of stone. The former

presents us with the helplessness of childhood without its promise; the latter is the healthful infancy of a vigorous manhood.

The insular position of Britain has already furnished a well-defined base on which to rear the argument of primitive colonization. The valuable mineral wealth of some portions of its soil happily supply no less satisfactory data for those of its early civilisation. No doubt can now be entertained that Herodotus, in his allusions to the Cassiterides, or Islands "from whence tin is brought to us," refers to the celebrated districts of Cornwall, which still abound with the same mineral wealth that conferred on them such ancient and wide-spread fame. At this period, which thus furnishes a definite date as the era of the father of history, B.C. 450—while the Republic of Rome was only assuming form, and Athens was just rising into importance,—the Cornish peninsula and the neighbouring Scilly Islands, vaguely known in their undefined obscurity on the mysterious outskirts of that ancient world, were referred to by Herodotus as the source of the rare and invaluable metal, tin. But if such was then the case, it becomes little less certain that the mineral wealth of Britain had been known to the colonists of Gades soon after the founding of that commercial emporium eleven hundred years before the Christian era. Either directly from Sidon, or from her great western colony beyond the Pillars of Hercules, the Phœnicians traded with the British Islands, and established themselves on convenient localities in their rich mineral districts, while the herdsman still tended his flocks on the Palatine Hill. When Tyre yielded to the supremacy of Babylon, and Carthage succeeded to her maritime power, the seaports of Tartessus still commanded the commerce of the Atlantic; and thus Britain continued to partake of the influences of Asiatic and

African civilisation, and to be retained by singularly direct means in contact with the ancient centres of population, arts, and religion. By such means the rites of eastern Paganism may have been transplanted directly to the megalithic temples of the Cassiterides, and the mysteries of Druidical worship remodelled, a thousand years before they became known to the Romans, by whom they were eradicated. Under the system of commercial colonization carried out by the Phœnicians, they may have planted trading-ports—the centres of a mixed population,—in the British Isles. To the same Phœnician or Punic influences may also be traceable an intrusion of Iberian elements there : such as Tacitus seems to have deemed to be still recognisable in his day, in the hair and skin of the dark Silures, when contrasted with the light or flaxen locks and xanthous complexion generally ascribed by classical writers to the Gauls and southern Britons, or the red hair which Tacitus himself assigns to the Caledonians of the north. References in Strabo, Solinus, and other writers, have also been quoted in confirmation of an Iberian origin for some portion of the ancient Britons ; but the most definite of them speak vaguely of what could only be an uncertain inference, or a tradition derived from elder times, as in the case of Dionysius Periegetes, who expressly affirms that the tin-producing Hesperides were inhabited by Iberians. It proves indeed how vague and insufficient are any literary evidences we possess, when the ethnologist is compelled to resort to the hexameters of Dionysius for indications of the ethnic origin of the oldest historical population of Britain. His *Description of the Habitable World* was reproduced in two Latin translations, by Priscianus and Rufus Festus Avienus, with more or less definiteness. According to the version of the latter, in the *Ora Maritima*, when Britain was visited by the early

Carthaginian voyagers, the *Albiones* occupied the larger island, while the smaller one was possessed by the *gens Hibernorum*. In so far, however, as bardic traditions or the earliest written chronicles of Ireland are worthy of credit relative to its ethnic elements, there was there also an aggressive Milesian population of Iberian descent. But in Britain it seems obvious that the *Belgæ*, and probably others of the south-eastern tribes, were of comparatively recent continental origin, with a close affinity to their congeners on the opposite coasts. The *Albiones* may possibly represent the older native population; while in the interval between the Punic wars and the Roman invasion the intrusion of newer races may have taken place: indiscriminately termed by Cæsar, *Britanni*. In confirmation of this, and of the consequent retreat of the *Albiones* towards the remoter districts, we find the name of Albion afterwards limited to the northern part of Britain; and the earliest Welsh and Scottish traditions concur in assigning the name Albanich to Scotland. A Celtic race, however, continued to occupy the mineral districts of Cornwall, and preserved almost to our own day a distinct dialect of the Cymric tongue.

The familiarity of the ancient Britons with tin, though this metal does not occur in a native state, may be readily accounted for from the ore being frequently found near the surface, and requiring only the use of charcoal and a very moderate degree of heat to reduce it to the state of metal. We have no specific mention of any other source from whence the ancients derived the tin with which they alloyed the copper found so abundantly in several parts of Asia: excepting the single vague reference made by Strabo to a certain place in the country of the Drangi, in Asia, by the name of Cassiteron. That tin was known, however, from very early times, is proved, not only by the discovery of numerous

Egyptian and Assyrian bronze relics, but also by its being noted by Moses among the spoils of the Midianites which were to be purified by fire;¹ and by Ezekiel among the metals of which Tarshish was the merchant of Tyre.² Nor must the significant correspondence between the Greek *κασσίτερος* and the Sanskrit *kastīra* be overlooked, which leaves little room to doubt that the *plumbum album* derived its earliest name from southern Asia. The Phœnicians long concealed the situation of the Cassiterides from all other nations. The allusions of Herodotus clearly imply the narration of uncertain statements derived from indirect sources; and even Pliny treats as a fable the report of certain islands existing in the Atlantic from whence white-lead or tin was brought. It need not therefore surprise us to learn so little of these islands from ancient writers, even though we adopt the opinion that they continued for many centuries to be the chief source of one of the most useful metals. Antimony is found in the Kurdish mountains, and pure copper ore abounds there, as well as in those of the desert of Mount Sinai, but no tin is known throughout any part of Assyria. It is indeed a metal of rare occurrence, though found in apparently inexhaustible quantities in a very few localities. The only districts, according to Berzelius, where it is now obtained in Asia, are the island of Banca, discovered in 1710, and the peninsula of Malacca, where Wilkinson conceives it possible that tin may have been wrought by the Egyptians. The mines of Malacca are very productive, and may have been one source from whence Tyre derived "the multitude of riches;" but we have no evidence in support of such conjectures. Cornwall still yields a larger quantity of the ore than any other locality of the Old or New World where it has yet been discovered; and many thousands

¹ Numbers xxxi. 22.

² Ezekiel xxvii. 12.

of tons have been exported by modern traders to India and China, and to America. Taking all those circumstances into consideration, it seems in no degree improbable, that long before Solomon sent to Tyre for "a worker filled with wisdom, and understanding, and cunning, to work all works in brass;" or employed the fleets of Hiram, king of Tyre, to bring him precious metals and costly stores for the Temple at Jerusalem: the Phœnician ships had passed beyond the Pillars of Hercules, and were familiar with the inexhaustible stores of these remote islands of the sea, which first dawn on history as the source of this most ancient alloy. Diodorus and Strabo describe the natives of the Cassiterides at a long subsequent period as a hospitable race, of peaceful and industrious habits; and refer especially to their mines of tin and lead, the former of which they melted into the shape of astragali, and exchanged with foreign traders, along with furs and skins, for earthenware, salt, and copper vessels and implements.

It is scarcely possible to conceive of such an intercourse carried on for centuries with nations far advanced in the arts, and familiar with the civilisation and learning of the oldest races of Asia and Africa, without the natives acquiring thereby some knowledge of the fruits of civilisation. From them, indeed, it has been supposed that the British miner first learned to smelt the ores, and even acquired the earliest rudiments of metallurgic knowledge. But such an idea implies the landing of chance voyagers from Sidon or Tartessus on a remote unknown shore, their discovery of its mineral wealth in the crude state of oxide or sulphuret of tin and copper, and their schooling the natives into the industrial arts of mining and metallurgy. It seems greatly more consistent with probability, that the mineral wealth first became known to the natives; and that partial traffic with the neighbouring continent revealed its attractions to the traders

of the Mediterranean. The copper of Lake Superior found its way to the coast of New England and the Gulf of Mexico, before its miners had learned to smelt the abundant ores ; and the metallurgists of Mexico and Peru each discovered for themselves the process of alloying their native copper with the tin which they dug from the same soil. It is altogether gratuitous, therefore, to assume some undetermined foreign origin for the discovery of the most useful alloys, when the tin and copper lay in such close proximity to each other, within the same narrow peninsula. Diodorus refers to the smelting of tin by the natives of the Balerian promontory in times long prior to the Roman presence there ; and although we cannot quote his narrative as any evidence of the actual character of Britain's earliest metallurgic arts,—practised, as we believe, in times not less remote from his day than that is from our own ;—yet the account he gives may very well apply to the earlier working of the tin. “The natives,” he says, “procure the tin by skilfully sifting the soil from which it is obtained. This is rocky, but has earthy veins, and from these they get the ore, which they purify by melting, and cast it into cubical blocks.” In this form the metal was purchased by traders, and exported to Gaul, from whence it reached the mouth of the Rhone, or passed beyond the Pyrenees and the Alps, probably long before Rome had extended her authority beyond the banks of the Tiber. To such simple operations the ancient miners of Cornwall and Devon may have long confined themselves, while in distant Asia, Phœnician or Egyptian miners wrought the copper that was to be wedded to the cassiteron of the Hesperides, and by their union to give birth to a more matured civilisation. It does not, however, necessarily follow that, because the Britons used imported bronze, either in early or later times, they were ignorant of the

value of the native copper ores, or had not discovered for themselves the process of alloying the metals.

One example of a pig of tin, preserved in the Truro Museum, is remarkable for its peculiar shape, which, unlike the cubical blocks described by Diodorus, may be likened to a double canoe. It also bears a stamp which seems to repeat the same form ; but, unlike the Roman pigs of lead, it bears no inscription whereby to determine its origin and true period. Differing as it does alike from the blocks of the Roman period, and those of any later known date, it has been assumed to be of Phœnician origin, and is not improbably a specimen of that metal in the earliest form in which it was bartered to the Tyrian and Carthaginian traders. Examples of wrought tin of primitive native workmanship are of the rarest occurrence ; but their absence only serves to prove how little can be safely founded on such negative evidence, when it is considered that this abundant metal is readily convertible into personal ornaments little inferior in beauty to those so abundant in copper and bronze. Borlase engraves a patera of tin found at Boscens, in Cornwall, in 1756, rudely inscribed in mixed characters,—ΛΙΥΙΥΣ · ΜΟΔΕΣΤΥΣ · ΔΗΙΥΛΙ · F · ΔΕΟ · ΜΑΡΤΙ.¹ Along with this were two other vessels of the same metal, described as a patera and vase or *præfericulum*. In searching for ore in a stream work, called Hallivich, in the same county, in 1793, a tin cup of singular form was found, along with a circular bronze ornament evidently of native workmanship.² We are not, therefore, without some evidence that this metal was turned to practical account both for use and ornament. Probably indeed we should infer from the great rarity of relics of the unalloyed metals, that they were chiefly used before the

¹ Borlase's *Cornwall*, vol. i. p. 317, Plate XXVIII.

² *Archæologia*, vol. xvi. p. 137, Plates IX. X.

native metallurgist had learned to convert them into the more useful alloy by which they were superseded ; while copper and bronze were both imported in exchange for the pure tin. Barter, however, could not be continued for centuries, exchanging a metal so readily fusible as tin, for wrought materials of copper, whether pure or alloyed, in a locality where the copper ores abound, without the native miner and trader learning to turn their own mineral wealth to account.

Nor must it be overlooked that the copper ore is by no means confined to the Balerian promontory. The most ancient traces of copper-mining hitherto discovered have been found, not in Cornwall or Devon, but at Ormes Head, on the north coast of Caernarvon. So recently as 1849, an ancient working of great extent was broken into at the Llandudno copper-mines. In this were found stone mauls or hammers of various sizes, weighing from two to forty pounds, which had been used for breaking the rocky matrix and crushing the ore. In their rude simplicity these ancient hammers have a striking resemblance to those discovered in the copper-mines of Lake Superior, pertaining to unknown centuries long prior to the era of Columbus. But in addition to such, there were also found, in the same ancient working, two imperfect bronze tools, clearly pointing to the early date and native origin of the mine ; and affording altogether one of the most interesting discoveries yet made illustrative of the industrial characteristics of the British bronze period.¹ Traces of ancient mining operations abound in Cornwall and Devon, and have also been found in Scotland. Pennant describes trenches in the island of Jura by which veins both of lead and copper have been wrought in early times, and by instruments unknown to the modern miner.² Thus far, therefore, no insurmount-

¹ *Archæol. Jour.* vol. vii. p. 68.

² Pennant, vol. ii. p. 250.

able difficulty interferes with the theory of a native origin for British metallurgy. But to the traffic which it created, the natives doubtless owed many elements of early civilisation ; and among these the facilities of a metallic currency were little likely to remain unappreciated by the British trader. Some traces of Hellenic influence, as shown in the discovery of early coins, point to an intercourse with Greek traders, whether through the Phocæan colony of Massilia, or by direct maritime traffic, long before the era of Roman conquest. Similar indications also suggest the possible presence of traders from Alexandria, in the era of the Ptolemies. In the year 1833 a bifrontal bust of the Egyptian Isis was dug up in South Street, Exeter.¹ According to Mr. W. T. P. Shortt's reading of the hieroglyphics upon it, it is inscribed with the prefix *Isis, Lady, Mistress of the World*. Beneath this has been a cartouche, the greater portion of which is unfortunately cut away. Mr. Shortt conceives it to have been the cartouche of Cleopatra Tryphæna, of the race of the thirteenth Ptolemy, B.C. 51 ; but as there is only the fragment of one of the phonetics, this reading is necessarily conjectural ; and the date is, at any rate, too near that of the first Roman invasion to influence opinions in reference to the intercourse carried on in earlier centuries between the Cassiterides and the Mediterranean. Egyptian relics of the era of the later Ptolemies are not unknown as the accompaniments of Roman sepulture both in Britain and on the Continent ; though such cannot all be assigned to such recent influence. In 1835 some Carthaginian medals were found at Abbeville, in Picardie ; and at Noyelles sur Mer, another figure of Isis was discovered in bronze, along with a statuette of the Hawk-headed deity, or elder Horus.²

¹ *Collectanea Curiosa Antiqua Danmonia*, by W. T. P. Shortt, Esq., p. 71.

² *Mémoires de la Société d'Emulation d'Abbeville*, 1844-48, p. 135.

But more conclusive evidence exists in proof of early intercourse with the Mediterranean, if not, indeed, of the opinion advocated by a zealous local antiquary, that Exeter had been the seat of a Phœnician colony many centuries prior to the arrival of the Romans.¹ It was long maintained by English numismatists, that the Britons had no native coinage prior to the Roman invasion and the mintage of Cunobelin ; but his reign may rather be regarded as the period when Roman influence began to supersede an older style of art. The coins of Cunobelin have indeed been presumed to be the work of a Roman artist ; but both in them, and in those ascribed to Tasciovannus, the supposed father of Cunobelin, we see commingling the older and newer foreign sources of civilisation ; and the evidence adduced to disprove the existence of an earlier native coinage has been, at best, purely negative. The dished form, as well as some of the most favourite devices which characterize the British types, prove that the Roman style and letters only superseded older Greek and native models. The Rev. Beale Post has traced the Gaulish coinage to some of its primitive Greek types, derived as he conceives from the Phocæans who colonized Marseilles, about B.C. 600.² Upwards of two centuries and a half thereafter the Gauls adopted as their model the gold coinage struck by Philip II. of Macedon, and from that Greek type, with its reverse of Diana driving her biga, we may trace the original of all the singular and rude representations of the horse on the primitive Gaulish and British gold coinage, which have been supposed to involve so many

¹ W. T. P. Shortt, Esq. of Heavitree, near Exeter. *Antiqua Danmonia*, Pref. p. iv. Vide also *Sylva Antiqua Iscana*, pp. 79, 88, 89, 90, 91, 93-105. *Gentleman's Magazine*, August and September 1837, etc., for notices of the discovery of numerous early Greek and Egyptian and some Phœnician coins.

² *Numismatic Chronicle*, vol. i. p. 3. Vide also Coins of Cunobelin, etc., *Jour. Archæol. Assoc.* vols. i. ii. iii. iv. and v.

mythological fancies. There is something greatly more characteristic of the imperfect ideas of a native currency likely to be formed by a partially civilized people, in this arbitrary imitation of a foreign type, than in any abstruse embodiment of the national creed. No precise date can be assigned for the first native coinage, but the numerous examples of Gaulish types discovered in Britain leave no room to doubt that the Britons were familiar with such a circulating medium prior to the Roman invasion. Nor is this the most primitive form of native currency. Several hoards have been discovered at different times in Scotland, of small gold pellets, marked with a cross or star in relief, and which, there can be little doubt, is the earliest Scottish minted money.¹ Examples of this primitive coinage are described in a subsequent chapter, among the contents of the later tumuli.

But entirely apart either from this or the coinage derived from the Gauls, remarkable discoveries of ancient foreign coins, such as those referred to above, suffice to suggest the probability that the primitive

¹ Boece assigns the earliest native Scottish coinage to an apocryphal king Donald, *circa* A.D. 200. This account, however, includes some interesting notices of hoards discovered in his own day: "King Donald was the first king of Scottis that prentit ane penny of gold or silver. On the ta side of this money was prentit ane croce, and his face on the tothir. The Scottis usit na money, bot merchandice, quhen thay interchangeit with Britonis and Romanis, afore thir dayis, except it war money of the said Romanis or Britonis, as may be previt be sindry auld hurdis and treasouris, found in divers partis of Scotland, with uncouth cunye. For in the yeir of God M.DXIX. yeris, in Fiffe, nocht far fra Levin, war certane penneis found, in ane brasin veschell, with uncouth cunye; sum of thaim war prentit with doubill visage of Janus; otheris with the stam of ane schip; otheris had the figure of Mars, Venus, Mercurius, and siclike idolis; on otheris war prentit Romulus and Remus soukand ane wolf; and on the tothir side war prentit S.P.Q.R. Siclike, in Murray-land, beside the see, in the ground of ane auld castill, the yeir of God M.CCCCLX. yeris, was found ane veschell of merbill, full of uncouth money; on quihilkis was prentit the image of ane ganar fechtant with edderis,"—*i.e.*, a goose fighting with adders.—Bellenden's *Boece*, book iv. chap. xvi.

Briton had other sources from whence to acquire the knowledge of a coined circulating medium. In the same locality where the bust of the Egyptian Isis was dug up at Exeter, numerous Greek coins have been found of late years, belonging to the autonomous Greek cities in Syria and Asia Minor; and to Alexandria in Egypt, including coins of the earlier Ptolemies.¹ In making a large drain in the Fore Street of Exeter, in 1810, at a depth of twenty feet below the present pavement, an immense quantity of ancient money was found, including many early coins of the autonomous Greek cities, and along with them two British coins, one bearing the wheel and the other the horse.² Coins of Agrigentum, in Sicily, of Hiero I. of Syracuse, B.C. 460, of Ptolemy I. B.C. 323, and many others, have been found at various times in Exeter and its neighbourhood.

But though such tokens of intercourse with the Phœnician and Greek maritime colonies long prior to the era of the Roman occupation of Britain abound, as might be anticipated, only in the localities where mineral wealth tempted the sojourn of the ancient trader: yet traces of the same communication with the elder empires of the world occur within our more northern limits. Occasionally Greek coins have been discovered in Scotland; as, for example, a gold didrachm of Philip of Macedon, three Greek silver coins, including one of his son, and a brass of the Brutii in Magna Græcia, found on the estate of Cairnbulg, in Aberdeenshire, in 1824; and a very fine gold coin of Alexander the Great, at Ecclefechan, Dumfriesshire.³ In the year 1845 a still more remarkable hoard was discovered on the farm of Braco, in the

¹ *Sylva Antiqua Iscana*, p. 79, Plate vi.

² *Ibid.* p. 90, where a minute account of the coins is given. Also pp. 76, 88, 91, 93, etc.

³ *New Statist. Acc.* vol. iv. p. 292.

parish of Shotts, Lanarkshire, only a very small portion of which was rescued from the usual fate of such recovered treasures. It included of Greek mintage : one of Athens : obverse, archaic head of Pallas ; reverse, A Θ, owl in deep indented square, an olive branch behind. One of Phocis : obverse, laureated head of Apollo ; reverse, full-faced head of bull. One of Bœotia : obverse, Bœotian shield ; reverse, vase. Also one Parthian coin.¹

The interest which attaches to the determination of the extent and probable date of the first intercourse of the Britons with traders from the far east, has led to the anticipation of some points not strictly belonging to the present section of our inquiry. This question of the existence of a native coinage, or of the substitution of a foreign metallic currency for the rude process of barter, at a period prior to the introduction of Roman customs by the legionaries of the first and second centuries, well merits the careful study it is now receiving ; since no other evidence could furnish equally satisfactory proof of early progress in social civilisation. It scarcely admits of doubt, however, that long before the Greek or Phœnician trader had taught the Cornish miner this ingenious substitute for a direct exchange of commodities, he had learned to fuse and work the rich veins of ore with which his native soil abounded, and to fashion them into a variety of personal ornaments as well as of weapons and implements. The Phœnician sought his tin in order to mix it with the copper which he already possessed, and thereby to produce bronze weapons combining the ductility of copper with that indispensable hardness which could alone fit them to supersede the older implements of stone. How early this interchange first took place, it appears now altogether vain to inquire. The

¹ Arsaces xv. ; *Eckhel*, vol. i. p. 254.

evidence already adduced, however, is at least sufficient to justify us in assigning to it a very remote period, while the more abundant and far more useful metal, iron, was little known even to the oldest nations along the Mediterranean coasts. Worsaae remarks, "There are geological reasons for believing that the Bronze Period must have prevailed in Denmark five or six hundred years before the birth of Christ."¹ Denmark, however, had all its metal to import, while the earliest historic allusions to England represent her exporting her abundant metallic ores, and bartering them with the southern merchant for the productions of his superior skill. The metallic riches of England have not escaped the attention of the intelligent Danish archæologist. "It is highly probable," he remarks, "that the ancient bronze, formed of copper and tin, was diffused from one spot over the whole of Europe; which spot may be supposed to be England, because, not to mention the quantity of copper which that country produces: its rich tin mines have been known from the earliest historic periods to the nations of the south, while in the other parts of Europe there occur only very few and doubtful remains of far less important tin mines which we are justified in believing to have been worked at that time."²

When we consider that copper is not only found in a state requiring little smelting to render it fit for manufacture, but that it is even discovered abundantly in some localities in such a condition of pure ductile metal that we may conceive of its substitution for stone implements, long before the art of smelting had become known, we can feel no hesitation in assuming, *a priori*, that it was the precursor of iron as a material for the construction of weapons and tools. Iron, on the contrary, bears, in its

¹ *Primeral Antiquities*, p. 135.

² *Ibid.* p. 45.

natural state, little resemblance to a metal, and is smelted by so difficult and tedious a process, that, even after its superiority had become known, the older metal would probably be preferred by the natives of a thinly peopled country, where the benefits of mutual co-operation and the division of labour still remained among the unsolved problems of their political economy. The tools and weapons of the ancient Mound-Builders and of all the northern tribes of the American continent, as well as many of those of the civilized Mexicans and Peruvians, were of copper; and we are not without evidence that even the Egyptians were far advanced in their early developed civilisation before iron superseded the older copper and bronze tools. The architectural monuments of Central America show how much might be accomplished with such imperfect implements. Both in the magnificent work of the French savants, and in the more accurate delineations of M. Rosellini, Egyptian paintings are shown, in which the implements of the sculptors are evidently of bronze or copper, and workmen are seen cutting blocks of granite and hewing out colossal statues with yellow tools. Numerous bronze weapons, implements, and personal ornaments found in the catacombs, attest the use of this alloy by the Egyptians at a comparatively late period. Implements of copper are also among the relics found in some of the ancient and long abandoned mines discovered in Asia. The celebrated tables in the copper mines of Wady Maghara, near Sinai, record the conquest of that part of Asia by Suphis, the builder of the great pyramid, and prove that these mines had been wrought prior to the early date of his reign. Dr. Layard also refers to copper mines still existing in the mountains within the confines of Assyria, worked at a very remote period, probably by the Assyrians, and used not only to supply the material for ornaments, but

also for weapons and tools.¹ But there is not wanting abundant direct evidence to prove that Asia had her Bronze Period as well as Europe and Africa. Dr. Prichard remarks, "Silver and golden ornaments, of rude workmanship, though in abundant quantity, are found in the Siberian tombs. The art of fabricating ornaments of the precious metals seems to have preceded by many ages the use of iron in the northern regions of Asia."² A very interesting account is given in the *Archæologia* of a tumulus opened in the neighbourhood of Asterabad, on the south-eastern shores of the Caspian Sea, in 1841. It contained several vessels and two small trumpets, all of pure gold; spears, pikes, forks, and other weapons, including a well-shaped hammer and hatchet of copper, but no traces of iron.³ The descriptions of Homer point out the era of the Iliad and the Odyssey, not indeed as a bronze period, but as one of a transitional character, in which that metal greatly predominated; while the older Hesiodic ages recognised the traditions of an era when the Greeks were limited to the use of bronze, and had not yet learned to smelt or work the iron ore. The golden age of Saturn, and the succeeding silver, brazen, and iron ages, by which the Greek Sagas typify the gradual decline of mankind from a state of primeval purity and happiness, are not to be regarded as mere poetical images. "In the brazen age," says Schlegel, in his *Philosophy of History*, "crime and disorder reached their height; violence was the characteristic of the rude and gigantic Titans. Their arms were of copper, and their implements and utensils of brass or bronze. Even in their edifices copper was employed; for as the Greek poet says, 'black iron was

¹ Layard's *Nineveh*, vol. ii. p. 418.

² *Natural History of Man*, p. 191.

³ *Archæologia*, vol. xxx. p. 248.

not then known ;' a circumstance which must be considered as strictly historical, and as characteristic of the primitive nations."¹

We have seen, in so far as the imperfect data already referred to, afford trustworthy characteristics of the primitive colonists of Britain, that the race of the first metallurgic era differed greatly from their elder if not aboriginal precursors. We must depend not only on the united observations of British archæologists for adding to those ethnological data, but also on Continental research for supplying the necessary elements of comparison by which we may trace out the affinities of the brachycephalic race of Scotland, to whom the introduction of the primitive metallurgic arts may with some probability be ascribed. But we must limit our deductions by the amount of evidence. It would be easy for the theorist to satisfy the demands for such a definite succession of races as the simpler ethnology and archæology of Scandinavia have enabled northern antiquaries and naturalists to construct. But the isolation of Britain appears to have been far less complete than that of the Scandinavian peninsula, and hence the ethnology of its earliest, as well as of later eras, is greatly more complex. Even the Gael and the Cymry stand out no less distinctly from one another than the Hellenic and Latin stocks of northern and southern Italy ; and may have entered on the possession of their insular home at periods so remote from each other, that satisfactory evidence may yet justify the association of the development of successive stages in the metallurgic arts, prior to the working of iron, with the intrusion of one or other of the British Celtæ upon older Allophylian races.

Nevertheless, traces suggestive of the native discovery

¹ Schlegel's *Philosophy of History*, Lecture II.

of metals are manifold ; for Britain presented facilities for such, closely corresponding to those which led to the independent discovery of the art of working and alloying the ores of copper and tin among the semi-civilized nations of the New World. The adoption of the term "Bronze" to designate the first metallurgic period of European arts, has led to an undue neglect of indications of such a transitional age of copper as is naturally to be looked for, at least in Britain. But when attention is directed to the subject, it appears that implements and ornaments of pure copper have been repeatedly found, and are for the most part characterized by a rudeness of workmanship fully confirming their early date. The collection of Torcs in the Scottish Museum includes a massive ring of pure copper weighing $25\frac{1}{4}$ oz. roughly hammered into shape, and devoid of ornament ; and also fragments of rings of the same unalloyed metal found in an urn under a tumulus at Ratho, near Edinburgh. Mr. Wilde has pointed out, in cataloguing the collection of the Royal Irish Academy, that thirty of the rudest and apparently the oldest celts, besides two battle-axes, a sword blade, and sundry other relics, are all of unalloyed copper.¹ Out of seven specimens selected from the Scottish Museum in 1850, for the purpose of analysis, one axe rudely cast in sand was of nearly pure copper ; and of eight weapons of the same class, the analyses of which are reported by Mr. J. A. Philips in the *Memoirs of the Chemical Society*, one proved to be of impure but unalloyed copper.² A large copper axe of unusual form, found in 1822, at a depth of twenty-two feet in Ratho Bog, near Edinburgh, illustrates this subject still more strikingly. It lay embedded at a depth of four feet in the blue clay, over which were deposited

¹ *Catalogue R. I. A.*, vol. i. pp. 359, 362, 441.

² *Mem. Chem. Soc.* vol. iv. p. 277.

seven feet of sand, and an accumulation of nine feet of moss. "It must have been deposited," Sir David Brewster remarks, "along with the blue clay, prior to the formation of the superincumbent stratum of sand; and must have existed before the diluvial operations by which that stratum was formed."¹ The thickness of the moss is another gauge of a subsequent long lapse of time, so that—if not artificially deposited at the depth from whence it was recovered,—the geological features seem to point to an era for this primitive copper axe, exceeding in its remoteness even that ancient one to which the horn implements of the Blair-Drummond Moss must be assigned.

With such indications of native metallurgy in a purely rudimentary stage, and pertaining to a period seemingly coeval with the earliest traces of man's development, it is altogether gratuitous to seek for its origin in some imaginary foreign source. No country in the world presented greater facilities for the birth of the metallurgic arts. Tin, though found in a condition requiring the application of some artificial process to render it available for practical use, could be reduced to an easily fusible and ductile metal by very simple means. It is also found along with copper and sulphur in tin pyrites, so that the discovery of the bronze alloy seems inevitable; and its independent origination in Southern Asia, in Britain, and in Mexico and Peru, may the more readily be accounted for. But whencesoever the first knowledge of the metals was derived, it introduced into the British Isles the elements of a change scarcely less momentous than those which later ages trace to letters, the magnet, the printing-press, or those most novel applications of the metals: the railway, the iron steam-ship, and the electric telegraph. The native was no longer confined

¹ *Edin. Phil. Jour.* vol. vi. p. 357; *vide Prehistoric Man*, vol. i. p. 282.

to his little clearing on the coast, nor compelled with ingenious toil to fashion the shapeless flint and stone into weapons and implements for the supply of his simple wants. The forests rang with the axe and the wedge ; the low grounds were gradually cleared of their primeval forests ; and the fruits of patient industry were substituted, in part at least, for the spoils of the chase. Still the change was wrought, as might be anticipated, only by very slow degrees. Weapons and implements of copper or bronze would in many localities long precede the knowledge of the arts by which they were formed. The old generation would die out, and be buried with the stone war-hatchet and spear, while the younger race were learning to despise such imperfect arms. Necessity also, arising from their costliness and scarcity, would long confine the majority to the primitive and inefficient tools and weapons of their fathers. Even after the flint lance had been entirely superseded by the bronze sword and spear, the missile weapons would still be made of the old material ; and the large stone hammer would be retained in use as too bulky an object to be constructed of the more costly metal. It is probable, indeed, that stone implements were never entirely abandoned throughout the whole Bronze Period. No large bronze hammers have ever been found in Britain, while those of stone frequently occur along with metallic remains. The larger hammers and axes, chiefly of granite, are indeed among the most abundant of Scottish primitive relics ; and have already been noted along with other traces of the miners of the British Bronze Period, in the ancient working discovered in the Llandudno Copper Mines of North Wales.

Abundant evidence is found in accordance with those indications, proving the existence of a long transition-period, during which metallic tools and arms were only

very partially introduced, and were manifestly esteemed as rare and precious possessions. To this transition-period should probably be assigned the formation of most of the smaller, carefully wrought varieties of the stone hammer, with which we may presume the ingenious worker in the newly-mastered metals to have wrought, and fashioned into shape, many of the rude but massive gold ornaments found in the tumuli. From the number of these relics of the precious metals which have been discovered, we are led to the conclusion, which fully accords with all geological experience, that gold must have been more abundant at that remote era than it has been within the period of authentic history. Though usually found in very small quantities, it is one of the most widely diffused of all the metals; and the clay slate which frequently forms the depository of gold, silver, and copper, exists in great abundance throughout the Highlands. In the Leadhills of Scotland considerable quantities of gold have been procured at no very distant period, while numerous allusions suffice to show its greater abundance in former times. The earliest of such allusions are modern compared with the period to which we now refer; but they indicate more abundant native sources of metallic wealth, by the notices they furnish of unexhausted supplies remaining within the era of definite history. In the twelfth century the Abbey of Dunfermline received a grant from David I. of the tithe of all the gold produced by the surrounding districts of Fife and Forthrev;¹ and even in the sixteenth century the Laird of Merchiston is said to have wrought gold in the Pentland Hills.² In the remote era, however, when the rude Caledonian was learning, for the first time, to fashion his weapons and

¹ *Regist. de Dunferm.* p. 16.

² *Miscel. Scot.* Napier of Merchiston, p. 228.

tools of copper or bronze, and to substitute the golden torc and armilla for the necklace of perforated shells or stone and amber beads: we are justified in assuming from analogy that in many of the channels of the Scottish mountain streams,—amid the strata of which the ore has been found,—not only the gold dust, but pure masses of native gold would be occasionally discovered, and wrought with no better tools than the stone hammer and anvil, into the personal ornaments of distinguished leaders or priests. Strabo, in referring to the great mineral wealth of Spain, which made it to the ancients what America became to the Spaniards long after their native mineral treasures were exhausted, remarks: “In no country are gold, silver, copper, and iron so abundant or of such fine quality; even the rivers and mountain streams bring down gold in their beds, which is found in their sands.” Yet such a description is now as little applicable to Spain as to Scotland. Nevertheless, gold is still met with in sufficient quantities in various districts to suggest the probability of its former abundance. At Carnon, near Truro, nuggets have been gathered as large as hazel-nuts; while minuter traces of the same metal are common in the tin stream-works of Cornwall; and in Merionethshire some considerable quantity of gold has been extracted from a quartz vein in recent years.

Such examples supply some satisfactory clue to one source of the gold which we find to have been so abundant in early times; though we shall still, perhaps, consistently account for its introduction in part by foreign barter, and chiefly in the shape of the ring-money hereafter referred to. But when the fact is borne in remembrance that articles of silver are rarely, if ever, found in connexion with relics of the Bronze Period, it must be acknowledged as most consistent with the

geological and mineralogical characteristics of auriferous and argentiferous deposits, to look to native sources for the supply of gold. While silver is found in large quantities only by mining, gold has invariably been discovered in largest quantities in the superficial detritus, and accumulated in circumscribed areas. Whenever, therefore, we are enabled to trace the supply of gold to a foreign, as, for example, to a Phœnician source, we can hardly fail to find accompanying relics of silver; and accordingly, in the succeeding, or Iron Period, the silver becomes abundant. One other argument should not be altogether overlooked. The purity of most of the gold ornaments found in the tumuli is such as may perhaps add to the probability of its native origin. This well-known fact has supplied an additional inducement to transfer to the crucible many of the rarest relics of this period. Others found alloyed with silver and other metals are in no fixed or uniform proportions, but rather accord with the common condition of the ores and the accidental mixtures likely to occur in the operations of the primitive metallurgist. But this, though diminishing their bullion value, has not sufficed to save such national heirlooms from destruction. After reposing in the safe muniment chambers of their original owners, with but a foot of earth above them, while ancient races have become extinct, and new colonists have risen to mighty nations above their forgotten graves, these treasures have too frequently only been restored to light to be immediately destroyed.

Remote as is the period when the novel arts of the metallurgist broke in upon the simple and unsophisticated habits of the British aborigines, some traces of the memory of this mighty change still linger amid the popular traditions of England. The use which Sir Walter Scott has made of the Berkshire legend of Way-

land Smith has sufficed to confer a fictitious interest on, perhaps without exception, the most remarkable of all the mythic traditions common to the nations of northern Europe; and which may be unhesitatingly received as the traditionary memorial of the advent of the Bronze Period among the Teutonic races. True, indeed, in the only definite form in which it is now recoverable from the early and mediæval literature of Europe, it is associated with the later age of iron rather than with that of bronze; but little importance can be attached to this. The legend is manifestly of an older date even than the Edda, that venerable collection of the sacred writings of the north. We see in it the hero-worship of the fierce Norsemen deifying their Scandinavian Vulcan, and assigning to him a superhuman origin as an evidence of their estimate of the divine gift he is supposed to have bestowed. But the mythic legend finds its prototype in the Greek Dædalus, if not in the Mosaic Tubal-Cain. The same legend is incorporated into nearly all the older European tongues with singular uniformity of idea. In the Icelandic the name of the renowned northern metallurgist is Vælund and Vaulundr; in old high German, Wiolant, Wielant; in Anglo-Saxon, Weland; in old English, Weland and Velond; and in the modern popular dialect, Wayland. In the Latin of the middle ages it becomes Guilandus; and in old French, Galans and Galant. It is probable that Spain, Italy, and the East above all, had analogous traditions, some of which at least may yet be recovered.¹ According to a singular, and seemingly arbitrary caprice of the mediæval Germanic traditions, the forge of Weland is supposed to be erected in the Caucasus; and Michel remarks, as a proof that there has been a common origin of those legends of

¹ *Wayland Smith*, by W. S. Singer, from the French of Depping and Michel, Preface.

the east and west relating to skilful workers in iron : that some of the traditions still preserved on the banks of the Euphrates present the same traits recorded by the poets of the middle ages on the banks of the Rhine.¹ But Humboldt has justly remarked that “the characteristic features of nations, like the internal construction of plants spread over the surface of the globe, were the impressions of a primitive type.” The Aztecs—whose monuments may be referred to as remarkable examples of considerable civilisation, and the practice of many useful and ornamental arts, among a people destitute of iron, had their mythic metallurgist as well as the older races of Europe and Asia. Quetzalcoatl, whose reign was the golden age of the people of Anahuac, was the Weland of the Aztecs, worshipped among them with strange and bloody rites. Their traditions told that he had dwelt among them twenty years, during which he introduced agriculture, taught them to cast metals, ordered fasts, and regulated the intercalations of the Toltec year.² Prominent as the place is which the mythic legend of the smith-god occupied in the popular creed of the middle ages throughout the greater part of Europe : the tradition of a gifted worker in metals is doubtless of eastern origin ; and far more fitly impersonates and deifies the restoration of the metallurgic arts in the primitive Bronze Period, than the mere transition from bronze to iron, important as the latter change undoubtedly was.

The remarkable analogy of the mythic legends of the North with the ancient Greek fable of Dædalus, has not escaped the notice of modern critics, and MM. Depping and Michel remark :—“ We do not hesitate to believe that it is the history of this Greek artist, altered and

¹ Singer's *Wayland Smith*, p. lxxvi.

² Humboldt's *Researches*, vol. i. p. 94.

disfigured, adapted to the manners and creeds of the people of the north of Europe, which has given rise to the romance of Weland." The resemblance, however, is scarcely less manifest, in many respects, to the lame smith-god 'Ηφαιστος, or Vulcan; and the widely-diffused mythic fable is far too complete and unique to have been transferred directly from the Greek to the Teutonic mythology, where scarcely another trace of similar correspondence is discernible. Jupiter, Mars, Hercules, Venus, Orpheus, all find their counterparts indeed, but with scarce a shadow of resemblance to classic prototypes, in the wild Scandinavian and old German pantheon; which may reasonably excite our wonder, if we assume a Greek origin for the *Vælundar Quida* contained in the Edda. In the simplest form in which it is still recoverable, it is obviously overlaid with spurious additions of a later age; and when it gets into the monkish chronicles and romances of chivalry, compiled in the twelfth and thirteenth centuries, the wild faith of the Norsemen is outdone by the wilder fictions of the Trouveres, till nearly all the symbolic spirit of the original disappears. Some of these even assign precise periods as the era of the northern smith. Several of the French romances mention Galand as the maker of Charlemagne's famous sword Durendal, while others describe armour forged by him and weapons inscribed with his name. But the most curious notice of this kind occurs in an English manuscript written about the time of Edward I. It contains a description of the sword of Gauvain, one of the most celebrated knights of Arthur's "Round Table," made by Galant, and having the following lines inscribed in *canello gladii*:—

"Jeo su forth trenchant e dure;
 Galaan me fyth par mult grant cure;
 Catorse anz [ont] Jhesu Cristh,
 Quant Galaan me trempa e fyth;"

i.e., "I am very sharp and hard; Galaan me made with very great care; fourteen years old was Jesus Christ when Galaan me tempered and made." Other romances furnish with swords of Galant's workmanship both Julius Cæsar and Alexander the Great, and by inheritance from the latter, Ptolemy, Judas Maccabæus, and the Emperor Vespasian.¹ Such spurious inventions, however, lack all the value of the original symbolic legend. We read indeed, in the romance of Fierabras d'Mixandre, of three famous swords made by Galans and his two brothers; of one of which it is related—

"Césars li emperères l'ot maint jor en demagne,
 Engleterre en conquist, Angou et Alemagne,
 Et France et Normendie, Saisone et Aquitaine,
 Et Puille et Hungerie, Provence et Moriaigne."²

If this idea stood alone, or was conceived in the simple spirit of the Scandinavian *Vœlund-Chant*, we might imagine it to be designed as a symbolic myth representing the advent of the Iron Period and its irresistible progress over the north; but in its general tone the romance is characterized by the usual extravagance of medieval poetry.

The Greeks assigned to the history of Dædalus a very high antiquity, carrying him back to somewhere about the thirteenth century before the Christian era; but no writer pretends to deal with him as an actual historical character. At first the name was, among the Greeks, like that of *Weland* among the Scandinavians, an abstract term. *Δαιδαλλω* meant to work artistically, as *Voelundr* signified a smith in old Norse; and Dædalus was, like *Weland*, præeminently the artist and the workman. The word became a proper name only by attributing to this mythological being all the perfections of the art.

¹ *Archæologia*, vol. xxxii. p. 321.

² *MS. de la Bib. Roy. Supplém. Française*, No. 540, fol. 33. Singer's *Wagland Smith*, p. lvii.

For the same reason, it appears equally erroneous to regard the Icelandic *voelund*, as derived from the artistic Weland: it is the contrary that should be assumed. The word *voelund* was in use before the history of the famous smith had been invented; just as the word *δαίδαλλω* existed before the personification Dædalus had been adopted into the mythology of the Greeks.¹ This is no new idea. It was obviously from a recognition of it that King Alfred, when translating the *De Consolatione Philosophiæ* of Boethius into Anglo-Saxon, used the name of the northern Weland as synonymous with *Fabricius*. Mr. Singer has employed the Greek fable of Dædalus to restore the connexion of the arts of the North with the elder civilisation of Europe; and Dr. Sickler has applied the same classic legend with great ingenuity in his argument of the Phœnician origin of the Greek metallurgic arts.² Whencesoever that knowledge may have been immediately derived, we adopt the most consistent idea in turning back to the eastern cradle-land both of the Hellenic and Scandinavian races, and assuming a common origin for the mythic fable which records with corresponding symbolic legends the restoration of the art of Tubal-Cain to the postdiluvian race.

It is a remarkable and interesting fact, that while modern learning and research have brought to light the most ancient literate forms of this northern myth, in the Edda and the Niebelungen Lied, it is in England only that it has survived to our own day as a living popular tradition; and it is due to the somewhat grotesque travesty of its rude Berkshire version inwrought into the tragic tale of Kenilworth, that it has been restored to the favour of modern Europe. Among the old Scandi-

¹ Singer's *Wayland Smith*, p. lxx.

² *Die Hieroglyphen in dem Mythos des Æsculapius*, Meiningen, 1819. Singer, p. 70.

navian nations, and in Iceland, where the language of their runic literature is still a living tongue, as well as in France, and throughout the whole Germanic races of the Continent, all memory of the restoration of this divine gift of the metals appears to have utterly passed away. In England only—towards which we see the galleys of the elder inheritors of civilisation winging their way in quest of its metallic treasures, with the first glimpse we catch of it as it emerges out of the night of time,—the mythic legend has retained vitality till now. How the story of our northern Dædalus came to be associated with the megalithic group at the foot of White-Horse Hill, in the vale of Berkshire, it is now equally vain and useless to inquire. There, according to rustic folk-lore, dwelt the invisible smith. No one ever saw him ; but he who had the courage to avail himself of his skill had only to deposit a piece of money on one of the stones, and leave his horse beside it. On his return the horse was found to be shod, and the money gone. Such was the last shadowy tradition of the venerable myth. On one of the rarer coins of Cunobelin an armourer or coiner is represented. Some numismatists have supposed it to be Vulcan forging a helmet. May it not more probably be assumed as the northern Weland, whose metallurgic skill was so widely celebrated among the Teutonic nations ? Before the great Alfred had won his way to the English throne the symbolic impersonation had assumed a perfect individuality ; and in the translation of the *De Consolatione Philosophiæ* into Anglo-Saxon, he thus paraphrases the passage :—*Ubi nunc fidelis ossa Fabricii manent ? Quid Brutus, aut rigidus Cato ?*

“ Where are now the bones
Of the wise Weland,
The goldsmith
Formerly most famous ?

Who knows now the bones
Of the wise Weland,
Under what mound (or barrow)
They are concealed?"¹

If little importance be due to the association of Weland's name with the working in iron, not very much more is to be ascribed to the no less frequent depiction of him as a cunning jeweller and goldsmith. Nevertheless, the circumstance is worthy of notice in passing, since the working in gold may have preceded the age of bronze, and in reality have belonged, as already hinted, to the Stone Period. If metal could be found capable of being wrought and fashioned without smelting or moulding, its use was perfectly compatible with the simple arts of the Stone Period. This is abundantly illustrated in the metallurgy of the New World, where native copper occurs in inexhaustible profusion in the region of the great northern lakes, and has been wrought from remote times by rude processes of hammering and grinding, without any development of the true metallurgic arts, independently discovered and practised in Mexico and Peru. Masses of native gold, such as have been often found both in the Old and New World, are peculiarly susceptible of similar application by the workers in stone; and some of the examples of Scottish gold personal ornaments fully correspond with the probable results of such an anticipatory use of the metals. One remarkable example occurs in a pair of armillæ of pure gold, found in an urn of the most artless construction in a cist in Banffshire. They are merely hammered into rounded bars and then bent to fit the arm, and retain the rough

¹ *Vide* Thomas Wright on the Legend of Weland the Smith, *Archæologia*, vol. xxxii. p. 315. Also his Article on Alfred, in the *Biographia Literaria* of the Royal Society of Literature regarding the authorship of this metrical version.

marks of the tool, which it is more easy to imagine one of stone than any more delicate or artificial implement.

No Celtic legend perpetuates the introduction of the metallurgic arts among the ancient colonists of the British Isles. Nevertheless the Scottish Highlanders have their native *Ἡφαιστος* also, personified, like the Teutonic Weland, in many romantic legends. The fame of Luno, the son of Leven, who made the swords of Fingal and his heroes, is preserved in old traditional poems, which figure him as a wild savage clad in a mantle of black hide, and with an apron of similar materials. The additional features of the picture furnish no inapt personification of the classic Vulcan. He is described as lame ; going on one leg, with a staff in his hand, yet remarkable for his swiftness.¹ Dr. Macculloch, in demonstrating the affinity between the Celtic and Teutonic superstitions and the Oriental and classic mythology, remarks :—" Fingal is not an absolute original himself. His sword is the sword of sharpness of the Edda, made by Velent or Weyland, the hyperborean Vulcan. It is the wonderful sword Skoffnung, and also Balmung, and it is the Mimmung in Ettin Langshanks. It is equally Tyrsing, the fairy blade of Suafurlami ; and it is also the sword which Jack begged of the giant. It is the sword Durandal, with which Orlando cuts rocks in two ; and it is Escalibor, the sword of Arthur."² Thus common as the metal from which it is forged, is some form or other of the mythic legend which commemorates the restoration of old Tubal-Cain's weapon of war. Still the venerable Teutonic myth does not appear to have been preserved by the Scottish medieval

¹ Logan's *Scottish Gael*, vol. ii. p. 195.

² Macculloch's *Highlands and Western Isles of Scotland*, vol. iv. p. 327.

chroniclers or romancers, unless in some extremely modified form, or it could hardly have escaped the notice of Dunbar, in his satire of "The Fenyete Freir of Tungland." The incident which gave rise to this whimsical effusion of our great Scottish poet against the Italian charlatan occurred in 1507 (a year famous for the introduction of the printing-press into Scotland), and is thus described by Bishop Lesley.¹ Referring to an embassy sent to France in that year, he remarks,—“This tyme thair wes ane Italiane with the king, quha wes maid Abbott of Tungland, and wes of curious ingyne. He causet the king believe that he, be multiplynge and utheris his inventions, wold make fine golde of uther mettall, quhilk science he callit the quintassence; quhair-upon the king maid greit cost, bot all in vaine. This Abbott tuik in hand to flie with wingis, and to be in Fraunce befor the saidis ambassadouris; and to that effect he causet mak ane pair of wingis of fedderis, quhilkis beand fessinit apoun him, he flew of the Castell wall of Striveling, bot shortlie he fell to the ground and brak his thee bane. Bot the wyt thairof he ascryvit to that thair was sum hen fedderis in the wingis, quhilk yarnit and covet the mydding and not the skyis.” The Scottish historian compares him to “ane king of Yngland callit Bladud.” The poet’s similes are still more pertinent; though since we learn from the Scottish Treasurers’ Accounts, that the Abbot of Tungland was paid, in 1513, “to pass to the myne of Crawford-moor,” which the king was then working for gold; and from the satire, that he sometimes practised the Blacksmith’s craft: Dunbar could scarcely have avoided the addition of the Weland legend to his other similes, had it been known to him, since the points of resemblance are such,

¹ Bishop Lesley’s *History*, Bannatyne Club, 4to, Edinb., 1830, p. 76.

that, with less historic evidence for the truth of the Abbot's history, we might assume it as the rude Scottish version of the *Vœlundar Quida* :—

“ Sum held he had bene Dedalus,
Sum the Mynataur mervaluss,
Sum Mertis blak smyth Vulcanus,
And sum Saturnus cuk.
And evir the cuchettis at him tuggit,
The rukis him rent, the ravynis him druggit,
The huddit crawis his hair forth ruggit,
The hevin he nicht nocht bruke.”

CHAPTER II.

THE METALLURGIC TRANSITION.

IN the earliest glimpse we are able to catch of the British Isles with the dawning light of historic records, we learn of them as already celebrated for their mineral wealth. So long, however, as Britain retained its extensive tracts of natural forests, and was only occupied by scattered nomade tribes, the tin mines of Cornwall, and the foreign trade which they invited to the southern shores of the island, might reward the toil and sagacity of the ancient Cornubii, or other earlier colonists of Cornwall and the Scilly Isles, without exercising any perceptible influence on neighbouring tribes, or being known to the remoter dwellers beyond the Solway and the Tyne. The spoils of war, more probably than any peaceful interchange of commodities, would first introduce the bronze weapons of Cornwall to the knowledge of the northern tribes; though the evidences of the diffusion of the copper of Lake Superior over the whole region lying between the Rocky Mountains and the Atlantic suffices to illustrate how extensively the metallic manufactures might be disseminated by barter. But by whatever means they were acquired, the superiority of the sword and spear of metal over the old lance of flint or bone would speedily be appreciated; and we accordingly find abundant traces of one of the first elements of civilisation, viz., an interchange of commo-

dities and the importation of foreign manufactures, having accompanied the advent of the Bronze Period. The rude native no longer confined his aim in the chase to the supply of his own table and simple wardrobe. The Phœnicians traded to Britain for its furs as well as its metals, and for those the products of a wider district than the tin country would be required. The Caledonian hunter, we may presume, learned to hoard up the skins won in the chase, to barter them for the coveted sword and spear of bronze; and thus the first elements of civilisation would precede the direct knowledge of the metallurgic arts.

The advent of the Bronze Period, however, cannot be held to have been fairly introduced until the native Caledonian had learned at least to melt the metals, and to mould the weapons and implements which he used; if not to quarry and smelt the ores which abound in his native hills; and with skill acquired from experience, to mingle in their true proportions the component parts of the more useful alloy. It is not, however, to be supposed that in the case of each workman the latter process had to be gone through. Whether derived from the mining districts of Wales and Cornwall, or from foreign sources, the bronze must have been distributed, like the more ancient tin, and the lead of the Roman mines, in convenient blocks or pigs. A circular ingot of copper found near Conway, and now preserved at Moyston Hall, Flintshire, bears in its impress: *SOCIO ROMÆ NAT. SOL.*—evidence of the working of the copper mines of Wales by Roman miners. It is a large mass weighing forty-two pounds; and, like the contemporary pigs of lead, was doubtless designed for exportation. But a class of bronze relics discovered on different occasions—of which one example found in 1857, between Eglington and Hulne Abbey in Northumberland, is now de-

posited in the British Museum,—possibly furnishes illustrations of the older and more portable form in which the crude bronze may have been distributed throughout the British Isles. The Northumberland example is a flat cake of bronze, weighing 14 oz., rounded at one end, and with a device at the other, bearing unmistakable traces of the matured ornamentation of the later bronze period.¹ In such small pigs the metal would be better fitted for the operations of the primitive metallurgist, and for the moderate requirements of his art, than in masses such as those in which the Roman miners were wont to prepare the metals for transportation. But disseminated even in such small quantities, the introduction of the metals would speedily create new wants, and the desire for modifications and improvements on the implements of foreign manufacture. The demands on the sagacity and skill of the workman would increase with his progress in intelligence and civilisation consequent on the new impulses brought into operation ; and thus would the arts of the smith and the jeweller be superinduced on the originally barbarian devices of the Caledonian.

A singular unity of character pervades the primitive arts of man, however widely separated alike by space and time. Placed under the same conditions, the first efforts of his mechanical instinct everywhere exhibit similar results. The ancient Stone Period of Assyria and Egypt resembles that of its European successor, and that again finds a nearly complete parallel among the primitive remains of the valley of the Mississippi, and in the modern arts of the barbarous Polynesian. So too is it with the higher state which succeeds this. The characteristics of the earlier Bronze Period are long since familiar to us. Milton, who accords equally

¹ *Archeol. Jour.* vol. xv. p. 156.

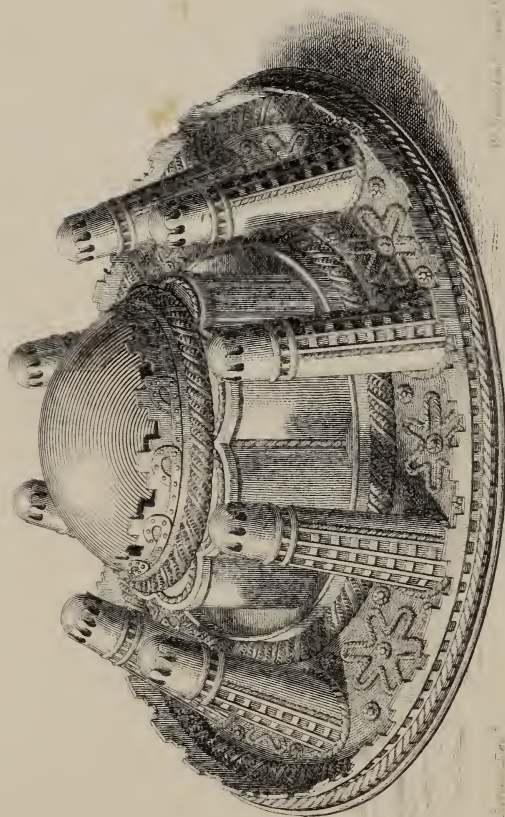
stinted honours to Mulciber and to Mammon, by whose suggestion taught, men

“ Ransack'd the centre, and with impious hands
Rifled the bowels of their mother earth
For treasures better hid,”—

refers to the introduction of the metallurgic arts as first among those great sources of change which the Archangel Michael makes known to Adam when exhibiting to him the future destiny of his seed. The knowledge of working in metals is there also introduced in contrast to the simpler arts of the pastoral state, and as the chief source of social progress with all its accompanying development of luxury and crime. On one side Adam sees the shepherds' huts and grazing herds ;

“ In other part stood one who, at the forge
Labouring, two massy clods of iron and brass
Had melted (whether found where casual fire
Had wasted woods on mountain or in vale,
Down to the veins of earth ; thence gliding hot
To some cave's mouth ; or whether washed by stream
From under ground), the liquid ore he drained
Into fit moulds prepared, from which he formed
First his own tools, then what might else be wrought
Fusil, or graven in metal.”

Amid the highly artificial results of modern civilisation we might find some difficulty in conceiving of such a social state, in which considerable taste and ingenuity were displayed in the forging of arms and tools, and in the manufacture of personal ornaments. But not only are we able to compare the results of the division of labour with the fruits of such isolated skill, in races only now beginning to develop these first elements of civilisation ; we can also look upon the living representatives of the Caledonian at the dawn of his historic era. Dr. Layard, in describing a visit to an ancient copper mine in the Tiyari Mountains, remarks,—“ In these mountains,



BROOCH OF LORN

particularly in the heights above Lizan, and in the valley of Berwari, mines of iron, lead, copper, and other minerals abound. Both the Kurds and the Chaldæans make their own weapons and implements of agriculture, and cast bullets for their rifles—collecting the ores which are scattered on the declivities, or brought down by the torrents.”¹ This affords a parallel modern picture of such a state of society as that we have to conceive of in the early dawn of the British Bronze Period. Martin, in his description of the Western Isles, written at the commencement of the eighteenth century, remarks of the islanders,—“When they travel on foot the plaid is tied on the breast with a bodkin of bone or wood, just as the spina worn by the Germans, according to the description of Tacitus.” He then furnishes a detailed account of the ancient dress, even then becoming rare; and of the breast-buckle or brooch, of silver or brass, which appears to have formed, from the very earliest times, the most favourite personal ornament of both sexes. “I have seen some of the former,” says he, “of an hundred marks’ value: it was broad as any ordinary pewter plate, the whole curiously engraved with various animals, etc. There was a lesser buckle, which was worn in the middle of the larger, and about two ounces weight. It had in the centre a large piece of crystal, or some finer stone, and this was set all round with several stones of a lesser size.”² The Rev. John Lane Buchanan, visiting those islands nearly a century later, found the same customs unchanged, and the primitive metallurgic arts

¹ *Nineveh and its Remains*, vol. i. p. 224.

² Martin’s *Western Isles*, Lond. 1703, p. 208. The Glenlyon brooch and the brooch of Lorn—worn, according to the tradition of the Macdougals, by Robert the Bruce, and still preserved in that family;—beautiful examples of this favourite Celtic ornament, are engraved on Plates iv. and xx. The Lorn brooch, Plate iv., corresponds in some degree to the description in the text.

of the ingenious Hebrideans not greatly in advance of the modern Asiatic Kurds. This writer remarks of the females,—“ All of them wear a small plaid, a yard broad, called *guilechan*, about their shoulders, fastened by a large brooch. The brooches are generally round, and of silver, if the wearer be in tolerable circumstances ; if poor, the brooches, being either circular or triangular, are of baser metal and modern date. The first kind has been worn time immemorial even by the ladies. The married women bind up their hair with a large pin into



FIG. 43.—Highland Brooch.

a knot on the crown of their heads.”¹ The woodcut shows the character of the commoner brooches here described, from one in the collection of the late C. K. Sharpe, Esq. It is of brass, $4\frac{1}{8}$ inches in diameter, with a tongue of copper ; and is rudely engraved, evidently with the imperfect tools of the native artist. Its decorations repeat the interlaced patterns on the Scottish sculptured standing-stones, and on the bosses of some of the earliest crosses ; and illustrate the enduring character

¹ *Travels in the Western Hebrides from 1782 to 1790*, London, 1793, p. 87.

of native art in every age, among an isolated population such as that of the Hebrides. The same writer thus describes the absence of all division of labour among the simple islanders at so late a period :—“ It is very common to find men who are tailors, shoemakers, stocking-weavers, coopers, carpenters, and sawyers of timber. Some of them employ the plane, the saw, the adze, the wimble, and they even groove the deals for chests. They make hooks for fishing, cast-metal buckles, brooches, and rings for their favourite females.”¹ They were, in fact, at that very recent period practising some of the arts which were in use at a time when traders from the Mediterranean were still seeking the harbours of Cornwall, and exchanging the manufactures of Carthage, and perhaps of Tyre, for the products of English mines.

On the theory of the introduction of metallurgic arts assumed here, not altogether without evidence, it is not requisite that we should conceive of the aboriginal Caledonians disturbed by the invasion of foreign tribes, armed with weapons scarcely less strange to them than those with which the Spanish discoverers astonished the simple natives of the New World. The changes, however, already noted in the forms and modes of sepulture ; the abandonment of the long barrow ; the introduction of cremation ; of the sitting or folded posture of the dead, with the correspondingly abbreviated cist ; or of a uniform and defined direction of laying the dead : are all suggestive of the probable intrusion of new races in early as well as later times. The facilities afforded by the use of metal tools would speedily work no less remarkable changes on the mansions of the living, than on the sepulchres of the dead. The subterranean weem would give place to the wooden structure, which the new arts rendered at once a more convenient and simpler

¹ *Travels in the Western Hebrides from 1782 to 1790*, London, 1793, p. 83.

style of architecture ; while the inroads on the forests to which such changes led, would necessitate the clearing of the neighbouring lands preparatory to the extended labours of the agriculturist. To the same cause also we may probably trace the origin of many of those extensive tracts of bog and peat-moss which still encumber the limited level areas of Scotland. The wasteful profusion of the natives of a thinly peopled country would lead to the destruction of the forests with little heed to aught but the supply of their own immediate wants. In the extensive mosses of Kincardine and Blair-Drummond, which have yielded such valuable archæological relics, when the surface of the underlying clay was exposed by the removal of the moss, it was in many places covered with trees, chiefly oak and birch, of a great size. These were found lying in all directions beside their roots, which continued firm in the ground in their natural position ; and from impressions still visible it was evident that they had been cut with an axe or some similar instrument.¹ The like discoveries in other Scottish mosses prove their origin from the same wasteful inroads of early times.

The occupants of the country at this period were necessarily isolated tribes and clans, with no common interest, and little peaceful intercourse. The arts were therefore practised as in their primeval dawn described by Milton, when the artist formed

“First his own tools, then what might else be wrought.”

Among all the varied primitive relics which have been from time to time discovered, both in Scotland and other countries of northern Europe, none exceed in interest the stone and bronze moulds in which the earliest tools and weapons of the native metallurgist were formed.

¹ Kincardine Moss ; General Appendix. Sinclair's *Stat. Acc.* vol. xxi. p. 154.

They have been found in Scotland, England, Ireland, and in the Channel Islands, exhibiting much diversity of form, and various degrees of ingenuity and fitness for the purpose in view. Some of them are of bronze, and highly finished, examples of which are engraved in the *Archæological Journal*, the *Archæologia*, and elsewhere.¹ If the account, however, furnished by Warburton to Stukely may be relied upon, such objects are by no means rare. According to him, a bushel of celts, each enclosed in a brass mould or case, was found at Brough, in 1719, in the Humber. Mr. Worsaae refers to another example of a number of bronzes found in Mecklenburg, accompanied by the moulds in which they were cast, together with pieces of unwrought metal; and similar bronze celt-moulds have been discovered at various times in different parts of France. In the Museum of the Society of Antiquaries of Scotland there are casts of a pair of large and very perfect bronze celt-moulds, of unusual size, and peculiar form, found at Theville, Arrondissement de Cherbourg.

But still more interesting are the ruder stone moulds, in some of which we may trace the first efforts of the aborigines of the Stone Period to adapt the materials with which they were familiar to the novel arts of the metallurgist. This is particularly observable in a class of mould stones of which examples are preserved in various collections. Specimens from the Scottish Museum are shown on Plate v., one of which, Fig. 44, exhibits on two sides indented moulds for running in the metal to form the simplest class of axe-blades and a knife or lance-head. Figs. 45, 46 show the more advanced double mould, for casting spear-heads, and the moiety of a corresponding pair for palstaves of an unusual form.

¹ *Archæol. Jour.* vol. iv. p. 336; *Archæologia*, vol. v. Pl. vii.; *Catalogue of Royal Irish Academy*, vol. i. p. 394, etc.

A mould of the earlier class, for celts of different sizes, was found in a cairn near Kintore, Aberdeenshire ; and another of large size, indented for a dagger-blade and handle, a knife-blade and lance, or other objects,—shown here, Fig. 47, on a greatly reduced scale,—was dug up at Trochrig, Ayrshire, in 1851. In these examples there is no reason to believe that any corresponding half was used to complete the mould. The melted metal was simply poured into the indented surface, and left to take shape by its equilibrium on the exposed surface. Weapons formed in this way may frequently be detected ; while others, full of air-holes, and roughly granulated on the surface, appear to have been made in the still simpler

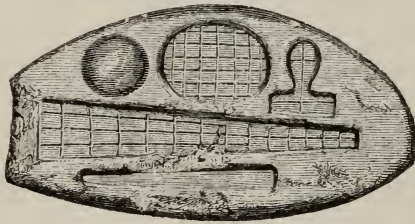


FIG. 47.—Trochrig Stone Mould.

mould formed by an indentation in sand. Other stone moulds consisted of pairs, like those of bronze. A curious illustration of those of this description was found a few years since in the Isle of Anglesea, and is engraved in the *Archæological Journal*.¹ It is a cube of hone-stone, nine inches and a quarter in length, by four inches in breadth at its widest extremity. Each of the four sides is indented for casting different weapons : two varieties of spear, a lance or arrow-head, and a celt with two loops. Only the one stone was found, but another corresponding one is obviously requisite, by means of which four complete moulds would be obtained. At the Congress of the Archæological Institute, held at

¹ *Archæol. Jour.* vol. iii. p. 257.

Salisbury in 1849, the temporary Museum contained a mould of serpentine, from Dorsetshire, designed for casting spear-heads, and another of granite, found near Amesbury in Wiltshire, intended to cast ornamented celts of two sizes. Of the same class are two pairs of celt-moulds, Figs. 48, 49, discovered in the parish of Rosskeen, Ross-shire. The site of this interesting discovery is about four miles inland, on the north side of the Cromarty Firth, on a moor which the proprietor is reclaiming from the wild waste, and restoring once more to the profitable service of man. In the progress of this good work abundant evidence demon-

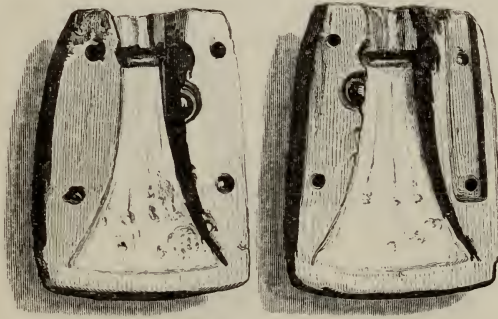


FIG. 48.—Celt-Moulds, Ross-shire.

strated the fact, that the same area, from which the accumulated vegetable moss of many centuries is now being removed, had formed the scene of a busy, intelligent, and industrious population ere the first growth of this barren produce indicated its abandonment to solitude and sterility. Near to the spot where the moulds were discovered, there stood till recently a large sepulchral cairn; and in forming a road through the moss, several cists were exposed containing human bones and cinerary urns. Amid those evidences of ancient population the two pairs of moulds were discovered, at a depth of only sixteen inches from the surface. They are very perfect, and are composed of a

hard and very close-grained stone. One pair is notched and perforated through both moulds, so as to admit of their being exactly fitted and tied together for casting. Close to the spot where they were discovered, remains of a rude enclosure or building of stone were exposed, containing a bed of ashes and scoriæ ; so that here no doubt had been the forge of the primitive metallurgist, from whence, perhaps, the natives of an extensive district obtained their chief supplies of weapons and tools. These Scottish moulds give evidence both of taste and ingenuity. In one of them is also a matrix for forming a smaller implement, the use of which is not easy to

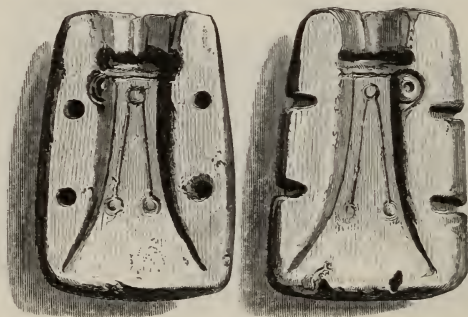


FIG. 49.—Celt-Moulds, Ross-shire.

determine ; while both the celts are large and elegant in form. Fig. 61, p. 384, represents a celt cast from one of the Ross-shire moulds.

In most cases it may be assumed that the earliest weapons of metal were furnished, as the modern sportsman casts his bullets, by each warrior or craftsman becoming his own smith and founder ; and when we consider the slow and tedious process indispensable for the completion of the stone hammer, or some of the more elaborate implements of flint : we readily perceive that it would be from the scarcity of the metals, and not from any preference for primitive and more familiar arts, that the Briton of the transition-period continued to use the

weapons of his fathers, or intermingled them with the more efficient ones which the new art supplied. Still it was probably long before he overcame the difficulty of alloying his copper, or casting metal in metal, and learned to model and cast his mould instead of laboriously cutting it from stone.

In these, as in other stages of improvement, we detect, as it were, the earliest tide-marks in the progress of civilisation. The rude chip-axe improves into the highly polished wedge and celt; this in its turn gives way to the sand-cast axe of copper, or to the hammered weapon moulded in the indented stone. The more useful bronze next displaces the too ductile copper, and the celt and spear-head follow, gracefully moulded into form in the double matrix of stone or metal. The taste of the more experienced metallurgist also finds room for the exercise of the decorative arts, and transfers to the bronze implements the incised and chevron patterns first introduced on his vessels of unbaked clay. These again, it will be seen, were superseded by new and more artistic ornamentation, evincing considerable intellectual progress, and showing the extent to which civilisation had advanced before the late and more familiar metal superseded the works of bronze.

In the romantic outskirts of the old Scottish capital some of the most remarkable evidences of the abundant remains of this era have been discovered. Reference has been made in a former chapter to the finding of cists and cinerary urns as the modern city extended over the suburban fields which lay beyond the old North Loch. Towards the close of the eighteenth century, when the spirit of agricultural improvement, which has been productive of such important results to Scotland, was beginning to take effect, the use of marl as a valuable manure was advocated and practised with a zeal no less wide-spread

and enthusiastic than has resulted in our own day from the discovery of the Guano Islands of the Pacific. Sir Alexander Dick, one of the most zealous Scottish agriculturists of last century, whose Prestonfield estate is bounded on the north by Duddingston Loch, constructed a canal in 1775, and prepared a couple of flat-bottomed boats, with the requisite machinery attached to them for dredging marl. These were set afloat on the loch, and their projector thus describes some of the most interesting results of his labours, in a letter communicated to the Earl of Buchan, the founder of the Society of Antiquaries of Scotland, shortly after its institution in 1780 :—“In the third year of my progress in dragging successfully great quantities of marl, now and then in the middle of the lake I met with large fragments of deers’ horns of an uncommon magnitude. As my operations were proceeding northward, about one hundred and fifty yards from the verge of the lake next the King’s Park, the people employed in dredging in places deeper than usual, after having removed the first surfaces of fat blackish mould, got into a bed of shell marl from five to seven feet deep, from which they brought up in the collecting leather-bag a very weighty substance, which when examined as it was thrown into the marl boat, was a heap of swords, spears, and other lumps of brass, mixed with the purest of the shell marl. Some of the lumps of brass seemed as if half melted ; and my conjecture is that there had been upon the side of the hill, near the lake, some manufactory for brass arms of the several kinds for which there was a demand.”¹

Rarely has a more interesting discovery been made,

¹ MS. Letter Book, vol. i. p. 43, 1780-81, Libr. Soc. Antiq. Scot. In a subsequent letter (*Ibid.* p. 70), Sir Alexander Dick describes several very large deers’ horns, in addition to the fragments previously found. The results of a careful analysis of some of these bronze relics are given in the succeeding chapter.

or one on an equally extensive scale, illustrative of the Scottish Bronze Period. Some of the most perfect and beautiful of these ancient weapons were presented to His Majesty George III. ; others, doubtless also among the best specimens, were retained as family heirlooms, some of which were afterwards given to Sir Walter Scott ;¹ but the remainder, including upwards of fifty pieces of swords, spear-heads, and fragments of other weapons, most of them more or less affected by fire, were presented to the Society of Antiquaries of Scotland, and formed the very first donation towards the founding of their valuable collection of national antiquities. The royal gifts and nearly all the family heirlooms have disappeared, but the whole of those presented to the Society still remain in their Museum. The swords are of the usual leaf-shaped form, with perforated handles, to which horn or wood had been attached. Some of the larger broken spear-heads have been pierced with a variety of ornamental perforations ; and in addition to these there were bronze rings and staples, similar to those found on various occasions with other remains of the same period. The woodcut, Fig. 50, represents one of these, measuring three inches in diameter, and a larger one, also in the Scottish Museum, which was found along with several bronze celts and swords, on the estate of Kilkerran, Ayrshire, in 1846, and more closely resembles the examples most frequently met with, both in style and dimensions.

The discovery of gigantic deer's horns and fragments of others, along with the weapons and masses of melted bronze, would seem to add to the probability that the manufacture of such weapons had been carried on, at some remote period, on the margin of the loch, and that these were collected for supplying them with handles.

¹ They are figured in the *Abbotsford Edition*, vol. ii. p. 103.

But other relics besides those which speak to us of the ingenious arts of the metallurgist, were dredged, along with the shell marl, from the bottom of the loch. Reference has already been made to the discovery of several human skulls and bones, which from their very black colour appeared to have been immersed in the marl for an immense time. Unfortunately neither the skulls nor the horns appear to have been preserved. In this, as in a thousand other instances, we seek in vain for the minuter details that would confer so much value on the vague glimpses of archæological truths scattered through old periodicals, Statistical Accounts, and other unsatis-

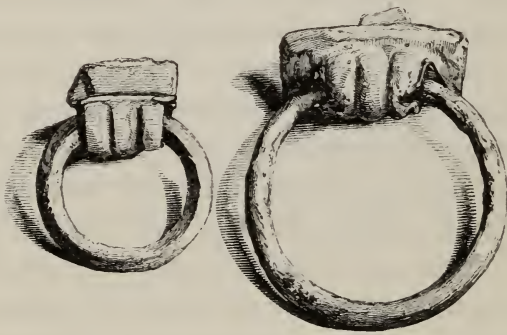


FIG. 50.—Rings and Staples.

factory sources of information. Here we might say, with tolerable confidence, lay the manufacturer beside his tools. It also becomes an interesting question to know if the deer's horns exhibited marks of artificial cutting, as this would go far to prove their use in the completion of the weapons beside which they lay, and might further help us in forming an opinion as to how they were applied. But still more, we would seek to learn if the skulls corresponded with either of the old types of the tumuli, or were characterized by superior cerebral development, such as their progress in the arts might lead us to expect. It is possible that some record

of those facts has been preserved, since the skulls were submitted to one of the most distinguished anatomists of his day; but I have failed to discover any clue to such, after inquiries submitted both to the late Dr. Alexander Monro, and to Professor Goodsir, his successor in the Chair of Anatomy in the University of Edinburgh. It is probable, that in the disclosures thus resulting from the dredging of Duddingston Loch we have the accumulated traces of art which mark the site of one of the ancient Lake villages or Crannoges, for which the locality furnished peculiar advantages, in its vicinity alike to a wide forest chase and to the sea.

Fully seventy years after the marl-dredgers had brought to light the remarkable primitive relics of Duddingston Loch, the Honourable Board of Commissioners of Her Majesty's Woods and Forests determined on constructing a carriage-way round the neighbouring Royal Park, which includes both Arthur's Seat and Salisbury Crags. In the progress of the necessary operations for carrying this plan into execution, and while the workmen were excavating the soil immediately above the singular group of basaltic columns popularly styled "Samson's Ribs," they uncovered a sepulchral deposit containing a cinerary urn, which was unfortunately broken to fragments by the stroke of a workman's shovel. Farther to the eastward two, at least, and probably more bronze celts of large size were found, along with a small cup, or lamp, of symmetrical form, and ornamented with a uniform pattern, the lines of which seem to have been impressed on the soft clay with a twisted cord.¹ Still farther to the east, almost directly above Duddingston Loch,—



FIG. 51.—Celt, Arthur Seat.

¹ *Vide* Small Cup, Fig. 75, p. 419.

where the magnificent "Queen's Drive" is carried along the steep side of the hill at an elevation of nearly 300 feet above the level of the neighbouring loch,—two beautiful leaf-shaped bronze swords were dug up, in a bed of vegetable charcoal, but with no remains which would indicate its having been a sepulchral deposit. The largest of the two swords measures $26\frac{1}{4}$ inches long; the other $24\frac{3}{4}$ inches by $1\frac{3}{4}$ inches in greatest breadth. In other respects they entirely agree, resembling in figure the usual form of this graceful weapon, as will be observed from the annexed engraving of one of them.



FIG. 52.—Bronze Sword, Arthur Seat.

The swords and the largest of the bronze celts, figured above, are now in the Museum of the Society of Antiquaries. The other celt and the cup are in my possession; and as they were obtained from an Irish labourer, who showed no little reluctance to be questioned, it is extremely probable that those are but a portion of the treasures disclosed in the course of the excavations. More recently, when constructing the lower road near the margin of the loch, a cinerary urn was found, along with human bones and the traces of ancient sepulture;¹ so that this beautiful locality appears to abound with objects of archæological value wherever the spade invades the long undisturbed soil.

A natural interest attaches to the inquiry as to the source of the numerous bronze weapons of varied and beautiful forms, recovered from time to time from ancient graves, or dug up in their chance repositories under the soil. Are they products of native skill, and evidences

¹ *Proceedings Soc. Antiq. Scot.* vol. ii. p. 420.

of insular progress in civilisation ; or were they brought from some foreign mart, or borne hither in the hands of invaders, so that they furnish evidence of inferiority alike in arts and arms ? The question cannot be considered worthless even by those who may be as little disposed to claim hereditary right to relics of the British Celtæ as to those of Allophylian aborigines ; for it embraces an inquiry affecting the origin of all ante-Roman relics of northern Europe. A very simple theory sufficed until very recently, for the classification of all Scottish, and, indeed, of all British antiquities. Whatever was rude and barbarous, such as unhewn standing-stones and megalithic circles, stone hammers, axes, and flint arrows, were native and Druidical ; whatever manifested skill, invention, or any progress in the arts, was Phœnician, Roman, or Danish ! Britain was tacitly assumed to have been sunk in the lowest state of barbarism, until humanized by the bloody missionaries of Roman civilisation. But such ignorant assumption will no longer suffice.

Mr. Worsaae adopts an era extending over about eleven centuries for the continuation of the Danish bronze period. From geological evidence he arrives at the conclusion, which is probable enough, that bronze weapons and implements were in use in Denmark fully five centuries before the Christian era. In Britain I entertain no doubt that they were introduced at a much earlier date. But that the Archaic Period continued so long after the Christian era, when neighbouring countries to the south were familiar with the common and more useful metal ; and when the Norwegians, who appear scarcely to have known a bronze period, were already taking their position among the Scandinavian nations, preparatory to making their piratical descents on the British shores : seems altogether improbable and opposed to established truths.

The brazen race of the Hesiodic Theogony, eternally fighting, perished by each other's hands, descending nameless to Hades, before iron was known. The ethical poet of the "Works and Days" himself belonged to the age of iron, living, as Grote conceives, probably about 700 B.C., and between the iron race and that belligerent one whose arms and implements were all of brass, and to whom iron was unknown, there had intervened the vague heroic age of demigods and poetic heroes; so old was the knowledge of iron among the Greeks. In the days of Aristotle they were familiar with the process of converting it into steel; and his contemporary, the Roman Camillus, we may feel assured was not unfamiliar with metallurgic arts so long known to the inhabitants of the neighbouring peninsula; though it would add little force to the argument to quote his reputed answer to Brennus, that the Roman was wont to ransom his country not with gold but steel. Certainly in the era of the Punic wars the Celtiberian iron was known alike to Roman and Carthaginian; and the allusions of Polybius not only indicate the familiarity of the former with this useful metal, but no idea suggests that it was in any sense recent. And if this was the case with the nations around the Mediterranean in the later centuries of the ante-Christian times; the few definite notices of the Britain of that period also leave no room to doubt that its iron age was already initiated. No description by Julius Cæsar, or any later classical writer, of the weapons used by the native Britons, in any degree corresponds with the familiar form of the bronze sword so frequently found in the earlier tumuli.¹ Tacitus describes the Caledonians as "a powerful warlike nation, using swords

¹ *Vide Bibliog. Topog. Britan.* vol. ii. Part 3, for a learned controversy "On brass arms and other antiquities of Scotland," in a series of letters between Sir John Clerk and Mr. Gale.—*Reliquiæ Galeane*, pp. 226-232.

large and blunt at the point (*sine mucrone*) and targets wherewith they skilfully defend themselves against the Roman missiles." The bronze leaf-shaped sword in no respect corresponds with this. It is a short and small, though formidable weapon, and is not only designed for thrusting rather than striking with,—as a heavy, blunt-pointed sword could alone be used,—but was evidently adapted for a warfare in which the chief tactics of the swordsman consisted in the bold thrust. No example of a bronze sword has been found with a guard; that simple contrivance for defending the hand from the downward stroke of the foe. With such unmistakable evidence before us, the conclusion seems inevitable that the era of the bronze sword had passed away before the hardy Caledonian encountered the invading legions of Rome. Nevertheless, while there is abundant evidence of the native manufacture of the articles of the Bronze Period, there are no less manifest traces of considerable intercourse throughout Europe during this era, from the near resemblance discoverable in all the bronze articles. The British bronze sword bears a general likeness to those not only of Denmark, but of Gaul, Germany, and even of Italy and Greece; but it has also its peculiar characteristics. It is broader and shorter than the Danish bronze sword, swelling out more towards the middle, so as to suggest the term *leaf-shaped*, by which it is distinguished. An interesting guide to the probable closing era of such weapons in southern Europe is furnished by a comparison of some specimens of Hellenic fictile art with a beautiful vase discovered at Vulci by the Prince of Canino, and described in the *Archæologia*¹ by Mr. Samuel Birch. The same subject occurs on three vases, and has been supposed to represent the quarrel of Agamemnon and Achilles. On one Vulcian hydria of

¹ Vol. xxxii. Plates IX. X. XII.

archaic style, a naked and bearded combatant bears a leaf-shaped sword without a guard. On a second, a cylix of later style from the Canino Collection, the combatants are armed with leaf-shaped swords, but with guards; while on the beautiful vase which Mr. Birch refers to as a specimen of Greek art contemporary with the *Orestes* of Æschylus, the same scene occurs, but the assailant has substituted for the primitive weapon a straight two-edged sword of modern form. Such comparisons cannot be deemed without their value; but independent of these, the variations in the bronze relics of the same type suffice to prove that neither the British antiquities of bronze were brought from Denmark, nor the Danish ones from Britain. The handles of the British weapon especially appear to have been always of wood or horn; while many are met with in Denmark with bronze handles, ornamented with a peculiar pattern, and even sometimes inlaid with gold, but all invariably without a guard.

It is specially worthy of note in relation to the makers and owners of the bronze swords, that the handles are invariably small. One marked characteristic of the Germanic race is found in the large hands and feet, in which it contrasts with the Celtic as well as with races of an essentially diverse stock; as is shown by the fact that many of the older basket-hilted Highland swords will scarcely admit the hand of a modern Scotsman of ordinary size. This characteristic has been repeatedly observed in primitive races, and is thus noted by Mr. Stephens in reference to the ancient temple-builders of Yucatan, when describing the well-known symbol of the *red hand*, first observed at Uxmal:—"Over a cavity in the mortar were two conspicuous marks, which afterwards stared us in the face in all the ruined buildings of the country. They were the prints of a red hand, with the thumb and fingers extended, not drawn or

painted, but stamped by the living hand, the pressure of the palm upon the stone. There was one striking feature about these hands—they were exceedingly small. Either of our own spread over and completely hid them.”¹ This is a physical characteristic of early races well worthy of note. While the delicate small hand and foot are ordinarily looked upon as marks of high breeding, and are justly regarded as pertaining to the perfect beauty of the female form, the opposite are found among the masculine distinctions of the pure Teutonic stock,—characteristic of their essentially practical and aggressive spirit,—and are frequently seen most markedly developed in the skilful manipulator and ingenious mechanician.

The spear-heads of this period are also marked by national distinctive features: the common British form, for example, with loops to secure it to the shaft, appears to be unknown in Denmark; and a variety of pierced heads common in Scotland and Ireland rarely occur even in England. So it is with other varieties of weapons, implements, and personal ornaments: some which are common in Denmark are unknown here, or assume different forms; others with which we are familiar are unknown to the Danish archæologist; while both are in like manner distinguished from those of Germany, France, and the south of Europe. The distinctive peculiarities may indeed be most aptly compared to those which mark the various national developments of mediæval art, and give to each an individuality of character without impairing any essential characteristics of the style. The extent of international communication was only so much greater and more direct in the twelfth and thirteenth centuries, than in those older centuries before the Christian era, as to produce a more rapid interchange of thought and experience.

¹ Stephens' *Travels in Yucatan*, vol. i. p. 178.

The national individuality, accompanying such remarkable correspondence to a common type, may therefore be assumed as justifying the conclusion that some considerable intercourse must have prevailed among the different races of Europe during the remote period to which we refer, which familiarized each with the artistic forms and mechanical improvements of the others, while the arts and manufactures of all were prosecuted separately, and with little or no view to commercial exchange. Hence we are enabled to form some definite conception of the characteristics of their early and partial civilisation : while at the same time there is no proof of any such sudden transition as would lead to the conclusion that the bronze relics belong entirely to a new people. On the contrary, the evidence of slow and very gradual change is manifest. The metallurgic arts, and the models by which their earliest application was guided, were in all probability introduced by a new race. But the rude stone moulds, the sand-cast celts and palstaves, and the primitive forges in which they were wrought, all point to aboriginal learners slowly acquiring the new art ; while perhaps its originators were introducing those works of beautiful form, great finish, and delicacy of workmanship, which the antiquary of the eighteenth century could ascribe to none but the Roman masters of the world.

Mr. Worsaae remarks, after pointing out the correspondence, in many respects, between the bronze relics of Denmark and those of other countries of Europe: these “ prove nothing more than that certain implements and weapons had the same form among different nations.”¹ And again, “ from these evidences it follows that the antiquities belonging to the Bronze Period, which are found in the different countries in Europe, can neither

¹ *Primeval Antiquities of Denmark*, p. 41.

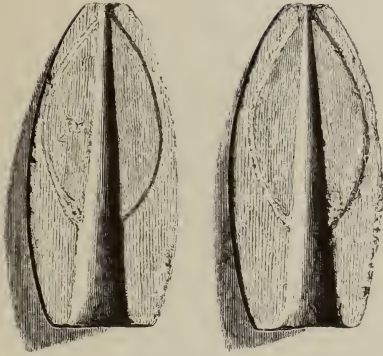


FIG. 45.—Stone Spear Mould.

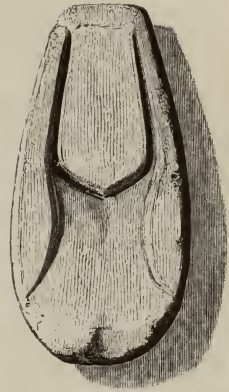


FIG. 46.—Palstave Mould.

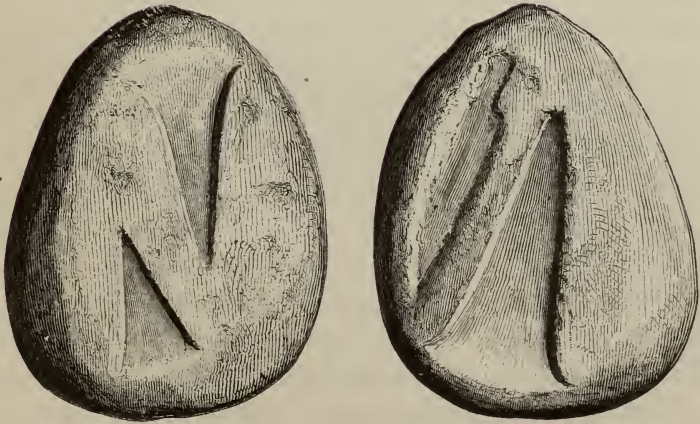


FIG. 44.—Stone Axe-blade and Lance Moulds.



be attributed exclusively to the Celts, nor to the Greeks, Romans, Phœnicians, Slavonians, nor to the Teutonic tribes. They do not belong to any one people, but have been used by the most different nations at the same stage of civilisation ; and there is no historical evidence strong enough to prove that the Teutonic people were in that respect an exception. The forms and patterns of the various weapons, implements, and ornaments, are so much alike, because such forms and patterns are the most natural and the most simple. As we saw in the Stone Period how people at the lowest stage of civilisation, by a sort of instinct, made their stone implements in the same shape, so we see now, in the first traces of a higher civilisation, that they exhibit in the mode of working objects of bronze a similar general resemblance."¹ But are the forms and patterns thus natural and simple ? This argument, which abundantly satisfies us as to the universal correspondence of the majority of tools and weapons of the Stone Period, entirely fails when thus applied to the works of the Bronze Period. The former are in most cases of the simplest and most rudimentary character : the perforated oblong stone for a hammer, the pointed flint for an arrow-head, and the longer edged and pointed flint for a knife or spear. Human intelligence, in its most barbarous state, suggests such simple devices with a universality akin to the narrower instincts of the lower animals. They are, in truth, mathematically demonstrable as the simplest shapes. But the beauty and variety of form and decoration in the productions of the Bronze Period bring them under a totally different classification. They are works of art ; and, though undoubtedly exhibiting an indefiniteness in the arbitrary ornamentation peculiarly characteristic of its partial development, they are scarcely less marked by novel and totally

¹ *Primeval Antiquities*, p. 138.

distinct forms than the products of many different classic, medieval, or modern schools of design. The form of the leaf-shaped sword, indeed, is unsurpassed in beauty by any later offensive weapon ; and many of the spear-heads exhibit a corresponding taste in their graceful design. We are justified, therefore, in assuming that the general correspondence traceable throughout the productions of the European Bronze Period, affords evidence of considerable international intercourse having prevailed ; while the peculiarities discoverable on comparing the relics found in different countries of Europe compel us to conclude that they are the products of native art, and not manufactures diffused from some common source. We have already traced them as pertaining to the infantile era of Greece, and may yet hope to find them among the indications of primitive Asiatic population : supplying new evidence in illustration of the north-western migration of prehistoric nations, and probably also a means of approximation towards the date of successive steps by which the later nomades advanced towards the coasts of the German Ocean.

In the former section, numerous instances have been referred to of the discovery of canoes, assignable on very conclusive evidence to the Primeval Period. One example, at least, has been recorded of a ship apparently belonging to the succeeding era of bronze, and which, both in size and mode of construction, amply accords with the assumed characteristics of the more advanced period, and with the idea of direct intercourse with the continent of Europe. " In this town" (Stranraer), says the old historian of Galloway, writing in 1683, " the last year, while they were digging a water-gate for a mill, they lighted upon a ship a considerable distance from the shore, unto which the sea at the highest spring-tides never comes. It was transversely under a little bourn,

and wholly covered with earth a considerable depth ; for there was a good yard, with kail growing in it, upon the one end of it. By that part of it which was gotten out, my informers, who saw it, conjecture that the vessel had been pretty large ; they also tell me that the boards were not joined together after the usual fashion of our present ships or barks, as also that it had nails of copper.”¹ Here we find remarkable evidence of progress. The rude arts of the aboriginal seaman, by which he laboriously hollowed the oaken trunk, and adapted it for navigating his native seas, have been superseded by a systematic process of ship-building, in which the metallic tools sufficed to hew and shape the planks, as well as to furnish the copper fastenings by which they were secured. Vessels thus constructed were doubtless designed for wider excursions than the navigation of native estuaries and inland seas ; nor must we assume, because the records of ancient history have heretofore concentrated our interest on the countries bordering on the Mediterranean, that therefore the German Ocean and the British seas were a waste of unpeopled waters, save, perhaps, when some rude canoe, borne beyond its wonted shelter on the coasts, timorously struggled to regain the shore. Enough has already been advanced to disabuse us of the fallacy, that where no annals of a people have been preserved nothing worth chronicling can have existed.

Somewhat will be gained if faith can be established in the fact, that deeds worth recording were enacted in Britain in those old times, when no other chronicler existed but the bard who committed to tradition his unwritten history, and the more faithful mourner who intrusted to the grave the records of his reverence or

¹ “A large Description of Galloway, by Mr. Andrew Symson,” p. 83. App. vol. ii. *History of Galloway from the Earliest Period to the Present Time.* Kirkeudbright, 1841.

his love. Faith is required for the honest and zealous study of the subject; but with this we doubt not that many links will be supplied which are still wanting to complete the picture of the past. This much, however, seems already established, that at a period long prior to the Christian era, the art of working in metals was introduced into Britain, and gradually superseded the rude primitive implements of stone. The intelligent native, supplied with this important element of civilisation, wrought and smelted the ores, melted and mixed the metals, formed moulds, and improved on early and imperfect models, until he carried the art to such perfection that even now we look upon his later bronze works with admiration, and are with difficulty persuaded that they are not the creations of Phœnician or Roman, rather than of a native British civilisation.

How remote the origin of this transition-period dates we cannot as yet presume to say; but with our preconceived notions, derived chiefly from an exclusively classical education, we are more apt to err on the side of too modern than of too remote a date. Mr. Worsaae, after discussing and rejecting the idea of a Roman origin for the bronze relics of Denmark, adds:¹ "Nor in all probability have these bronzes reached us from Greece, although, both with regard to their form and ornaments, particularly the spiral ornaments, a greater similarity appears to exist between those which occur in the north and those found in the most ancient tombs of Greece. For independently of the fact, that the latter have hitherto occurred but seldom, so that our knowledge of them is extremely imperfect, they belong to so very remote a period—1000 or 1400 years before the birth of Christ,—that we can by no means be justified in supposing that any active intercourse then existed be-

¹ *Primeval Antiquities of Denmark*, p. 41.

tween countries so remote from each other." But why not? Active it might be, though indirect; or, what is equally likely, both might derive their models from a common source—perhaps Phœnician, the apparent source of Greek metallurgic art; perhaps from older regions of central Asia, whence both were sprung. We see, at least, from evidence which appears to be incontrovertible, that at a much more remote period a human population occupied the British Isles; and we shall allow our judgments to be misled by very fallacious reasoning if we conclude that they could not have attained to any degree of civilisation at the period referred to, merely because no notice of them occurs in the pages of classic writers. The Greeks and Romans looked with contempt on all other nations. Partly from this national pride, but still more perhaps from a want of that philological aptitude peculiar to modern times, they gave little heed to the languages of their most civilized contemporaries, and looked on their barbarian arts and manners with contempt. Yet among the *barbarians* of the Greeks we must include the Egyptians, the Phœnicians, and the Hebrews; even as we ourselves rank among the barbarians of the modern Chinese, whose annals at most will tell of us as a roving race who first appeared in history towards the end of the seventeenth century!

The civilisation of the Bronze Period does not appear to have been of so active a nature as to have produced any very rapid social changes. It did not break up the isolated tribes of Britain, and unite them into kingdoms or associated states. Its material element was never so abundant as to admit of any great contemporaneous development. It was rather such a change as might slowly operate over many centuries; and that it did so is rendered most probable by the many relics of it which still remain. The Toltecan and Yucatec of the New

World achieved much in their Bronze Period unknown to medieval Europe ; nor is it altogether impossible that even now, beyond the vast forests explored by Mr. Stephens, a native race may be found practising arts akin to those of Montezuma's reign. Certain it is that the British Bronze Period was already superseded by the transition-state of a later era, when the Roman galleys first crossed the English Channel ; and from the last century B.C. we must reckon backward up to that remote and altogether undetermined era, when the elder Stone Period passed by slow transition into that of Bronze.

CHAPTER III.

PRIMITIVE BRONZE.

AMONG the various means of arriving at definite truths in relation to primitive works in metal, that of chemical analysis has not been lost sight of, and a number of ascertained results are now on record. Before proceeding to examine in detail the relics of this second period, it will be useful to glance at the bearings of this branch of scientific evidence on the general question.

It may now be received as an established fact, that the manufactures of this period consist entirely of bronze and not of brass: that is, of an alloy of copper and tin, and not of copper and zinc; but also including other metals, and especially a proportion of lead, in some examples exceeding the quantity of tin present. Even among the Romans we have abundant evidence that the alloy of copper and zinc was rarely used, although it is now known to be both more economical, and easier to work into a variety of forms. Mr. Worsaae, after remarking on the resemblance observable among the weapons, implements, and ornaments of bronze found in various countries, both in the north and south of Europe, adds: "They have all been cast in moulds, and the metal is of the same composition—nine-tenths copper, and one-tenth tin. From this there would be further reason to suppose that they all originated with one people."¹ This country, as has been already shown, he

¹ *Primeval Antiquities*, p. 137.

supposes may be England. From a careful comparison of the antiquities themselves, however, the Danish archæologist is led to the conclusion that the bronze objects were manufactured in the various countries of Europe, where they are now found, and that only the metal was imported from some common centre. The same idea appears at one period to have been adopted by the Rev. Dr. Robinson, an Irish archæologist still more distinguished for his devotion to astronomical science than for his intelligent elucidation of antiquarian investigations; but the results of more extended observation, communicated by him to the Royal Irish Academy in 1848, show that he was ultimately led to a different conclusion. Minute examination of the bronzes themselves will be found to throw fully as much doubt upon the probability of a common origin for the mixed metal, as for the weapons into which it has been fashioned. The difference even in colour and texture is very great, and in some cases still only imperfectly accounted for. Many of the bronze weapons found both in Scotland and Ireland, are of a bright yellow colour, like brass, or rather resembling gilded metal; it does not tarnish, and, on analysis, is found to contain no zinc. Others are more of a copper colour, also little liable to tarnish or corrode; while a third quality, if polished, rapidly resumes a dark and nearly black colour, and is frequently found covered with the carbonate of copper. To the first of those the term *Celtic brass* is often applied, though it is in common use for all the varieties of primitive bronze. Analysis of these relics by no means bears out the idea of any uniform system of combination of the pure metals, or of their being derived from a single source in the form of bronze. The variations in the proportionate admixture of the metals were indeed necessarily confined within a limited range, especially in the manufacture of weapons.

It did not require any mutual intercourse between the old Scandinavian and British armourer to teach them the most useful combinations of the new alloy. If the sword or spear proved either too ductile or too brittle for use, it would be consigned anew to the furnace, with such additions to the mixed metals as experience must soon suggest. The same would hold good even if we suppose that the native worker used imported bronze. Whether the tin and copper were mixed by Phœnician, Roman, or British metallurgists, similar proportional combinations of the two would necessarily be the result of experience. It will be seen, however, that the "Celtic brass" of British archæologists is neither invariably composed of exactly the same proportions of tin and copper, nor solely of these two metals.

One of the most elaborate and valuable reports published on this subject is contained in a communication read to the Royal Society of London, June 9, 1796, and printed in the *Philosophical Transactions* of that year. It is entitled, "Observations on some metallic arms and utensils, with experiments to determine their composition," by George Pearson, M.D., F.R.S. His experiments were both analytic and synthetic, and consequently enable us to trace the probable experience of the primitive metallurgist, before he had ascertained the most useful proportions of the metals for practical purposes. Native copper, we know, is obtained in great abundance in some localities fit for immediate use. Tin, though never found in this state, occurs in England in the same locality with the copper, and often near the surface. It might, therefore, even accidentally be combined with the former metal, as in the smelting of tin pyrites. The fact of the two possessing, when in combination, the requisite hardness for domestic or warlike purposes, which neither of them has when alone, appears to have been

ascertained at a very remote period. In addition to this indispensable property, the combination possesses the valuable qualities of being more readily fusible and continuing longer in the fluid state. Hence the mixture of two of the metals most readily accessible to the native metallurgist greatly facilitated all his other operations.

In his comparative experiments, Dr. Pearson fused fifty grains of tin with 1000 grains of copper; *i.e.*, one part of tin to twenty parts of copper. The result, when polished, differed in shade of colour from that of three bronze axe-heads analysed by him, being much darker. Its fracture showed a colour inclining to the peculiar red of copper. One hundred grains of tin united by fusion with 1500 grains of copper: *i.e.*, one part of the former to fifteen parts of the latter, resembled the celt metals, Nos. 1 and 2 in colour, polished surface, grain, and brown colour of the fracture, the red of the copper being no longer apparent. It was stronger than the celt metals, but not so hard, while it was harder than the spear-head and patella included in his analytical experiments. No very remarkable differences were observable in the combinations of twelve, ten, nine, and eight parts of copper with one of tin. When, however, the copper was reduced to seven parts to one of tin, the increase in hardness and brittleness became very apparent, while the alloy was decidedly paler in colour. The same characteristics were still more marked on successively reducing the proportions of copper to six, five, four, and three; and when an alloy was made of two parts of copper with one part of tin, it "was as brittle almost as glass." It is not difficult, from those results, to imagine the process pursued by the old worker in bronze, who, having ascertained that he could harden his copper by alloying it with tin, would not fail to diminish the added quantities of the latter till he had secured an efficient practical admixture

for the purposes of his manufacture, in which it is apparent from the above results, that no very great nicety of apportionment of the ingredients was required. But the practical conclusion deduced by Dr. Pearson from these experiments was, that the best proportions for the manufacture of weapons and tools is one part of tin to nine parts of copper.

The comparison of numerous analyses of primitive bronze relics tends to show that their correspondence is not greater than might be anticipated to arise from the experience acquired by isolated workers, when dealing with the same metals, with similar objects in view. The frequent presence of other metals besides tin and copper may also, in the majority of cases, be accepted as additional proof of the unsystematic processes of the old metallurgist; though in some instances we probably trace in this the adaptation of the alloy to a special purpose.

The results of Dr. Pearson's analytic experiments, included in the Table given on a subsequent page, were derived from an examination of the following bronze relics:—1. A lituus, or musical wind-instrument, found in the river Witham, Lincolnshire, in 1768; 2. A spear-head of the common unperforated form, "made of cast metal, as appears from its rough surface, figure, texture, and grain. It is as open-grained almost as copper, and porous, as if made of bad metal, of a blackish-brown or dark-grey colour;" 3. A sauce-pan (Roman patella), also made of cast metal, open-grained, impressed on the handle with a stamp, c. ARAT.; 4. A bronze scabbard, with a sword of iron within it, thought to be Danish; and, 5. Three celts (Nos. 1 and 3, what are now termed axe-heads, No. 2 an axe-shaped palstave), all found in the bed of the river Witham.

In the month of August 1816, some labourers employed in lowering the road on the top of a small

eminence, called Huckeridge Hill, near Sawston, Cambridgeshire, discovered the remains of a human skeleton, at the feet of which stood two large bronze vessels; the rim of the largest of which was ornamented with a row of bosses, indented from the under side. On the left side of the skeleton were also found an iron sword greatly corroded, and fragments of a very coarse urn, half an inch in thickness. Dr. Clarke, Professor of Mineralogy in the University of Cambridge, subjected portions of the bronze to analysis, and communicated the result to the Society of Antiquaries of London. The conclusion he arrived at was, that they consisted of 88 parts of copper, to 12 of tin, or about one part of tin to seven and a half parts of copper. Dr. Clarke also assigns exactly the same proportions of copper and tin to the bronze coinage of Antoninus Pius and of his successor Marcus Aurelius; which correspond with those of the lituus and one of the celts in the following table. But the process adopted in the analysis of those bronzes is much less satisfactory than that of Dr. Pearson, as the absence of all other metals appears to have been assumed, and only copper and tin tested for.¹ A bronze sword, found in France, proved on analysis to contain 87·47 parts of copper to 12·53 of tin, with a portion of zinc so small as not to be worth noticing, or capable of affecting the bronze.² The analyses of various specimens of antique bronze, including a helmet with an inscription, found at Delphi, and now in the British Museum; some nails from the Treasury of Atreus at Mycenæ; an ancient Corinthian coin, and a portion of a breastplate or cuirass of exquisite workmanship, also in the British Museum: are stated to have afforded about 87 or 88 parts copper to about 12 or 13 of tin.³

¹ *Archæologia*, vol. xviii. p. 343.

² Mongez, *Mém. de l'Institut*.

³ Article "Bronze," *Penny Cyclopædia*, vol. v. p. 468.

Mr. J. A. Philips has more recently published the results of an elaborate series of analyses in the *Memoirs of the Chemical Society*;¹ and several valuable communications on the same subject have appeared in the *Proceedings of the Royal Irish Academy*.² The earliest of these is a memoir by Dr. Robinson, previously referred to, in which he laid before that body a report of an important discovery made in King's County. It consisted of a large bronze vessel, which contained, in addition to various relics acquired by the late Dean of St. Patrick's and other individuals, thirteen litui or trumpets of bronze, without any traces of soldering, but the largest having their seams riveted; thirty-one bronze celts of different sizes; twenty-nine spear-heads; three gouges; and thirty-one bells, believed to be for sheep or cattle: all of bronze. The account of this remarkable discovery had been reserved for sixteen years, owing to the strange suspiciousness of the Irish peasants by whom it was found, who imposed on the purchaser the promise of keeping the details secret during their lives. The last of them died in the winter of 1848, and then Dr. Robinson felt himself at liberty to communicate the particulars which he laid before the Academy. "The vessel, which is now in the collection of the Earl of Rosse, was found in Dooros Heath, King's County, near Whigsborough, in what appears to have been a piece of cut-out bog, about eighteen inches below the surface. It is composed of two pieces neatly connected by rivets. The bronze of which the sheets are formed possesses considerable flexibility, but is harder than our ordinary brass, and it must have required high metallurgic skill to make them so thin and uniform. Such vessels have often been found, but the contents of this are peculiar.

¹ *Memoirs of the Chemical Society*, vol. iv. p. 288.

² *Proceedings of Royal Irish Academy*, vol. iv.

When discovered it seemed full of marl, on removing which it was found to contain an assortment of the instruments which may be supposed most in request among the rude inhabitants of such a country as Ireland must have been at that early epoch." Dr. Robinson accordingly supposes that the collection may have been the stock of a travelling merchant, who, like the pedlar of modern times, went round the country provided with the commodities most in request. He then proceeds to remark:—"This is connected with another question: the source from which the ancient world was supplied with the prodigious quantity of bronze arms and utensils which we know to have existed. This caught my imagination many years since, and I then analysed a great variety of bronzes, with such uniform results that I supposed this identity of composition was evidence of their all coming from the same manufactures. Afterwards I found that the peculiar properties of the atomic compound already referred to, are sufficiently distinct to make any metallurgist who was engaged in such a manufacture select it. It also appears to me more permanent in the crucible."

Dr. Robinson states that this alloy, when used for weapons, is a constant chemical compound containing fourteen equivalents of copper and one of tin, or nearly eighty-eight parts of the former and twelve of the latter by weight.¹ But notwithstanding the opinions quoted above, he still inclines, on other grounds, to trace the bronze to some common source, and this he conceives to be Phœnician. In all the weapons and implements the points are entire and sharp, and the edges unbroken.

¹ The extracts from Dr. Robinson's interesting communication are copied from a report of the Second Meeting of the Royal Irish Academy, session 1848-9, in *Freeman's Dublin Journal*. In a personal interview with Dr. Robinson, I learned that the uniformity of results in his analyses was only comparative, and that lead had not been tested for.

The spear-heads are the most remarkable as specimens of workmanship. They are of various sizes, and of great diversity of pattern, and their points and edges appear as if they had never been used. They prove, as Dr. Robinson remarks, not only that the workmen who made them were masters of the art of casting, but also that they possessed high mechanical perceptions; their productions showing a skilful adaptation of the material to the end in view.

With the desire of testing, as far as possible, the exact bearing of the chemical evidence on this interesting inquiry in relation to relics of the Scottish Bronze Period, I obtained permission from the Council of the Society of Antiquaries of Scotland to submit various specimens of bronze in the Society's collection to chemical analysis. The results are given in the following Table, along with others derived from various sources; and will be found to differ remarkably from that ideal uniformity which has been supposed to establish the conclusion of some single common origin for the metal, if not indeed for the manufactured weapons and implements. The experiments were made in the laboratory and under the directions of my brother, Dr. George Wilson, whose acknowledged experience as an analyst is sufficient guarantee for the accuracy of the results. In these analyses it will be seen that the presence of lead has been detected in the majority of instances in greatly varying quantities, but in two of the examples exceeding the tin.¹

¹ Preparatory to the minute quantitative analysis, the bronzes were first carefully qualitatively analysed, and found to consist of copper, tin, and lead. Zinc, bismuth, antimony, and silver were carefully sought for, but could not be found. It is probable, however, that a minute trace of the last metal, too small to admit of detection, was present, not, however, as an artificial addition to the alloy, but as a natural accompaniment of the lead.

ANALYSES OF ANCIENT BRONZES.

No.			Copper.	Tin.	Lead.	Iron.	Silver.
1.	Caldron,	Berwickshire,	92·89	5·15	1·78	...	...
2.	Sword,	Duddingston,	88·51	9·30	2·30	...	...
3.	Kettle,	Berwickshire,	88·22	5·63	5·88	...	...
4.	Axe-head,	Mid-Lothian,	88·05	11·12	0·78	...	...
5.	Caldron,	Duddingston,	84·08	7·19	8·53	...	...
6.	Palstave,	Fifeshire,	81·19	18·31	0·75	...	...
7.	Vessel,	Ireland,	88·	12·	...	...	...
8.	Wedge,	"	94·	5·09	...	0·01	...
9.	Sword,	"	88·63	8·54	2·83	...	...
10.	Sword,	"	83·50	5·15	8·35	3·00	...
11.	Lituus,	Lincolnshire,	88·	12·	...	...	...
12.	Roman patella,	"	86·	14·	...	...	...
13.	Spear-head,	"	86·	14·	...	...	...
14.	Scabbard,	"	90·	10·	...	...	...
15.	Axe palstave,	Cumberland,	91·	9·	...	...	...
16.	Axe-head,	"	88·	12·	...	...	...
17.	Vessel,	Cambridgeshire,	88·	12·	...	...	...
18.	Axe-head,	Ireland,	91·	9·	...	...	...
19.	Sword,	Thames,	89·69	9·58	...	0·33	...
20.	Sword,	Ireland,	85·62	10·02	...	0·44	...
21.	Celt,	"	90·68	7·43	1·28	...	...
22.	Axe-head,	"	90·18	9·81	...	...	...
23.	Axe-head,	"	89·33	9·19	...	...	...
24.	Celt,	"	83·61	10·79	3·20	0·58	...
25.	Celt,	King's Co., Ireland,	85·23	13·11	1·14	...	...
26.	Drinking-horn,	"	79·34	10·87	9·11	...	...
27.	Celt,	Co. Cavan,	86·98	12·57	...	...	0·37
28.	Celt,	"	98·74	1·09	...	0·08	0·06
29.	Celt,	Co. Wicklow,	88·30	10·92	0·10	...	...
30.	Celt,	Co. Cavan,	95·64	4·56	0·25	...	0·02
31.	Spear-head,	"	86·28	12·74	0·07	0·31	...
32.	Spear-head,	"	84·64	14·01	...	...	...
33.	Scythe,	Roscommon,	95·85	2·78	0·12	1·32	...
34.	Sword-handle,	"	87·07	8·52	3·37	...	...
35.	Sword,	"	87·94	11·35	0·28	...	...
36.	Dagger,	"	90·72	8·25	0·87	...	...
37.	Chisel,	"	91·03	8·39	...	...	...
38.	Caldron,	"	88·71	9·46	1·66	0·03	...

Nos. 1-6. Dr. George Wilson.

7-8. Dr. J. H. Gibbon, U.S. Mint.

9-10. Professor Davy.

11-18. Dr. Pearson, *Philosoph. Trans.* 1796.

19-24. J. A. Phillips, *Mem. Chem. Soc.*, iv. p. 288.

25, 26. Dr. Donovan, *Chem. Gazette*, 1850, p. 176.

27-38. Mr. J. W. Mallet, *Transactions R.I.A.* vol. xxii. p. 325.

In No. 31 is also Cobalt, '09; in No. 37, Antimony, '04; and in No. 41, Arsenic, '03.

For the analyses of two of the bronze relics, Nos. 7, 8, in the above Table, I am indebted to Dr. J. H. Gibbon of the United States Mint; and to this chemical evidence I am able, through the kindness of Mr. Bell of Dungannon, to add the results of experiments made for him by Professor Davy, on portions of two leaf-shaped bronze swords found in Ireland, Nos. 9, 10. The authorities for other examples are given in the preceding note.

One important result which those analyses establish is, that the composition of the mixed metal of the Bronze Period indicates no such uniformity as might be anticipated in manufactures derived entirely from one source; but, on the contrary, that different examples of it, belonging to the same period, exhibit all the degrees of variation that might be expected in the work of isolated manufacturers, very partially acquainted with the chemical properties of the standard compound, and guided, for the most part, by the practical experience of the result of their labours. The variations in the proportions of the elements of the bronze are obviously such as to preclude all comparison with any ancient type. In regard to the favourite theory of Phœnician origin for such relics, comparison is impossible, as we possess no authentic remains of Phœnician art. An analysis of Egyptian bronzes, however, would furnish interesting results in regard to the ancient practice of metallurgy in the countries bordering on the Mediterranean. Such arts, however, were by no means confined to the few historic races, among whom the Phœnicians generally rank foremost for skill in the working of metals; and, indeed, the conclusion to which Sir George Cornwall Lewis arrived is, that the tin supplied to the nations on the shores of the Mediterranean came by the overland Gaulish route, and that the Phœnician ships procured it

solely at the mouth of the Rhone.¹ There is at any rate no evidence opposed to the probability of its having been mined and smelted by native workmen ; and it is by a wholly gratuitous assumption that the earliest British metallurgic arts are traced to a Phœnician or any other foreign source.

Another point of importance in the above analyses of ancient Scottish bronzes is the uniform presence of lead, though in greatly varying quantities ; amounting in one palstave to only $\frac{75}{10,000}$; while in the caldron dredged from Duddingston Loch, along with leaf-shaped swords, perforated spear-heads, etc., it exceeds the tin present in the compound : amounting to 8·53 per cent. of the whole. It is also seen to be present, in greater or less quantity, in upwards of 50 per cent. of all the examples referred to. Lead is known to have been used by the Romans in a similar manner, possibly from motives of economy, as in their brass coinage, in which the antiquary has long been familiar with the presence of this metal.² It is also worthy of special note how greatly all the ingredients of No. 2 and No. 5 vary in proportion, though both were found together, and undoubtedly belong to the same period. Possibly the very marked difference in the proportion of the alloys may prove to be the result of design, as the only other example at all resembling the Duddingston caldron, No. 5, is the so-called Roman camp-kettle, No. 3, from Berwickshire. The difference between them is considerable, but in both the quantity of lead present is greater than of tin. No such conclusion, however, can by any possibility be assumed in reference to the weapons Nos. 9, 10, analysed by Professor Davy. These were both swords, similar in

¹ *Astronomy of the Ancients*, p. 455.

² *Bibliog. Topog. Britan.* vol. ii. p. 303.

form, and designed for the same purpose ; yet in one the proportion of lead present greatly exceeds that of tin, while in the other it is so small as to suggest the possibility of its presence being accidental. A much wider difference marks the extremes, as in the Scottish palstave, No. 6, in which the proportions of copper and tin are 81·19 to 18·31, with a minute addition of lead ; and the Irish celt, No. 28, with its copper and tin in the relative proportions of 98·74 to 1·09, with the accidental addition of iron and silver, either derived from the ore, or, in the case of the iron, added in the process of reduction. A greatly more limited scale of variations would afford evidence enough to establish the certainty of an independent manufacture carried on throughout the Bronze Period, by numerous native metallurgists possessed of just such an amount of crude practical skill as sufficed to render the new material available for their use.

CHAPTER IV.

WEAPONS AND IMPLEMENTS.

THE works of the Bronze Period possess an entirely new and distinct source of interest from those which preceded them, in so far as they exhibit not only the skill and ingenuity which is prompted by necessity, but also the graceful varieties of form and decoration which give evidence of the pleasurable exercise of thought and fancy. Were we indeed to select the most perfect and highly finished productions resulting from the knowledge of working in metals, and to place these alongside of the best works of the Stone Period, we could hardly avoid the conclusion, already adopted by northern archæologists, that the works in metal belong to an entirely new and distinct race.¹ A more careful investigation, however, tends to modify such a conclusion in regard to the British bronze remains. Independently of the presence of Allophylian races in Britain prior to the earliest arrival of the Celtæ,—which

¹ Mr. Worsaae remarks (*Primeval Antiquities*, p. 24), "We must not by any means believe that the Bronze Period developed itself among the aborigines gradually or step by step out of the Stone Period. On the contrary, instead of the simple and uniform implements and ornaments of stone, bone, and amber, we meet suddenly with a number and variety of splendid weapons, implements, and jewels of bronze, and sometimes indeed with jewels of gold. The transition is so abrupt that from the antiquities we are enabled to conclude that the Bronze Period must have commenced with the irruption of a new race of people, possessing a higher degree of cultivation than the early inhabitants."

the evidence already adduced of the very remote period to which the existence of a human population must be assigned, seems alone sufficient to determine in the affirmative;—there can be no doubt that stone implements were in use even within the Celtic era; and that it was not by an abrupt substitution, but by a gradual transition that they were entirely displaced by those of metal. Reference has already been made to some striking indications of this in the various moulds which have been discovered from time to time in the British Isles. It is still more obvious in the numerous examples of weapons and tools. When classified on the same simple and natural principle which induces us to recognise the Stone Period as prior to that of Bronze, we detect the evidences of a slow and very gradual change, and discover the links which unite the two periods. In the earliest axes of pure copper and of bronze, the form of their prototype in stone is repeated with little or no variation. Both are equally deficient in any stop-ridge, loop, or perforation to facilitate the securing of them to a handle; and we cannot avoid recognising in the latter the new materials in the hands of the old worker in stone; while another class of illustrative examples of the same transition-period may be detected in stone implements occasionally discovered, obviously made in imitation of bronze weapons. In these we probably see evidence of the scarcity of the metals compelling the primitive workman, while adopting the newer models, to reproduce them in the only material at his command.

Much learned but profitless controversy has been carried on respecting the weapons of the Bronze Period. Archæological works of last century, and of the early years of the present century, abound with elaborate demonstrations of the correspondence of celts and spear-

heads to the Roman *securis*, *hasta*, and *pilum*. It may be doubted if more recent attempts to determine the exact purpose for which each variety of bronze implement was designed tend to more satisfactory results. When it is considered that the most expert and sagacious archæologist would probably be puzzled to determine the purpose of one-half the tools of a modern carpenter or lock-smith : it is surely assuming too much, when he stumbles on the hoarded weapons and implements of the old Briton, who has reposed underneath his monumental tumulus, with all the secrets of his craft buried with him, for fully two thousand years, to pretend to more than a very general determination of their uses. Much mischief indeed is done in the present stage of the science by such attempts at "being wise above that which is written." Those relics are our written records of the old ages, and it is well that we should avoid bringing their chronicleings into discredit by forced interpretations which they will not legitimately sustain.

The capabilities of the new material introduced to the old workers in stone, were pregnant with all the elements of progress ; and one of the most interesting features belonging to the Archaic Period is the gradual development of skill, inventive ingenuity, and artistic decorative fancy, in the series of bronze weapons and implements, in which every additional improvement, and every indication of intelligent refinement of form or ornamentation, may be assumed as evidence of progress, and therefore of work of a later date.

The most primitive indices of the new art are the simple axe-heads of pure copper, differing only in material from the bronze implements made apparently in imitation of those of stone. To this class belonged the axes cast in the open stone moulds already described : in which they were fashioned merely by pouring the

melted metal into the exposed indentation in the stone, after which it was hammered or ground to an edge. Others, such as one specimen in the Scottish Museum, found in the Moss of Cree, near Wigton, in Galloway, consisting of a rudely-fashioned blade of yellow bronze full of air-holes, appear to have been cast in sand. This simple form, illustrated in Fig. 53, increases in size and assumes better proportions; exhibiting manifest evidence of the growing experience of the workman. The axe-blade is sometimes finished with a broad flange along the sides, thereby securing economy of material with



FIG. 53.



FIG. 54.

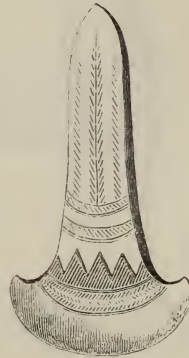


FIG. 55.

Bronze Axe-Blades.

lightness and strength. Other improvements are introduced for the purpose of more securely fastening it to the handle, as in one with a cross limb, Fig. 54, found with other bronze relics at Strachur, Argyleshire. Examples also more frequently occur of axes, than of any other bronze implements, decorated with incised ornamental patterns corresponding to those which occur on the early pottery. This kind of ornament, though executed with considerable taste,—as shown in an axe-blade, Fig. 55, found on the Moor of Sluie, near the river Findhorn, Morayshire,—presents a striking con-

trast to the graceful mouldings and perforations of the later bronze weapons. It appears to have been produced in the simplest manner by striking the surface with a punch ; and is sometimes wrought over the surface with no marked attempt at a definite pattern. The latter examples—of which there is one in the Scottish Museum,—confirm the probability of their introduction for other purposes than mere ornament. Allusions by some of the oldest Irish writers to the employment of poisoned weapons, have been referred to in proof even of the Celtic practice of arts common to many barbarian



FIG. 56.



FIG. 57.



FIG. 58.

Bronze Palstaves.

nations ; and it is accordingly suggested as the most probable solution of the practice of thus indenting the axe-blade, that it may have been designed to retain poison with which the weapon was anointed. Other devices of more frequent occurrence on different forms of weapon are hereafter referred to, which may have answered the same barbarous and deadly purpose.

Archæologists now generally concur in applying the old Scandinavian term *paalstab*, or its English synonyme *palstave*, to the next class of implements, figured above. They consist of wedges, more or less axe-shaped, having

a groove on each side terminating in a stop-ridge, and with lateral flanges, designed to secure a hold on the handle, as in Fig. 58. In an example engraved here (Fig. 56), found in the Stewartry of Kirkcudbright, the perforation near the end appears to have been produced in the casting. The second palstave (Fig. 57) illustrates a common variety provided with a projecting loop or ear. In some the flange is only on one side, and bent over so as sometimes nearly to meet, and form a hollow socket. The general characteristics of this class of implements partake more of carpentering tools than weapons of war; but in this, as in many other instances, it is difficult to

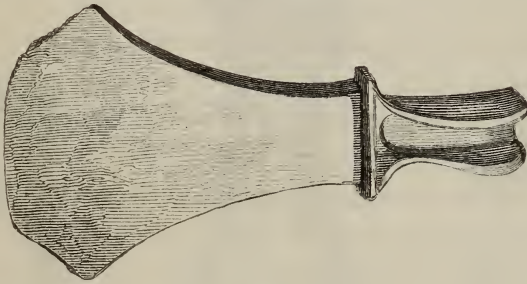


FIG. 59.—Bronze Spade.

draw the distinction, among objects equally available for both purposes.

The same stop-ridge and flange characterize another implement engraved here (Fig. 59), from the original, in the valuable collection of Scottish antiquities formed by Sir John Clerk, at Penicuik House. It measures $7\frac{1}{2}$ inches in length; but, as will be seen, it seems better adapted for use as a spade or hoe than for any purposes of warfare, unless in the construction or overthrow of earthworks; and in this its small dimensions would render it but poorly applicable to the requirements of military engineering.

. But the most common of all the relics of this class is the Bronze celt. It is found of various sizes and

degrees of ornament, from the plain small celt of scarcely an inch and a half long, to those of six and seven inches in length, fluted, encircled with mouldings or cable-pattern borders, and ornamented with incised designs and embossed figures on the blade. One of the Scottish examples, engraved as a Roman securis in Sir Robert Sibbald's *Portes, Coloniae, etc.*, has its blade decorated with the herring-bone pattern, in the same style, and perhaps with the same object as has been suggested for the incised axe-blades of the period. The use of the loop so generally attached to the bronze celt, as well as

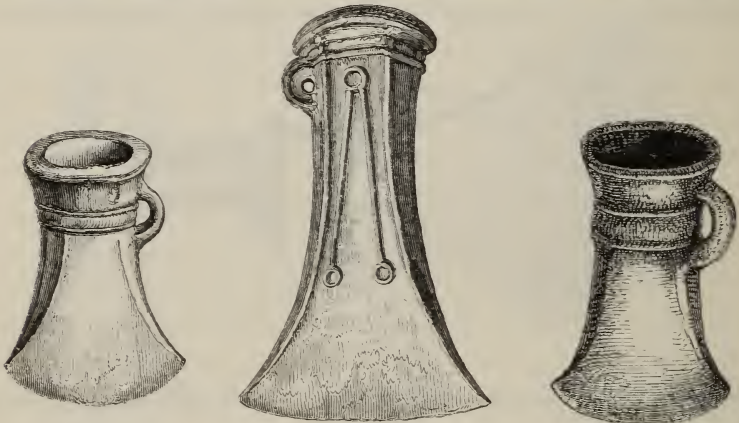


FIG. 60.

FIG. 61.

FIG. 62.

Bronze Celts.

to one class of palstaves, has been the subject of scarcely less industrious speculation than the probable purpose of the implement itself; and the variety of theories it has given rise to only proves how difficult it is for the most ingenious speculator to recall with any certainty the dead past. But the unique specimen found at Tadcaster, with an oval bronze ring attached to the loop, and a small bead or ring of jet upon it, so far from confirming the favourite idea of the loop having been used with a thong or cord for securing the celt to a bent shaft, as an axe-head: seems more consistent with its design as a

means of suspension, or for securing a number together for convenient deportation. The large celt (Fig. 61), measuring fully five inches long, is a cast from one of the stone moulds discovered at Rosskeen, Ross-shire; another (Fig. 60), now in my possession, was dug up to the eastward of "Samson's Ribs," on Arthur Seat, along with other relics of the same period; and Fig. 62 is from the Scottish Collection. Such are the more common forms of the bronze axe, celt, and palstave. They all appear to be more or less applicable to a variety of uses, both as mechanical tools and warlike weapons; and any very nice attempts at discriminating between the various purposes for which they were designed are more likely to engraft on the devices of primitive art a subdivision peculiar to modern civilisation than to throw light on the era of their production. The Indian's tomahawk and knife are equally employed in war or the chase, in the mechanical labours or culinary operations of the wigwam; and at a period greatly nearer our own time than that of the bronze axe and celt, the same implement sufficed the Scottish moss-trooper or the Highland clansman for table-knife, *couteau de chasse*, and dagger. We may therefore assume with little hesitation that the older Briton hewed down the giant oaks of the forest, and shaped them into canoes, or wrought them into implements of war and husbandry, with the same bronze axe or palstave which he carried to battle; though we cannot overlook the obvious adaptation of the diverse implements to different purposes, whether of peace or war. It is also worthy of notice that the simplest of all means of attaching the axe securely to its handle by means of a perforation through the blade or axe-head, though already in use for the stone hammer, does not appear to have been resorted to by the workers in bronze. No perforated bronze axe, so far as I am aware, has been preserved, though the

following description seems to refer to such a discovery, if the strict use of the terms employed can be relied upon :—“ On the banks of the Cree, in Galloway, there were several tumuli. In some of these, when they were opened in 1754, there were found the remains of weapons of brass, which were very much corroded. One of these was formed like a halbert ; another was shaped like a hatchet, having in the back part an instrument resembling a paviour’s hammer. A third was formed like a spade, but of a much smaller size, and each of these weapons had a proper aperture for a handle.”¹ Unfortunately the researches of the Scottish archæologist are frequently baffled by tantalizing notices, conveyed in equally vague terms, and with no accompanying illus-

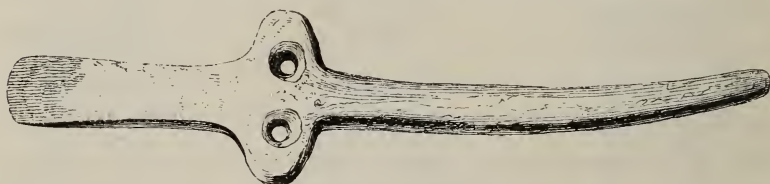


FIG. 63.—Bronze Lever, Pettycur.

trations to help him to the true character of the objects described.

Numerous other weapons and implements of bronze, all characterized by the same style of workmanship, have been found in Scottish tumuli, or in the chance hoards of bogs, lakes, and alluvial deposits. Wedges and chisels are among the most common of those ; and axe-blades, celts, and palstaves, may be reckoned by hundreds. Of rarer implements of the same era, a bronze crowbar or lever, represented in the annexed woodcut, Fig. 63, measuring $7\frac{1}{2}$ inches long, appears to be unique. It was found in 1810, in a barrow near Pettycur, Fifeshire, and is now in the collection of the Hon. James Talbot. It is introduced in the *Archæological Journal*, in illustration

¹ *Caledonia*, vol. i. p. 81.

of a communication by Mr. James Yates, on the use of bronze celts in military operations, and is described as very strong.¹ Its longer end, bent perhaps accidentally, seems intended to be fixed in a stout handle of wood, to which it could be firmly secured by the perforated wings. Mr. Yates adds in describing it:—"The circumstance of its discovery in a barrow is an evidence that it was used for some military purpose, for barrows were not the tombs of agriculturists, gardeners, masons, or carpenters, but of chiefs and warriors." But in making use of such an argument it may be doubted if we are not applying the results of modern civilisation as the standard of primitive ideas. Most probably the greatest chief of the early Bronze Period was in many cases also the best



FIG. 64.

mason, carpenter, and military engineer, and the most skilful worker in metals,—the literal chief, in fact, and true king, or most knowing man of his tribe. Perhaps a better argument is to be found in the frequent decoration of the bronze celt. There is a sense of fitness in all minds, and most surely developed in the primitive stages of civilisation, where it acts intuitively, which teaches man to reserve the decorative arts for objects of luxury and pleasurable enjoyment,—then including war and the chase,—but not to expend them on tools of handicraft and implements of toil.² With the latter, however, must

¹ I am indebted for this woodcut to the Council of the Archæological Institute, with the courteous permission of Mr. Yates, by whom it was originally contributed to the *Archæological Journal*.

² *Vide Bibliotheca Topog. Brit.* vol. ii. Part 3, for an interesting correspondence on the *questio vexata* of the origin and use of bronze celts, on which so much ink has been spilled to very small profit. The correspondence includes an account of the singular discovery at Alnwick, in 1726, of twenty bronze

be classed the gouge, one of the rarest of the implements of bronze hitherto found in Scotland. The example figured (Fig. 64) was dredged up in the river Tay, where other specimens have been met with ; and corresponding tools are included among the varied treasures of the Royal Irish Academy.

The variety of lance and spear heads is no less characteristic of the gradual progress of the primitive worker in bronze, from the imitation of the rude types of his obsolete stone weapons, to the production of the large and beautiful myrtle-leaf spear-heads, finished with graceful symmetry, and fully equal in character to the finest medieval workmanship. The earliest examples are mere pieces of hammered metal, reduced to the shape of a rude spear-head, but without any socket for attaching them to a shaft. They manifestly belong to a transition-period, in all probability before the northern Briton had learned to smelt or mould the newly introduced metal. Lance and arrow heads of the same form, or slightly improved by being made somewhat in the shape of the barbed flint arrow-head, are also preserved in the Scottish Museum. A curious example of the spear-head of the latter type, measuring $10\frac{1}{2}$ inches in length, engraved in the *Archæological Journal*, was found in 1844 by some workmen while dredging in the bed of the Severn, about a mile and a half below Worcester, and is made, like so many others of the simpler forms, of metal of very bright colour and hard quality.¹ Other bronze spear-heads are perforated with holes at the broad end, and not unfrequently retain the rivets by which they have been attached to the shaft. A spear-head of this class, in the Museum of the Scottish Antiquaries, mea-

swords, sixteen spear-heads, and forty-two bronze celts, and anticipates, to very good purpose, much which has been written at greater length since.

¹ *Archæol. Jour.* vol. ii. p. 187.

suring $14\frac{3}{4}$ inches in length, has been secured by three large rivets, two of which still remain. A drawing by Sir Thomas Dick Lauder, in the collections of the Society, preserves the figure of another of the same type, but with four rivets, found in a cist on the moor of Sluie, Morayshire, in 1818. A third example, closely resembling the last, and found on the Eildon Hills, Roxburghshire, is in the Abbotsford collection.¹ This class of weapons, or spear-blades, as they may be termed, is by no means rare.

The earlier implements, chiefly constructed in imitation of the primitive stone models, appear, for the most part, to have been secured to the shaft by means of cords or leather thongs. But the worker in the new material soon learned its capabilities. The hollow socket was superadded, generally accompanied with a projecting middle ridge to strengthen the weapon, and admit of its receiving more readily an acute edge and point. To those again were added the double loops, designed apparently for still further securing it to the shaft; and with this addition its merely useful and essential features may be supposed to terminate, though there is considerable variety in the forms which spear-heads of this class display. The most common and graceful shape might seem to be borrowed from the myrtle leaf. Several are engraved in Gordon's *Itinerarium Septentrionale* (Plates L. LI.), from the collection of Sir John Clerk of Penicuik, including some interesting varieties. One, of very rude form, and which the author of course styles *Roman*, was found under a cairn in Galloway. Another, curiously incised with alternate checkers of diamond shape, is described as a *hasta pura*. A spear-head, decorated in the same style, though with a different pattern, was found near Bilton, Yorkshire, along with a quantity of

¹ It is figured in the *Antiquary*, Abbotsford Edition, vol. ii. p. 17.

other bronze weapons, in 1848.¹ But the most singular of all the “several sorts of *hastæ* or *Roman spears*,” as Gordon delights to call them, is one figured on Plate LI., No. 6, of the *Itinerarium*, and which may be most fitly described as fiddle-shaped.² These remarkable examples have not been preserved in the Penicuick collection.

A great variety is now discernible in the weapons of the period. The metallurgist had at length mastered the new art, and was rapidly advancing in taste as well as skill. His inventive powers supplied constant novelty in the multiplication of new forms and ornamental de-

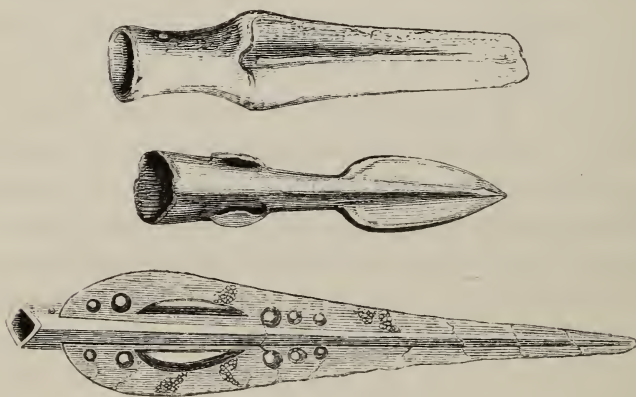


FIG. 65.—Bronze Spear-Heads.

vices ; and numerous engravings would be required to illustrate all the varieties of shape and decoration by which his increasing efforts at refinement and practical utility were manifested. The woodcuts, Fig. 65, represent some of the simpler forms of the bronze spear-head. The plain-socketed one, found with others in a moss near Campbellton, Argyleshire, measures nearly seven inches long ; and both it and the accompanying looped spear-head are of bright yellow metal. The large perforated or “eyed” spear-head represented in the same

¹ *Journal of the Archæological Association*, vol. v. p. 349.

² *Itinerar. Septent.* p. 117.

group, though on a smaller scale, measures fully nineteen inches long. It was found at Denhead, in Perthshire, in 1831, and now enriches the Scottish Collection of National Antiquities. The bronze of which it is made is extremely brittle, and the blade is fractured, thereby exposing a thin rod or core of iron, which has been inserted into the mould, to strengthen this unusually large weapon. The union of the metals marks its relation to the late transitional period, when such ponderous and brittle weapons were being displaced by those of the more abundant metal, which ultimately superseded all others in the useful arts. The larger spear-heads now frequently occur, "eyed," as it is termed, or perforated with a variety of openings, sometimes surrounded by a raised border. Indented patterns are also wrought on the blades, as in a fine example in the Dungannon collection, found near the river Dean, Forfarshire; and other decorations illustrate the taste and fancy of the designer. Among the broken and half-melted arms dredged out of Duddingston Loch are numerous fragments of eyed spear-heads; and other beautiful and more perfect specimens are preserved in the Scottish Museum, as well as at Abbotsford, and in other private collections. They are extremely various in form, exhibiting such a diversity of design even in the simple patterns, as well as of ornamental details in the more elaborate ones, as amply to confirm the idea suggested by so many remains of the Bronze Period, that they were the products of no central manufactory, much less the importation of foreign traders, but were designed and moulded according to the taste and skill of the local artificer. Of the simpler forms of the eyed or perforated spear, one of the most common is pierced with two segmental openings placed opposite to each other, or, more rarely, disposed irregularly so as to produce somewhat the appearance of an s or ogee perfora-

tion. I am indebted to Mr. Albert Way for a sketch of a very fine example of the former type, fourteen inches in length, discovered about a century ago, lying in a tumulus, by the side of a human skeleton, at Ardersier Point, Inverness-shire. A similar spear was found in Northumberland in 1847, along with a bronze sword and other relics, now in the possession of the Hon. H. Liddell. The looped and eyed spear-heads are common both in Scotland and Ireland; and the latter especially appears to be rare beyond their limits. The largest of all the examples hitherto found in Scotland, shown in Fig. 66, now constitutes one of the treasures of the Elgin Museum. This remarkably fine spear-head, which



FIG. 66.—Rosele Bronze Spear-Head.

measures $19\frac{1}{2}$ inches long, was found in digging on the hill of Rosele, in the parish of Duffus, Morayshire, in 1850. The blade is thin, and cast with peculiar skill. The flanged perforations through the lower part of the blade, are obviously not for ornament but use; and are supposed, like the loops on one of the spears, in Fig. 65, to have been designed for passing a thong through, in order more effectually to attach the blade to the shaft. The elaborate perforations of the eyed spear-heads are, on the contrary, ornamental additions, though also sufficing, in such large examples as the Denhead spear, to lighten the weapon and economize the metal.

The Scottish bronze dagger is almost invariably found to consist of a two-edged blade, tapering to a point, and perforated with two or more holes for attaching a handle to it by means of rivets, but without the simpler, and, as it would seem, more obvious and secure fastening of

a prolongation of the broad end of the blade for inserting into a haft. These weapons are also occasionally found elaborately ornamented, according to the prevailing style of the era. They generally retain the bronze rivets: thereby showing that their handles had been of wood or horn, and not of metal, as in many of the swords and daggers of the same era found in Denmark. The annexed figure represents a fine example of the Scottish bronze dagger, found at Pitcaithly, Perthshire, and now in the valuable collection of Mr. Bell of Dungannon. It measures fully six inches in length, by two inches in greatest breadth.

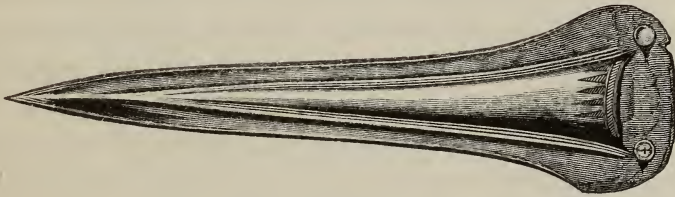


FIG. 67.—Bronze Dagger-Blade.

But the most characteristic and beautiful of all the relics of the Bronze Period is the leaf-shaped sword, which has been frequently found with both point and edge as sharp as when it first was used. The examples already referred to, found, in 1846, on the south side of Arthur's Seat, near Edinburgh, during the construction of the "Queen's Drive," are equal to any that could be produced. The larger of the two is one of the finest ever found in Scotland, measuring twenty-six and a quarter inches in extreme length, and one and three quarter inches at the broadest part of the blade. The form is exceedingly simple, though graceful and well proportioned; but a small engraving conveys a very imperfect idea of the weapon when held in the hand.¹ The section of the sword shows the art with which it is

¹ *Ante*, p. 352.

modelled, so as to secure the indispensable requisite of strength along with a fine edge, the blade swelling in the middle, and tapering off towards the line which runs round the entire blade within the edge. The metal is too brittle to resist violent contact with any hard body ; but if the edge of a bronze weapon is hammered till it begins to crack, and then ground, it acquires a hardness, and takes an edge not greatly inferior to the ordinary kinds of steel. Several of the bronze swords in the Scottish Museum are broken in two, and some of them imperfect : most of such having been found with sepulchral deposits. One of these was discovered, alongside of a cinerary urn, in a tumulus at Memsie, Aberdeenshire. Another lay beside a human skeleton, in a cist under Carlochan Cairn, one of the largest sepulchral cairns in Galloway, which stood on the top of a high hill on the lands of Chappelerne, parish of Carmichael ; it was demolished in the year 1776 for the purpose of furnishing materials to enclose a plantation. From such discoveries we are led to infer that one of the last honours paid to the buried warrior was to break his well-proved weapon and lay it at his side, ere the cist was closed, or the inurned ashes deposited in the grave, and his old companions in arms piled over it the tumulus or memorial cairn. No more touching or eloquent tribute of honour discloses itself to us amid those curious records of ages long past. The Elf-bolt and the stone axe of the older barrow, speak only of the barbarian anticipation of eternal warfare beyond the grave : of skull-beakers and draughts of bloody wine, such as the untutored savage looks forward to in his dreams of heaven. But the broken sword of the buried chief seems to tell of a warfare accomplished, and of expected rest. Doubtless the future which he anticipated bore faint enough resemblance to the "life and immortality"

since revealed to men ; but the broken sword speaks in unmistakable language of elevation and progress, and of nobler ideas acquired by the old Briton, when he no longer deemed it indispensable to bear his arms with him to the elysium of his wild creed.

This graceful custom would appear to have been peculiar to Britain, or it has escaped the attention of northern antiquaries. Mr. Worsaae makes no mention of it in describing corresponding Scandinavian weapons, though he refers to a practice of the later pagan Norsemen which implies its absence in the iron period,—“Skilful armourers were then in great request, and although in other cases the Danish warrior would have thought it unbecoming and dangerous to disturb the peace of the dead, he did not scruple to break open a barrow or a grave, if by such means he could obtain the renowned weapon which had been deposited beside the hero who had wielded it.”¹ Thus we learn that from the remotest times even to our own day, the northern warrior has esteemed his sword the most sacred emblem of military honour. In later ages the leaders of medieval chivalry gave names to their favoured weapons, the Troubadours celebrated their virtues with all the extravagance of Romaunt fable, and still the soldier’s favourite sword is laid on his bier when his comrades bear him to his rest.

Associations with these ancient weapons of an altogether different nature have been suggested, chiefly in consequence of some resemblance of the indented mouldings on the bronze swords to the ribs and grooves frequently found on the modern Malay Creess. The design of the latter, it is well known, is to retain poison, and it has been supposed, not without some appearance of probability, that such practices were not unknown to the ancient Caledonian. This has been already referred to

¹ *Primæval Antiquities*, p. 49.

as the purpose which perhaps first suggested those rude incised lines on the earlier axe-blades, afterwards turned to account as a means of tasteful decoration ; and is abundantly consistent with the practice of many semi-barbarous nations. In the ancient Irish poem on the death of Oscar, printed in the first volume of the Royal Irish Academy's Transactions, the spear of Cærbre is said to be poisoned, seemingly in no figurative sense. The era of the bronze sword is of an earlier date ; but notwithstanding the graceful symbolism apparent in some of the sepulchral rites, we have little reason for assuming that there was anything in the degree of civilisation of that period incompatible with such savage practices.

Fewer primitive relics of armour or of personal covering have been found than of weapons of war, as might naturally be expected among a people whose partial civilisation could not so far overcome the natural habits acquired in the chase and the sudden foray, as to induce them to cumber themselves with any great amount of defensive accoutrements. Skins and furs no doubt formed their chief articles of clothing and protection, and moreover, abundantly admitted of the degree of ornament which the taste indicated in the decoration of their weapons would lead them to aim at.

Helmets or head-pieces of any kind belonging to the native Pagan era are of extremely rare occurrence. In a tumulus at Drimnamucklach, Argyleshire, pieces of a rudely adorned bronze helmet were found, and are now in the possession of Mr. Campbell, the proprietor of the estate. Gordon describes another example found in a cairn near the water of Cree, Galloway,¹ but it was so cracked and brittle, and probably also so rudely handled,

¹ *Itiner. Septent.* Appendix, p. 172. Two helmets are said to be preserved by Lord Rollo at Duncrub House, Perthshire, which were dug up in the neighbourhood along with various bronze relics.—*Vide New Statist. Acc.* vol. x. p. 717.

that it fell to pieces on being removed. There is every reason to believe that this piece of defensive armour was not generally used among the native Britons, nor indeed among the Scandinavian warriors of the Bronze Period. Only one imperfect fragment of a bronze helmet exists in the ample collections of the Christiansborg Palace at Copenhagen. Diodorus refers to the brazen helmet of the Gauls, but both Herodian and Xiphiline speak of the Britons as destitute of this defensive head-piece even at the late period to which they refer. Their matted locks, which they decorated with the large and massive hair-pins of gold, silver, or bronze, so frequently found with

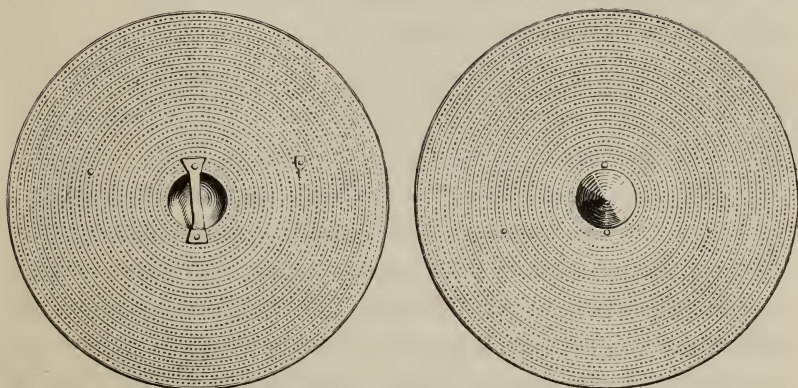


FIG. 68.—Bronze Buckler, Ayrshire.

other relics, sufficed them alike for protection and ornament. This custom was probably common to all the northern races. But the indispensable defensive armour of the old British warrior was his shield, made entirely of bronze, or of wood covered with metal, and sometimes adorned with plates of silver and even of gold.

The ancient bronze shield is frequently met with both in Britain and Ireland, and forms one of the most ingenious specimens of primitive metallurgic art. In 1780 a singular group of five or six bronze bucklers was discovered in a peat-moss, six or seven feet below the

surface, on the farm of Luggtonrigge, near Giffin Castle, Ayrshire. The shields were regularly disposed in a circle, and one of them, which passed into the possession of Dr. Ferris, was subsequently presented by him to the Society of Antiquaries of London. It has a semiglobular umbo, surrounded by twenty-nine concentric rows of small studs, with intervening ribs, and measures $26\frac{3}{4}$ inches in diameter.¹ Like all the primitive British bucklers, it will be seen that it was designed to be held in the hand, the raised umbo in the centre being hollow to receive and protect the hand where it grasped the cross-bar, seen on the under side in the annexed engraving. This central umbo is invariably surrounded with a series of rings in relief, with studs between; and the two pins seen on the inner side have perhaps secured a strap for suspending it to the neck of the wearer when not in use. Two remarkably fine bronze shields of this description, twenty-four inches in diameter, and with twenty-four concentric circles,—exhibited to the Society of Antiquaries of Scotland by Mr. George Wauchope of Niddry, in 1837, and since added to the collection,—were found near Yetholm, about eight miles from Kelso, at a depth of four feet, by a labourer engaged in digging a drain. Such is not the form of shield introduced on the gold coins of Tasciovanus, Cunobelin, and others of the native rulers contemporary with the first intercourse with Rome. On one of the coins of Tasciovanus a horseman wears a long double-pointed shield, and others, though round, are large, dished, and of very different construction from those described here, and supposed to pertain to an earlier period. Sir Robert

¹ *Catalogue of Antiquities, etc., Soc. Antiq. Lond.* 1847, by Albert Way, Esq., p. 16. Mr. Way adds in a note, “The description of the shield found in Ayrshire, as given in the minutes, corresponds with the buckler now in the Society’s possession in every particular, with the exception of the diameter, which is stated to have been about $15\frac{1}{4}$ inches, possibly an error of transcript.”

Sibbald describes among Scottish antiquities obtained on the sites of ancient camps, "pieces of harness of brass : some for the arms and some for the legs. Shields also are found ; some oblong and oval, and some orbicular. Some of these are of brass, and some of wood full of brass nails."¹ It is probable that many of the shields of the same period were made chiefly of wood and leather, with the central umbo of bronze. In the later Anglo-Saxon grave the iron umbo and other metal portions of the perished shield are of common occurrence ; and in the circular Highland target, still to be met with among collected relics of the clans, we find a curious imitation of the earlier model. Though the Roman fashion of wearing the shield on the arm has been followed by the Scottish mountaineer, rendering the hollow umbo no longer of use, yet it appears to the last in the boss of his target : furnishing another striking illustration of the unreasoning tenacity with which the Celtic race clings to ancient customs, and perpetuates, amid all the progressive civilisation with which it is surrounded, customs and traditions inherited from remote pagan centuries.

Among the specimens of defensive armour preserved in the Museum of the Scottish Antiquaries, are two pieces of thin copper, decorated with indented ornaments, which were presented to the Society by Sir George Mackenzie of Coull, Bart., in 1828. They are described by the donor as pieces of copper, supposed to be plate armour, or the covering of a shield, found in a cairn, under an oak-tree at Craigdarroch, Ross-shire. Various other portions were found along with these, and their appearance seems to justify the supposition of the donor. In the autumn of 1849 a remarkable discovery of bronze arms and other antiquities was made in the Isle of Skye. They included swords, spear-heads, celts, and a bronze

¹ *Portes, Colonie*, etc. App. pp. 17, 18.

pin with a hollow cup-shaped head similar to one figured in the *Archæological Journal*: a relic of one of the Irish Crannoges, or island strengths.¹ A gold armilla and other ornaments of the same precious metal are also said to have been obtained along with these ancient remains, and beside them lay the fragments of an oaken chest in which the whole appeared to have been deposited. The most of those valuable relics were secured by Lord Macdonald, but one curious and probably unique implement fell into private hands, and has since been deposited in the Museum of the Scottish Antiquaries. In general appearance it resembles a bent spear-head; but it has a

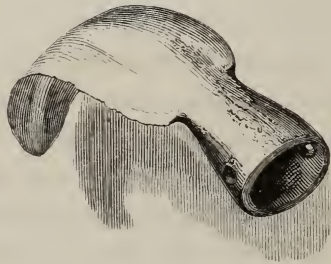


FIG. 69.—Bronze Implement.

raised central ridge on the inside, while it is nearly plain and smooth on the outer side. Its hollow socket is perforated with holes for securing it to a handle by means of a pin. The most probable use for which it has been designed would seem to be for scraping out the interior of canoes and other large vessels made from the trunk of the oak. But we necessarily reason from very imperfect data when we ascribe a specific purpose to the implements of a period the arts and habits of which must have differed so essentially from our own.

Another class of bronze implements, includes what are generally described as sickles, or reaping and pruning hooks. One of these, which was found at a depth of six

¹ *Archæol. Jour.* vol. iii. p. 48.

feet in a bog in the neighbourhood of Ballygawley, county of Tyrone, now preserved in the British Museum, is figured in the *Archæological Journal*.¹ Another, engraved in General Vallancey's *Collectanea*,² is described as "a small securis, called by the Irish a *searr*, to cut herbs, acorns, misletoe, etc.," and a fine series, varying in form and decorative details enriches the collection of the Royal Irish Academy.³ Among older writers on antiquities such relics were invariably described as the pruning-hooks with which the Druid priests were wont to cut the sacred misletoe. About the year 1790, an instrument of this class was discovered at Ledberg, in the county of Sutherland, by some labourers cutting

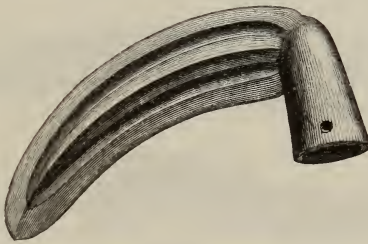


FIG. 70.—Bronze Reaping-Hook.

peats, and was pronounced by the Earl of Bristol, then Bishop of Derry, to whom it was presented, to be a Druidical pruning-hook, similar to several found in England.⁴ The example here engraved (Fig. 70) was dredged up in the river Tay, and is now preserved in the Perth Museum. Perhaps among the same relics of primitive agricultural skill ought also to be reckoned a curious weapon or implement of bronze, occasionally found in Scotland, two examples of which are shown in Fig. 71. One of them is from the original in the Museum of the Scottish Antiquaries. This was found among the

¹ *Archæol. Jour.* vol. ii. p. 186.

² No. 13, Plate x. Fig. 4.

³ *Catalogue of the Museum of the Royal Irish Academy*, vol. i. p. 527.

⁴ *Sinclair's Statist. Acc.* vol. xvi. p. 206.

remains of many large oak-trees, on the farm of Rottenmoss or Moss-side, in the vicinity of Crossraguel Abbey, Ayrshire, and is not inaptly described by its donor as nearly resembling one of the common forms of the Malay Creess. It measures fourteen inches in length. The other and more finished implement of the same kind is in the collection formed by the distinguished Scottish antiquary, Sir John Clerk, at Penicuik House. It is furnished with a hollow shaft or socket for the handle. The same interesting and valuable collection includes other specimens of this primitive implement, constructed like that in the Museum of the Scottish Antiquaries, with only a metal spike for insertion into the haft.

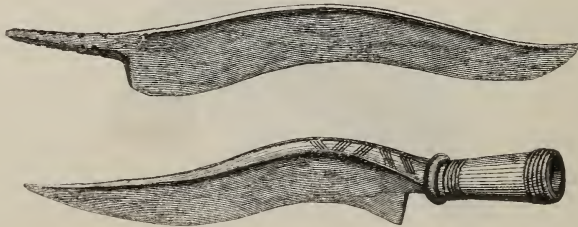


FIG. 71.—Bronze Reapers.

Some examples of this relic of old agricultural skill are of extremely small dimensions, measuring only from six to eight inches in the length of the blade, and should perhaps more correctly be described as pruning-hooks or knives. But in this, as in so many other attempts to assign a use to obsolete implements, the most probable suggestions of their original purpose are at best but guesses at the truth.

Such may suffice in illustration of some of the most characteristic weapons and implements of the Bronze Period. In the detailed enumeration of specific examples the course of inductive reasoning has been necessarily interrupted; but in this and subsequent accumulations of needful details, the argument is in reality presented

in another aspect. For it is impossible to compare the variety of design, the progressive details of ornamentation, and the ingenious adaptation of the new materials to many novel requirements, and to contrast them with the few and simple devices of the Stone Period, without perceiving that we are now studying the traces of a greatly advanced intellectual and social condition. Of all the remains which thus illustrate the arts and customs, and give proof of the ingenuity and mechanical skill of this period, we can now affirm with confidence that they bear no resemblance to the well-known remains of the Northmen: including as these also do, so many works in bronze, as well as weapons of iron. No less certain is it that they are equally unlike the familiar contents of the earliest Anglo-Saxon graves. They correspond in no degree to the descriptions furnished by classic authors of the arms of the Britons and Caledonians of the first and second centuries, or of the neighbouring tribes of Gaul and the Rhine-land. Earlier therefore than the oldest of those periods must we search backward into unhistoric centuries for Britain's age of bronze; and if we do detect some traces of its art in barrows of the Anglo-Roman period: it is no more than may be seen among the long-conquered nations of Mexico and Peru, where still linger memorials of arts and customs which attained their highest development ages before the prow of Columbus steered into the unexplored west, and abruptly closed the Bronze Period of the New World.

CHAPTER V.

DOMESTIC AND SEPULCHRAL VESSELS.

ALONG with the weapons and implements of this period there have been found at various times drinking cups, culinary vessels, horns, and other similar relics, calculated to throw additional light on the manners and domestic habits of the people by whom they were wrought and used. Among such, attention is naturally directed to those formed of the precious metals; and this not only from their rarity and intrinsic value, but because gold is a metal chiefly found in superficial deposits, and presenting an appearance calculated to attract the notice of the rude wanderer of the primeval forests; while at the same time it is so easily wrought into the simpler forms of personal ornament that works of gold of massive and rude workmanship, frequently bear intrinsic evidence of their primitive origin. Objects of this costly material are indeed associated with bronze relics of very different eras, but the workmanship and ornamentation of both furnish an easy clue to the relative periods of their construction. The sepulchral deposits or chance disclosures of the Scottish bogs and alluvial strata, have not indeed yielded such treasures of art as the celebrated Danish golden horns, or the beautiful silver cups of a later era, like that taken from the grave of Queen Thyre Danebod, at Jellinge in Denmark; but there are not wanting undefined yet not less certain traces of the like costly memorials of primitive native art, discovered only to be

destroyed. On the lands of Garthland, Wigtonshire, two vessels made of gold, described in the Romanizing fashion of last century as lachrymatories, were found in 1783.¹ At the village of Lower Largo, Fifeshire, a treasure was recovered from a sepulchral deposit, sufficient, it is believed, to enrich the original finder ; out of which the only relics that escaped destruction are two armillæ of pure gold, remarkable for their elegance and skilful workmanship.² In 1839, a tenant engaged in levelling and improving a field on the estate of Craigen-gelt, near Stirling, opened a large circular cairn, which bore the popular name of "The Ghost's Knowe." It measured exactly 300 feet in circumference, and nearly fifty feet in height, and around its base twelve large stones were disposed at regular intervals. Underneath this cairn a megalithic chamber was found, the upright stones of which are about five feet high, and within it lay a skeleton, imbedded in matter which emitted a strong resinous odour, but the bones rapidly crumbled to dust on exposure to the air. The gentleman on whose estate this remarkable cairn stood,³ and to whom I am chiefly indebted for this description, had given strict orders to send for him if a cist or coffin was discovered ; but while operations were delayed in expectation of his arrival, one of the labourers plundered the hoard and fled. Many valuable articles are reported to have been found ; among which was a golden horn or cup, weighing fourteen ounces, and ornamented with chased or embossed figures. This interesting relic was purchased from one of the labourers by a gentleman in Stirling, and is believed to be still in existence, though I have failed, after repeated applications, to obtain access to it. The exact nature or value of the whole contents of this

¹ Sinclair's *Stat. Acc.* vol. ii. p. 56.

² *Archæol. Journal*, vol. vi. p. 53.

³ John Dick, Esq. of Craigen-gelt.

cairn is not likely ever to be ascertained. The only articles secured by the proprietor, and now in his possession, are a highly polished stone axe or hammer, eight inches long, rounded at one end, and tapering at the other; a knife or dagger of the same material, eighteen inches long, which was broken by one of the stones falling on it when opening the cist; and a small gold finger-ring, chased and apparently originally jewelled, though the settings have fallen out. Several other cairns still remain unexplored at Craigengelt, some of them of much larger dimensions than the one which yielded such interesting results. English tumuli and primitive deposits have occasionally furnished still more valuable gold relics; such as the gold corslet found in Wales, now in the British Museum.¹ Golden vessels have also been discovered under similar circumstances, as in a cairn near the Cheese Wring, in Linkenhorne parish, Cornwall, which was accidentally broken into in 1818, and a gold cup found lying beside the sepulchral remains. It was opened by some miners, who had selected the mound as an appropriate site on which to erect an engine-house. Within the cairn was a large megalithic vault, or cromlech, and underneath this lay a flat stone measuring nine feet long by about four feet broad, which covered the sepulchral deposit. In this chamber a thin slab, placed in a shelving direction against one of the sides, protected its valuable contents from injury. The remains of a skeleton lay extended on the floor of the cist, and about the position of the breast stood an earthen vessel, within which was placed the gold cup. It is bell-shaped and rounded below, like the Danish gold cups found under similar circumstances and

¹ *Archæologia*, vol. xxvi. p. 422. *Vide* also Walker's *Hist. Essay on the Dress of the Ancient Irish* (Dublin, 1788), for a notice of a gold corslet, found near Lismore, and sold to a goldsmith at Cork for £600.

engraved in the *Guide to Northern Archæology*. The earthen vessel was unfortunately broken by the fall of the stone that covered it, but its fragments exhibited the usual incised ornamentation of the early British pottery. A bronze spear was likewise found with these remarkable relics. The gold cup was claimed for the Crown as Lord of the Duchy of Cornwall, and it is believed to be still at Windsor Castle.¹ It would find a more appropriate place in the long desiderated British department of the British Museum.

As we cannot doubt that those buried records of primitive native history have as yet been only very partially disclosed: so also we may hope that the rarer and more curious relics of the precious metals are also unexhausted, and that golden horns and silver beakers, adorned with the well-defined decorations of the Archaic era of native art, may still lie safely garnered in the same store-house and registry from whence so many records have been drawn forth, reserved for better times, when their discovery will no longer involve their destruction. It will be seen from the number and variety of personal ornaments of the same precious metals described in future chapters, that such an idea is no mere chimerical dream. Whencesoever the metal was derived, gold appears to have been used in Scotland to a very great extent, from the earliest period of the introduction of the metals, and to have been frequently laid in the sepulchres of the most honoured dead, with no fear that sacrilegious hands would disturb the sacred deposit.

Vessels of bronze are by no means so rare as those of the precious metals. They are not indeed often found in the tumuli, and have obviously been held in less esteem than the weapons and personal ornaments of the same metal. But among the interesting disclosures

¹ MS. Letters, W. T. P. Shortt, Esq. of Heavitree, Exeter.

brought to light by the draining of bogs and lakes, and the ordinary processes of agriculture, no relics have been more frequently discovered than the various culinary and domestic utensils of bronze, generally known by the names of Roman tripods and camp-kettles. Some of these do undoubtedly belong to the Anglo-Roman era ; but the whole have been much too indiscriminately assigned to the legionary invaders and colonists, whose occupation of Scotland was equally brief and partial, and whose relics must therefore form a very small proportion even of those of the later period on which their novel arts were intruded.

In the *Account of the Dominion of Farney*, by Evelyn Philip Shirley, Esq., an engraving is given of a singular caldron, made with considerable taste and skill, of plates of hammered bronze, riveted together with pins of the same metal, the heads of which are conical in form, and being regularly disposed, serve to decorate as well as to secure the vessel. Two bronze rings are fastened to the inside of the rim by ornamental staples, and with these it was obviously designed to be suspended over the fire. This remarkable relic, which measures sixty inches in widest circumference, was discovered in the year 1834, at a depth of twelve feet below the surface of a bog, in the barony of Farney, Ulster. Bronze rings and staples, similar to those attached to this ancient caldron, have been frequently found in Scotland. One has been already referred to, which was dredged out of Duddingston Loch, near Edinburgh, along with a large quantity of bronze arms. Several others are preserved in the Scottish Museum, two of which (measuring each $4\frac{3}{4}$ inches in diameter) were found along with the bronze caldron here represented, from the same collection. Its dimensions are twenty-five inches in greatest diameter, and sixteen inches in height. No question can exist

of its native workmanship. The rings and staples are neatly designed, but rudely and imperfectly cast and finished, and are decorated exactly as those of the Farney caldron. The circles embossed on the side of the vessel are in like manner such as have been frequently noted on objects of the Bronze Period, both in Britain and on the Continent. Nevertheless, in accordance with the classical system of designation which is even yet only partially exploded, this remarkable native relic figures in the printed list of donations in the *Archæologia Scotica* as

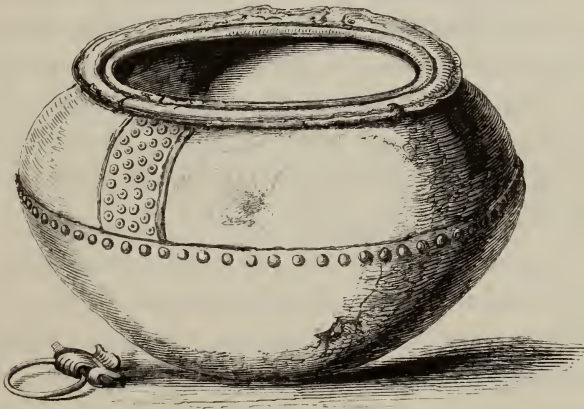


FIG. 72.—Bronze Caldron, Kincardine Moss.

a Roman camp-kettle. It was dug up in the year 1786, from the bottom of the peat-moss of Kincardine, some miles west from Stirling, where it lay upon a stratum of clay beneath the moss, which generally ranges from seven to twelve feet deep. Evidence already referred to leads to the conclusion that the moss of Kincardine was in nearly the same state at the period of Agricola's invasion as it continued to be till nearly the close of the eighteenth century. A curious allusion to this locality, in Blind Harry's *Life of Sir William Wallace*, refers to the moss as then impassable on horseback, and so leaves us in no doubt as to its condition in the four-

teenth century. After Wallace and his adherents had surprised an English garrison in the Peel of Gargunnoch,

“ Yai bownyt yaim our Forth for to ryde ;
 The moss was strang, to ryde yaim was na but,
 Wallace was wycht, and lychtyd on hys fute ;
 Stewyn of Irland he was yair gyd that nycht
 Towart Kincardyn, syne restyt thar atright,
 In a forest, that was bathe lang and wyde,
 Rycht fra the moss grew to the wattir-syde.”¹

More recently a beautiful caldron of somewhat smaller dimensions, but more ornamented, and with the bronze rings attached to its decorated rim, has been added to the Scottish collection by bequest of Mr. Archibald Leckie of Paisley. No doubt can be entertained as to the remote era of another bronze caldron already referred to, recovered, with its varied contents, from a bog in King's County, and now in the collection of the Earl of Rosse. Among the smaller examples of Scottish bronze vessels, one found by a labourer while cutting turf in Lochar Moss, Dumfriesshire, about two miles north from Cumlongan Castle, is still more deserving of notice, owing to the beautiful relic of pure native character which it enclosed. It is a small bowl of graceful form, measuring six and a half inches in diameter and three in depth, formed of thin bronze plate of the bright colour common to many primitive relics, and very skilfully wrought. Within it lay one of the curious ornamental collars more particularly described in a later page,² to which the name of Beaded Torc is now assigned. Lochar Moss, where these interesting antiquities were discovered, has proved a fertile field for archæological treasures of many different eras : primitive canoes, native stone and bronze relics, products of Roman civilisation and medieval art ; while within it lie embedded the trunks

¹ Blind Harry's *Wallace*, book iv. 272.

² The Bowl and Torc are both engraved on Plate ix.

of gigantic oaks and other natives of the forest, which once occupied the area of this ancient and extensive morass.

Of the more usual forms of tripods, kettles, and caldrons of bronze, which are commonly assigned to the Romans, both the circumstances under which many of them have been found, and the style of their decorations, are sufficient to show that they have been much too summarily classed among foreign productions. So long as bronze continued to be the rare and precious metal which we find good evidence for concluding it to have been during a transition-period of considerable duration, we may be well assured that neither domestic utensils, nor such implements of common use as the older material could supply, would be manufactured of it. We have abundant proof, however, that the supply of the metals kept pace with the increasing demands of progressive civilisation ; and as this gradually displaced old barbarian habits by more refined tastes, the gratification of the palate would be aimed at along with the simpler desire for the mere supply of animal wants. Hence we may trace in the bronze caldron and the tripod evidences of native civilisation, though doubtless of a late period, and not improbably, in many cases, coeval with and even later than the era of Roman invasion. Bronze vessels, of the description to which we refer, have been frequently found not only in the north of Scotland and in Ireland, but in Denmark and Sweden, where no Roman legions ever established a footing ; though we must, of course, bear in remembrance that Roman culinary implements, like Roman coins, might reach many regions which their makers never visited. But classical writers make special reference to the abundance of such vessels among the Gauls, and even ascribe to the Bituriges the invention of the art of tinning them.¹

¹ Pliny, xxxvi. 22.

A remarkable discovery of primitive bronze vessels was made in the autumn of 1848, by some labourers engaged in trenching a piece of mossy ground, situated under a peculiar ridge of trap rock about a mile and a half due south of North-Berwick Law, on the Balgonie estate, the property of Sir George Grant Suttie, Bart. The whole ground, extending to above twenty acres, was formerly a morass. It has been partially drained of late years, in consequence of which the mean level has sunk three or four feet. In the centre of this morass the relics were found, consisting of a large bronze pot or caldron, several tripods, goblets, and various fragments of thin plates of bronze, all much corroded. One of the bronze goblets lay within the large caldron, and the whole were found close together, at a depth of about three feet from the surface, apparently just as they had been thrown into the morass.

The pottery of such frequent occurrence in tumuli, cairns, and cists, constitutes another class of relics illustrative of the ingenuity and artistic skill of the native manufacturer, and presenting in every respect a striking contrast to the fictile manufactures of the Roman colonists. It is not from any doubt of the use of the sepulchral urn, and of the rites of cremation, during an earlier period, that all notice of native fictile ware has been reserved till now, though both furnish undoubted evidence of some progress attained by the primitive Briton. It is altogether impossible, however, with the limited amount of accurately observed facts with which the Scottish archæologist has to deal, to pretend to classify into distinct periods the pottery found in the ancient tumuli and cairns. Many of these fictilia are so devoid of art as to furnish no other sign of advancement in their constructors from the most primitive state of barbarism, than such as is indicated by the piety which provided a

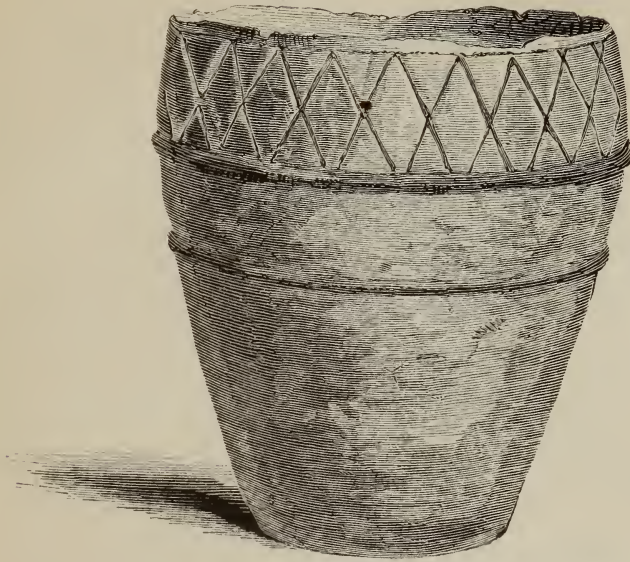


FIG. 73.—Hill of Tuack Cinerary Urn.



FIG. 78.—Sepulchral Cups or Lamps.

funeral pyre for their dead, and even so rude a vase wherein their ashes might be inurned.

One obvious distinction is at once apparent between the unsymmetrical hand-made urn and that which has been turned and fashioned into regular shape. Yet even this marked subdivision will not suffice for chronological arrangement; for the very rudest and most unsymmetrical of all the hand-made urns in the Scottish Museum, devoid of grace, and destitute of the very slightest attempt at ornament, was found to cover a pair of gold armillæ somewhat roughly finished with the hammer, and three smaller rings of the same metal, two of which are neatly ornamented with parallel grooves.¹ It seems, indeed, as if some pious hand may have hastily fashioned the clay into shape while the flames of the funeral pile were preparing the ashes it was to hold.

It is obvious even from this single instance, that any assignment of native fictilia to the primeval period can only be done on the distinct ground of their being found accompanied solely with the relics of flint and stone, and in barrows or cists of the most ancient construction. Still, setting aside the idea of a precise chronological arrangement, somewhat may be done as an approximation towards a system of classification. The early British pottery, though at best sufficiently rude, exhibits considerable variety both in form and workmanship, from the coarsest specimens of unshapely sun-dried clay to the graceful and elaborately decorated vases made by workmen who had acquired a knowledge of the potter's wheel. The latter idea has, indeed, been denied on high authority, since it was first advanced in the former edition of this work, but, as I think, from a too literal assumption of the old "potter's wheel" as the precise equivalent of modern mechanical contrivances. In his *Historical Eth-*

¹ *Archæol. Scot.* vol. iv. p. 298, and Plate XII.

nology of Britain,¹ when describing the pottery chiefly exhumed from barrows, Dr. Thurnam remarks:—"It is all more or less rude; and, as its lightness, porosity, and fragility show, is merely sun-dried, or, at the most, imperfectly baked and reddened on the outside, at an open fire, or in a rude kiln of piled stones. It is often disproportionately thick and unsymmetrical, and exhibits no trace of the potter's wheel. The form and ornament must equally have been given by hand, unaided, unless by a spatula or other simple instrument of wood or bone." On a close examination of some of the more symmetrical examples of such pottery I have repeatedly noticed the continuous spiral striæ traced in the soft clay by the hand or modelling-tool while it was thrown. It must not be assumed, from the use of modern terms, that the ancient potter had perfected for himself all the appliances of the thrower's wheel and the horizontal lathe. I have recently examined, at Boston, U.S., a wheel of the rudest simplicity, brought from India, where it is used by the Hindoo potter at the present day, simply by revolving it in one hand while he shapes the clay with the other. Such a whirling-stick or axis, broad enough at top to hold the mass of clay needed for the vessel in process of formation, is all that is required for throwing; and if by any method, however simple, the old potter learned to communicate motion to the mass of plastic clay, and while thus revolving he modelled its form by means of tools of wood or bone held against it, this was equivalent not only to the potter's wheel, but also involved the principle of the turning-tool and vertical lathe.

It is solely due to the protecting enclosure of the cist or chambered cairn that specimens of such fragile ware have been recovered and preserved; but though all, or

¹ *Crania Britannica*, p. 107.

nearly all the examples of primitive British pottery have been found with sepulchral deposits, it is rarely difficult to discriminate between domestic vessels and cinerary urns, independently of the contents of the latter. The presence of the cup or bowl alongside the weapons and implements deposited with the ashes of the deceased warrior, is readily accounted for. The difficulty which the uncultivated mind experiences in realizing any adequate conception of death, or of a future state, apart from the daily necessities and cravings of the body, has led in many different stages of social progress, to the custom of depositing food and drink, unguents, perfumes, and similar necessities or luxuries of life beside the remains of the loved dead, or even along with the cinerary urn. The archæologist has accordingly been long familiar with the fact, that some at least of the fictile ware found in cists and barrows are not sepulchral; and such names as "drinking-cups" and "incense-cups" have been given to one numerous class of small vases, whilst others are supposed to be reliquaries, lamps, or ordinary cooking-vessels and other domestic utensils.

Notwithstanding a remarkable example, already referred to, of the discovery of one of the rudest hand-made urns along with gold relics, it may be assumed that such vessels generally belong to the earliest period. We cannot, at any rate, hesitate to assign the more ornamental and symmetrical pottery to a period of partially developed art and tutored skill. Even in the case of the rude Banffshire urn, the gold armillæ are roughly wrought with the hammer, and may have been fashioned from the native gold by a workman who knew of its ductility, but had yet to learn the use of the furnace, the crucible, and the mould. We know from the most ancient records both of sacred and profane history, that the potter's wheel is among the earliest inventions. It is

noticed by Homer as an art which he assumes to possess a popular significance ; the prophets Isaiah and Jeremiah refer to it as the most familiar illustration of creative power ; and the hieroglyphics and symbolic paintings still visible on the temples of Egypt, prove that the simile is older by many generations than that day when the Hebrew prophet “ went down to the potter’s house, and behold he wrought a work on the wheels.” On the wall of a chamber in the ruined temple of Philæ, belonging to the era of the Ptolemies, Kneph, the ram headed god, is represented seated at a potter’s wheel, which he turns with his foot, while he fashions the mass of clay on it with his hands. The accompanying hieroglyphics have been diversely interpreted, but this example of the employment of the potter’s wheel in Egyptian symbolism appears to be another familiar illustration of the same idea : *chaos* transformed to *cosmos* by the one absolute creative power. The contents of the earliest Egyptian tombs furnish abundant evidence of the perfection to which the potter’s art had been carried ; and recent discoveries at Nimroud and along the banks of the Tigris disclose no less satisfactory proofs of skill among the ancient dwellers in the great river plains of Asia. The ignorance, therefore, of so simple a contrivance as the potter’s wheel furnishes no less conclusive proof of a rude and barbarous state of society than the stone weapons and implements of the same period. In the one instance we see the intelligent barbarian ingeniously turning to the best account his very limited materials, and effectively supplying the want of metals apparently from the most inadequate resources. In the other, we find him fashioning the plastic clay with far less skill or symmetry than the thrush or the common barn-swallow displays in the construction of its nest.

The rudimentary form of the true cinerary urn is that

of the common flower-pot, still retained as the easiest and simplest shape into which the plastic clay can be fashioned. Many of the larger urns are of this type, such as that engraved on Plate VI., Fig. 73, measuring nearly twelve inches high, from the original in the Scottish Museum, which was found in the usual inverted position close to one of the monoliths of a circle at the Hill of Tuack, near Kintore, Aberdeenshire. From this simple shape was gradually developed the varying forms, both of sepulchral and domestic pottery, found deposited with the dead: inurning the sacred ashes and the costly tributes of affectionate reverence, or placed in the

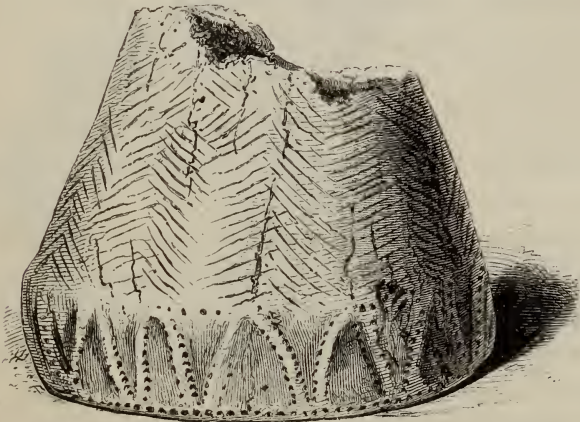


FIG. 74.—Belhelvie Urn.

grave with offerings of food and drink designed to sustain the deceased on his final journey to the world of spirits. Cinerary urns have been recovered of varying sizes, from the small cup or bowl, with its little handful of ashes, to the clay cist or urn large enough to hold three or four gallons, as in the fine example figured on Plate VII., measuring $13\frac{1}{2}$ inches high, which was found at the Ha' Hill of Montblairy, Banffshire. Some of the largest ones may be regarded as really clay cists, as in the imperfect specimen figured here (Fig. 74), dug up in 1855, on the farm of Belhelvie, Fifeshire. It measures

eighteen inches in greatest diameter, and when perfect must have stood nearly two feet high. These large cisturns are almost invariably found inverted, with the burned bones gathered into a heap below them, and not unfrequently with a bronze spear-head, or some other relic deposited on the heap. Other urns of a smaller size, and sometimes elaborately decorated according to the rude arts of the primitive potter, most frequently occur in cists, standing with the mouth upward, alongside of the unburied skeleton. But their contents leave no room to doubt the purpose for which they were prepared. The ashes and burned bones contained in them, are frequently accompanied with the stone, bronze, or gold personal ornaments of the deceased; and suggest the probability of their containing the remains of victims slaughtered at the grave of him whose body has been laid unburned in the cist, accompanied by the inurned ashes of wives and slaves.

A complete monograph of the native pottery of the British Isles, though it could not present anything like the comprehensive variety of classic or mediæval fictile ware, would form a highly instructive contribution to primitive archæology. But here it must suffice to indicate the diversity of types. In the years 1833 and 1834 several vases of a peculiar form were discovered in stone cists, in the parish of Whitsome, Berwickshire. The cists were placed north and south, measuring internally four and a half feet in length; and beside the unburnt bones in each lay an urn of unglazed earthenware, of a triangular shape, the original contents of which had been converted into black dust.¹

No examples of primitive fictile ware of this unusual form have come under my notice; and it is to be feared that in the case referred to they were only recovered to be

¹ *New Statist. Acc.* vol. ii. Berwickshire, p. 171.

destroyed, as I have failed to ascertain that any of them are now in existence. The two urns here represented (Fig. 75) were found under nearly similar circumstances, lying alongside of the unburned bones of a human skeleton, and so indicative apparently of their original use as domestic rather than sepulchral vessels.¹ In the year 1817 a party of men employed in levelling a piece of ground on a farm at Banchory, Kincardineshire, in the progress of their work, struck on a stone which proved to be the cover of a cist of unusually large dimensions,



FIG. 75.—UrnS found at Banchory.

lying nearly due NE. and SW. It was composed of six slabs of rough undressed mica-slate, so arranged that the skeleton which lay within was bent at the pelvis to fit the angular construction of the enclosed space. It measured internally, in a straight line, six feet, by two and a quarter at the north end, where the head lay, and only one foot ten inches at the lower end. Within this the skeleton was disposed in the singular position above described, with the vases on its right side, one opposite

¹ MS. Letters and Drawings, Alexander Thomson of Banchory, Esq., 1st Nov. 1817; Libr. Soc. Antiq. Scot. The small cup figured along with them is one found on Arthur's Seat, near Edinburgh. *Ante*, p. 351.

the knee and the other at the thigh-joint. Nothing was found in them but some sand which had fallen in on opening the cist. The largest measured six and a half inches, and the other five inches in height. They are described as "composed of the common stones of the country pounded, granite, mica-slate, apparently some moss-earth, and a little clay on the outside. They are wonderfully accurately made, and the patterns meet so well that one would think they had been done in a lathe or stamped. They are perfectly circular, and seem to have been only baked in the sun." Several cists have been discovered in the same neighbourhood, but no other example is known to have corresponded to this either in disposition or contents. The whole skeleton crumbled into dust after being exposed for a short time to the air; but it would appear to have exhibited the not uncommon characteristic in early graves of a head remarkably small in proportion to the body. The discoverer remarks:—"The teeth are perfectly fresh; and from the appearance of the jaws the skeleton must be that of a full-grown person, though of small stature."

Another example of pottery somewhat similarly disposed, was discovered more recently on the demolition of the old town-steeple of Montrose. This venerable belfry tower, which was ascribed to the twelfth century, occupied the highest ground in the centre of the ancient burgh. After serving for centuries as clock-tower, belfry, and prison, the fabric at length became so ruinous that it was taken down in 1833. In digging the foundations for the new steeple, which occupies its site, the workmen excavated the ground about nine feet below the surface, and fully three feet below the base of the old tower. Remains of several bodies were found in the new ground: one of which lay with the head towards the west, and had a small pile driven through the skull. In another

part, directly underneath the foundations of the old tower, was a skeleton disposed at full length in a rude stone cist, and with four urns beside it: two at the head and two at the feet. The skeleton measured six feet in length, and the skull, which has been already referred to, is now in the Edinburgh Phrenological Museum.¹ Only two of the urns were preserved; one of which, now in the Montrose Museum, is figured here. The other is in the collection of the Scottish Antiquaries, and is a neat vessel of common form, decorated with the usual style of incised chevron ornaments. There is something peculiarly interesting in thus recovering memorials of long-forgotten generations, over which

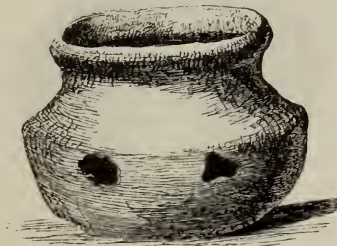


FIG. 76.—Montrose Urn.

later builders had reared the massive tower unconscious of their presence. The strong old Gothic masonry, after withstanding the storms of some seven centuries, has decayed and been swept away; and from beneath its foundations we recover the fragile yet more enduring memorials of primitive skill pertaining to another era, when an older race was just struggling into intelligent youth.

Among the most remarkable classes of domestic pottery found in the tumuli, are those evidently designed for suspension, and occasionally provided with a cover or lid made of the same material. Some of them are round on the bottom, so as to be unfitted for setting on the ground, and it seems no improbable infer-

¹ *Ante*, p. 275, No. 2 of Table II. Cranial Measurements.

ence that in these we possess examples of the earliest artificial cooking vessels manufactured by native skill. They are familiar to Continental as well as to British archaeologists, and are figured in several works on Scandinavian antiquities. The example engraved below, from the original in the Scottish Museum, was found in one of a group of cists, under a large cairn, at Sheal Loch, in the parish of Borthwick, near Edinburgh, and is minutely described by Dr. Jamieson in the *Archæologia Scotica*.¹ It is made of fine baked clay, burned to an unusually hard and durable consistency, and measures $4\frac{1}{2}$ inches in height by about $6\frac{1}{2}$ in diameter. Five per-



FIG. 77.—Sheal Loch Urn.

forated projections are disposed at nearly equal distances around it, as shown in the engraving, and the interior of the vessel bears evident marks of fire. Examples of urns of this class, perforated or provided with projecting ears for suspension, have been repeatedly found in British tumuli. One of nearly the same dimensions, recovered from a cist in Wetton Hill Barrow, Derbyshire, is engraved in the *Crania Britannica*; and Dr. J. Barnard Davis remarks in describing it,—“It is made of reddish clay, which still contains some pebbles, and has received a harder firing than usual.”² The larger ones, with a depth greater than their width, may be more fitly described as pots or cooking-vessels than as urns; and

¹ *Archæol. Scot.* vol. ii. p. 76.

² *Crania Britannica*, Decade 11.

some of them bear considerable resemblance to culinary utensils manufactured by the Mandans and other Indian potters of the New World. The examples of ancient pottery in the Scottish Museum include the fragments of a second urn with perforated ears, found under a cairn in Fifeshire. The opening of another cairn at Crakraig, Sutherlandshire, brought to light a third, seemingly of the same class ;¹ and other notices, though less definite, prove that such vessels have been repeatedly discovered under similar circumstances.

But an interesting disclosure of recent date throws a novel light on the possible use to which some of the vases deposited in the primitive cist were applied. The bronze and earthenware lamp are both of common occurrence among the contents of the Roman sarcophagus; and the fancy has been repeatedly revived of the sepulchral lamp, lit by some occult art, burning through long ages to light up the entombed ashes, and only expiring when re-exposed to the vulgar air. But it seems not improbable that some such idea actuated the older Briton; and that his sepulchral pottery also included the lamp, enkindled among the last rites of unavailing affection, that its light might cheer the narrow vault, or the gloom of the megalithic catacomb, to which the dead was consigned. In 1855 three cists of grey granite were opened near Kinaldie, Aberdeenshire, in the vicinity of a rude monolith, styled the "Gauk Stone of Bendaugh," and in a district rich with primeval remains. On removing the covering slab of one of the cists, a male skeleton was exposed to view, doubled up, with the skull lying between the thigh-bones; and an earthen vase at the left side. The skull, which is characterized by unusually brachycephalic proportions, is figured in the *Crania Britannica*. Similar vases were found in each of the

¹ *Archæologia*, vol. xix. Plate XLIII.

cists, all pretty well burned, reddish, black in their fracture, and elaborately ornamented with different chevron patterns. Mr. A. Watt, under whose observation the cist from whence the skull was obtained was opened, states that at the bottom of the vase examined by him, there was a deposit of black, greasy matter; and also that the covering slabs of all the cists presented the appearance of a spot marked with smoke on their undersides, about a foot in diameter, immediately above where the urns were placed.¹ I can see nothing improbable in the conclusion he arrived at, that the vases had held some fat substance, in all probability blubber, such as the Esquimaux burn with wicks of moss, and which had been kindled at the moment of interment.

Small shallow cups, without ears, but perforated through the rim or sides, constitute another variety of sepulchral pottery. Three fine examples in the Scottish Museum are shown on Plate VI. Fig. 78. The central one was found upwards of seventy years since, at Old Penrith; that on the right, near Dunbar; and the third was recovered from the foundations of an ancient ruin in the island of Ronaldshay, Orkney. At an earlier period, it was customary to term such vessels incense cups; but the perforations for suspension which probably suggested the name, are equally applicable to their use as lamps; and this I am inclined to believe was their actual design. Similar cups or lamps have been repeatedly found alongside of the larger pottery in cists and barrows, sometimes devoid of ornament, but generally symmetrical, and finished with a degree of art and skill indicative of the progress attained, and perhaps also of changing ideas of the future life, which led to this addition of the lamp to the other vessels deposited beside the funeral urn in the narrow chamber of the dead.

¹ *Crania Britannica*, Plate xxv. p. 2.

It has already been indicated that many of the Scottish cinerary urns are so large as almost to merit the name of cists. So far as my opportunities of observation extend, it appears to be more common in Scotland than elsewhere to meet with urns measuring thirteen, fourteen, and even sixteen inches high. In the cairns, more especially where several urns are grouped together, one is frequently much larger than the others, though not more ornamented; for the pottery of the largest size is generally comparatively plain. The woodcut represents three urns, now in the Museum of the Scottish Antiquaries, recovered from stone cists at Lesmurdie, Banffshire, along with crania and other relics already



FIG. 79.—Lesmurdie Urns.

referred to. The largest of the urns measures nearly eight inches high, and the smallest five and a half. Among the larger urns in the same collection is one measuring $11\frac{1}{2}$ inches in height, found within the area of the modern Scottish capital, in digging for the foundation of the north pier of the Dean Bridge, that spans a deep ravine through which the Water of Leith finds its way to the neighbouring port. Another urn in the Scottish Museum, measuring $12\frac{1}{2}$ inches in height, was found near Abden House, in the parish of Kinghorn, Fifeshire, in 1848, by workmen engaged in cutting through the rocks on the sea-shore, preparatory to the formation of the Northern Railway. When discovered it lay in an

inverted position on the flat surface of the rock, at a depth of five feet, and was full of ashes and burnt bones. In examples discovered under similar circumstances, it is not unfrequently observed that the inside of the urn exhibits considerable marks of exposure to heat and smoke. The incinerated remains appear to have been carefully gathered together in a little heap while the glowing embers had only partially consumed the bones, and over this the inverted urn was laid, quenching the last fires that glowed within the ashes once ardent with life.

None of those examples of primitive Scottish pottery have been accompanied by relics which would enable us to assign them with absolute certainty to the period when the introduction of the metallurgic arts had stimulated native skill and ingenuity into action : unless perhaps in the case of the small cup found on Arthur Seat, alongside of which I have reason to believe a bronze celt now in my possession was found. But most of them, in all probability, do belong to that period ; nor is it at all improbable that the practice of cremation may itself be traced to the same source from whence the ingenious workers in stone learned to fuse the metallic ores, and fashion them into every variety of form. There are not wanting, however, numerous examples both of native domestic pottery and of cinerary urns, found along with relics which leave no room to question their belonging to the Bronze Period. The larger of the two vases represented in the annexed woodcut, Fig. 80, was discovered under a tumulus at Memsie, Aberdeenshire, and beside it lay a bronze leaf-shaped sword, broken in two. It is scarcely a quarter of an inch in thickness, and otherwise exhibits in symmetrical proportions and durable material the evidences of experienced workmanship. In style of ornament it differs little from the ruder specimens of pottery.

But from the well-baked material and the unusual thinness of the ware, it furnishes a good example of the highest perfection attained in the potter's art prior to the introduction of the vitrified glazing which is found for the first time in connexion with relics of the latest Pagan era. The smaller vase, dug up in the parish of Ratho, a few miles from Edinburgh, was found filled with ashes and fragments of human bones, mingled with which were bronze rings, and the handle of a small vessel of the same metal. Both of these specimens of primitive fictile ware are now in the Scottish Museum. A third, in the same collection, somewhat similar to the last, was discovered in trenching a field near the old castle of



FIG. 80.—Scottish Urns.

Kineff, Kincardineshire. A bronze spear lay beside it, and within it were found, mingled with the ashes of the dead, two large bronze rings, possibly designed to be worn as bracelets, and the broken and corroded fragments of several others of smaller proportions.

The numerous discoveries of cinerary urns and sepulchral pottery of various kinds, which have been made in Scotland, abundantly prove the very extensive and long continued practice of the rite of cremation by the early Britons. It is a just subject of regret that so very limited a number of examples of those curious specimens of native art have been preserved. The statistical ac-

counts of nearly every parish in Scotland report such discoveries, frequently in considerable numbers. Many pass into private hands, to be forgotten and abandoned to inevitable destruction, when the transient influence of novelty has passed away ; many more are destroyed so soon as discovered. To the casual observer they appear mere rude clay urns characterized by little variety or art. A closer examination of them, however, shows that they are divisible by periods, classes, and the adaptation to various purposes ; and it is hardly to be doubted that, with an ample and systematically arranged collection, a more minute classification might become apparent. A more general diffusion of knowledge on this subject will, it is to be hoped, aid in the accomplishment of so desirable an end. With the hearty co-operation of landed proprietors, clergy, and the educated classes who have influence in rural districts, it might be effected at little cost or trouble ; and it is impossible fully to anticipate the important inferences that might become obvious, in relation to the primeval history of our country, by such an accumulation of the productions of native archaic art. Egyptian, Assyrian, Greek, Roman, and medieval manufactures, have all been patiently and enthusiastically traced back to their first rude efforts. It is to the study of the infancy of medieval art especially, that the sculptors and painters of Germany, France, and England, have now turned in their enthusiastic anticipations of a new revival. Why should the infantile efforts of our own national ancestry be alone deemed unworthy of regard, rude though they be, and little akin to the favourite models of modern schools ? They form an important first-link in the history of native design, and manifestly were among the earliest products of skilled labour and inventive ingenuity. It is obvious, moreover, that the art must have been in use for many gene-



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Urn from the Ha' Hill of Montblairy, Banffshire.

rations. Amid the evidences of a thinly scattered population, examples of it are still of very frequent occurrence, after all the ravages of the spade and the plough. In these we trace its gradual improvement, and from thence very effectually discover proofs of the progress of their constructors. First in order is the shapeless hand-made urn, merely dried in the sun. To this succeed the imperfect efforts at decoration and symmetrical design, and also the subjection of the moist clay to the process of the kiln. Then comes the important discovery of the potter's wheel, or some simple equivalent for it, in the train of which many other improvements follow ; until at length the ethnologist, in pursuing his investigations by such means, discovers in the Roman urn or embossed Samian ware, and the glazed pottery of the Anglo-Saxon, the evidence of the revolution of races, and the displacement of native by intruded arts. But the older examples preserve the memorials of successive stages of development unaffected by foreign influence, and full of interest not only as a part of Britain's primeval history, but in their more comprehensive bearing on the innate sources of man's progressive civilisation.

In the process suggested as that by which the more complicated patterns wrought on the native pottery were produced, we recognise another element of the ornamental and useful arts. Among the rarer contents of British sepulchral mounds, fragments of manufactured clothing have been repeatedly found. These appear to have been invariably wrought with the knitting-needle, and in their texture may be traced the patterns of herring-bone, chevron, and saltire work, as well as nearly all the more complicated designs employed in ornamenting the contemporary pottery. After a careful examination of examples within my reach, I have little doubt of this

being the source of the earliest imitative ornamentation, in advance of the first simple attempts at combinations of incised lines. The subject will again come under review in a future chapter ; but, meanwhile, it may be noted here as suggestive of one possible source of decoration of the rude cinerary urn, that its fragile texture was strengthened at first by being surrounded with a plating of cords or rushes, which, in tasteful hands, would assume the same arrangement as in the work of the knitting needles, and thus lead to the reproduction of such patterns by a more durable process on the clay. Humboldt describes a similar practice which came under his notice at the village of Maniquarez in South America, where the Indian women fashioned their rude vessels out of a decomposed mica-slate, which they bound together with twigs, and baked in the sun. It is certain that very many of the indented patterns on British pottery have been produced by the impress of twisted cords on the wet clay : the intentional imitation, it may be, of undesigned indentations originally made by the plaited net-work on ruder sun-dried urns ;—so simple and yet so natural may be the source to which we must look for the first glimmering dawn of British art. Painters have delighted to picture the Grecian maiden tracing her lover's shadow on the wall. Perchance some British artist may not think it beneath his pencil to restore to us the aboriginal potter marvelling at the unsought beauty which his own hands have wrought.

Along with such evidences of taste and inventive ingenuity as the works of the primitive potter display, the increasing demands of progressive civilisation also become apparent in the adaptation of vessels to the various requirements of domestic convenience or luxury. The clay-made pottery improves from the clumsy, friable, ill-baked urn, into a vessel of light and durable consist-

ency, fitted for all the common purposes of fictile ware. To this extent it was carried during the archaic era of native art to which we give the name of the Bronze Period. It will be seen in a future section that it received further improvements from native skill before it was superseded by more ingenious arts indirectly derived from Roman civilisation.

CHAPTER VI.

PERSONAL ORNAMENTS.

IN nothing is the singular inequality so characteristic of archaic art more strikingly apparent than in the contrast frequently observable between the rude clay urn of the Scottish tumulus or cairn and the valuable and beautiful relics which it contains. Many of the latter, indeed, are scarcely admissible under any classification of archaic art. They differ more in characteristic peculiarities of style than in inferiority of design, when compared with relics of the Anglo-Roman period. Reference has already been made to the probable sources from whence the abundant supplies of gold were derived by the primitive Caledonian metallurgist. But whencesoever they are assumed to have been procured, the fact is unquestionable, that while silver was exceedingly rare, if not indeed entirely unknown, until almost the close of the Bronze Period, gold appears to have been one of the very first metals wrought, and to have been obtained in such abundance as to supply the material for numerous personal ornaments of large size and great weight.

But the skill and ingenuity of the primitive artist was not solely confined to ornaments wrought in gold or bronze. The humblest materials assumed new value by the aid of his ingenuity and taste; and not a few of the personal ornaments of a comparatively late stage of progression in the Bronze Period are still formed of stone,

or of the more easily wrought amber, jet, and bituminous shale. Beads and necklaces of the latter materials are of very frequent occurrence; and while some are characterized by little evidence of taste or ingenuity, many more are the manifest products of experienced mechanical skill, and probably belong to a comparatively late period. In these especially we detect the evidence of the use of the turning-lathe, and its ingenious adaptation to the production of a great variety of articles. This we may fairly regard as another important step in advance of the improvements already detected in the native fictile wares by the introduction of the potter's wheel. Some antiquaries, indeed, have been inclined to class the whole of those either among the direct products of Roman art, or as the fruits of the civilizing influence resulting from intercourse with the Roman colonists; but if previous evidences of the priority of the early native eras are of the slightest value, the circumstances under which many jet and shale ornaments and relics have been found leave no room to doubt that they are productions of unaided native ingenuity. The same materials, however, continued to be used during the Anglo-Roman period, and to partake of the influences of Italian art and mechanical skill in the latest forms which they assumed. It therefore becomes necessary to exercise the same care in discriminating between such products of native and foreign taste in the relics of jet or shale, as in those of the metals, or of glass and ivory. Solinus refers to jet as one of the articles of export from Britain; and Bede describes it as abundant and highly valued.¹ But such evidences of its later foreign use are in no degree inconsistent with its early adoption for the construction of personal ornaments by the native Britons, among whom

¹ Solinus, c. xxii.; Bede, *Hist. lib. i. c. 1*; *Collectanea Antiqua*, C. R. Smith, vol. i. p. 174.

its fitness for this purpose was probably first recognised. The style of many of the relics of this class found in the primitive cists and cairns, and especially of those which are presumed to be female ornaments, totally differs from Anglo-Roman or classic remains, and abundantly confirms their native origin.

A stone cist, discovered in 1841, on the estate of Burgie, in the parish of Rafford, Elginshire, contained a skeleton, believed to be that of a female from the small size of the bones, in a sitting posture, and with the head in contact with the knees. The other contents included an urn ten inches high, rudely decorated with incised lines; a ring of polished shale or cannel coal, two and a half inches in diameter; four rhomboidal pieces of the same material, the largest pair two inches long; two triangular pieces, and about a hundred large beads, all perforated for the purpose of being strung together for a necklace. Various other cists have been discovered on the same estate, generally containing urns.

A necklace formed in part of similar ornaments now in the Arbuthnot collection, at Peterhead, was found a few years since in a tumulus in the parish of Cruden, Aberdeenshire, and consists of alternate beads of jet and perforated but irregular pieces of amber. The largest beads measure four inches in length, from which they diminish to about an inch. The only other object beside them was a flint hatchet seven inches long.¹

Various interesting personal ornaments obtained under similar circumstances, are preserved in the Scottish Museum; and one set, in particular, found enclosed in an urn within a rude stone cist, on the demolition of a tumulus near the Old House of Assynt, Ross-shire, in 1824, very closely corresponds in appearance to the

¹ *Vide* also Sinclair's *Statist. Acc.* vol. i. p. 330; vol. v. p. 392; vol. xvi. p. 482.

description of the contents of another cist opened at Houstoun, Renfrewshire, including “ many trinkets of a jet black substance, some round, others round and oblong, and others of a diamond shape, etc., all perforated. There was a thin piece, about two inches broad at one end, and perforated with many holes, but narrow at the other ;” and supposed to have been the centre-piece of an ornament for the breast.¹ The Assynt relics include a necklace of irregular oval jet beads, which appear to have been strung together like a modern string of beads, and are sufficiently rude to correspond with the works of a very primitive era. The other ornaments, re-



FIG. 81.—Jet Necklace, Roxburghshire.

presented here about one-fourth the size of the original, are curiously studded with gold spots, arranged in patterns similar to those with which the rude pottery of the British tumuli are most frequently decorated ; and the whole are perforated with holes, passing obliquely from the back through the edge, evidently designed for attaching them to each other by means of threads.² Another sepulchral deposit of similar personal ornaments, including two fibulæ or disks of bituminous shale, measuring one and a half inches in diameter, found in a

¹ Sinclair's *Statist. Acc.* vol. i. p. 330 ; vol. ix. p. 53. *Vide* also Sir R. Sibbald's *Portes, Coloniae, etc.*, App. 18, and Plate iii.

² *Archæol. Scot.* vol. iii. p. 49.

grave at Letham, was presented to the Scottish Museum in 1820 by Sir David Brewster. It probably formed a portion of the contents of a group of cists discovered in a round gravel knoll or tumulus, near the Den of Letham, and described in the *New Statistical Account of Dunning Parish, Forfarshire*. They contained urns of red clay with rude ornaments upon them, and human bones irregularly disposed. "The neck-bones of some were adorned with strings of beads of a beautiful glossy black colour, neatly perforated longitudinally, and strung together by the fibres of animals. They were of an oval figure; large and small ones were arranged alternately, the large ones flat on the two opposite surfaces, the small ones round. They seemed to consist of ebony, or of some fine-grained wood which had been charred and then finely polished. On keeping them some time they split into plates, and the woody fibres separated. In some of these graves rusty daggers were found, which fell in pieces by handling."¹ One is almost tempted to challenge the completeness of this account, and to suspect the position of the necklaces, and perhaps the fibre strings also, to be creations of the statist's imagination, more especially as the graves contained no perfect skeleton.

Interesting examples of necklaces and other ornaments, similar in material, style, and character, were discovered on opening some Derbyshire barrows in 1846. These "female decorations of Kimmeridge coal," as they are styled,² were deposited beside a female skeleton, in a cist formed of large stones. "The other instruments found on this occasion were all of flint, not the least fragment of metallic substance being visible. The ornament appears to have been a kind of necklace, with a central

¹ *New Statist. Acc.* vol. xi. p. 147.

² *Journal of Archæol. Assoc.* vol. ii. p. 234.

decoration, enriched by bone or ivory plates, ornamented with the chevron pattern so prevalent on articles of presumed Celtic manufacture, terminating with two laterally perforated studs of the coal ; the remainder of the ornament consists of two rows of bugle-shaped beads of the same material." A few days later, two more necklaces, of similar design and material, were found in a cist under a barrow, in like manner accompanied only with implements of flint and bone. Engravings of some of these relics accompany the narrative of their discovery ; and their similarity to those of the early Scottish tumuli, leaves no doubt that both belong to the same period. It is remarked of the Derbyshire relics by their discoverer,—"On the most superficial examination, it is quite evident that these articles have never received their form from the lathe, as the armlets of Kimmeridge coal are clearly proved to have done. This, coupled with the fact that the perforation through the length of the bead is in no instance carried through from one end, but is bored each way towards the centre (as would be the case if a rude drill of flint were used for the purpose), bespeaks a far more remote period than the one in which the use of the lathe was prevalent."¹ Both the unsymmetrical form, and the perforations of the beads found in the Ross-shire tumulus, fully correspond with these, in the indications of the imperfect skill and rude instruments of their manufacturers. But the slow progress of native art was first aided, as we believe, by the invention of the potter's wheel ; and from this other ingenious mechanical contrivances may have originated. The introduction of the turning-lathe has not unnaturally been ascribed to Roman influence ; but while works of the Anglo-Roman period executed in shale, and with obvious traces of Roman art, are abundant, rings and armlets

¹ *Journal of Archaeol. Assoc.* vol. ii. p. 235.

of polished shale occur even more frequently than the beads and necklaces of the same material, among the contents of Scottish cairns and barrows lying beyond the confines of Roman influence, and where no traces of their arts and arms have been found. Ornaments of shale were so easily wrought, that it need not surprise us to find them characterized by the same primitive rudeness of design and workmanship as the stone implements and the pottery lying alongside of them under the same cairn or barrow, pertaining, as we believe, to times long anterior to the era of the first Cæsar. But works of the same material, as well as of jet, not only occur in Anglo-Roman sepulchres, but also in those of the late Norsemen: as in the case of two rings of polished shale discovered, in 1786, in a ruined burgh or "Pictish fort" in Caithness, lying beside a skeleton, along with two fine oval brooches. The workmanship, therefore, and the circumstances attendant on their discovery, must determine the age of shale relics, as well as those of copper, gold, or bronze.

English antiquaries have long been familiar with a class of objects on which the name of "Kimmeridge Coal Money" was conferred, under the supposition that the circular pieces of shale so designated had been used as a native circulating medium. The English "coal money" is found almost exclusively in two little secluded valleys at Purbeck, on the southern coast of Dorsetshire, known as Kimmeridge and Worthbarrow Bays. Similar relics, however, it will be seen, are not unknown in Scotland, though designated by other names than the local term derived from Kimmeridge Bay. They consist of flat circular pieces of shale, with bevelled and moulded edges, varying in size from $1\frac{1}{4}$ to nearly 3 inches in diameter, and frequently perforated or indented with one or more holes. The actual purpose for which this coinage of the

Kimmeridge Mint was destined, long formed an antiquarian riddle, which baffled the acutest English archæologists ; for the popular name was rather adopted as a convenient term, than seriously regarded as properly applicable to articles so fragile and valueless. One ingenious but somewhat fanciful theorist did, indeed, attempt to prove these relics to be the work of Phœnician artists, designed, not as an actual circulating medium, “but as representatives of coin, and of some mystical use in sacrificial or sepulchral rites !” All such ideas, however, are now entirely exploded, and it is no longer doubted that they are the waste pieces produced in the formation of rings from the shale on the turning-lathe. The fragments of pottery, and other relics discovered along with these curious exuviæ of early art, leave little room to doubt that during the Anglo-Roman period the manufacture of amulets, beads, and other personal ornaments of Kimmeridge shale, must have been carried on to a considerable extent in the Isle of Purbeck.¹ But the same idea of the use of such circular pieces of shale as money is found attached to them in Scotland. In the account of the parish of Portpatrick, for example, it is remarked,—“Circular pieces, from two to three inches diameter, cut out of a black slate not found in the parish, are frequently dug up in the churchyard, along with rings out of which these pieces seem to have been cut. Both of these are supposed by the people here to have been used as money.”² Similar relics have been found in Kirkeudbright and other southern shires : in Scotland, however, more mysterious attributes conferred on such relics a curative virtue akin to that which

¹ *Vide* Mr. J. Sydenham “On the Kimmeridge Coal Money,” *Archæol. Jour.* vol. i. p. 347 ; and *Jour. of the Archæol. Assoc.* vol. i. p. 325, where accurate engravings of the “coal money” are given.

² *New Statist. Acc.* vol. iv. Wigtonshire, p. 142.

was ascribed to the older Elf-bolt ; though in this case we are not without classic authority for the superstition. In Kirkcudbrightshire, for example, the rings and disks of shale retained nearly to our own day the same popular estimation for their medicinal virtues, or supernatural powers, as we find ascribed to the ornaments and amulets of jet among the Romans.¹ Mr. Joseph Train remarks, in reference to a tumulus at Halferne, in the parish of Crossmichael :—"There have been found, at different times, near the same moat, several round flat stones, each five or six inches diameter, perforated artificially in the centre. Even within the memory of some persons yet alive, these perforated stones were used in Galloway to counteract the supposed effects of witchcraft, particularly in horses and black cattle. 'The cannie wife o' Glengappoch put a borit stane into ane tub filled with water, and causit syne the hail cattell to pass by, and, when passing, sprinkled ilk ane o' them with a besome dipped in it.' One of these perforated stones, as black and glossy as polished ebony, is in my possession. It was recently found in the ruins of an old byre, where it had evidently been placed for the protection of the cattle."² Again, Ure remarks, in his *History of Kilbride*, "a ring of a hard black schistus, found in a cairn in the parish of Inchinan, has performed, if we believe report, many astonishing cures. It is to this day preserved in the parish as an inestimable specific."³ Similar proofs of the superstitious rever-

¹ "Fugat serpentes ita, recreatque vulvæ strangulationes. Deprehendit soticum morbum, et virginitatem suffitus. Hoc dicuntur uti Magi in ea, quam vocant axinomantiam : et peruri negant, si eventurum sit, quod aliquis optet."—Pliny, lib. xxxvi. cap. 34.

² Communication by Mr. Joseph Train to the *New Statist. Acc.* vol. iv. Kirkcudbrightshire, p. 196.

³ Ure's *Hist. of Rutherglen and Kilbride*, p. 219. *Vide* also p. 217, and plate i. for an account of urns, bronze relics, and a shale ring, found under a large cairn called "Queen Mary's Mount."

ence attached to these ancient relics are by no means rare.

Ornaments of shale have been discovered both in the Northern and Western Isles, farthest removed from Roman arts and influence. One example, which is here engraved one half the natural size, was found in the Isle of Skye, and presented to the Scottish Society of Antiquaries in 1782. It is supposed to be designed for the clasp of a belt. Two rings of the same material, each measuring $3\frac{1}{2}$ inches in diameter, were discovered about two years later on the same island, and added to the Scottish Museum. Similar relics are described by Sir R. Sibbald,¹ Ure, Gordon, and repeatedly in the Old and New Statistical Accounts, as of frequent occurrence

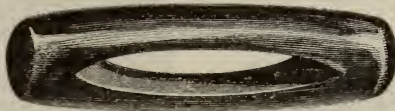


FIG. 82.—Shale Ornament.

alongside of the skeleton and cinerary urn in Scottish barrows and cairns. One example was found under a large cairn in East Kilbride, called "Queen Mary's Mount," lying alongside of primitive urns, and a rude fibula and comb of bronze.² Another, four inches in diameter, flat on the inside, and rounded without, was obtained from one of a remarkable group of tumuli, called the Three Laws of Logie, in the parish of Logie, Forfarshire, along with an urn full of ashes, and the remains of four skeletons.³ In 1832, some labourers levelling a sandy field at Dubbs, in the parish of Stevenston, Ayrshire, came upon a paved area five feet under the surface, measuring six yards long and two broad.

¹ *Portes, Coloniae*, etc. Appendix 18, and Plate III.

² Ure's *Rutherglen and Kilbride*, p. 217, and Plate 1.

³ Sinclair's *Statist. Acc.* vol. ix. pp. 52, 53.

Across one end lay a stone of about a ton weight, and at the other there was found a stone cist, measuring three feet in length by two in breadth. Within it were two urns, one of grey and the other of black pottery, both apparently filled only with earth, and beside them lay five studs or buttons of different sizes, formed of highly polished jet. The urns were broken, but the studs were preserved by the late Colonel Hamilton. They are convex on the one side, and concave on the other, with knobs left in the latter, seemingly for attaching them to the dress. The largest is more than an inch in diameter.¹ The woodcut represents a fibula of the same material, two inches in diameter, found on Craw-

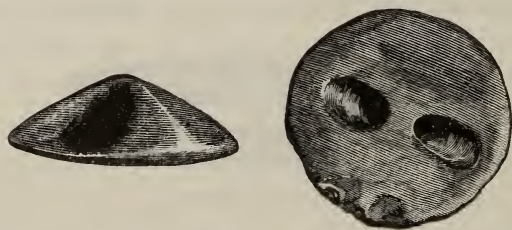


FIG. 83.—Jet Fibula.

furd Moor, Lanarkshire, and now in the Scottish Museum. Sir R. C. Hoare refers to numerous examples of this class of personal ornaments recovered by him, and engraves one exactly similar found in a barrow at Blandford, in Wiltshire.² Mr. Bateman has engraved another in his *Vestiges of the Antiquities of Derbyshire*, from a large barrow on the summit of Net Lowe Hill, in that southern county of England; and the same author illustrates his work with various necklaces and other ornaments of shale, found in the Derbyshire barrows, corresponding in form and style of workmanship to those recovered in the graves of Ross-shire and other northern Scottish districts.³

¹ *New Statist. Acc.* vol. v. p. 454.

² *Ancient Wiltshire*, Plates XII. XXXIV.

³ *Vestiges of the Antiquities of Derbyshire*, pp. 69, 89, 92.

When we bear in remembrance the isolation of numerous independent and even hostile British tribes at a period so recent as that of the Roman Conquest, this uniformity of type in the most widely severed districts is well deserving of attention. Whether we regard it as evidence of the extent of intercourse anciently carried on between distant tribes, or of some system of traffic by which such prized objects were diffused by wandering traders throughout the British islands, such comparisons cannot fail to interest the student of primitive history, and to encourage him in the prosecution of his researches among its long neglected records.

The rings, which form the most common articles manufactured of shale, have been usually considered as armlets, but it is doubtful if such was their real use. Many of them, indeed, are too small to admit of the hand passing through them, and rings of similar size and form are discovered of various other materials. One in the Scottish Museum, apparently of glazed earthenware, and measuring nearly three inches in diameter, was found under a large cairn at Bogheads, Kintore parish, Aberdeenshire, in 1789, and beside it lay four oblong squared pieces of polished shale, the two largest two inches in length, the other two an inch and a half, and an inch in breadth. Between each pair were three oval beads of the same substance, nearly an inch long. They were described, when presented to the Society, as having been suspended from the ring; but it is more probable that they formed, as in other cases, a separate necklace. A number of cairns, some of them of very large dimensions, still remain for future exploration, on the same extensive moor, which occupies a considerable area in both the parishes of Kinellar and Kintore. Another ring in the Scottish collection, formed of a white translucent stone, was found on the Flanders Moss, Perthshire;

and a third, of hard dark wood, $3\frac{1}{2}$ inches in diameter, and $1\frac{3}{4}$ inches broad, was discovered near a cairn on the north side of Hatlock, in Tweeddale, on first subjecting the neighbouring heath to the plough in 1784. It has been suggested that these rings formed part of the female head-gear, through which the hair was drawn; and a sculptured female head, found at Bath, is referred to, on which an ornament somewhat resembling them is represented so applied.¹ The discovery of such rings alongside of female ornaments, such as the necklaces and pendants already described, seems to justify the classification of them among objects of mere personal adornment; and where found singly, their supposed use in the arrangement of the long locks of their owners furnishes a very feasible explanation of one of the purposes for which they may have been designed. Nevertheless, the frequency of their occurrence, under a great variety of circumstances, suggests the idea that these rings may possess a higher value, as records of long obsolete rites and customs, than pertains to the mere objects of personal adornment. They have been found accompanying female ornaments, and apparently with female remains; but they have also been discovered no less certainly in the sepulchres of warriors and chiefs, and under cairns which seem to mark the last resting-place of those who fell in the grim strife of war. We shall not perhaps greatly err, if we trace in these relics of such frequent occurrence something analogous to the sacramental ring of the Scandinavians, described in the Eyrbyggja Saga, and referred to in a former chapter in illustration of the perforated stone at Stennis, in Orkney, and the vow of Odin of which it was the seal. Dr. Hibbert has already observed on this subject:—"In Iceland a less bulky ring for the ratification of engage-

¹ *Collectanea Antiqua*, C. R. Smith, vol. i. p. 174.

ments was introduced. Within the hof was a division, like a choir in a church, where stood an elevation in the middle of the floor, and an altar. Upon the altar was placed a ring, without any joint, of the value of two oras. These rings (idly named Druidical amulets) are variously formed of bone, of jet, of stone, and even of the precious metals. Some are so wide as to allow the palm of the hand to be passed through them, which rings were used when parties entered into mutual compacts. In a wood-cut given in an old edition of Olaus Magnus, the solemnization of a betrothing contract is represented by the bridegroom passing his four fingers and palm through a large ring, and in this manner receiving the hand of the bride. This is similar to the mode practised in Orkney, where contracting parties join hands through the perforation, or more properly speaking the ring, of a stone pillar. In the oath administered to an individual as a test of veracity, it was sufficient that he held in his hand a ring of small size, dipped in the blood of sacrificial victims.”¹

An illustration of the mode of administering such an oath occurs in Viga Glum's Saga. In the midst of a wedding-party Glum calls upon Thorarin his accuser, to hear his oath, and taking in his hand a silver ring, which had been dipped in sacrificial blood, he cites two witnesses to testify to his oath on the ring, and his having appealed to the gods in his denial of the charge. These customs belong to more recent centuries than the Scottish Bronze Period. But it is impossible to say to how remote an era we must look for their origin, or how long before the time of the Vikings, the Scandinavian and Celtic races, as well as their Allophylian precursors, had been familiar in their common cradle-land in the far East, with rites and usages from which the sacredness of this sacramental ring may have sprung.

¹ On the Tings of Orkney and Shetland, *Archæol. Scot.* vol. iii. p. 120.

Viewed in this light, the frequent occurrence of such relics in the cist, or under the memorial cairn, may be pregnant with a far higher meaning than the mere ornamental fibula or amulet. When found with the spear and sword, the ring may indicate the grave of the warrior-priest or lawgiver,—a union of offices so consistent with society in a primitive state; while, in the female barrow, amid the bracelets and necklaces which once adorned the primitive British matron, the curious relic may, with no undue indulgence of fancy, be looked upon as the spousal pledge, and the literal wedding-ring. It seems, indeed, most probable, that the little golden ring with which, in these modern centuries, we wed, is

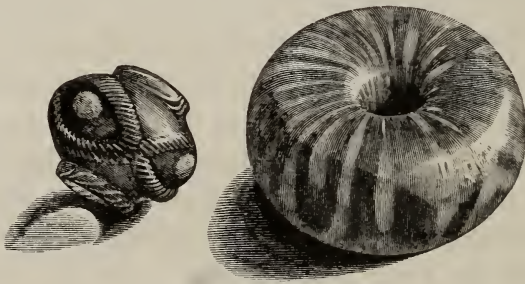


FIG. 84.—Glass Beads.

none other than the symbolic memorial of the old sacramental ring which witnessed the vows of our rude island fathers, and was made the pledge of their plighted troth. This, however, is perhaps trespassing beyond the pale of legitimate induction into the seductive regions of fancy, where antiquaries have too frequently chosen to wander at their own sweet will.

In some degree akin to the personal ornaments of jet and shale are the large beads of glass, or vitreous paste, and amber, so well known among the contents of British tumuli, and associated, even in our own day, with the same superstitious virtues ascribed to them in the writings of the philosophic but credulous Pliny. The

very same story, in fact, is told of the *Adder-stane* in the popular legends of the Scottish Lowlands as Pliny records of the origin of the *Ovum Anguinum*. The various names by which these relics are designated all point to their estimation as amulets or superstitious charms ; and the fact of their occurrence, most frequently singly, in the sepulchral cist or urn, seems to prove that it was as such, and not merely as personal ornaments, that they were deposited along with the ashes of the dead. They are variously known as Adder Beads, Serpent Stones, Druidical Beads, and among the Welsh and Irish by the synonymous terms of *Glainneidr*, *Gleini na Droedh*, and *Glaine nan Druidhe*, signifying the



FIG. 85.—Glass Beads.

Magician's or Druid's glass. Many of them are exceedingly beautiful, and are characterized by considerable ingenuity in the variations of style. Among those in the Scottish Museum there is one of red glass, spotted with white ; another of dark brown glass, streaked with yellow ; others of pale green and blue glass, plain and ribbed ; and two of curiously figured patterns, wrought with various colours interwoven on their surface. The specimens engraved here are selected from those. Among a curious collection of antiquities discovered in a barrow on Barnham Downs, and exhibited by Lord Londesborough at a meeting of the Society of Antiquaries of London, March 7, 1850, there was a large glass bead,

which had been broken and ingeniously repaired with a hoop of bronze,—a significant indication of the great value attached to it.

Beads of amber, stone, clay and porcelain, as well as of horn and bone, are all more or less common among the early sepulchral deposits, and may be regarded with little hesitation as of native workmanship. Amber, though not indigenous to this country, is of sufficiently frequent occurrence to account for its employment in the manufacture of personal ornaments, without assuming its importation from the Baltic, where it most largely abounds. Both Boece¹ and Camden notice the finding of pieces of extraordinary size at Buchanness, on the coast of Aberdeenshire. The clergyman of the parish of Peterhead, in the same county, in drawing up an account of his parish for Sir John Sinclair, mentions having in his possession “a pretty large piece of amber,” recently found on the sea-beach near the manse; and in 1783, Mr. George Paton presented to the Society of Antiquaries of Scotland two pieces found on the sea-shore in the

¹ Boece gives the following quaint description of amber, affording evidence of the mode of its introduction, though sufficiently extravagant in the style of its theorizing:—“Amang the rochis and craggis of thir ilis growis ane maner of electuar and goun, hewit like gold, and sa attractive of nature, that it drawis stra, flox, or hemmis of claithis to it, in the samin maner as dois ane adamont stane. This goume is generat of see froith, quhilk is cassin up be continewal repercussion of craggis againis the see wallis; and throw ithand motioun of the see it growis als teuch as glew, ay mair and mair; quhill, at last, it fallis doun of the crag in the see. . . . Twa yeir afore the cumin of this buke to licht, arrivit ane gret lomp of this goum in Buch-quhane, als mekle as ane hors; and wes brocht hame be the hirdis quhilkis were kepannd thair beistis, to thair housis, and cassin in the fire. And becaus they fand ane smelland odour thairwith, they schew to thair maister that it wes ganand for the sens that is made in the kirkis. Thair maister wes ane rud man as they wer, and tuke bot ane litill part thairof. The maist pairt wes destroyit afore it come to ony wise mannis eris; of quhome may be verifit the proverb,—‘The sow curis na balme.’ Als sone as I wes advertist thereof, I maid sic diligence, that ane part of it wes brocht to me at Abirdene.”—Bellenden’s *Boece*. The *Cosmographie*, chap. xv.

Firth of Forth, near Queensferry. The fact, indeed, of amber being obtained in the greatest quantities on the southern coasts of the Baltic Sea, is sufficient to account for its also occurring in smaller quantities on the east coast of Scotland. It appears accordingly to have formed one of the most favourite articles for adorning and setting brooches, hair-pins, and other personal ornaments, from the earliest practice of the jeweller's art, until our native tastes and customs were merged, by increasing intercourse with other nations, into the common characteristics of later mediæval art.

The source from whence the "Adder Beads" were derived is more difficult of solution. The most probable means of accounting for their introduction to Britain is by the Phœnicians, or the traders of Gaul, and the Massilians at the mouth of the Rhone, who were in direct communication with the older race, whose early skill in the manufacture of glass is familiar to us. To the same source, indeed, was in all probability due the initiative suggestions and examples which originated the most important improvements characteristic of the period now under consideration. It is to the traders from Sidon, Carthage, and Alexandria, that we naturally look for the introduction of the arts of the Mediterranean into the British Islands, which Phœnician voyagers had brought to the knowledge of the Gauls long before the Romans had ventured to cross the narrow seas. But the very vagueness of the notices which occur not only in the pages of Herodotus, but in those of Strabo and Diodorus, serve to remind us that after all we know almost nothing precise or definite, concerning Phœnician intercourse with Britain. Druids, Picts, and Danes have all been very convenient names which have too often saved Scottish, and indeed English antiquaries also, the trouble of reasoning; and helped to conceal the fact, from them-

selves as well as others, that they really knew nothing about the questions they undertook to discuss. If we merely substitute for those the name of Phœnicians, little will be gained by the exchange.

Sir William Hamilton has undertaken to prove the Italian workmanship of the glass beads found in Britain, on the very slender evidence of the discovery of one at Naples similar to British examples. But beads belonging to the Roman period are nearly as readily distinguishable from those of an earlier date, as the pottery, in which the difference between that of native and foreign workmanship is so obvious. Those of a late character are undoubtedly often found both in England and Scotland accompanied with Roman relics. Ure describes and engraves one of ribbed blue glass, discovered in a large enclosed tumulus in Rutherglen parish, Lanarkshire, along with what appear to have been two Roman patellæ;¹ and those most commonly found under similar circumstances are of a coarse description of light blue or green glass; made, we may presume, by the Romans for foreign trade and barter. But single beads of large size and superior workmanship are also found, deposited evidently as prized amulets, in some of the most ancient mounds and cairns. Similar relics have been discovered alike on the coasts of the Baltic and the Mediterranean; they abound equally in Ireland and the north of Scotland, where the Romans rarely or never were, and in England and Gaul, which they so long occupied and colonized. They have been obtained also not unfrequently in Egyptian catacombs accompanying relics long prior to the Roman era. Raspe, in his introduction to Tassie's *Gems*, refers to the so-called Druids' beads as belonging to the same class as the "rich coloured glass and enamels found amongst the Egyptian antiquities;"

¹ Ure's *Rutherglen*, p. 164, Plate 1.

and Colonel Howard Vyse mentions them among the numerous objects found in exploring "Campbell's Tomb" at Gizeh, which appears to have been constructed during the reign of Psammetichus II., about B.C. 600. But indeed the most conclusive and altogether incontrovertible evidence of the remote antiquity to which those singular and widely-diffused relics belong, is to be found in the fact, that their origin and virtues were the subjects of the same superstitious fables in the age of Pliny, as in the British folk-lore of the eighteenth century. We need not, therefore, hesitate in regarding these beads as another proof of the extensive, though probably indirect intercourse, by means of which the north of Europe participated in the reflex of southern civilisation, many centuries before we can trace any allusion to the northern races in the world's elder literature: unless where the fond Briton seeks to include his sea-girt home amid "the isles of the Gentiles" of the Hebrew Scriptures, or dimly discerns them in the Cassiterides of Herodotus. Other glass relics have occasionally been found among the contents of British tumuli, but much too rarely to afford any countenance to the idea of a primitive native manufacture of glass. One imperfect example in the Scottish Museum, found in a cist in the island of Westray, Orkney, apparently deposited on the breast of the deceased, is described by its donor as "the only specimen hitherto discovered of glass contained in these cemeteries." It appears to have been a cup, not improbably of Roman manufacture, the bottom of which is marked with concentric circles in relief. From the extreme rarity of such articles we may recognise in this another illustration of the ungrudging generosity of affectionate reverence for the deceased, no less marked than the more valued sepulchral deposits of the precious metals.

Of the beautiful gold and silver relics exposed from

time to time on the opening of Scottish sepulchral tumuli, or brought to light in the course of agricultural operations, only some few chance examples have escaped the clutches of ignorant cupidity. But the few specimens that have been preserved are sufficient to excite the deepest sorrow that works of early native art, frequently characterized by a style altogether unique, and exceedingly beautiful in design and ornament, should be discovered only to be destroyed. Some idea of the great variety of Scottish gold relics may be formed from the examples preserved or minutely described; but a much greater number might be noted which are known to have been destroyed, without any opportunity having been afforded even of accurately observing their form, or learning of the circumstances under which they were discovered. The plain gold armillæ from Banffshire, already referred to, and engraved along with the urn in which they lay, in the *Archæologia Scotica*,¹ furnish sufficiently rude specimens of primitive personal ornaments. They have been designed, without doubt, as armillæ or bracelets, yet the difference in weight, and even more in apparent bulk, sufficiently illustrates the inexperience of their maker. Their respective weights are, 1 oz. 5 dwts. 14 grs., and 1 oz. 14 grs. But along with them were examples of the simplest yet most interesting class of gold relics discovered in the British Isles. These are described in the *Archæologia Scotica* as nose and ear rings, but they are simply bars of gold bent in a circular form, and the extremities left disunited. Two of them are ornamented with parallel grooves along the outer side, but they are of unequal sizes, and in no degree differ from the numerous class of penannular relics designated by most antiquaries as “ring-money;” though the idea of their use as nose-rings had been

¹ *Archæol. Scot.* vol. iv. Plate xii.

PLATE VIII.

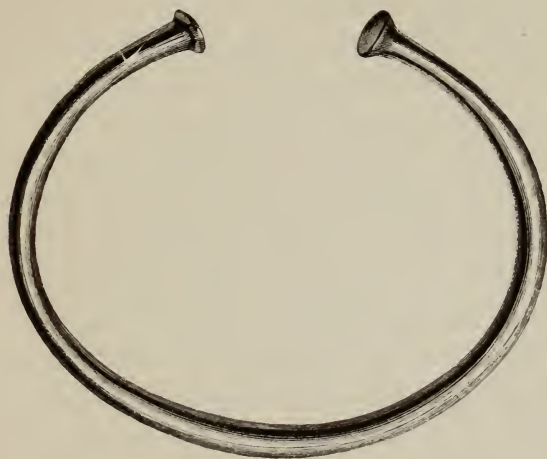


FIG. 87.—Gold Penannular Ring.

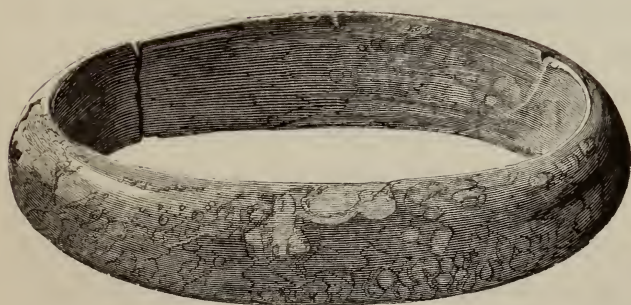


FIG. 89.—Stobo Castle Bronze Armlet.

formerly advanced by Colonel Vallancey,¹ and has been more than once revived.² In a valuable article by Mr. Albert Way, on the ornaments of gold discovered in the British Islands, examples of British ring-money are engraved, including the simple penannular ornament, the crescent, and beaded and torquated rings.³ It is not necessary to enter at large on the disputed question of the use of such relics as currency. Many ingenious arguments have been adduced in favour of their original purpose as a circulating medium ; though this was in no degree incompatible with their use as personal ornaments. That such rings passed for money among the Egyptians is proved by representations of the weighing of gold and silver ring-money on their paintings ; as, for example, in one of the grottos in the hill of Shek Abd el Qoorneh, which bears the cartouche of Amunoph II. inscribed on its walls. The same metallic currency is obviously alluded to in the incident of the Hebrew patriarchs on their first visit to Egypt : “ Every man’s money was in the mouth of his sack, our money in full weight.” It was perhaps even better suited than a regular coinage for furnishing an acceptable substitute for barter among a comparatively rude people, and may therefore be assumed with some probability as one of the improvements resulting from intercourse with the Phœnician traders. Such a system of exchange will also suffice to account for one foreign source of the supply of gold during this primitive era ; thus introduced in a form well suited to the imperfect ideas of a people whose trade probably long retained more of the original character of barter than that of sale and purchase. There is reason to believe, however, that both in Scotland and Ireland the ring-money continued in use long after Cúnobelin and

¹ *Collectanea de Rebus Hibernicis*, vol. vi. p. 270.

² *Archæol. Jour.* vol. vi. p. 57.

³ *Ibid.* p. 48.

other British princes had sought to rival the Roman mintage. In the Irish annals there is frequent mention of gold rings of different sizes offered at the shrines of Icolmkill, St. Patrick, etc. The inferior metals appear also to have been current in this simple form. Rings of bronze, exactly corresponding to the gold "ring-money," have been found in the ruins of Persepolis and Carthage, as well as in Egypt. They are well known to Irish antiquaries, and are probably more common in Scotland than is generally supposed. The imperfect bronze rings already referred to among the contents of a cinerary urn dug up in the parish of Ratho, Mid-Lothian, more nearly resemble the so-called gold ring-money; and similar relics are occasionally described among the contents of weems or subterranean dwellings. In 1835, a large tumulus, near the summit of Carmylie Hill, Forfarshire, popularly known as the "Fairy Hillock," was invaded, and among a deposit of half-burnt bones and charcoal, several penannular bronze rings were discovered, varying in size from about two inches to two-thirds of an inch in diameter. They are quite plain, as if they had been formed by simply cutting and bending into shape a rod of bronze wire. This ancient and primitive form of currency which we detect along with the first elements of British civilisation, has perhaps never ceased to be used in some parts of Africa since it sufficed for payment of the exactions of the Egyptian Pharaohs. Mr. Way remarks,—“I am indebted to the Duke of Northumberland for the opportunity of examining specimens of African gold money, especially interesting as having been made under his own inspection at Sennaar. His Grace favoured me with the following particulars:—He chanced to notice a blacksmith occupied in forming these rings; and inquiring as to their use, the man replied, that having no work in hand for his forge he was making

money. The gold wire being very flexible was bent into rings without precise conformity in regard to weight, and was thus converted into money. It passed current by weight. The gold is so flexible that the rings are readily opened, to be linked into a chain for the convenience of keeping them together, and as readily detached when a payment was to be made.”¹ Manillas, as they are now generally termed, are regularly manufactured at Birmingham for the African traders. They are made of copper, or of an alloy of copper and iron, and are sold at the rate of £105 per ton for copper, and £22 for iron rings. The copper ring weighs two and a half ounces, and passes current in Africa at a value equivalent to fourpence sterling. The Banffshire gold relics furnish examples both of plain and grooved ring-money. Of the former class one of about £2 value, found at Tiree, Argyleshire, in 1792, is described in the *Old Statistical Account*.² Mr. Paton of Dunfermline possesses a gold torquated ring, obtained in that neighbourhood. Another, found in one of the weems on the island of Shapinshay, Orkney, “composed, as it were, of three cords twisted or plaited together,” is minutely described in the *Statistical Account of the parish*;³ and in the *London Numismatic Society’s Museum*, African gold relics, exactly corresponding to those, are preserved among the primitive types of coinage. Plated rings of similar form have also been discovered both in Scotland and Ireland,⁴ which it is more difficult to conceive of as a substitute for current coin, unless we assume the perverse ingenuity of the forger, usually ranked among the vices of modern civilisation, to be as ancient as the era of British ring-money. One of these composite penannular relics, in the Scottish

¹ *Archæol. Jour.* vol. vi. p. 56.

² *Sinclair’s Statist. Acc.* vol. x. p. 402.

³ *Ibid.* vol. xvii. p. 238.

⁴ *Catalogue of the R. I. A. Museum*, vol. ii. p. 88.

Museum, was found in the Isle of Skye. It is of copper, covered with a thick plating of pure gold, and when perfect must have bid defiance to detection of its internal inferiority. It is thicker than the usual ring-money, so that the metal has been forced into folds or wrinkles on the inner side in bending it into shape.¹

The most simple gold ornaments of larger size found in the British Islands are massive rings with dilated ends, disunited, but generally brought nearly in contact, and for which the name of Dilated Penannular Rings is suggested. They are of frequent occurrence in connexion with the rarer objects of the Bronze Period; and were generally assumed to have been worn as armillæ, and to have their ends disunited for the convenience of the wearer. One objection to this supposition is to be found in the frequent extension of the dilated edges of the two ends to the inner side of the ring, in a way that must have rendered them exceedingly uncomfortable if worn as armlets. This is the case with one of two fine examples preserved in the Scottish Museum, both found in the same cist at Alloa in 1828; and such also appears from drawings in my possession to be the form of several of a remarkable group discovered, in 1850, at Bowes, near Barnard Castle, Yorkshire. Some specimens occur with the dilation only outward, as in one discovered near Patcham, Sussex, engraved in the *Archæological Journal*,² and another almost exactly corresponding in form, but considerably thicker, found in Galloway in 1784, of which a drawing is possessed by the Society of Antiquaries of Scotland. These rings are generally much too massive and rigid, notwithstanding the purity and consequent softness of the gold, to admit of their

¹ Sir R. C. Hoare describes a somewhat similar plated relic, found in a tumulus near Amesbury, along with objects of gold.—*Ancient Wilts*, vol. i. p. 201, Plate xxv.

² *Archæol. Jour.* vol. vi. p. 56.

being unbent for the purpose of clasping on the arm, without injuring their form and leaving marks of such a process. In addition to this, another though less conclusive argument against their use as armillæ is, that they are rarely if ever found in pairs. A gold relic, seemingly of this class, was discovered in 1794, on opening a large sepulchral mound at Upper Dalachie, Banffshire, popularly styled the Green Cairn. "About two feet from the surface," says Chalmers,¹ "was found an urn of rude workmanship, which, when the ashes of the dead were shaken out, disclosed a piece of polished gold like the handle of a vase, three inches in diameter,



FIG. 86.—Gold Penannular Ring.

and more than one-eighth of an inch thick." The finder sold this relic for bullion, at the price of thirteen guineas. Where two or more occur together, they generally differ in size and form, as well as in weight. The two found at Alloa—the largest of which is here represented, half the size of the original,—vary in all these respects; and the same is the case with those recently discovered at Bowes: no two of the whole six correspond, though they all lay close together, with what was thought to be the remains of a bag in which they had been enclosed. A less massive example of the same class of gold orna-

¹ *Caledonia*, vol. i. p. 129.

ments, found with other relics, in 1856, in a moss in the West Highlands, is shown on Plate VIII. Fig. 87. Along with these was also obtained the curious hollow penannular gold capsule, figured below. It weighs 11 dwts., and measures $1\frac{7}{8}$ inches in diameter. Examples of this type are exceedingly rare. They have been found at Gaerwein in Anglesea, and in the county of Limerick ; but this appears to be the only specimen known to have been discovered in Scotland.¹ The Alloa gold relics were found alongside of two cinerary urns, on the top of a stone cist of the usual circumscribed proportions, in which lay an entire skeleton, of great size, and

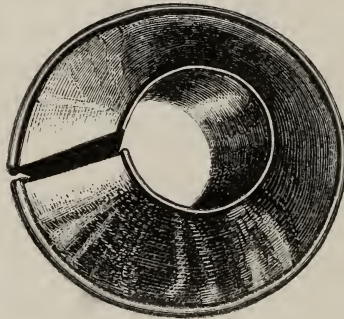


FIG. 88.—Gold Capsule.

therefore, it may be presumed, a male. Other cists, and, in all, twenty-two cinerary urns, some of them of very large size and highly decorated, were found in the same neighbourhood, chiefly on the line of the old road from Stirling to Queensferry, where it skirts the base of Mar's Hill. Another such group of cists has been discovered near the point of Largiebeg, on the south-east coast of the island of Arran ; and in one of them, says the parish minister, writing in 1840, in a cist which a labourer discovered a few years ago, in making a fence round his garden, "there was found a piece of gold in the form of a *handle of a drawer*, with some iron or steel, much

¹ *Archaeol. Jour.* vol. x. p. 73 ; vol. xiii. p. 295.

corroded, at each end. The man concealed his prize till he got it disposed of to a jeweller in Glasgow, who melted it down into rings and brooches."¹ It would not be difficult to multiply evidence from similar sources, of the ignorant and wilful destruction of many such relics of primitive native art and skill. Bronze rings and fibulæ also occur closely corresponding to most of the more familiar gold types. Two fine examples of plain bronze armlets, found near Stobo Castle, Peeblesshire, in 1856, were exhibited the same year at a meeting of the Scottish Antiquaries. One of these is shown, the size of the original, on Plate VIII. Fig. 89. They lay side by side underneath a flat slab, and on the top of a large boulder-stone, beneath which calcined bones were intermingled among a heap of small stones, betraying traces of the action of fire.²

The dilated gold fibulæ, styled by Dr. Wilde, in his Catalogue of the Royal Irish Academy's collection, Mam-millary Brooches, belong to the same class of ornaments. They consist of a solid cylindrical gold bar, bent into a semicircle or segmental arc, tapering from the centre, and terminated at each end with a hollow cup, resembling the mouth of a trumpet, or the expanded calyx of a flower. In an Irish example, engraved in the *Archæological Journal*, the cups are formed merely by hollows in the slightly dilated ends, decorated with the simple linear ornaments of most frequent occurrence on primitive British pottery. Another is engraved in contrast to this, found near the entrance lodge at Swinton Park, Yorkshire, the terminal cups of which are so unusually large, that the solid bar of gold dwindles into a mere connecting link between them. But, as Dr. Wilde has shown, a series of gold relics may be selected ranging

¹ *New Statist. Acc.* vol. v. Buteshire, p. 23.

² *Proc. Soc. Antiq. Scot.* vol. ii. p. 276.

from the plain unclosed ring used as an armlet, to the first indications of dilated ends, and so onward to the largest calcinated fibulæ or mammillary brooches.¹ The annexed figure of a very fine example found by a labourer while cutting peats in the parish of Cromdale, Inverness-shire, somewhat resembles that of Swinton Park in the size of its cups. It is from a drawing by the late Sir Thomas Dick Lauder, and represents it about two-thirds the size of the original. In tracing the gradual development of the simple penannular hoop of gold into the

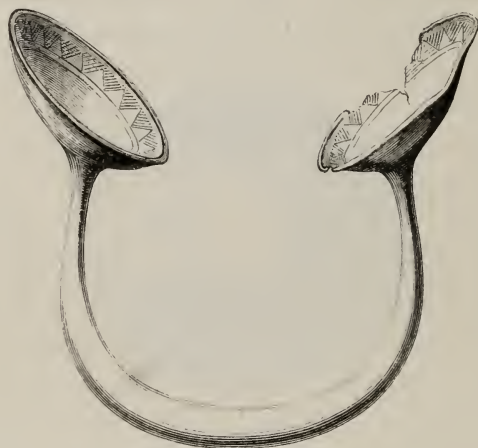


FIG. 90.—Cromdale Caliginated Fibula.

beautiful caliginated fibula, we may recognise the application first of the plain bent golden bar to purposes of personal decoration as an armlet; then the employment of the same as a clasp for the cloak; and finally the gradual enlargement and ornamentation of the dilated ends alike for use and display. Similar relics have been brought to light in various Scottish districts. One found in an urn in the north of Scotland, in the year 1731, is described in a letter from Sir John Clerk to Mr. Gale, written shortly after its discovery; and is further illus-

¹ *Catalogue of the R. I. A. Museum*, vol. ii. pp. 54, 63.

trated in the *Reliquiæ Galeanæ*, by an engraved figure the size of the original.¹ Shortly afterwards, Sir John Clerk writes to his correspondent announcing the discovery of several valuable gold relics, including two other calcinated fibulæ, brought to light in consequence of the partial draining of a loch on an estate belonging to the Earl of Stair. "I begin to think," exclaims the astonished antiquary, "that there are treasures of all kinds in Britain; for lately in a loch in Galloway there have been found three very curious pieces of gold: one a bracelet, consisting of two circles, very artificially folding or twisting into one another; now in the hands of the Countess of Stair." The other relics are described as corresponding to an example of the calcinated fibula found in Galway, and engraved in the *Archæologia*.² One of these must have been an unusually massive and valuable example, as its weight is stated to have been 15 oz. Another smaller one, found along with it, more nearly approaches to the type of the dilated penannular ring, the cup or bulb being covered with a flat oval plate of gold. A bronze relic, of the latter shape, formerly in the collection of Dr. Samuel Hibbert, is now in the Scottish Museum.

A discovery of gold relics of this type, was made in the year 1838, on the estate of the late Walter Campbell, Esq., of Sunderland, on the island of Islay, Argyleshire, where numerous tumuli exist, some of which have been found to contain cists of small size, enclosing skeletons and cinerary urns. At the period referred to, a large standing-stone, which had long been overthrown, and lay prostrate at a little distance from Sunderland House, was blasted with gunpowder and removed, in the process of levelling and draining the ground for agricultural

¹ *Bibliotheca Topog. Brit.* vol. ii. p. 280; Plate VI. Fig. 5.

² *Archæologia*, vol. ii. Plate III. Fig. 1.

purposes. Immediately underneath the stone lay a cist containing several rude cinerary urns, and alongside of it were found the gold fibula, figured here about one-fourth the size of the original; and an armilla of a peculiar type made from a broad band of gold beaten out so as to form a convex centre, on each side of which was a fluted ornamental border, and a raised rim returned at the edge. Unfortunately, the latter relic was carried off by a dishonest servant. Mrs. Campbell remarks of it,—“The bracelet was large enough to encircle a woman’s arm above the elbow. Of many specimens which I examined at the British Museum, chiefly Irish, there was



FIG. 91.—Islay Calceinated Fibula.

none like mine, which makes me the more regret its loss.”

The cup-like terminations appear to have been occasionally jewelled, though no perfect example has been found in this state. In the one first referred to, in the *Reliquiæ Galeanae*, Sir John Clerk remarks,—“The parts at the extremities are hollow, like little cups or sockets, and the sides are very thin. There is a small circle within the verge, which has had a red substance adhering to it like cement, as if it had served to fix some kind of body within the sockets.” A similar appearance is still more markedly observable in an example in the possession of Thomas Brown, Esq. of Lanfine, Ayrshire. Upon showing it to an experienced jeweller, he entertained no

doubt that the sockets had originally contained pebbles or jewels. In this curious class of gold relics we appear therefore to recover the clasp of the ancient British chlamys, worn by the chief, or arch-priest when robed in his most stately pontificals, and see in it a native personal ornament which may stand comparison with the most costly and elegant of Roman fibulæ.

Among the rarer ornaments found in Scotland the gold lunette figured here deserves a prominent place.

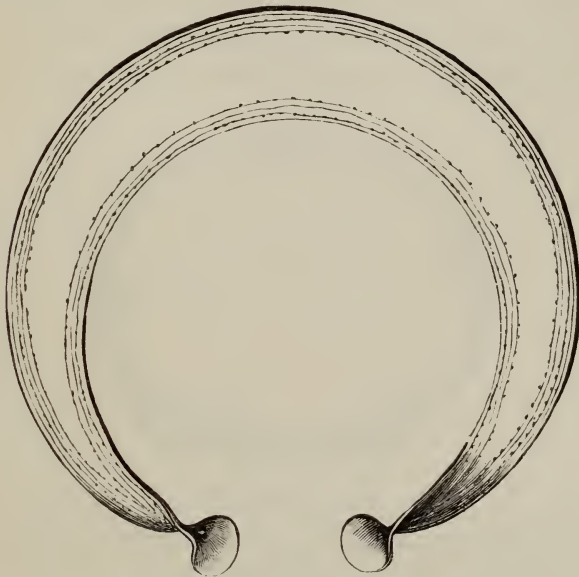


FIG. 92.—Gold Lunette.

It was found in 1859, on the farm of Southside in Lanarkshire, and has since been presented to the Scottish Museum. Its greatest diameter is seven inches, and its weight 1 oz. 8 dwts. 13 gr. Similar crescent-shaped ornaments are of frequent occurrence in Ireland; and both there and in Britain have long been assigned a prominent place among the symbolic ornaments of the ancient Druid priesthood. Of the commoner British gold ornaments, the torc and armilla, numerous examples

have been discovered, though of these the few which have escaped destruction are mostly in private hands, and not readily accessible. Three beautiful gold torcs, found at Cairnmure, Peeblesshire, in 1806, are figured in the *Archæologia Scotica*.¹ They were found, along with various other relics, by a herd-boy, who, going early in the morning to his sheep, observed something glitter in the sun, and on scraping with his feet brought the whole valuable treasure to light. It consisted of three gold torcs or collars for the neck; the beautiful gold ornament, supposed to have been the head of a staff or sceptre, engraved on a subsequent page; and a number

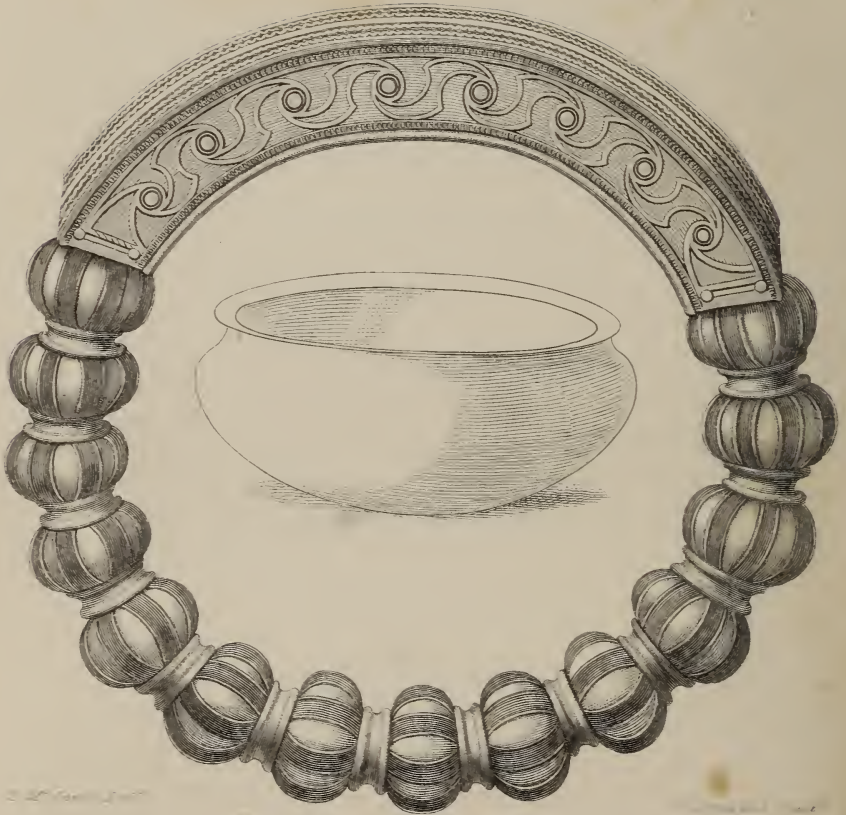


FIG. 93.—Braidwood Torc.

of flattened circular gold pellets, each marked with a cross in relief. The value of the articles discovered in mere bullion exceeded £100, and it is doubtful if the treasure-finder did not privately dispose of more before his good fortune was known. The staff-head and two of the gold beads or pellets are now in the Scottish Museum. The latter are elsewhere referred to, along with other examples, as the primitive type of native minted currency; and the defined character of the ornamentation on the sceptre-head adds to the probability that this valuable hoard belongs to the later transition-

¹ *Archæol. Scot.* vol. iv. p. 217, Plate x.





BRONZE BEADED PONS Lochar Mofs

period, in which the age of bronze drew to a close. Simple indeed as is the usual style of ornament and workmanship of the funicular torc, it appears to have been retained in use for a very long period, and is reproduced in silver and bronze along with the latest relics of the succeeding iron age. Another remarkable variety of gold neck ornament (Fig. 93), which may be designated the knotted funicular torc, was found about seventy years ago by a labourer trenching within the area of a circular camp on the summit of a hill in the parish of Penicuik, Mid-Lothian, known by the name of Braidwood Castle. It met with the usual fate of relics of the precious metals, having been sold by the discoverer to a jeweller in Edinburgh for the sum of twenty-eight guineas, as a Roman girdle of *brass*. It was doubtless worth a much larger sum as mere bullion. A drawing of it, however, had been taken, and is preserved in the Library of the Scottish Antiquaries.¹ The history indeed of Scottish relics of the precious metals is too frequently only a sad commentary on the miserable fruits resulting chiefly from the operation of the old law of treasure-trove.²

The numerous armillæ which have been found in Scotland are no less beautiful than the finest of the examples of its gold torcs. Two funicular bracelets, discovered apparently on draining the same lake in Galloway previously referred to, are described and engraved in the *Reliquiæ Galeanæ*. Sir John Clerk, writing from Edin-

¹ The drawing is simply marked "a gold collar found at Braidwood Castle, Edinburghshire," but there can be little doubt of its being the same referred to in the text. The additional particulars concerning it have been communicated to me by Miss Abernethy, a lady who had often heard of this discovery in her younger days, as one of the remarkable events of her native place.

² For additional examples of torcs and other relics of gold found in Scotland, *vide New Statist. Acc.* vol. vi. p. 57; vol. xii. p. 1061; Sinclair's *Statist. Acc.* vol. ix. p. 24, etc.

burgh in 1732, remarks,—“ Since my last to you I have seen two other bracelets and a large ring, found on the draining of a lake or part of it. There are no letters or inscription, and the make is very clumsy. Each bracelet is in weight six or seven guineas, and their shape thus,¹ of two pieces of gold twisted. The ring is large, and about a guinea in weight.”² Another example found about fifty years ago in Argyleshire was sold for a trifle to a Glasgow goldsmith, and consigned to the crucible.³ In 1834, some workmen quarrying stones near the bridge over Douglas Water, Carmichael, Lanarkshire, discovered a pair of armillæ weighing twenty-nine sovereigns, which were destined to the same fate; but fortunately the Marquess of Douglas learned of the discovery in time to repurchase them ere they had been converted into modern trinkets. Mr. Albert Way illustrates his paper “ On Ancient Armillæ of Gold,” etc., with an engraving of one of a very beautiful pair, found in 1848 on the estate of Mr. Dundas of Arniston, at Largo, in Fifeshire; and remarks:—“ These beautiful ornaments are formed of a thin plate or riband of gold, skilfully twisted, the spiral line being preserved with singular precision. It would be easy to multiply examples of tore ornaments more or less similar in type found in this country, and especially in Ireland; but none that I have seen possess an equal degree of elegance and perfection of workmanship.”⁴ Mr. Dundas furnishes the following interesting note in relation to the discovery:—“ The gold bracelets were found last winter on the top of a steep bank which slopes down to the sea, among some loose earth which was being dug to be carted away. The soil is sandy,

¹ *Biblio. Topog. Brit.* vol. ii. Plate vi. fig. 8.

² *Ibid.* p. 299.

³ *New Statist. Acc.* vol. vii. p. 206.

⁴ *Archeol. Jour.* vol. vi. p. 54.

and the men had dug about three feet, where the bracelets lay. It was at a place close to the sea-shore, called the Temple, which is part of the village of Lower Largo. An old woman who has lived close to the spot all her days, says that in her youth some coffins were found



FIG. 94.—Largo Armilla.

there, and one man was supposed to have found a treasure, having suddenly become rich enough to build a house." The neighbourhood of Largo Bay is celebrated in the annals of Scottish archæology for one of the most remarkable hoards ever discovered, described in a later chapter as the "silver armour of Norrie's Law." Only a

very small part of this collection was rescued from the crucible ; and the portion of the Largo Bay relics which escaped the same fate appears to have been even less, if we may credit the extremely probable tradition of the locality. With the wonted perverse modesty of Scottish antiquaries, Mr. Dundas accompanies his account of the latter discovery with a reference to the advantages of the neighbouring bay as a safe anchorage, and probable favourite landing-place of Northern freebooters. How strange is it, that rather than believe in the possibility of the existence of early native art, this improbable theory should have been fostered and bandied about by intelligent writers, without contradiction, for upwards of a century, as the only conceivable substitute for that which ascribes a Roman origin to every artistic native relic. If there were no native arts and costly treasures, what brought Northern freebooters to our shores? Surely some less extravagant hypothesis may be suggested than that they crossed the ocean to bury their own golden treasures in our sands. It would seem, on the contrary, to afford good evidence of a tumulus or sepulchral chamber being the work of natives, or of resident colonists, when it contains objects of value. Only the confidence inspired by the universal recognition of the sacredness of such deposits could induce the abandonment of them under cover only of a few feet of soil. It was not until a very late period—towards the end of the ninth century,—that the Northmen established a footing even on the remoter Scottish islands ; while their possession of any but a very small portion of the mainland in the immediate vicinity of their Orkney possessions was so brief and precarious, that it might well excite our surprise to discover traces of their presence on the shores of the Forth.

But to whatever source the golden armillæ and other

beautiful personal ornaments of primitive workmanship may be traced, it is obvious that such prized decorations would be eagerly coveted, and transported wherever their fortunate acquirer found a permanent home. Through the kind services of Sir James Ramsay, of Banff, I am enabled to present an engraving of another gold armilla, of the same type as those of Largo, but found alike remote from a convenient anchorage, or any known Norwegian settlement on the Scottish shores. It is now the property of Lady Menzies, and though inferior in point of workmanship, is an exceedingly tasteful ex-



FIG. 95.—Rannoch Armilla.

ample of primitive skill. It bears obvious traces of the rough marks of the hammer, but these interfere very little with the beautiful reflected lights which its elegant spirals produce. It was found in the north-west of Perthshire, in what is described in Chambers's *Gazetteer* as "the black wilderness called the Moor of Rannoch; a level tract of country sixteen or twenty miles long, and nearly as many broad, bounded by distant mountains; an open, silent, and solitary scene of desolation; an ocean of blackness and bogs, with a few pools of water, and a long dreary lake." Yet how many such evidences

may it contain of an era when the Scottish bogs were luxuriant forests, and such relics were the personal ornaments of the hunters that pursued the chase through their sylvan glades, or of the maidens and matrons who awaited their return ! The Rannoch armilla is of sufficient size to encircle a lady's arm ; and though exhibiting unmistakable traces of the imperfectly developed art and mechanical skill of the Archaic Period, its beauty is sufficient, in the estimation of its present noble owner, to induce her frequently to wear it along with the more elaborate productions of the modern jeweller's skill. The extent to which the use of such costly personal orna-

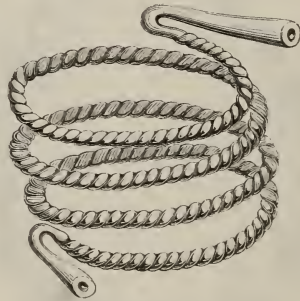


FIG. 97.—Slateford Armilla.

ments prevailed is shown by a recent discovery in the parish of Urquhart, Elginshire, of thirty-four beautiful torquated neck and arm rings, all of the same type, as illustrated in Fig. 96, Plate x., from one of four now in the Scottish Museum. An armilla, of a different type, and belonging to a later and more perfectly developed era of art, was discovered in 1846, at Slateford, about three miles west from Edinburgh, during the construction of the Caledonian Railway. The labourer who found it decamped immediately with his prize. It was shown by him to the Treasurer of the Society of Antiquaries of Scotland ; but while negotiations were pending for its purchase, the discoverer took fright under the appre-

hension of having his spoil reclaimed, and before the clue could be recovered, it was consigned to the melting-pot. It was justly described by the distinguished Danish antiquary, Mr. Worsaae, who saw it during his visit to Scotland, as a relic that would have adorned any museum in Europe. Fortunately a facsimile was made of it previous to its destruction, and is now preserved in the Scottish Museum.¹ From this the foregoing engraving, Fig. 97, is copied; and the illustrations which its history affords of the mischievous operations of the old Scottish law of treasure-trove were not without their influence in bringing about the change which has since established in Scotland a comprehensive and liberal system for the preservation of such specimens of native art. Torcs of a similar type, terminating in solid cylindrical ends, are described by Mr. Birch as not uncommon, and are referred by him to a late period, possibly the fourth or fifth century.²

The bronze armillæ assignable to the Archaic Period are mostly of a very simple character, consisting either of solid or penannular rings, or more rarely of a thin spiral band of the metal. They appear, however, to be rarer in any form than those of gold. The following account of the discovery of bracelets *in situ*, in the parish of Glenholm, Peeblesshire, is possessed of peculiar interest; though we have to regret, as in so many other instances, the absence of more precise information. "There is a plain by the side of the Tweed on which there are several mounts, apparently artificial. The proprietor had the curiosity to cause one of them to be digged, and there found the skeleton of a man, with

¹ An armilla closely resembling this, found in Cheshire, and now in the possession of Sir Philip de Grey Egerton, is engraved in Dr. Smith's *Dictionary of Greek and Roman Antiquities*.

² *Archæol. Jour.* vol. ii. p. 379.

bracelets on his arms. The body was enclosed in a stone building, with a stone cover, and nigh him was an urn."¹ In another grave opened at Westray in Orkney, a gold ring was found encircling one of the thigh-bones of the skeleton. Similar examples are familiar to Scandinavian and German antiquaries.²

The torc as well as the funicular armilla, and other relics of corresponding type, though known to the Romans, were regarded by them as barbarian decorations. Like many other characteristic peculiarities of the Celtic and Germanic nations, they are traceable to an Eastern origin. The torc is introduced at Persepolis among the tribute brought to Darius; and in the mosaic of Pompeii, Darius and his officers are represented wearing it at the battle of Arbela.³ Titus Manlius Torquatus took the golden torc from which he derived his name, from a Gaul he slew in single combat, B.C. 361: and its first appearance in Italian art is round the neck of the moustached Gaulish hero, whose head—decorated probably according to the fashion of his country, four centuries before the Christian era—forms the obverse of the As of Arminium. Still more interesting is its occurrence on the neck of the dying gladiator, the masterpiece of Ctesilaus. In this historic example of the torc, it is funicular with bulbous terminations, resembling one seen on the Sarcophagus of the Vigna Amendola, representing, as is believed, the exploits of the Romans over the Gauls or Britons. So far then from the torc being either Roman or Danish, it may be regarded as the most

¹ Sinclair's *Statist. Acc.* vol. iv. p. 435.

² *Nenia Britannica*, p. 76. In the *Guide to Northern Archaeology*, p. 54, reference is made to similar discoveries in Denmark; and I am informed by Dr. Ludwig Becker of a skeleton with several penannular bronze rings on the arm-bones, found in a large tumulus near Mayence.

³ *Vide* Mr. Samuel Birch, on the Torc of the Celts.—*Archæol. Jour.* vol. ii. p. 368, and vol. iii. p. 27.



FIG. 96.—Urquhart Gold Armilla.

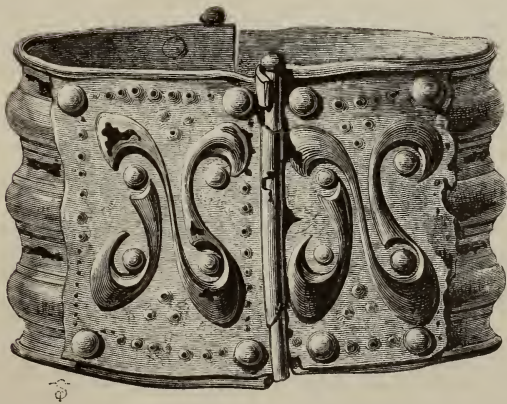


FIG. 132.—Kirkeudbright Bronze Armlet

characteristic relic of primitive Celtic and Teutonic art : familiar only to the Roman as one of the barbaric spoils which adorned the procession of a triumphant general, or marked the foreign captive that he dragged in his reluctant train.

In addition to torcs, armlets, and other ornaments for the neck and arms, metal rings of various kinds have been found in Scotland as in other countries, to which, though apparently designed for personal adornment, it is more difficult to assign an exact purpose. Several of these, described in the following section, from their well defined characteristics more probably pertain to the latest Pagan era ; but others completely agree in archaic

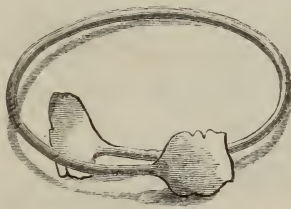


FIG. 98.—Bronze Head Ring.

style and workmanship with undoubted relics of the Bronze Period. To this class belong various bronze rings, generally with broad expanded ends overlapping each other, corresponding to a well-known class of continental antiquities, which northern archæologists believe to have been worn about the head and entwined with the hair. The example figured here is one of a pair, of very rude workmanship, now in the Museum of the Scottish Antiquaries, found a few years since about 300 yards from a large cairn, in the parish of Lumphanan, Aberdeenshire, which popular tradition affirms to mark the spot where Macbeth fell by the hand of the Thane of Fife. The dimensions of these rings, are abundantly sufficient to admit of their encircling the head, and both ends termi-

nate in broad flattened plates, probably designed to rest on the forehead. Similar features reappear in those of later date and more ornamental character, some of which are referred to in a future chapter.

Smaller personal ornaments were also made of bronze, and occur among the works of a later period, frequently characterized by great beauty of form and delicacy of ornament. A bronze ring-fibula, of simple but somewhat peculiar design, and a spiral bronze ring, are represented in Fig. 99, both the size of the originals. They were found during the construction of a new road leading from Granton Pier to Edinburgh, in a small stone cist, distant only about twenty yards from the sea-shore. It

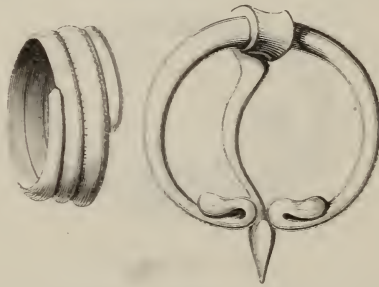


FIG. 99.—Bronze Fibula and Ring.

contained two skeletons, which, from the position of the bones and the square and circumscribed form of the cist, appeared to have been interred in a sitting posture. Mr. C. Roach Smith engraves a similar bronze fibula, though of ruder workmanship, among the numerous relics pertaining to various periods found at Richborough in Kent;¹ and Captain Thomas has shown me another of nearly the same type, such as the islanders of Lewis are in the habit of making out of an English penny-piece. Examples of the spiral finger-ring have been repeatedly found in Britain with remains of different periods. They are also known to northern antiquaries among the older

¹ *Antiquities of Richborough, Reculver, and Lynn*, p. 85.

relics of Denmark and Sweden. This may indeed be regarded as among the earliest forms of the ring, since it is only at a comparatively late period that traces of any knowledge of the art of soldering among native metallurgists become apparent. A silver ring of the same early type, formed one of the celebrated Norrie's Law hoard, found on the opposite shore of the Firth of Forth.

Hair-pins and bodkins are another class of relics contained in the tombs of this period, generally of bronze, though they have occasionally been met with, and especially in Ireland, both of gold and silver, and richly jewelled. Among the rare and more curious forms of the bronze pin is that with a head hollowed like a cup; one of which has already been referred to, found with other bronze relics, in a bog in the Isle of Skye, and now in the possession of Lord Macdonald. Others have the head decorated with a variety of grooves and mouldings, occasionally perforated, as if for attaching to them some pendulous ornament. Perforated bronze pins or needles are likewise found; and the rarer contents of the tumuli occasionally include not only the bone-pins, needles, and netting implements, but also fragments of knitted or wrought tissues, woven by the primitive worker, whose bones and implements alike speedily crumble into dust on being exposed. Douglas engraves in the *Nenia Britannica* interesting examples of such ancient manufactures, of the herring-bone pattern, found on opening some tumuli in Greenwich Park. But by far the most perfect specimen I have seen was procured by Dr. Samuel Hibbert, about the year 1838, from some labourers who had found it, on the chance exposure of a stone cist, while excavating for railway work, near Micklegate Bar, York. This valuable relic,—now in the Scottish Museum,—appears to be a sleeve, or covering

for the leg; and somewhat resembles the hose worn by south-country Scottish farmers, drawn over their ordinary dress as part of their riding-gear. It has been knitted; a process which doubtless preceded the art of weaving, probably by many centuries. The fabric is still strong, and, in careful keeping, may long suffice to illustrate the domestic manufactures of the ancient Briton. This is one of the examples to which reference has been made in a former chapter, as showing the source

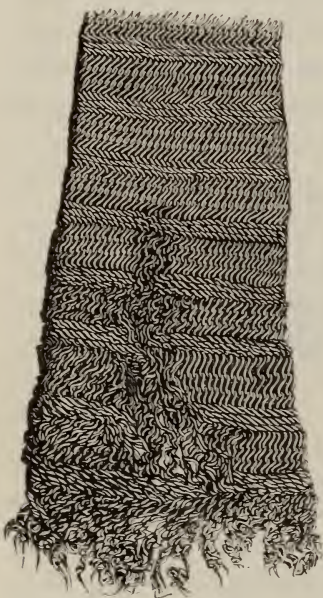


FIG. 100.—Knitted Work.

to which it is conceived the ornamental designs on early British pottery may be traceable; though the resemblance is less striking here than in some more imperfect specimens of such products of the primitive knitting-needle or loom. The accompanying woodcut, Fig. 100, representing a portion of the knitted fabric, will enable the reader who is familiar with the style of ornamentation on the pottery of the tumuli, to judge for himself how far this idea is justified by the correspondence traceable between them.

In 1786 a much more complete specimen was found, seventeen feet below the surface of an Irish bog in the county of Longford. It is described by Mr. Richard Lovell Edgeworth, in a Report to the Commissioners for improving the bogs in Ireland, as “a woollen coat of coarse but even net-work, exactly in the form of what is now called a spencer.” Iron arrow-heads, large wooden bowls, some only half made, with what were supposed to be the remains of turning tools, lay alongside of it. The

coat was presented by Mr. Edgeworth to the Society of Antiquaries, but is no longer known to exist. Possibly it rapidly decayed, as all such relics must be apt to do on exposure to the air ; or perchance its history was lost sight of, in which case its value would appear very slight in the estimation of the ordinary class of curators.

In 1822 Professor Stuart of Aberdeen communicated to the Society of Antiquaries of Scotland an interesting account of the opening of a tumulus at Fetteresso, Kincardineshire.¹ Within it was found a stone cist about four feet in length, containing a skeleton, with the legs so bent back that the knees almost touched the lower end of the cist. The bottom was strewed with round sea pebbles from the neighbouring beach. Above this appeared some vegetable substance, in which the body had been imbedded, and over that, covering the whole, a tissue of wrought net-work, beautifully executed, but which, along with all the other contents, crumbled to dust soon after being exposed. A number of small black balls were found surrounding the body, plainly vegetable, and described as closely resembling acorns. At the top of the cist a sod or turf had been placed, which still retained the impression of the head that had been pillowed on it ages before, though no parts of the skull, nor even any of the teeth, were found. Some of the hair, however, four or five inches long, and of an auburn colour, remained ; and a small box of an oval shape, apparently of wood elegantly carved, had lain on the breast ; but this also speedily crumbled to dust.

¹ *Archeologia Scotica*, vol. ii. p. 462.

CHAPTER VII.

SEPULCHRES.

THE tombs of the Bronze Period appear to differ, in various important respects, from those which are clearly assignable to earlier and ruder ages. Some of their peculiar features have already been noticed, in describing the circumstances under which sepulchral pottery and other relics have been met with ; but equally characteristic peculiarities of the first era of development and progress remain to be described. To this epoch, as has been already observed, it seems probable that we must assign the introduction of the practice of cremation ; while the huge cromlechs and chambered barrows and cairns, appear to have been abandoned along with the simpler rites of primitive inhumation, for the smaller cist and cinerary urn. To this period also must be ascribed the earliest attempts at sculpture or inscription which are met with on primitive sepulchral memorials. The two most remarkable examples of sculptured megalithic structures hitherto explored are the celebrated chambered cairn of Newgrange, in the county of Meath, and that on the small island of Gavr' Innis in Brittany. These gigantic and complicated works appear indeed to pertain to a transitional period of art, and partake at once of the earliest cyclopean characteristics and of later ornamental decorations.

An abridged extract of the account furnished by Mr.

J. W. Lukis of the remarkable Breton structure will best illustrate the peculiar features of such decorated sepulchral chambers. Gavr' Innis is a small island, about a quarter of a mile in length, situated in the department du Morbihan, Brittany. It is elevated somewhat above the neighbouring islands, and with its tumulus, which still covers the structure, forms one of the most conspicuous objects of the archipelago. The tumulus is about 30 feet high, and 300 feet in circumference. Beneath this a large central chamber and gallery have been constructed of huge masses of granite, with the entrance on the south side of the mound. "Being furnished with candles," says Mr. Lukis, "I entered the cromlech Gavr' Innis by a small opening at the south end, which is between three and four feet wide, by about the same in height. Having reached the third and fourth props, my attention was at once arrested by finding them covered with engraved lines, forming patterns resembling the tattooing of the New Zealander. On proceeding farther into the interior the height increased, rendering the passage to the end more easy; and I found nearly the whole of the props covered with similarly engraved lines. Here there is much to excite admiration at the regularity and beauty of so extraordinary a place; and on turning to a prop on the western side, the imagination is further exercised to perceive the purpose or use of three circular holes, sunk into the face of the stone, each about six inches deep, and the same in diameter: they communicate with each other, and form a sort of trough within the stone. It is divided in front by two raised parts resembling in form the handles to a jar."¹

Other megalithic structures in Brittany are similarly decorated; and Mr. Lukis arrives at the conclusion that

¹ *Journal of the Archaeological Association*, vol. iii. p. 272.

in some of them the stones must have been engraved prior to their erection, from the ornaments extending round the sides which are now covered by adjoining stones. The sculptured decorations at Newgrange are no less remarkable, and the observation has been made in regard to them also, that the carvings must have been executed before the stones upon which they appear had been placed in their present positions. No such elaborately decorated cromlechs or chambered mounds have hitherto been observed in Scotland; though the Runic inscriptions of more recent origin with which the walls of the Maeshowe chamber are covered, surpass in



FIG. 101.—Coilsfield Stone.

interest any of the ornamental devices referred to. But we shall not probably err in assigning as contemporaneous works with the more primitive examples of sculptured catacombs, the rude cists occasionally found decorated with similar devices, though otherwise entirely unhewn. The annexed view of one such incised slab is engraved from a drawing presented to the Royal Society of Edinburgh by Colonel Hugh Montgomery of Shielmorly, in 1785, and subsequently transferred to the Society of Antiquaries. It formed the cover of a cist, discovered in digging a gravel-pit at Coilsfield, in Ayrshire, and underneath it was found an urn filled with

incinerated bones. The dimensions of the stone were about five feet in length by two and a half feet in breadth. The original drawing includes the representation of the portion of the urn shown here, which it will be seen presents only the usual characteristics of primitive sepulchral pottery. The site of this rudely sculptured cist is associated by popular tradition with the legendary eponymus of the district; and a later discovery of cinerary urns at the same spot has been assumed to authenticate one of the many apocryphal records which history professes to have chronicled regarding him. Near Coilsfield House is a large tumulus, crowned with two huge blocks of granite, which local tradition affirmed to mark the place of sepulture of the

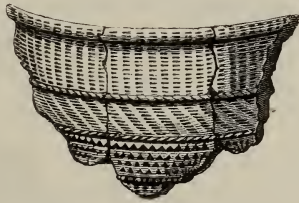


FIG. 102.—Portion of Coilsfield Urn.

redoubted hero, of whom Boece records,—“ King Coyll, unwarly kept be his nobilis, was slane, in memory wherof the place quhare he was slane wes namit efter Coyll ; quhilk regioun remanis yit under the same name, or litill different thairfra, callit now Kyle.”¹ Certain zealous local antiquaries having resolved to put tradition to the test, the tumulus was opened in 1837, and found to enclose a cist covered by a circular stone about three feet in diameter, beneath which four plain urns were disposed, the largest of which measured nearly eight inches in height. The author of a recent topographical work on the district of Kyle gravely assumes this discovery as giving “ to the traditionary evidence, and to

¹ Bellenden's *Boece*, book i. chap. ix.

the statements of early Scottish historians in regard to Coil, *except with respect to the date*, a degree of probability higher than they formerly possessed!"¹ What more might not the antiquaries of Kyle have been able to establish had they known of the older discovery on the same spot, and of the mysterious symbols traced on the sepulchral stone!

Another cist, decorated with concentric circles in a manner nearly similar to the Coilsfield stone, was exposed a few years since in constructing the road which leads from South Queensferry through the Craigiehall estate. It still remains, nearly perfect, in the high bank on the side of the road, the end of the cist only having



FIG. 103.—Annan Street Stone.

been removed, and the covering slab left in its place. It contained bones and ashes, without any urn. In Mr. J. Walker Ord's *History and Antiquities of Cleveland*, an account is given of the opening of some tumuli on Bernaldby Moor, in 1843, in one of which a remarkably fine cinerary urn was found, sixteen and a half inches high, lying underneath an unhewn slab carved with rude devices similar in style to those described above. Of the same class also is the rude but elaborately engraved slab figured here, the drawing of which was made by George Scott, the friend of Mungo Park, who

¹ *Land of Burns*, vol. i. p. 82.

accompanied him to Africa and died there. It was forwarded to the Society of Antiquaries of Scotland by Sir Walter Scott, in 1828, who described the original as a rough sandstone, about six feet long by perhaps two and a half broad, which was raised by the plough at a place called Annan Street, upon the farm of Wheathope. The drawing is designated, probably by the original draughtsman, "a Druid stone found at Annan Street, figured with the sun and moon."¹ Little doubt can be entertained that it had formed the cover of a cist, though few probably will now be inclined to attempt a solution of the enigmatic devices rudely traced on its surface. The spot where it was found is about half a mile from the church of Yarrow, and close by there are two monoliths, about 120 yards apart, which popular tradition associates with the combat that has given "The dowie houms of Yarrow" so touching a place in the beautiful legendary poetry of Scotland. Thus does the human mind delight to give a local habitation to the mythic and traditional characters and incidents that take hold on the fancy, whether it be the old mythological smith Wayland, associated with the cromlech of Berkshire; the fabulous King Coil, and the sepulchral barrow of Ayrshire; or The Flower of Yarrow, the creation of some nameless Scottish minstrel, whose pathetic ballad will live as long as our language endures.

The rude attempts at sculpture figured here are certainly as artless, and to us as meaningless, as the chance traces of wind and tide on the deserted sea-beach. Doubtless they had a meaning and an object once, and

¹ Dr. J. A. Smith, in a communication to the Society of Antiquaries of Scotland, since this stone was first described here, supposes its Druidical symbols to have originated in the fancy of the draughtsman; and assumes it to be the same stone which is described, with its rude Latin inscription, on a subsequent page. But it seems more probable that there may have been two stones.

were not produced without the expenditure both of time and labour by the primitive artist, possibly still unprovided with metallic tools. To us they are simply of value as indicating the most infantile efforts of the old British sculptor, and the rudiments of the art which was destined to produce in later ages such gorgeous piles as the Cathedral of Salisbury, and sculptures like those of Wells and York. The parent delights to trace in the prattle of his child the promises of future years ; and the archæologist may be pardoned if tempted at times to linger too fondly on such infantile efforts, in which he recognises the germs of future arts, the first attempts at symbolic prefigurements, and rudiments of those representative signs from which have sprung letters and all that followed in their train.

The most interesting and characteristic features, however, which the tombs of the Bronze Period disclose, are the weapons and implements deposited alongside of the deceased, or enclosed with his ashes in the cinerary urn. Much variety is traceable in their design ; and many interesting glimpses of the conceptions entertained in the rude ages to which they pertain, in reference to death and a future life, are obtained by an investigation of the mode of disposing of those enduring tokens of reverence and affection. But we have already examined them with sufficient minuteness, and found a distinctive uniformity traceable throughout the whole ; marking with no doubtful features the products of an epoch in which may be discerned the rudiments of all future progress, and the dawn of that civilisation the full development of which we are now privileged to enjoy.

CHAPTER VIII.

RELIGION, ARTS, AND DOMESTIC HABITS.

IN attempting to elucidate the special characteristics of the British Stone and Bronze periods, by means of works of art, traces of dwellings, modes of life and remains of the dead, we deal with chronicles of human history the latest of which appear to have been recorded before the Christian era began ; while the earliest ones reach away towards that obscure beginning of our race which seems to recede the farther the more we strive to associate it with any definite epoch by well-authenticated evidence. Nevertheless the record does exist, replete with disclosures full of interest to those who can decipher it ; and especially is this the case in reference to glimpses of earliest rites and customs of which we possess no other records than those that have been garnered in the grave, or chance-found amid lacustrine deposits and peat-mosses in which the geologist discerns many evidences of antiquity, but from which he has yet failed to deduce any defined measure that will help us to their age. It is of no slight importance to note in reference to the rude productions of the primitive period, that the simplest works of man bear some ineffaceable traces of his intelligence. The sagacious inductions of Cuvier have met with universal acceptance in their definition from a few disjointed bones, of the form, the size, the food, and the general haunts and habits of the *Megalonyx*, a

gigantic antediluvian sloth ; and his example has since been followed with the most comprehensive results. We need not therefore despair of learning somewhat of the early Caledonian, of his habits, his thoughts, and even of his faith, when we are able to refer to so many specimens of his handiwork and inventive design ; and retain some relics of his ruined temples, and abundant illustrations of his sepulchral rites. It is by simple induction, however, that the discovery of such truths is aimed at. No rein is given here, intentionally at least, to fanciful speculation ; nor are any theories advanced but such as are believed to be based on the suggestive aspects of ascertained truths.

We have no reason to assume that the aboriginal Briton of the Bronze Period ever carried civilisation so far as materially to affect the social character of the community. The patriarchal system of tribes or clans, we may presume, continued nearly as we know it to have existed at the first dawn of written history ; or at most was only modified by the union of a greater or less number of petty tribes under some general chief. Many improvements on the accommodation and conveniencies of the native hut and its furnishings would necessarily result from the possession of metallic tools. With these only could the art of the carpenter be developed ; and the implements of husbandry and the chase, as well as the weapons of war, be moulded into their most useful and convenient forms. The clothing also, we have seen, was aided by the ingenuity and skill of feminine arts. The skins of the deer or the wild bull, as well as of the wolf, the fox, the hare, and the smaller fur-clad animals, would thus be superseded in part, and fashioned, where they were retained, with such improved taste as made them correspond to the beautiful ornaments of the period. Of very much of this all evidence has disappeared ; but

enough remains to prove that the native of the Bronze Period was no mere painted savage. Whether the ingenious knitters of the garments, precious fragments of which have occasionally been rescued from the tumuli, had learned to adorn them with any interwoven parti-colours may be doubted ; but the learned Scottish antiquary, Dr. Jamieson, has already suggested the Gaelic *breac*, signifying parti-coloured, and *breacan*, a tartan plaid, as perhaps the true source of derivation of the name *Gallia Braccata*, which would thus refer to the colour rather than to the fashion of the Celtic dress. We know certainly, from the sculptures on Trajan's column, that the *Braccæ* were not so unfamiliar to the Romans as to be adopted as the peculiar characteristic of a single race. It is to be borne in remembrance, however, that in so far as this archæological period is strictly defined to include only the era of Archaic art, and the working in gold, copper, and bronze, prior to the knowledge or economic use of iron, it must be assigned to an epoch which had drawn to a close before the Britons were known to the Romans : even by vague traditions indirectly acquired through Carthage or Spain, or by the imperfect notices of the Cassiterides to be found in the pages of early Greek writers.

An interesting inquiry suggests itself in relation to this as to all unknown states of society : What was the social position of woman ? To this the answer we can at present give is very uncertain. But the traces already noted are not such as to discourage all hope of attaining to greater definiteness. The frequent occurrence of what appear to be female personal ornaments among the contents of the Scottish tumuli, seems to afford satisfactory indications that woman possessed, at that early era, somewhat of an equality of social position. Further investigations can hardly fail to add more precision to our

deductions, while they may also greatly enlarge the evidence on which they are based. For the rest, we infer with more certainty that the dog was the chosen companion of man in these old days, as he is still ; for the bones of the buried favourite have been repeatedly found in the barrow, or laid beside his master's urn. Doubtless his value in the chase was well known, and his fidelity fully recognised at the hearth. Whether the horse had also become, thus early, man's useful companion and servant, appears still open to further inquiry. Probably not till the succeeding era had fairly brought its civilizing influences into full operation, did the Briton establish his dominion over the noble and intelligent quadruped which assumed so important a place in the symbolism and mythology of a later Pagan creed ; though the investigations of the geologist leave no room to question its presence prior to, if not contemporarily with the earliest colonists of the British Isles. From diverse points, and by various means, we thus seek to catch a glimpse of those prehistoric eras. But, with all such aids, our view must be owned to be sufficiently slight, and our outline to stand in need of much filling in, before we can picture as we would wish to do, the intelligent Briton of that old time when he was still, perhaps, a barbarian, but had ceased to be a savage ; and is therefore the just object of our earnest sympathy as the originator of some elements of progress the beneficent results of which we even now inherit.

This first era of civilisation, which succeeded the introduction of metals, and is known as the Bronze or Archaic Period, manifestly differs, in many essential points, from that primeval one previously considered. It is the epoch to which we must assign the origin of agriculture, and the birth-time of native arts wherein are discernible the possibility of still better things. There pertains to it an

interest altogether peculiar. Its acquired knowledge probably long exceeded its means. Copper and bronze could at no time be so plentifully supplied as to admit of the facilities to which the abundance and cheapness of iron have for so many centuries accustomed us. With a thorough knowledge of the superiority of metals, the ingenious artificer was compelled, throughout the whole Bronze Period, to manufacture nearly all his bulkier implements of stone. Still he was being educated, so that when greater facilities did come within his reach, he was able to avail himself of them. We must look, indeed, upon this whole period, as upon the early years of an intelligent child : rich with the freshness, the originality, and the unconscious simplicity of youth. Its efforts are extremely unequal, blending the most-archaic works with occasional productions rivalling the ingenuity and taste of the polished eras which have succeeded. We detect, moreover, the evidences of a social state wherein the value of combined operations had still to be learned ; and where isolation led to abundant manifestations of ingenuity and skill, without producing any immediate results beyond the little sphere of the native hamlet, or patriarchal clanship. We discover, indeed, little that is inconsistent with such a social and political state as we know to have prevailed among British tribes in the century immediately preceding the Christian era, when, for the first time, we are able to look upon them with the aid of definite, though somewhat prejudiced and disparaging narratives of classic historians. Modern as that date is, compared with the remote antiquity of the presence of man in the British Isles, the insular metallurgists may have remained for unnumbered centuries undisturbed by external influences, while the scarcely recognised progress of each generation was such that it could only be appreciated when viewed in the accumu-

lated evidence of ages. Certain, however, it is, that whether we ascribe the earliest traces of metallurgy to an Allophylian or Celtic Tubal-Cain, there is no proof thus far discoverable, on which to found a doubt as to the indigenous character of British relics of the Primeval and Archaic Periods. As to the favourite idea of their Danish origin, it is totally irreconcilable with known facts. Nothing is more certainly established in the history of the north, and, indeed, involved in the nature of things, than that, long before the Scandinavian races emerged from their viks and fiords, the Archaic Periods both of Scandinavian and British arts had been superseded by others more compatible with the social status which such aggressive movements very manifestly indicate.

In every step of human progress tools have been the first requisite; and efficient implements are so indispensable for any extensive culture of the soil that we can have little hesitation in assigning the birth-time of true agriculture to an early epoch in the period of metallurgic arts. Traces of the first tillers of the soil are indeed as little to be looked for now as the first ripple-marks on the sandstone strata formed in the abysses of primeval oceans. Yet with the latter the geologist has long been familiar; and of the former also, as greatly more recent, it is far from impossible that memorials may survive. The half-obliterated indications of ancient agriculture must indeed be assigned with hesitation to any strictly defined period. Yet on the American prairies, and even amid the clearings from which the seemingly primeval forests have been recently swept away, evidence of agricultural operations has been discerned, indicative of ancient industry and skill surpassing anything practised by the Indians; nor have the furrows of our matured agricultural science erased every trace of primitive tillage from the British soil. On the uncultivated moors of

Scotland and England the wanderer is startled by evidences of provident industry pertaining to some forgotten era when a busy population must have tilled the waste, and carried the laborious cultivation far up the hill-sides. Such skill and care extending beyond the plains and valleys, into hills which have been left for the pasturing of flocks, or abandoned as valueless within any period of which we have authentic accounts, seem to point to some peaceful era in which the people multiplied until the cultivation of every available acre alone sufficed to supply them with bread.

The road from Port Ellen, Argyleshire, leads through a wild highland district which has been already referred to for some of the most remarkable disclosures of agricultural operations of the Primitive Period. This road passes for a considerable way through a narrow winding valley, studded with huge boulders and detached masses of rock, preserving evidences of remarkable geological changes many ages anterior to the earliest occurrence within the range of archæological science. Similar evidences are of frequent occurrence along these western shores, where now the restless Atlantic is slowly but unceasingly gnawing the rocky coast into wilder and more picturesque forms, while it strews the stolen debris on its ocean bed, to form new strata and continents for younger worlds than ours. With these evidences of change we have not now to deal. But in various districts of the same neighbourhood, and particularly amid the scenes on which a new interest has been conferred as those in which the poet Campbell passed some of his early years, the curious traveller may descry, amid "the desolate heath" of the poet,¹ indications on the hill-sides of a degree of cultivation having existed at some former period, far beyond what is exhibited in that

¹ Lines written on visiting a scene in Argyleshire.

locality at the present day. The soil on the sloping sides of the hills appears to have been retained by dwarf walls, and these singular terraces occur frequently at such altitudes as must convey a remarkably vivid idea of the extent and industry of an ancient population, where now the grazing of a few black cattle alone tempts to the claim of property in the soil.

Pennant refers to similar artificial terraces between Pallinsburn and Cornhill, in Northumberland, under the name of *Baulks*; and Mr. Robert Chambers, adopting for them that of *Daisses*, by which they are known in the south of Scotland, has described more minutely their occurrence in the vale of Tweed and neighbouring districts, at Dunsyre in Lanarkshire, and on the south-eastern slope of Arthur Seat, near Edinburgh.¹ They resemble the modern terraces constructed on many slopes in the Rhine valley for the cultivation of the vine; and find their ancient parallels in the agricultural operations of the Peruvians of the Cordilleras before the Conquest, and in traces of the same mode of cultivation marking many a desolate height in the hill-country where Judah dwelt of old under her own vine. On summer evenings, while the long shadows still linger on the eastern slope of Arthur Seat, it is seen to rise from the margin of Duddingston Loch to the higher valley in a succession of terrace-steps, in some cases with indications of retaining walls still discoverable. It is on the slope thus furrowed with the traces of a long-extinct system of agriculture, that bronze swords and celts, and the ancient pottery already described, have been dug up; while wrought deers' horns, weapons, and masses of melted bronze were dredged up from the neighbouring loch in such quantities as to suggest the probability that in some remote age weapons of the Scottish Bronze

¹ *Proc. Soc. Antiq. Scot.* vol. i. p. 127.

Period had been extensively manufactured on the margin of the loch. Following up the connexion between such evidences of ancient art and agriculture, Mr. Chambers suggests the probability that the Daisses of Arthur Seat and the bronze weapons dug up there, or dredged from the loch, are all works of the same ingenious handicraftsmen. Thus we perhaps see in such terraced slopes illustrations of a mode of agriculture pertaining to times before all written history, when iron had not yet been forged to wound the virgin soil. *

The appropriation of Arthur Seat for many centuries as a royal park and chase, has doubtless helped to protect from erasure such indices of ancient civilisation in the very centre of the Lothians, the special arena of modern agricultural progress. But in other districts remote from such busy scenes of industry—as in Western Argyleshire,—the half-obliterated furrows of the primitive plough-share and the daisses of the ancient cultivator, are still traceable on heights which have been abandoned for ages to the wild fox or the eagle. Nor are such evidences of ancient population and industry confined to a few localities. They occur in many parts of the country, startling the believer in the unmitigated barbarism of ancient Scotland, with evidence of a state of prosperity and civilisation at some remote epoch, the date of which has yet to be ascertained; though there are not wanting periods within the era of authentic history to which some of these may be assigned, such as that celebrated in the beautiful old lyric preserved by Wynthoun, before

Alysandyr oure kyng wes dede
That Scotland led in luv and le;

or perhaps that of the older Trinobantes of the south, typified in their symbol of an ear of barley on the gold coinage of Cunobelin. But a simpler explanation of

such ancient plough-marks has satisfied the popular mind, as is apparent in the appellation of *Elf-furrows*, by which they are commonly known. The prevalence of these infallible tokens of former industry was noted by the Rev. George Maxwell when drawing up an account of the parish of Buittle, in Galloway, towards the close of last century. The rustic tradition by which the reverend statist seeks to account for the greater agricultural skill of former ages, though amusing enough, is not without its value to us from the proof it affords of the extent to which such traces must have existed when they made so great an impression on the popular mind: —“It is here to be observed,” he remarks, “that there are few hills in this part of Galloway, where cultivation is at all practicable, that do not bear distinct marks of the plough. The depths of the furrows, too, plainly declare that this tillage has not been casual, or merely experimental, but frequent and successive. This should set both the ancient population and industry of this part of Scotland in a more favourable light than that in which they are usually held. It also affords probability to a tradition repeated by the country people to this day: that at a time when Scotland was under a Papal interdict, or sentence of cursing from the Pope, it was found that his Holiness had forgot to curse the hills, though he had commanded the land, usually arable, to yield no increase; and that while this sentence remained, the people were necessitated to seek tillage ground in places unusual and improbable!”¹

The term *archaic* has been suggested as one definition of the era to which some at least of the primitive traces of agriculture may be assigned, from its peculiar applicability, in the sense now most generally attached to it, to the artistic productions of the Bronze Period. The

¹ Sinclair's *Statist. Acc.* vol. xvii. p. 115.

ornamentation consists almost without exception only of improvements on the accidents of manufacture. The incised decorations of the pottery appear, in many cases, to have been produced simply by passing twisted cords round the soft clay. More complicated designs, most frequently consisting of chevron, saltire, or herring-bone patterns, where they are not merely the primary results of a combination of such lines, have been suggested, as I conceive, by the few and half-accidental patterns of the industrious female knitter. In no single case is any attempt made at the imitation of a leaf or flower, of animals, or any other simple natural objects. It is curious, indeed, and noteworthy, to find how entirely every trace of imitative art is absent in British Archaic relics, for it is by no means an invariable characteristic of primitive arts. The objects recovered from the sepulchral mounds of the Mississippi, as well as in Mexico and Peru, display, along with the weapons and implements of stone, flint, and obsidian, numerous indications of imitative design. Among the relics of the Mound-Builders of the Great Valley especially, pipe-heads, tubes, masks, and a variety of nondescript articles, are characterized by evidences of very considerable ingenuity and imitative skill. Similar skilful imitation is apparent in many of the carvings and plaited manufactures of modern Indian tribes. The Peruvian potters constantly moulded their ware into the familiar forms of animals; and even the great earthworks of northern regions of the American continent repeat similar forms. So thoroughly indeed does this imitative faculty manifest itself among the native manufacturers of the New World, that not only the pipe-sculptor copies both animate and inanimate objects with an observant eye and a ready hand; but even when pottery or straw basket-work are decorated with the simplest lines, these are frequently arranged in

such definite or flowing patterns as suggest their derivation from flowers and other objects in nature. The natives of the Polynesian Islands display a similar though perhaps inferior taste in their clubs, paddles, and mallets, the prows of their boats, and numerous other objects, carving them into grotesque imitations of human and other animal forms.

The indefinite and Archaic character which marks the ornamentation of the early British pottery, characterizes the most elaborate and costly ornaments of gold. Though the peculiar form of one class of gold ornaments found in the British Isles has suggested a name for it derived from the calyx of a flower, which the cups of its rings seem in some degree to resemble: yet no example has been found bearing the slightest traces of ornament suggestive of such similarity having been detected by the old British goldsmith. Where incised lines are superinduced upon the flower-like forms, they are the old chevron and saltire patterns of the rude clay pottery, though executed with considerable delicacy and taste. It is obvious that ideas of comparison, which enter so largely into the spirit of modern artistic design, and also form so considerable an element in the more artificial poetic composition of modern bards, were altogether undeveloped in these old times. Art was, in fact, the child of necessity, and continued to receive the adjuncts of adornment from the same sources whence it had first derived its convenient but arbitrary forms.

The beautiful gold "sceptre head," Fig. 104, found at Cairnmure in Peeblesshire, and engraved here about one half the size of the original, is one of the few examples of defined ornamentation found associated with objects some of which admit of being classed with those belonging to this period. They are still arbitrary, and, strictly speaking, not imitative, though they approach

towards forms directly imitative, or at least designed to be representative, with which we become familiar at a later period. The Cairnmure sceptre-head may indeed illustrate the more defined workmanship of the succeeding era. The funicular torcs with which it was accompanied, though found among relics of the Archaic Period, and highly characteristic of its simple arts, undoubtedly remained in use to the close of the Pagan era ; and the gold pellets of the Cairnmure hoard are the highly curious type of a possible but undetermined primitive currency. The large ornaments on the sceptre-head



FIG. 104.—Cairnmure Sceptre Head.

resemble in some degree those of a class of works in bronze illustrated in the second volume, along with other objects of the late Iron Period ; but the experienced eye will also detect, in the partially defined ornamentation, traces of the familiar decoration known as the snake-pattern, in which for the first time the designs of the native metallurgist begin to reveal any distinct evidence of imitative art. The change is an important one ; for the imitative faculty is one of the first to develop itself in the individual, and is a common characteristic of many rude tribes. The arts of extinct nations of the New World, and those still prac-

tised by many of its living tribes, abound with ingenious and grotesque manifestations of imitative skill ; and both among the American savages of the Northwest, and the islanders of the Pacific, the primitive artist frequently selects his models from the unfamiliar novelties of European introduction. The absence of all imitation, therefore, in works of the British designer, which nevertheless exhibit no lack of taste and artistic invention, reveals to us traits of mental character highly interesting ; and possibly accompanied by corresponding modes of thought. It is, at any rate, worthy of note in connexion with this, that both in ancient and modern barbarous nations, the imitative arts appear very generally to be accompanied with the existence of idols and other evidences of an idolatrous worship. So far as we yet know, the converse holds true in relation to the primitive races of Britain ; and as importance is justly attached to the contrasting creeds and modes of worship and polity of the Turanian and Aryan nations, this suggestion may not be unworthy of further consideration.

But we are not entirely dependent on negative evidence in relation to primitive creeds. The proof that the ancient Briton lived in the belief of a future state, and of some doctrine of probation and of final retribution, is apparent from the constant deposition beside the dead, not only of weapons, implements, and personal ornaments, but also of vessels which may be presumed to have contained food and drink. That his ideas of a future state were rude and degraded, is abundantly manifest from the same evidence. Somewhat, however, is added to our knowledge of his religion, if the inference be admitted to be a legitimate one which deduces from the absence of all imitation of natural objects in his ornamental designs, the conclusion that idolatry has

pertained under no form to the worship of the native Briton. Whether his religion was a fetish-worship, with spells and strange magical rites; or that he brought from his far-eastern birth-land the Chaldean star-worship or the Persian fire-worship; or knelt to Sylvanus and the *Campestres Æterni Britanniaë*,—the supposed haunters of his native fields and forests, to whom Roman legionaries afterwards reared altars and poured out libations,—it seems consistent with all analogy to conclude that no visible forms were worshipped within the Caledonian groves or monolithic temples. Julius Cæsar, in his oft-quoted account of the Druids, describes the Gauls as much addicted to religious observances, and names Mars, Apollo, Jupiter, Minerva, and Mercury, as objects of their worship. Of Mercury especially, he adds, they have many images, and they esteem him as the inventor of the arts. This, however, might be true enough of the continental Gauls of that late period, who had long been partially brought into contact with the Romans, and yet be inapplicable to the Caledonians, who had no direct knowledge of them for more than a century after the date of Cæsar's first landing on the white cliffs of England. But the works of art now referred to belong to earlier centuries than those of the Celtic Druids, concerning whom modern antiquaries have speculated so largely to so little purpose. Druidism is one of the branches of antiquarian research, in which, after having perused all the ponderous tomes devoted to its elucidation, the archæologist returns with renewed satisfaction to the trustworthy though imperfect and scanty records which he finds in the relics of primitive invention and archaic design. The truths contained in those ample dissertations are mostly too few and uncertain to be worth the labour of sifting them from the heap in which they may be buried, at the rate of about a grain

of truth to a bushel of fancy. Still, from the allusions of classic writers, we may infer that a native priesthood exercised an important influence over the later Celtic races of Britain, as appears to have been the case among most, if not all the Aryan nations.

In the present state of archæological inquiry, it would be presumptuous to assign dogmatically the races to which the arts of each period pertain. Still the indications both of archæological and direct historical evidence point to the Celtæ as comparatively late intruders, and tempt us rather to seek among their Allophylian precursors for the metallurgists of the Archaic Period. In the Kumbeccephali, we may expect to trace the rude workers in stone, with their accompanying triumphs of megalithic art. Upon that race the Brachycephali intruded, bringing with them, in all probability, some knowledge of metallurgic arts, yet effecting their aggressions by such slow degrees that their arts appear to have reached northern regions long before the rude aborigines were called upon to employ them in repelling their originators. From those as well as other arguments we infer, that when the earliest Celtic wanderers reached our coasts, they found older natives already in possession of weapons of bronze, and familiar with some of the most essential processes of the metallurgist. Whether the Celtæ brought with them any knowledge of iron at the period of their arrival in Europe, must have depended to a great extent on the nature of their previous intercourse with civilized nations of Asia; but the smelting of the iron ore, and the working of the metal to any great extent, are manifestly incompatible with the condition of a nomade people, migrating across a continent the partial clearings of which were already occupied by hostile races. Some reference has been made to evidence which an investigation of the lan

guages of the Indo-European nations furnishes as to the degree of progress to which they had attained at the period of their dispersion. Philological traces lead us to infer that they had lost much useful knowledge amid the exigencies and privations of a nomade life. But, though as ignorant of all the processes of smelting, alloying, and forging metals, as many a modern emigrant from old seats of European civilisation, we may conceive of their carrying with them and carefully treasuring metallic implements and weapons : the practical memorials of such lost arts ; and, settled anew where metallic ores abound, these would still be recoverable. Certain it is, at any rate, that the earliest knowledge we acquire of the continental Celtæ exhibits them as skilled workers in metals ; and even the Romans appear to have acquired their principal supplies of iron, if not indeed the art of converting it into steel, from the Norici, who occupied a considerable tract of country south of the Danube, still celebrated for its iron and steel. Whatever was the precise state to which the nomade Celts had sunk at the period of their earliest intrusion on the Allophylian nations of Europe, the supremacy acquired by them is sufficient evidence of their innate superiority. Possessed originally of good mental capacity : so soon as they formed permanent settlements, it is to be presumed that evidences of their powers would be manifested ; but even in their nomade state they bore with them some of the elements by which the Aryan tribes are held to be distinguishable from other nations. “ They had bards or scalds, *vates*, *ἄοιδοὶ*, who were supposed under a divine influence to celebrate the history of ancient times, and connect them with revelations of the future, and with a refined and metaphysical system of dogmas, which were handed down from age to age, and from one tribe to another, as the

primeval creed and possession of the enlightened race. Among them, in the West as well as in the East, the doctrine of metempsychosis held a conspicuous place, implying belief in an after state of rewards and punishments, and a moral government of the world.”¹

The contrasting religion of fetisses and spells, already referred to as ascribed to the Allophylian nations, still exists among the Finns and Lappes of the north of Europe, and the Voguls, Ostiakes, and Esquimaux, occupying the northern regions of Asia and America, whither we may naturally conclude they have been driven by the intrusion of superior races. To some of those, perhaps, we must look for the living type of the primeval Briton, and to their rude superstitions for shadowy traditions of the creed by which his untutored mind took hold of the unseen. How much of the refined system of metaphysical dogmas ascribed to the Aryan nations as a general characteristic, pertained to those of them that first colonized Britain, can now be only partially surmised. We know, however, that at the period when the annals of our island are first embraced within the limits of authentic written history, a native priesthood existed, combining not only the sacerdotal and judicial characters, so frequently found united in the priesthood of even comparatively civilized races, but also such influence as leaders and chiefs that the Romans found in them their most implacable and unrelenting foes. Hence their religious rites were early proscribed by the imperial lieutenants; and the Druid priest, who held fast by his mysterious faith and passionate love of national independence, fell back before the advancing legions of Rome, till he found partial and temporary repose within the ancient groves of the Caledonian Celt, or deserted the southern Mona for the insular fastnesses of the Hebrides

¹ Prichard's *Natural History of Man*, p. 187.

and Ireland. The traces of this, however, are extremely indistinct and uncertain ; and so little evidence does Celtic tradition preserve of the distinction between the refined pantheistic creed of the Aryan races, and the spells and superstitions of Allophylian aborigines, that the name of Druid is used only by the modern Gael as significant of a magician or wizard. But long before the hereditary British priesthood had been driven into the northern fastnesses of the island, the proofs which we possess seem to manifest that the archaic period of native art had come to an end, and the last great change within the Pagan era, resulting from the introduction of the more abundant and more useful metal, iron, had begun to operate.

When the systematic divisions of archæological periods, which have been thus far employed in methodizing the evidence here adduced, were first set forth, they were applied with an indiscriminating zeal which ere long brought them into discredit ; and it has accordingly become the fashion to slight, or entirely ignore them, as the fanciful terms of an exploded theory. Since the publication of the first edition of this work, however, I have had numerous opportunities of intercourse with tribes wholly ignorant of metallurgic arts ; and have explored the traces of copper-mining on Lake Superior, where that metal is found in inexhaustible abundance, and was wrought for ages without the use of fire. The result of a careful study of the prehistoric remains of the New World ; and a comparison of the relics of its ancient Miners and Mound-Builders with the arts still practised by its forest Indians : strongly confirm in my mind the truth and value of the system of archæological periods, when applied with discriminating judgment. How far they admit of application to the complex traces of the unhistorical nations of Europe, appears from the pre-

vious illustrations derived from one of its most insulated regions. But with the first evidence of matured metallurgic arts we arrive, in both continents, at the confines of authentic history, and obtain the earliest glimpses of written records. Thenceforth Archæology becomes the auxiliary of History, and aims only at supplementing and illustrating more definite though not always more trustworthy chronicles. Thus much has, meanwhile, proved to be recoverable, in the form of suggestive inferences, if not of ascertained truths, from amid the dim shadows that have for ages covered, as with the pall of oblivion, the history of our national infancy, and of its first youth.

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