

The archaeology of Joseph Anderson

by Angus Graham

Of Joseph Anderson, Childe wrote, at the opening of his *Prehistory of Scotland*, that by 1886 he 'had sketched the essential outlines of Scottish prehistory in a comprehensive and scientific survey such as then existed in no other country' (1935, xi). The Council of the Society of Antiquaries of Scotland, likewise, in a minute recording his retirement from the National Museum of Antiquities in 1913, alluded to his 'learning, judgment and scientific attainments, and the prestige which he has won for the Society of Antiquaries of Scotland through his European reputation as an Archaeologist' (*Proc Soc Antiq Scot*, 47 (1912-13), 340). A panegyric pronounced at a general meeting of the Society on the same occasion (Guthrie 1913) is too long for quotation but deserves to be read in full. Anderson's standing being such as to call for recognition of this kind, it is strange that no closer assessment seems to have been made of his archaeological achievement in all its aspects, and the purpose of the present paper is to do something to supply this want, while also providing, in an Appendix, a complete list of Anderson's published works. In attempting this task the writer is further influenced by an antiquarian *pietas*, as he survives from an era when Anderson's opinions might still carry great weight, and in fact once met him in person.

Seen as an introduction to his later career, Anderson's early life seems fraught with improbabilities. He was born at Arbroath in 1832, to parents in very modest circumstances. His father was David Anderson, described as a weaver in the record of his marriage in 1831 to Jane Arnot, Joseph's mother, but as an agricultural labourer in the censuses of 1841 and 1851, again as a day-labourer in the certificate of Joseph's marriage in 1856, and as a weaver in Joseph's death-certificate of 1916. The two census returns show the family as living at St Vigeans, with David working on the Letham and Kirkton estates respectively in 1841 and 1851; in the return of 1851 Joseph, then 19, is shown as a private teacher of Latin and English.¹ Joseph received his earliest education in the parish school of St Vigeans, and in 1844 went to the newly-founded Arbroath Educational Institution. From 1852 to 1856 he taught in the East Free School, Arbroath, and in the latter year married Jessie Dempster, daughter of James Dempster, a grocer and spirit-dealer of Hill Street, Arbroath. At the time of his marriage he was living in Union Street, Arbroath, but in the same year (1856) he removed to Constantinople, where he taught in the English School at Hasskeui until 1859, returning to Scotland in 1860 to become editor of the Wick-based *John-of-Groats Journal*. Whether or not as a consequence of contact in Turkey with remains of Classical antiquity, on his return to Scotland he embarked on his archaeological career, residence in Wick permitting him to study prehistoric remains in Caithness and to excavate some of the local chambered cairns in association with the Anthropological Society of London. His work in this field must have given convincing proof of his capacities, as in 1866 the Society of Antiquaries of Scotland nominated him a Corresponding Member, and in 1869 appointed him Keeper of the National Museum of Antiquities and its own

Assistant-Secretary and Editor of its *Proceedings*.² The last of these posts he retained until the year of his death (1916), but the two former he demitted in 1913.

In addition to Anderson's own background, it is necessary at this point to glance at the state of Scottish archaeology at the time when he entered its field. We may take it, in the first place, that the idea of three prehistoric periods, of Stone, Bronze and Iron, had by now become thoroughly established in antiquarian thinking. Some notion of the system may possibly have reached the Society by 1843 (*Archaeol Scot*, 4 (1857), Appendix p 33); relevant works by Thomsen and Worsaae had appeared in English translations in 1848 and 1849 respectively; and in 1849 periods of Stone and Bronze, though not of Iron, both subsumed under a main heading 'Celtic', had figured in a descriptive catalogue of the Museum – *Symposium of the Museum of the Society of Antiquaries of Scotland* – with a preface by Daniel Wilson. In the second place it may be recalled that archaeological theory had recently been given a new framework through the vast backward extension of the human past that had come to be generally recognised; thus in the later 1850s a group of leading English antiquaries had accepted Boucher de Perthes' interpretation of his finds in the Somme gravels, and in 1859 there had appeared *The Origin of Species*. The resulting theoretical shift may have had little direct or practical effect on contemporary work in Scotland, but it must have affected the general climate of opinion. The middle years of the century, again, seem to have been marked by interest in the exploration and factual study of a range of ancient monuments; brochs, for example, were being examined on a large scale – Petrie, indeed, stating later that he had witnessed the excavation of no fewer than eighteen brochs before 1872. Chambered cairns likewise attracted attention, Maes Howe, cleared out by Farrer in 1861, being probably the best-known case, while the Holm of Papa Westray (1849), Wideford Hill (1849) and Quoyness (1869), all in Orkney, and Anderson's own sites in Caithness, also come to mind. Skara Brae was first explored by Farrer in 1861, and Hebridean bee-hive structures were being observed, in the same general period, by Thomas and White. Medieval and later monuments were no doubt in a different category, but even in their case the relevant papers published from time to time in the Society's *Proceedings* seem to be less heavily weighted than their earlier counterparts with historical and record matter. The Museum, again, which had occupied an important place in the antiquarian world ever since the Society's foundation in 1780, continued to do so though not itself immune to internal troubles which need not be discussed here. In all, the conditions that existed in the 1860s were probably favourable for the emergence of new men.

The earliest of the papers that Anderson read to the Society (1866b; 1868) do not portend significant changes of approach. They deal, as has been said, with the excavation of chambered cairns in Caithness,³ and show that their author followed the regular practice of the day, unearthing structure and recording finds recovered in the process of clearance. His published plans are poor, being small and sometimes even lacking a scale, though based on systematic surveys and consequently better than mere sketches. His notes on finds are rather meagre, very few objects being illustrated and none of the pottery. In at least two respects, however, he already outclassed his contemporaries. In the first place he evidently took account of small and inconspicuous finds, and in clearing the chambers and passages of the cairns seems to have removed the debris and floor-deposits in an orderly manner which gave him an idea, if a rough one, of their comparative ages. In the second place, he shows much skill in introducing readers to a subject about which very little was known at the time, this faculty probably resulting from his earlier experience as a teacher; while his descriptions of the excavated monuments, with details of their structural features and principal dimensions, are clear and logical. He makes sensible suggestions on

burial usages and on secondary interments in the cairns, quoting English and Continental analogies with great facility. His competence in exposition comes clearly to light if the papers in question are compared, say, with Stuart's account of Farrer's operations at Maes Howe (Stuart 1864). Thus Stuart's paper runs to thirty pages, and if twelve of these are discounted as referring solely to the subject of the Runic inscriptions, it is found that less than three of the remaining eighteen consist of factual description. The paper as a whole recalls the discursive style of an earlier literary fashion, and contrasts sharply with Anderson's simpler and more practical approach.

The quality of the man now entering on the Scottish antiquarian scene may be judged by the published work of his first decade of office. Of his papers, two on brochs may be considered first. The longer of these, read in 1871, falls into a group of four of rather similar character and broadly contemporary date, and may usefully be compared with its counterparts. All four papers were published in 1873 in Part 1 of *Archaeologia Scotica*, volume 5 (1873-90). Of the other three authors, Petrie describes, with some ground plans and small sectional drawings, a number of Orkney brochs opened up by Farrer and others at various times; notes relics found at several Orkney sites; and adds two lists, one of all the known brochs in Orkney and the other showing diameters and wall-thicknesses in some Orkney and Shetland examples (1890). Joass describes the structures disclosed by the clearance of three Sutherland brochs, giving measurements but no plans, together with cursory notes on finds; he then proceeds to a discursive essay on the subject of brochs in general, and ends with a medical report on the human skulls unearthed (1890). Dryden's paper relates to the brochs of Clickhimin and Mousa, describing the structures as they stood after clearance, noting cursorily bones, pottery and relics, none of which seem to have survived the process of clearance, and supplying drawings which, though of a small scale, are evidently based on measurement (1890). Anderson's paper, however, bears a significantly different complexion (1890c). It opens with an ordinary report on the excavation of Yarhouse broch, evidently carried out by much the same methods as were used for the chambered cairns; the description is given at first hand, and the plan has been properly surveyed. But on the other four brochs mentioned in the paper's title he supplies little more than notes, some of them in fact rather slight; he then passes on to a full and far-reaching discussion of the origin and history of brochs as such, wholly outstripping Joass' attempt just mentioned; and ends with an appendix which lists all the known brochs, with notes on such early literary records as exist. The paper thus seems to foreshadow a constant practice of Anderson's later years – to record facts and then to advance to the drawing of some wider conclusions.

Further indications of this tendency in Anderson's development appear, in respect of the brochs, in a paper of 1872, in which he discusses larger historical issues arising from the evidence of spinning and weaving supplied by broch relics, and in particular argues for an ultimately Southern European rather than for a Norse derivation of the typical long-handled combs (1872c); and again in another (1878b), in which he reviews at length the reasons for placing brochs in a 'Celtic' and not in a Scandinavian category, while at the same time allotting chambered cairns and megalithic monuments to a period antedating the Norsemen. Similarly his notes on a number of burnt mounds, which he includes in a paper on some small cairns in Caithness (1872a), embrace comparative evidence from Ireland, Orkney and Shetland; while a rather later paper (1878c), concerning a cairn on which he had given advice, leads to a discussion of the various types of sepulchral monument known at the time in Scotland, followed by a detailed description of associated relics and pottery. His knowledge of comparative material and skill in its deployment, typical features of his work throughout his career, were now coming clearly to light.

The wide scope of Anderson's interests, particularly in Northern subjects, is further illustrated by other papers of the 1870s decade, as well as by two of his books. Thus in 1872 he published a translation of a Danish version of Ahmed ibn-Fozlan's eye-witness account of the funeral ceremonies of a Norse chief of the early 10th century (1872b), the narrative being followed by remarks on cremation in general as practised in the North and as recorded by some Classical writers. Again, in 1874, he produced a paper of no fewer than 58 pages discussing in great detail relics of Scottish provenance from the Viking period and using as illustrations specimens in the National Museum (1874b). The objects dealt with are classed as stone urns, bowl-shaped brooches, characteristic weapons, and hoards of silver ornaments, and the discussion covers comparative material, distribution, methods of manufacture and so on. Nor was his interest confined to physical objects, as in 1874 he turned his attention to a problem of medieval history, reviewing the evidence, including relevant entries in the Icelandic Annals, for the death of the Maid of Norway, and the attempt at her impersonation made by 'the False Margaret' (1874a). Similarly in the first of his books, *The Orkneying Saga* of 1873, he pursued his search for facts in the historical field with an edition of the Saga as translated by Hjaltalin and Goudie, supplying an historical introduction and an ample apparatus of notes. For the prehistoric and earliest Viking periods he draws on archaeological evidence, with discussion of brochs and megalithic monuments which outruns the scope of the Saga; and for the Norse phase he reviews the evidence of the Saga itself and of other available records. He deals at considerable length with the Earldom and the Bishopric; has much to say about St Magnus Cathedral and the few early churches; and is interested in Norse survivals in language and local customs, particularly in those which reflect pagan burial-practices. In discussing these last he quotes a passage from ibn-Fozlan's report, mentioned above. The notes are designed to clarify such matters as place-names, topography, personal relationships and wider historical connections. The whole is an attempt to present, within the limitations of contemporary knowledge, a history of Orkney from the earliest times until it was annexed to the Scottish Crown in 1471.

Two more books belong to the Seventies decade, both having appeared in 1879. One of these was an edition of Low's *A Tour through the Islands of Orkney and Schetland*, which recorded observations made in 1774. Low was a dedicated naturalist, who had even devised and built his own microscope while a student at St Andrews University, and this record of his tour covers a wide range of subjects connected with natural conditions and the life of the island communities. Besides topography, history and traditions, farming, fishing, and the local flora and fauna, it touches on many prehistoric and later antiquities, some of the notes being illustrated with Low's own drawings. It recalls, while substantially outstripping, the earlier parochial reports, probably inspired by Sibbald, that were eventually collected by Macfarlane (1906-8, mainly vol 2). Anderson treats this work as a valuable source of facts, and supplies an introduction explaining how the tour came to be undertaken, and quoting extracts from Low's letters to Paton, an Edinburgh antiquary, and from the latter's correspondence with Pennant.

The other book of 1879 shows little affinity with the rest of Anderson's work, apart from its general concern with the recording of facts. Entitled *The Oliphants in Scotland*, it is a massive volume of feudal and family history, printed for private circulation; and comprises 105 pages of narrative and discussion followed by 360 pages of the texts of documents preserved in the charter-chest at Gask. It is based on materials collected by T L Kington Oliphant and is illustrated with specimen heraldic plates, and facsimiles of charters and of individual signatures. This book carries Anderson much further into the realm of historical research than did, say, his use of records in *The Orkneying Saga* or in his paper on the Maid of Norway.

The remaining papers of the Seventies all seem to be concerned, in one way or another,

with the recording of facts, the drawing of general lessons, and the systematisation of knowledge. Four deal with prehistoric subjects. In the first of these, Anderson ventilates a conjecture that certain small polished stone discs of iron-age date were mirrors; but after quoting a body of comparative evidence he ends with a conclusion which seems to attain the peak of academic caution – ‘it is not that these discs . . . were made to be used as mirrors, but that the hypothesis that such discs of stone may have been mirrors . . . is not altogether an improbable one’ (1874c, 719). In a second paper (1876c), he describes a flint arrowhead, still mounted on its shaft, recovered from an Aberdeenshire peat-moss, discusses comparative material and methods of shafting employed by modern primitives, and gives an account of his own experiments in making and shafting flint arrowheads. The third paper (1879b), provides a typical example of Anderson’s methods – the use, that is to say, of factual matter placed among wider considerations. In this case he advances from a factual account of a number of urn-cemeteries to ‘a broad classification of the clay sepulchral urns found in Scotland’, identifying four classes and describing their distinctive features (1879b, 120). It is interesting to notice that the headings under which he groups the classes in question are given respectively as cinerary urns, small cup-shaped urns, food-vessels and drinking-cups, and that he evidently regarded these names as usefully descriptive in themselves and not as conventional items in a formal system. No such system, in fact, seems ever to have been drawn up in a regular way – ‘Cinerary Urn’, for example, evidently began, as Anderson uses it here, simply for a vessel found to contain an interment, and acquired its technical status in the course of everyday use; ‘Incense Cup’ was invented in 1812 by Sir Richard Colt Hoare (1812, 25); ‘Food-vessel’ or ‘Vase for Food’ was used by Bateman in 1861 (283), primarily as a descriptive term; while ‘Beaker’ was substituted, on its merits, for the earlier ‘Drinking-cup’ by Abercromby in 1902.⁴ Anderson ends this paper by maintaining that ‘as yet, however, we are only awakening to’ the importance of the ‘geographical distribution of archaeological forms’, and that ‘there must inevitably arise a new science . . . of comparative archaeology. . . . The results of this study will be the sharper definition both of the areas of space and the periods of time over which specific differences can be traced’, with further light on the individuality of character of the ‘social aggregates’ concerned (1879b, 124). The fourth paper likewise proceeds from an ordinary descriptive report on a deposit of bronze swords found in Edinburgh in 1869 to a review of all the bronze swords known to have been found in Scotland (1879c).

Papers on medieval subjects also serve to illustrate Anderson’s methods. He describes a jet figure of St James the Greater, identifying it as the badge of a leprous pilgrim to Compostella, probably of the later 16th century, and discussing at some length comparative medieval material and the larger subject of pilgrims’ *signacula*, of brass or lead, associated with other saints (1876a). There follows a discussion of the counters frequently used in religious establishments, with notes on the stone moulds used in their manufacture, the whole paper showing a thorough familiarity with English and Continental evidence. Of similar inspiration are two papers (1878a and 1879a) dealing briefly with four terra-cotta flasks from Alexandria bearing representations of St Menas, and the other describing a heavy mortar and a small lion-figure, both of brass and both dug up in Glasgow, the lion being identified as the base of a candle-stand. The author then proceeds to a detailed discussion of a group of six aquamanilia assembled by him for exhibition to the Society, all of which show the same distinctive lion-shape as the Glasgow figure; this discussion incorporates much comparative evidence, and quotations from sources explaining the ritual use of the aquamanile for washing the hands of the priest celebrating the Mass.

Another paper, read in 1876, casts back to a subject in which Anderson had already shown his interest, namely the survival of pagan elements in Christian burial-practice (1872b). The scope of the paper is indicated by the title ‘Notes on the survival of Pagan customs in Christian

burial; with notices of certain conventional representations of “Daniel in the den of lions” and “Jonah and the whale” engraved on objects found in Early Christian graves, and on the sculptured stones of Scotland and the crosses of Ireland’ (1876b). Though much of its content has now been overtaken by increased knowledge of the material, its earlier pages point in an unmistakable way to the general form of the author’s archaeological thinking. Thus he holds that ‘there are no breaks, no well-marked lines of separation between the successive formations (if I may call them so), of the periods of archaeology. Stone passes gradually into bronze, bronze into iron, and pagan into Christian, each transition time exhibiting a peculiar set of phenomena which form the most interesting and suggestive subjects of research to which the student of archaeology can address himself’ (1876b, 363); and in connection specifically with Early Christian burials he insists that ‘any such investigation conducted on scientific principles must be comparative. . . . In order to understand the phenomena of early burial in any country of Europe, at any period, it is necessary to study its phenomena of all neighbouring countries – if possible, in all European countries’ (1876b, 365).

In addition to work which originated with Anderson himself, account must be taken of the mass of descriptive records that he produced in the course of his duties as Keeper of the National Museum and Editor of the Society’s *Proceedings*. These records covered the multifarious objects that came into the Museum’s possession from time to time or were exhibited at Society meetings, and usually appeared as items in the meetings’ minutes; but particularly important objects frequently called for longer individual papers published as such in the *Proceedings*. These routine records were not, of course, originally introduced by Anderson, but they seem to have become fuller and to have acquired a more professional tone after his entry into office.

So much for the publications of Anderson’s earlier years, but in assessing the work of a curator it is natural to look at his museum as well as at his papers and books. What Anderson thought about the functions of a National Museum of Antiquities is stated at length in the first of his Rhind Lectures (*infra*) – in fact, the Museum is one of the bases on which his whole system rests. It would be interesting, of course, to obtain, in addition to this theoretical statement, some idea of his practical impact on the Museum when he assumed control, but the evidence is regrettably slight and this for very obvious reasons. That is to say, in 1891 the collections were moved from the Royal Scottish Institution, now the Royal Scottish Academy, to their present quarters in Queen Street, and again during the First World War they were put into storage, both of which operations must have resulted in reorganisation and rearrangement. They have also been under the care of no less than four different Keepers since Anderson’s retirement in 1913. Their condition in the 1870s can in consequence only be inferred, and that without any great confidence, from the Museum catalogues of the time, and it is far from clear how far these reflect Anderson’s own influence and how far he accepted matter inherited from previous régimes. An edition of the *Catalogue of Antiquities in the Museum of the Society of Antiquaries of Scotland*, published in 1876, must certainly have been the one on which Anderson is known to have been working in 1875 (*Proc Soc Antiq Scot*, 11 (1874–6), 327, but the antecedents of an earlier edition, undated but described as ‘new and enlarged’, are doubtful; it is probably the one authorised in 1870 (*Proc Soc Antiq Scot*, 8 (1868–70), 5), and bears definite traces of a fresh hand, but whether or not this was Anderson’s must remain uncertain in view of the comparatively short time that he had then been in office. Comparison of both these editions with one of 1863 shows that, while the skeleton of the older system was retained, certain classes of exhibit were considerably enlarged and their arrangement rationalised to keep pace with recent advances in archaeological knowledge. Among the newly-added items there now appear some from Anderson’s

own excavations of the Sixties, a new 'Mediaeval' section comes into use, more illustrations are given, and the descriptive notes that make up the catalogues' letterpress are in general on an ampler scale.

By the turn of the Seventies and Eighties, Anderson was fully mature and thoroughly familiar with the problems of Scottish archaeology, and it was now that he advanced to the 'scientific and comprehensive survey' of Childe's encomium – the Rhind Lectures and the books in which they were ultimately published. *Scotland in Early Christian Times*, which contains the lectures of 1879 and 1880, came out in two volumes in 1881; *Scotland in Pagan Times: the Iron Age*, with those of 1881, followed in 1883; but those of 1882, on *Scotland in Pagan Times: the Bronze and Stone Ages* did not appear until 1886. In these lectures he brings to fruition the theories and procedures on which his work of the Seventies decade had been based, as described above.

The opening lecture of the series is entitled 'The means of obtaining a scientific basis for archaeology in Scotland', and it deserves close examination here for the reason that it illustrates the whole of Anderson's archaeological position. Some passages, in fact, call for verbatim quotation.⁵ He begins by laying down that 'Archaeology, or the science of things that are old, embraces the systematic knowledge of all the forms, dimensions, composition, associations, and geographical distribution of the objects which it studies. This knowledge, which is precise in its nature, and is derived from examination and comparison of the objects themselves, forms the groundwork of the science. It is purely the product of observation, and there neither is nor can be anything of a speculative or hypothetical nature included in it. Upon this groundwork of exact knowledge there may be raised a superstructure of conclusions as to the relations of these objects to ancient conditions and customs of human life, which they more or less clearly disclose; and in this, its widest scope, archaeology aims at producing a history of man by his works, of art by its monuments, of culture by its manifestations, and of civilisation by its developments' (1881, vol 1, 1).⁶ The enquiry, however, is conditioned by the vast range of the subject in terms of both geography and time, and it would be 'unscientific' to assume that phenomena belonging to one region or period would naturally be paralleled elsewhere and at other times. Consequently the first question to be asked in any locality, such as, for example, Scotland, must be 'What are the facts?'

His next step in the search for facts concerning any region or period is the comparative study needed to distinguish the relevant material from analogous material belonging to other regions or times. Here he notes that the archaeologies of the historic and non-historic periods actually constitute two sections of the same investigation, and that both of them are conducted by the same process. He accordingly refuses either to begin by postulating a condition of human life which is unknown to experience or to end by deducing any such condition. Comparing archaeological research to a voyage of discovery, he maintains that 'descriptions of unknown regions are intelligible only in so far as the objects and circumstances described are comparable with others which are already known. We may grope our way back into the darkness of the past by the light reflected from the present; but we cannot project ourselves into the unknown or proceed to describe it without reference to anything that is known' (1881, vol 1, 5).⁷

Then there arises the question of how the required knowledge of the past is to be obtained – from what materials and by what systematic methods. In view of the rarity of archaeological survivals, Anderson insists on the urgency of preserving all material, whether consisting of structure or of objects, and this leads him to call for the protection of ancient monuments and also for the collection of portable objects and their lodgement in National Museums, the 'National'

aspect of which he regards as supremely important. He deplors the existence of 'small, uncatalogued and undescribed collections' as not being 'conducive to their scientific value and utility'; subsequently making the point that the scientific value of a collection does not reside in the specimens themselves, but depends mainly on the collection's being 'exhaustively representative' of its area, and on the preservation of all the facts concerning each of the specimens (1881, vol 1, 15-17).

To the question of how the story of human progress on Scottish soil is to be extracted from an exhaustive collection of Scottish material, once this has been formed, he finds an answer in the study of the surviving objects. These, he points out, establish the existence of three stages of progress, marked respectively by the use of stone, bronze and iron, it being understood, however, that the 'Ages' that bear the corresponding names do so only in a restricted and technical sense, as indicating certain conditions of general culture but possessing no significance in terms of chronology. This emphasis on the need to think of cultural periods and not of spans of years is fundamental to his system, and he insists that the archaeologist's task is 'the construction of a logical history of the human occupation of the area which he subjects to investigation - that is, a history which is not chronological and can never become so, unless where it touches the domain of record, and by this contact acquires an accidental feature which is foreign to its character' (1881, vol 1, 21).

It being established that archaeology is founded on the study of observed facts, of what Anderson calls 'phenomena', the accuracy of the basic observations, the exhaustiveness of their range, and the precision and fulness with which they have been recorded naturally become vital. This leads the author to remark on the rarity of accurate and exhaustive observation, which requires long training and experience, and to point out how the lack of it, combined with a tendency to draw conclusions from irrelevant evidence, made earlier antiquaries the 'laughing-stock of the literary world'.

Returning to the notion of a voyage of discovery, he suggests that progress can best be judged by reckoning back to a starting-point, and continues: 'Hence I shall invert the order usually followed in archaeological expositions, and, instead of beginning at the beginning, which is completely unknown, I shall start with that border-land where the historic and the non-historic meet, and try to work my way backwards as far as the light reflected from the present will guide me into the past' (1881, vol 1, 22). These principles are duly applied in the subsequent development of the theme. Progress is up, not down, the historical stream, as the first two courses of lectures deal with the Early Christian period and the later ones with those of iron, and of bronze and stone jointly, taken in that order. Conclusions are based on observations regarded by the standards of the day as correct and exhaustive. The following headings are used for the sections of the Early Christian volumes - structural remains, covering churches, round towers, and island monasteries; books, bells, reliquaries, decorative metalwork, decorative stonework, the art of the monuments, the symbolism of the monuments, and inscribed monuments, the last distinguishing 'Celtic' and ogam from runic and Roman scripts. Corresponding subdivisions of the iron-age volume are Christian and pagan burials, Northern burials and hoards, the Celtic art of the pagan period, the architecture of the brochs, the brochs and their contents, and lakewellings, hillforts and earth-houses. The final volume likewise has bronze-age burials, circles and settings of standing stones, weapons and implements of the bronze age, the chambered cairns of Caithness, the chambered cairns of Argyll, Orkney, etc, and implements and weapons of the stone age. In the style of their presentation, and particularly in the wide range of comparative matter quoted, the individual lectures are fully in tune with the methods made familiar by his papers of the 1870s; and the end-product is, as Childe puts it, a sketch of the essential outlines

of Scottish prehistory – no more, of course, than a sketch, but on that footing essential. Whether, or at any rate how far, Anderson would himself have accepted the status of a sketch may perhaps be open to doubt, but he can certainly not have foreseen how advances in the knowledge of facts, and in the sophistication of methods of securing data, such as have been made in the 20th century, would undermine his reliance on supposedly firm observations. The results of this process appear clearly enough if his accounts, say, of the inscribed stone at Yarrow or of Clickhimin broch are compared with their most recent counterparts (RCAMS 1957, 110–13, no. 174; Hamilton 1968). None of this, however, nor the fact that such an all-inclusive review would, by modern standards, be far beyond the scope of any single author, can detract from the merit of a major archaeological achievement, much in advance of its time.

Anderson's archaeology may thus be said to have declared itself, in the course of the 1880s, as being based on the recording of facts; their analysis, on scientific principles and largely by comparative methods, for the drawing of inferences and lessons relating to wider fields; and the organisation of knowledge in an orderly system. The way in which he came to apply these principles in his later career may be assessed from selected examples of his published work.

Taking the last point first, we may begin by considering the papers that deal with museums. The first, 'Notes on some Continental museums in France, Germany and Belgium', shows Anderson in his character of an expert in museum direction and management (1884a), and recalls some features of his essay on national museums embodied in his first Rhind Lecture. The same may be said of a companion paper 'Report on the museums of Switzerland and North Italy' (1890a); while in addition his 'Reports on local museums in Scotland' will help to fill out our knowledge of his views on a museum's functions (1888c).

The first paper covers visits to twenty-two towns in the three countries named, some of which supported more than a single museum; and it also alludes to earlier visits to Denmark, Sweden and Norway. In Switzerland Anderson visited twelve towns, and in Northern Italy eleven. The papers are long and detailed, but over and above the details the author points out the wider national characteristics of some of the major institutions, for example the palaeolithic and Gallo-Roman sections at St Germain, and the Germanic iron-age and Romano-German material at Mainz. He finds the Swiss museums overweighted with relics from the lake-dwellings, and deplores the unsystematic method of their arrangement, by which the remains from no one individual site were kept together and shown as a single unit. The Italian collections were likewise heavily stocked with *terramara* material, though with less unfortunate results. He discusses the museums' educational functions, most highly developed in France, and the educational value of mixed collections embracing art, natural history, etc, as well as archaeology; and states a confirmed belief in the utility of casts, facsimiles and models. Commenting on the difficulty of comparing material from different countries, he points out that when their typical characteristics are known the distinctions between them begin to come to light; and that it is only through a knowledge of other nations' characteristics that those of one's own country can be realised. This conclusion recalls his well-established views on comparative methods, and he follows up the point by applying it to Scottish conditions. The first of these papers ends with a comment on the Scottish National Museum which deserves to be quoted verbatim – 'And finally, while I have nowhere seen a collection more completely illustrative of the whole consecutive history of culture . . . within the area from which it is derived, than that which is now stored, but which cannot be said to be exhibited, in our Scottish National Museum, I have nowhere seen a collection of such interest and importance, provided with equipment and accommodation so obviously disproportionate to its intrinsic merits' (1884a, 48).

The paper of 1888 contains detailed reports on thirty-two Scottish museums, and all are highly unfavourable. He condemns the archaeological collections as poor and fragmentary, not one of them being truly representative either of its own district or of Scotland; they have not been formed systematically; they tell no complete story, and whatever message they do convey is unintelligible. He maintains that the true function of local museums is 'to foster the education of observation in their own districts' (1888c, 422) by showing that all the natural sciences can be studied and illustrated locally, in so far as materials exist, and that the existence of such materials in surprising quantities can be demonstrated by a systematically arranged collection. He believes that, with all their faults, many local museums contain 'a nucleus of local collections which, if extended and completed, would make the institution an effective instrument of education in several branches of science. But for these purposes they all want the energetic co-operation of a local Society' (1888c, 422) – this last being evidently thought of as a group of rural enthusiasts more or less adequately qualified in a variety of disciplines. It is hard to believe that Anderson, even though writing in the heyday of Victorian optimism, can have regarded suggestions of this kind as anything more than the veriest counsels of perfection.

The recording of facts naturally accounts for a great deal of Anderson's work, and not least for the description of objects entering the Museum of which mention has already been made. Of other descriptive writing, in more sophisticated contexts, a wide choice of examples exists, and some of these may now be considered. Thus a major production of 1881 was a book entitled *Ancient Scottish Weapons*, 'A Series of Drawings by the late James Drummond, R.S.A.', to which Anderson supplied an introduction and notes. The volume contains a collection of large-scale coloured lithographs of a wide range of objects, largely of Highland provenance, such as armour, arms and equipment, targets, swords, dirks, powder-horns, pistols, muskets, axes, sporrans and pouches, brooches and musical instruments. The introduction is historical and explanatory. In it Anderson points out that, after such articles had been proscribed by law, they had fallen into disuse and had tended to perish through neglect, with the result that Scotland possessed no 'adequately representative collection of the objects which illustrate, as nothing else can illustrate, the most peculiar and picturesque phases of her national history and native art'. He applauds the 'happy inspiration which led Mr Drummond to contemplate the formation of this unique series of drawings . . . unexampled in range and variety and almost completely representative in character'. The descriptive notes supplied to the individual plates are drawn up rather in the style of a museum catalogue, and the whole work suggests a museum-based approach.

Rather in the same vein are two papers, respectively of 1880 and 1889, both dealing with Early Christian subjects. The 'Notice of an ancient Celtic reliquary exhibited to the Society by Sir Archibald Grant, Bart., of Monymusk' is a typical example of Anderson's descriptive writing (1880c), and also calls for mention as a sign of his interest in the Early Christian period. The full-scale woodcuts, too, identified as the work of a draughtsman named John Adam, are of particularly fine quality. 'The Notice of the Quigrich or crozier of St. Fillan' (1889a) likewise comments on earlier papers on the Quigrich by Stuart (1878) and Wilson (1878), and points to the former existence of five relics of St Fillan, each held by a 'dewar' or hereditary keeper. Of these the Quigrich was one, and he suggests that the Bernane was a bell which had passed into the possession of the Society; that the Mayne was probably the saint's arm, carried at the battle of Bannockburn; and that the Messer may possibly have been a piece of manuscript believed to have been written by the saint. For the Ferg he has nothing to suggest. He returns to the subject in an article for general readers in *The Highland Monthly* (c 1890).

Again, a paper of 1888, 'Confessions of the Forfar witches (1661)', shows how Anderson's

devotion to factual recording could emerge in an unexpected context. The immediately preceding paper (Begg 1888), which dealt with the trial of some witches in 1662, suggested to Anderson, as he puts it, 'the propriety of printing at the same time a series of documents, relative to the subject of Witchcraft, preserved in the Society's Library'. This he proceeds to do, and he remarks that 'we shall never understand the attitude of the educated mind of the seventeenth century towards witchcraft, until we are able to examine and compare a large number of such documents from different parts of the country. They disclose many things besides the mere curiosities of the processes and confessions' (1888b, 241). It is easy to recognise here the same Anderson who consistently demanded facts as the essential basis for archaeological inferences. The facts supplied by this paper consist of the texts of the confessions of eleven accused persons, with records of confrontations, answers to questions, and a commission to the provost of Forfar for the calling of the court. Anderson adds notes on the law and procedure of the witch-trials of the time, and on the method of execution by strangling and burning at the stake.

Among the papers devoted chiefly to record, a large group is naturally formed by those which deal with the results of excavation. A paper of 1905, on a collection of pottery from Poltalloch, is a typical specimen of this type of descriptive writing which contains no conclusions or lessons of wider application (1905a). It is interesting, too, as showing, in respect of nomenclature, a certain conservative tendency on the author's part, as he uses the expression 'urn of "drinking-cup" or "beaker" type', as if hesitating to go all the way with Abercromby in the latter's adoption of the class-title 'beaker' of three years before. For that matter, he treated food vessels in much the same way, describing them as 'urns of food-vessel type'. His 'bowl-shaped urns' would today be associated with the food-vessel class.

Another of his excavation records shows him in what seems to have been a novel situation, confronted, apparently for the first time, with what would now be identified as mesolithic remains. In the 'Notice of a cave recently discovered at Oban', in fact Macarthur's Cave, his description of the relics is, as usual, detailed and thoroughly adequate, but in respect of their age he is clearly at a loss for lack of comparative material (1895a). Thus the English and Continental analogues that he is able to quote for the deer-horn harpoons, to which he pays particular attention, are either of palaeolithic date, and as such inapplicable on geological grounds to the products of a site in the west of Scotland, or else neolithic, when derived from Swiss lake-dwellings. The only other Scottish examples had come from a shell-mound in Oronsay, where they were associated with animal bones typical of neolithic sites. Large numbers of round-ended implements of bone and antler were also recovered, and these represented a type not previously known in Scotland though paralleled in a few French caves. He concludes that 'archaeologically the fauna and the implements of the cave must be classed as neolithic at earliest' (1895a, 230). Returning to the same question in 1898, with 'Notes on the contents of a small cave or rock-shelter at Druimvargie, Oban', he is able to include descriptions of the Oronsay relics, mentioned in 1895, which had been acquired in the meanwhile by the National Museum (1898a). He is chiefly interested in the additional examples of harpoons and round-ended implements of horn and bone now forthcoming from Druimvargie, and he ends by ruling that all the sites in this group 'belong to the same archaeological horizon, - a horizon which has not heretofore been observed in Scotland, but closely corresponding with the intermediate layers in the cavern of Mas d'Azil, on the left bank of the Arize in France, explored and described by M. Piette, and which he has seen reason to claim as filling up the hiatus that has been supposed to exist between the palaeolithic and the neolithic' (1898a, 313). Fresh facts have thus led him to push back the date of the Oban material, and the change seems to mark recognition of a Scottish mesolithic period.

Not the least important of this group of purely descriptive papers are four sets of notes

incorporated in an overall report on the Society's excavation of four forts on the Poltalloch estate, in which Anderson deals with the relics recovered respectively from Ardifuar, Duntroon, Dunadd and Druim an Duin (1905b). While mismanagement of the direction and recording of the work in the field must have left him with a task differing little from the interpretation of a robbed site, he is none the less able to produce a body of facts which had not been previously known. Thus his note on the Ardifuar relics, otherwise purely descriptive, draws attention to a samian fragment as proving occupation as late as Romano-British times. The Duntroon note contains nothing beyond description, the thirty-six saddle-querns found there having been discussed briefly by the author of the general account of the fort. The section on Druim an Duin is very short and mainly descriptive, but Anderson points out that the strike-a-light pebbles and the steatite cup can be paralleled in broch excavations. Dunadd provided a much larger volume of material and of very various kinds; besides describing the objects with his usual precision Anderson enlarges on a number which he considers significant. Among these, for example, he includes the crucibles and stone moulds, as proof of a finished technique in the casting of bronze; evidence for the working of lignite; a double-edged comb of bone; a stone disc bearing a Christian inscription; a carved stone ball; rotary querns and grindstones; and much worked iron, including two combs and some articles like draughtsman's compasses. In a long-handled comb and a fragment of a steatite cup he again sees parallels to finds in certain brochs. Ignoring the opportunities missed through lack of control of the field-work, and having as yet no reason to suspect the complexities that might have been disclosed by sophisticated methods of excavation, he concludes that the results have been highly important and interesting, in providing new types of objects and in showing known objects in fresh associations which help in assigning them to periods. 'We have now obtained a large group of objects', he writes in a final sentence, 'which are definitely associated with the group of forts, and from which the relations of the forts themselves to the later period of the Iron Age, in post-Roman and Early Christian times, are conclusively demonstrated' (1905b, 322).

To save something from the wreck of improperly recorded excavations is again Anderson's object in a paper of 1901 - 'Notices of nine brochs along the Caithness coast from Keiss Bay to Skirza Head'. His purpose in returning to this field in which he had originally made his name is to 'place on record as briefly as possible the principal results of Sir Francis Tress Barry's excavations as far as the brochs are concerned'; and he states that by these operations Barry has done more to 'elucidate the structure and contents of the brochs than has ever been done in Caithness before by all the investigators together' (1901a, 112-13). None the less, it is clear that Barry's work consisted mainly in the removal of debris and ruins; and consequently, when Anderson alludes to brochs 'excavated completely and systematically for the purposes of scientific record', this language must be taken as referring to little more than the major architectural features, already pretty well known, with a routine account of which the paper opens. In fact, he is correct in saying that Barry's results confirm rather than extend existing knowledge. In the event, he saves Barry's finds from oblivion and records them in a convenient form, supplying five ground-plans and several half-tone illustrations; and he adds notes on the relics in his familiar style, with particular attention to the painted pebbles from Keiss. Finally, while refusing to discuss 'conjectural theories' about the brochs' age and origin, 'apart from the scientific evidence afforded by the structures and their contents', he rates them as the most advanced of the known drystone buildings on the strength of their high standards of design and construction. As regards their age, he points to the total absence of relics of the stone or bronze periods, and infers from the weaving-combs, enamelling, and samian pottery that 'the unique type of broch structure may have had its origin in the civilisation of the Late Celtic period' (1901a, 147-8).

Another group of papers which can best be considered jointly consists of notes on the Society's Roman excavations. In 1895 the Society embarked on a project of exploring Roman forts, dealing with a total of eight in the ten succeeding years, and collaboration in this involved Anderson in much work on Roman antiquities. The reports, which were joint productions of several authors each, were all drawn up on approximately similar lines, with an introductory section which set the scene, an account of the field-work and explanation of the plans, and descriptions of the relics recovered; and it was these descriptions that fell to Anderson's share. His notes cover Birrens, excavated in 1895, Ardoch in 1897, Burnswark in 1898, Lyne and Camelon in 1900, Inchtuthil in 1901, Castlecary in 1902, and Rough Castle in 1903 (1896a; 1898b; 1899d; 1901b and d; 1902a; 1903b; 1905d).⁸ A hoard of Romano-British bronze from Lamberton Moor also finds a place in this context.

The material thus passing through Anderson's hands embraced, in general, a fairly representative collection of pottery and glass, objects of iron, lead, bronze, and stone and bone, together with coins, beads, brooches and fragments of leather and tile; and his personal approach is illustrated by his treatment of some of these types of relic (1905c).

In pottery, as might be expected, he was evidently much interested, and his first article, on Birrens, already contains discussion of the origin of the types. In this article he devotes a good deal of space to samian, explaining the method of manufacture, listing potters' and owners' marks, and supplying line illustrations of some of the best examples. In the Ardoch article he treats the pottery at considerable length, remarking that the proportion of large, coarse vessels is much larger than it was at Birrens, and inferring from this that the occupation of Ardoch was shorter and the source of supply more distant. Of the potters' marks, all but one are taken from the larger and coarser ware. The pottery from Lyne he treats in a somewhat offhand manner, but at Camelon he obtained a wider field. Here he finds the pottery comparable with Birrens and Ardoch, though the samian is more plentiful and more varied. His description of this is supported by five pages of line illustration, and he lists the potters' stamps with notes on the provenance of several, also mentioning *graffiti*. Although he knows of attempts 'to work out the chronology of the various types of this pottery in Germany', and mentions in a footnote Dragendorff's recently published work (1901d, 387), he is uncertain how far the German results could be safely applied in Britain, and considers that the British material, as so far known, to be too scanty for useful comparison. Two years later, however, when writing on Castlecary, he is beginning to recognise the potential value of samian as a guide to dating, as he records the absence of late 1st-century types. To the study of potters' marks he is evidently fully committed; his list for Camelon is long, and both there and at Rough Castle he notes them on mortaria and amphorae as well as on samian.

On glass, a comparison of Ardoch with Birrens leads him to the same conclusion as did that of the pottery types. To his account of the Birrens glass he appends a long, expert note by James Curle, which makes use of Scandinavian, German and French material. On enamel, he treats the five brooches from Camelon at length, discussing the whole subject of enamel in Britain and Gaul, with a coloured plate, and adding a note on brooches of this period from other sites in Britain and pointing to the Celtic element in their ornamentation. Enamel and evidence of Celtic artistic influence again come up in his discussion of the Romano-British paterae from Lamberton Moor, where he takes the opportunity of reviewing all the paterae from Scottish sites, though ignoring the fragments recently recovered from the forts. Two weaving-combs of antler from Camelon he notes as the first to appear in Scotland on a purely Roman site; and he remarks that they 'are most frequently found in the brochs' but have also 'been not unfrequently found in England, in association with the remains of the Late Celtic and

Romano-British period' (1901d, 409-10). Of the lead objects the most interesting were some pieces of piping from Inchtuthil, manufactured by the process of 'burning together' the bent-over edges of a strip of sheet-lead. Anderson is not only familiar with the process himself, but considers it worth explaining to non-technical readers. In dealing with missiles, he observes that the stone examples from Birrens, of a suitable size for a ballista, show evidence of impact on a target. Sling-bullets of lead from Burnswark, and of clay from Ardoch, are also noted and illustrated. Coins he treats in a more or less routine manner, but while noting that no coin from Birrens is later than Antoninus Pius, he recalls Gordon's record of a 4th-century piece, of Constantius Chlorus, and suggests a connection with the secondary occupation disclosed by the recent excavation. Of the Camelon coins he supplies a full, dated list.

So much for examples of papers concerned solely or principally with the placing of facts on record; but it remains to consider certain others which, while they are likewise essentially descriptive, also lead up to the drawing of wider conclusions. An early case in point is the paper entitled 'Notes on the contents of two Viking graves in Islay . . . with notices of the burial customs of the Norse sea-kings' (1880a). Here, after giving a detailed account of the relics, particularly of the tortoise brooches, the author proceeds to review the whole subject of Norse burials, and especially those which entailed cremation in a ship and the subsequent raising of a mound, quoting evidence from the Sagas and from archaeological discoveries in Scotland and Norway. In the course of the discussion he exhibits a very wide knowledge both of Northern source-material and of current Scandinavian research. He makes at least two points typical of his own logical position, maintaining, in the one case, that mere inferences from literary records do not carry the weight of positive literary evidence, and showing, in the other, the value of comparative study of two adjacent areas. He holds that, by disclosing the difference between two 'generic groups', such comparative study may assist the 'discovery of the laws that regulate the geographical distribution of typical forms' among prehistoric implements (1880a, 85).

Again in a Northern context, there come, in 1881, 'Notes on the ornamentation of the silver brooches found at Skail, Orkney', covering a hoard found in 1858. He describes the neck-rings, armlets, penannular pins and Cufic coins, and in discussing their historical significance points to the mixed Norse-Celtic character of much of the ornamentation, argues that this must have been the product of a correspondingly mixed community established in Orkney at the time when the objects were made, and dates the deposit of the hoard, on the evidence of the coins, to the middle of the 8th century. As always, he exhibits an impressive familiarity with the Scandinavian material. Historical conclusions again emerge from his paper, 'Notice of an enamelled cup or patera of bronze found in Linlithgowshire', the object in question being the only Scottish example of its class (1885a). Anderson notes that, while it bears a general resemblance to a Roman patera, the distinctive colours and patterns of its ornamentation, which is executed in *champlevé* enamel, mark it as a type not found within the area of the Roman Empire proper, but widely though thinly distributed on its N and W outskirts; and he argues that the type should be regarded as a product of some part of NW Europe which was touched and modified by Roman culture. He ends by bringing evidence that the home of the *champlevé* process was Britain.

His last paper likewise draws wider conclusions from a record of facts (1911). Discussing a hoard of bronze implements found in Lewis, he begins with a description of the objects - wood-working tools, three razors, a fragment of a basin, and beads of gold, amber and glass - and then proceeds to a general account of such hoards as found in Britain and on the Continent. He devotes much attention to the razors, arguing from them and from the tools that the owner might have

been an itinerant wood-worker who also acted as a barber, and was accompanied by a woman who wore the beads.

The foregoing examples of the didactic aspect of his writing are, however, wholly overshadowed by his share, with J Romilly Allen, in their great joint work *The Early Christian Monuments of Scotland*, which in fact forms the second summit of his whole archaeological achievement. The seeds of this project were sown in the following manner. In 1890 the Society's Council decided that the time had come for a fresh general survey and description of all the Early Christian monuments in Scotland, Stuart's surveys of 1856 and 1867 having become obsolete; that the resources of the Gunning Fellowship should be made available for three or more years to Allen, for the necessary field-work; and that Anderson should deal with the general results of the survey in a course of Rhind Lectures to be delivered in 1892. As a consequence, what is virtually a separate book, by Anderson, now forms Part I of a combined work, of which Part II contains the details of Allen's survey. Publication was delayed until 1903, and it is as well to remember, in reviewing the general progress of Anderson's development, that his share of the work on the joint project must actually have been done a matter of eleven years before the date given to the whole on the title-page.

The author begins by stating that his task is to call attention to the 'systematised results' of Allen's survey, and he devotes the six lectures of the course, respectively, to an introduction, the inscribed monuments, their art characteristics, their art relations, and their geographical distribution accompanied by general conclusions. These last are conveniently summarised at the end of the final lecture. In discussing the symbol-bearing monuments he adopts a system of classification based on what he calls their most pronounced features – Class I, with incised symbols only; Class II, combining symbols with Celtic ornament in relief; Class III, showing Celtic ornament but no symbols. The earliest of the monuments, he points out, with their Latin inscriptions in capitals and analogues in Romanised Gaul, are confined to a SW area, presumably the home of a Ninianic Christianity which did not survive. Primitive Irish monuments have ogam inscriptions with encircled, equal-armed crosses, and in Wales and S Britain these overlap the sub-Roman types giving rise to bilingual inscriptions; in Scotland, however, bilinguals are so rare as to suggest that they were going out of fashion, and the ogams are of the later scholastic variety used in the manuscripts. Except for a few ogams, the monuments in Pictland show no trace of external derivation; the symbolism of the Class I monuments is unique, and its typical figures do not appear in the manuscripts, though ogams, where these occur, are of the scholastic type. In Class II, however, these peculiar symbols are associated with decoration derived from the manuscripts and with other symbols which, like the cross, are frankly Christian. As regards art characteristics – e.g. advance in monumental form, decoration made general and not confined to figures, interlace, spirals, the human figure and the general scheme of a decorated cross on the obverse and figures and symbols on the reverse – those of Class I monuments link them partly with the late-Celtic system of decoration developed in Britain in pre-Christian times and partly with the earlier Irish manuscripts. In Class II the influence of the manuscripts is predominant, the 'peculiar' symbols being subordinated to a symbolism which is again unquestionably Christian. Class III has no symbols, and the decoration is less exclusively that of the Irish manuscripts, as it also shows Hiberno-Saxon and Northumbrian influence. Classes I and II are virtually confined to the Pictish area, while Class III occurs in almost all parts of Scotland. No positive dates can be determined, but the author tentatively allots the early Romanised monuments to the 5th and 6th centuries, unshaped stones of Class I to the 7th and 8th, and erect slabs of Class II to the 9th and 10th; while the slabs and crosses of Class III, whatever the date of their origin or of that of the disuse

of the symbols, were only displaced by the grave-slabs of general European style that began to appear in the 12th.

Anderson reached sixty in the year when he delivered these lectures, but his output did not diminish with advancing age and the Appendix lists thirty-four papers published after 1892. Signs of slackening appear only after 1905, when the years between 1906 and 1911 produced no more than four papers, the latter having been the last of all. His health is known to have been impaired in the final years of his life (*The Scotsman*, 29 September 1916). However, concern for system in the organisation of knowledge persisted right up to the end, and, still dedicated in his seventy-ninth year to the orderly marshalling of facts, he assembles accounts of all the architecturally-shaped shrines of the Early Christian church in Scotland and Ireland, including two examples carried off to Norway by raiders (1910). He covers, in addition, some other sacred objects, such as *cumdachs* (cases for venerated books), bell-shrines, and croziers. Some of these relics he had already treated in his Rhind Lectures of 1879, but he takes this opportunity for reviewing the whole body of the material in its common artistic and ecclesiastical context.

Finally, as it were in a kind of antiquarian testament, he returns to the principle laid down as basic in the lectures of 1879. Protesting against the demand, frequently made, for a chronology expressed in years to be applied to prehistoric material, he maintains that 'a scientific or relative chronology, expressing itself in periods and sequences for prehistoric time, answers all the purposes of science, and is quite satisfactory to the man who has learned to think of past time scientifically. Geology has its three great periods divided into many formations the sequence of which is ascertained or ascertainable' (1911, 45).

NOTES

- 1 For information on the Anderson family, the writer is indebted to Mrs S Maxwell, who obtained it from the parish registers of Arbroath and Arbirlot.
- 2 These appointments can be dated from the list of the Society's officers for 1869 (*Proc Soc Antiq Scot*, 8 (1868-70), 226). At this time the Society still managed the Museum, though the collections had been made over to the State in 1851.
- 3 These papers contain the main facts in a convenient form. For longer accounts, which embody some extraneous matter, see Anderson 1866a; 1869a and b.
- 4 For these points of pottery nomenclature, the writer is indebted to Mr A MacLaren and Dr D V Clarke.
- 5 Their style, clearly better suited to the spoken than to the written word, is explained by the fact that the lectures were printed as delivered, without editorial changes.
- 6 Anderson returns to this point, that the basis of every science is 'the plenitude of its ascertained facts derived from recorded observations' (1890b, 353).
- 7 This approach strongly recalls the views expressed by Sir Arthur Mitchell in his Rhind Lectures of 1876 and 1878, published as *The Past in the Present*, Edinburgh, 1880.
- 8 These references are to Anderson's sections of the reports, not to the openings of the reports themselves.

BIBLIOGRAPHY OF THE WORKS OF JOSEPH ANDERSON

- 1866a 'Report on the ancient remains of Caithness and results of explorations conducted . . . by Messrs. Joseph Anderson and Robert Innes Shearer, in 1865', *Memoirs Anthropol Soc London*, 2 (1865-6), 226-56.
- 1866b 'On the chambered cairns of Caithness, with results of recent explorations', *Proc Soc Antiq Scot*, 6 (1864-6), 442-51.

- 1868 'On the horned cairns of Caithness: their structural arrangement, contents of chambers, etc', *Proc Soc Antiq Scot*, 7 (1866-8), 480-512.
- 1869a 'Report on excavations in Caithness cairns... in 1866', *Memoirs Anthropol Soc London*, 3 (1867-9), 216-42.
- 1869b 'On the horned cairns of Caithness', *Memoirs Anthropol Soc London*, 3 (1867-9), 266-73.
- 1872a 'Notice of the excavation of "Kenny's Cairn" on the Hill of Bruan; Carn Righ, near Yarhouse; the Warth Hill cairn, Duncansbay; and several smaller sepulchral cairns in Caithness', *Proc Soc Antiq Scot*, 9 (1870-2), 292-6.
- 1872b 'Description by Ahmed ibn-Fozlan . . . of the ceremonies attending the incineration of . . . a Norse chief . . .', *Proc Soc Antiq Scot*, 9 (1870-2), 518-31.
- 1872c 'Notes on the evidence of spinning and weaving in the brochs or Pictish towers supplied by the stone whorls and the long-handled "broch combs" found in them', *Proc Soc Antiq Scot*, 9 (1870-2), 548-61.
- 1873 *The Orkneyinga Saga*. (Edited, with introduction and notes.) Edinburgh.
- 1874a 'Notes of some entries in the Iceland Annals regarding the death of the Princess Margaret . . . in AD 1290, and the "False Margaret", . . .', *Proc Soc Antiq Scot*, 10 (1872-4), 403-19.
- 1874b 'Notes on the relics of the Viking period of the Northmen in Scotland, illustrated by specimens in the Museum', *Proc Soc Antiq Scot*, 10 (1872-4), 536-94.
- 1874c 'Notes on some polished stone discs of unknown use, in the Museum', *Proc Soc Antiq Scot*, 10 (1872-4), 717-19.
- 1876a 'Notice of a small figure in jet of St James the Greater . . . with notes on "pilgrims' signs" of the Middle Ages, and a stone mould for casting leaden tokens, found at Dundrennan Abbey', *Proc Soc Antiq Scot*, 11 (1874-6), 62-80.
- 1876b 'Notes on the survival of Pagan customs in Christian burial, . . .', *Proc Soc Antiq Scot*, 11 (1874-6), 363-406.
- 1876c 'Notice of a flint arrow-head in the shaft, found in a moss at Fyvie, . . .', *Proc Soc Antiq Scot*, 11 (1874-6), 508-13.
- 1878a 'Note on four small flasks of terra cotta, bearing representations of St Menas, from Alexandria, now in the Museum', *Proc Soc Antiq Scot*, 12 (1876-8), 98-101.
- 1878b 'Notes on the structure, distribution, and contents of the brochs, with special reference to the question of their Celtic or Norwegian origin', *Proc Soc Antiq Scot*, 12 (1876-8), 314-55.
- 1878c 'Notes on the character and contents of a large sepulchral cairn of the Bronze Age, at Colesie, Fife, . . .', *Proc Soc Antiq Scot*, 12 (1876-8), 439-61.
- 1878d *Journals of the County Club of Aberdeen*, 1718-1876. (Edited.) Edinburgh.
- 1879a 'Notices of a mortar and a lion figure of brass . . . and of six lion-shaped ewers of brass, etc.', *Proc Soc Antiq Scot*, 13 (1878-9), 48.
- 1879b 'Notice of a small cemetery . . . on the estate of Balbirnie, in Fife; and of a similar cemetery . . . at Sheriff-flats, Lanarkshire, . . .', *Proc Soc Antiq Scot*, 13 (1878-9), 107-24.
- 1879c 'Notice of a remarkable find of bronze swords and other bronze articles in Edinburgh, with notes on bronze swords found in Scotland', *Proc Soc Antiq Scot*, 13 (1878-9), 320-33.
- 1879d *The Oliphants in Scotland*. Edinburgh.
- 1879e Low, G, *A Tour through the Islands of Orkney and Schetland in 1774*. (Edited, with introduction and notes.) Kirkwall.
- 1880a 'Notes on the contents of two Viking graves in Islay, . . . with notices of the burial customs of the Norse sea-kings, . . .', *Proc Soc Antiq Scot*, 14 (1879-80), 51-89.
- 1880b 'Notice of ancient Celtic bells at Glenlyon, Fortingall and Inch', *Proc Soc Antiq Scot*, 14 (1879-80), 102-8.
- 1880c 'Notice of an ancient Celtic reliquary exhibited to the Society by Sir Archibald Grant, Bart., of Monymusk', *Proc Soc Antiq Scot*, 14 (1879-80), 431-5.
- 1880d 'Notice of a fragment of a silver penannular brooch, . . . found at Achavrole, Dunbeath, Caithness, in 1860; . . . and of two silver brooches . . . said to have been found in the neighbourhood of Perth', *Proc Soc Antiq Scot*, 14 (1879-80), 445-52.
- 1881a *Scotland in Early Christian Times*. 2 volumes. Edinburgh.
- 1881b 'Notes on the ornamentation of the silver brooches found at Skail, Orkney, and now in the Museum', *Proc Soc Antiq Scot*, 15 (1880-1), 286-98.
- 1881c Drummond, W, *Ancient Scottish Weapons*. (Introduction and notes.) Edinburgh.

- 1882 Lowson, W, 'Notes of a small cemetery of cists and urns at Magdalen Bridge, near Joppa', *Proc Soc Antiq Scot*, 16 (1881-2), 419-29 (with Anderson's description of the urns, pp 421-9).
- 1883a *Scotland in Pagan Times: The Iron Age*. Edinburgh.
- 1883b 'Notice of a bronze spear-head found near Duddo Castle, Northumberland, . . .', *Proc Soc Antiq Scot*, 17 (1882-3), 93-8.
- 1883c 'Notice of urns in the Museum that have been found with articles of use or ornament', *Proc Soc Antiq Scot*, 17 (1882-3), 446-59.
- 1884a 'Notes on some Continental museums in France, Germany, and Belgium', *Proc Soc Antiq Scot*, 18 (1883-4), 36-48.
- 1884b 'Notice of the gold ornaments found at Lower Largo, and of the silver ornaments, etc., found at Norrie's Law, near Largo, . . .', *Proc Soc Antiq Scot*, 18 (1883-4), 233-47.
- 1885a 'Notice of an enamelled cup or patera of bronze found in Linlithgowshire, . . .', *Proc Soc Antiq Scot*, 19 (1884-5), 45-50.
- 1885b 'Notice of a small cemetery of the Bronze Age, recently discovered at Shanwell, Milnathort, Kinross-shire', *Proc Soc Antiq Scot*, 19 (1884-5), 114-17.
- 1885c 'Notice of a bronze caldron found with several small kegs of butter in a moss near Kyleakin, in Skye . . .', *Proc Soc Antiq Scot*, 19 (1884-5), 309-15.
- 1886a 'Notices of recent discoveries of cists, or burials with urns, etc., *Proc Soc Antiq Scot*, 20 (1885-6), 97-101.
- 1886b 'Notice of a casket of cetacean bone, carved with interlaced patterns in panels, . . .', *Proc Soc Antiq Scot*, 20 (1885-6), 390-6.
- 1886c *Scotland in Pagan Times: The Bronze and Stone Ages*. Edinburgh.
- 1887 'Notice of an urn and four arrow-heads of flint found in a cist at Dairsie, Fifeshire, . . .', *Proc Soc Antiq Scot*, 21 (1886-7), 132-3.
- 1888a 'Notice of a bronze bucket-shaped vessel or caldron exhibited by H. D. Erskine, Esq., of Cardross', *Proc Soc Antiq Scot*, 22 (1887-8), 36-42.
- 1888b 'The confessions of the Forfar witches (1661), from the original documents in the Society's library', *Proc Soc Antiq Scot*, 22 (1887-8), 241-62.
- 1888c 'Reports on local museums in Scotland, . . .', *Proc Soc Antiq Scot*, 22 (1887-8), 331-42.
- 1889a 'Notice of the Quigrich or crozier, and other relics, of St Fillan, in the possession of their hereditary keepers or Dewars, in Glendochart, in 1549-50', *Proc Soc Antiq Scot*, 23 (1888-9), 110-18.
- 1889b 'Notice of a Celtic bell of bronze, from Little Dunkeld', *Proc Soc Antiq Scot*, 23 (1888-9), 118-21.
- 1889c 'Notices of some undescribed sculptured stones and fragments in different parts of Scotland', *Proc Soc Antiq Scot*, 23 (1888-9), 344-55.
- 1890a 'Report on the Museums of Switzerland and North Italy, . . .', *Proc Soc Antiq Scot*, 24 (1889-90), 478-510.
- 1890b 'The systematic study of Scottish archaeology', *Trans Glasgow Archaeol Soc*, new series, 1 (1885-90), 343-54.
- 1890c 'Notice of the excavation of the brochs of Yarhouse, Brounaban, Old Stirkoke, Bowermadden and Dunbeath in Caithness', *Archaeol Scot*, 5 (1873-90), 129-98. (Read before the Society in 1871).
- 1891 'Notice of the excavation of two cairns on the estate of Aberlour, Banffshire', *Proc Soc Antiq Scot*, 25 (1890-1), 20-4.
- 1892a 'Notice of the discovery of a hoard of the Bronze Age . . . at Balmashanner, near Forfar', *Proc Soc Antiq Scot*, 26 (1891-2), 182-8.
- 1892b 'Notice of a bronze bell of Celtic type at Forteviot, Perthshire', *Proc Soc Antiq Scot*, 26 (1891-2), 434-9.
- 1893a 'Notes on two Highland targets, from Dunollie Castle, near Oban, Argyleshire', *Proc Soc Antiq Scot*, 27 (1892-3), 34-7.
- 1893b 'Notice of a bronze sword, with handle-plates of horn, found at Aird, in the Island of Lewis', *Proc Soc Antiq Scot*, 27 (1892-3), 38-41.
- 1893c 'Notice of Dun Stron Duin, Bernera, Barra Head', *Proc Soc Antiq Scot*, 27 (1892-3), 341-6.
- 1894a Lowe, G and Anderson, J, 'Notice of a cemetery of graves and cinerary urns of the Bronze Age, recently discovered at Kirkpark, Musselburgh', *Proc Soc Antiq Scot*, 28 (1893-4), 62-78.
- 1894b 'Notes on two chisels or punches of bronze-like metal, from Sutherlandshire and Dumfries', *Proc Soc Antiq Scot*, 28 (1893-4), 207-13.

- 1895a 'Notice of a cave recently discovered at Oban, . . .', *Proc Soc Antiq Scot*, 29 (1894-5), 211-30.
- 1895b 'Notes on the contents of a refuse-heap at the base of the fortified rock known as Dun Fheurain at Gallanach, near Oban', *Proc Soc Antiq Scot*, 29 (1894-5), 278-85.
- 1896a 'The pottery, bronze, etc. found at Birrens', *Proc Soc Antiq Scot*, 30 (1895-6), 179-99.
- 1896b 'Notes on a deposit of flints worked to a leaf-shape, found at Bulwark, Old Deer, Aberdeenshire', *Proc Soc Antiq Scot*, 30 (1895-6), 346-51.
- 1896c 'Note on a bronze sword found at Inverbroom, Ross-shire', *Proc Soc Antiq Scot*, 30 (1895-6), 352-6.
- 1897 'Notices of some recently discovered inscribed and sculptured stones', *Proc Soc Antiq Scot*, 31 (1896-7), 293-308.
- 1898a 'Notes on the contents of a small cave or rock-shelter at Druimvargie, Oban; and of three shell-mounds in Oronsay, *Proc Soc Antiq Scot*, 32 (1897-8), 298-313.
- 1898b 'Notices of the pottery, bronze and other articles discovered during the excavations [of the Roman station at Ardoch]', *Proc Soc Antiq Scot*, 32 (1897-8), 453-71.
- 1899a 'Description of the objects found in the fort [Castle Law, Abernethy, Perthshire]', *Proc Soc Antiq Scot*, 33 (1898-9), 28-33.
- 1899b 'Notice of a Highland brooch in silver, ornamented with niello, . . . and of other Highland brooches in silver and brass', *Proc Soc Antiq Scot*, 33 (1898-9), 57-67.
- 1899c 'Notes on three buttons of jet or cannel-coal, found in a cist at Old Windymains, Keith Marischal, East Lothian', *Proc Soc Antiq Scot*, 33 (1898-9), 68-9.
- 1899d 'Notices of articles of pottery, glass, stone, bronze, iron and lead found . . . at Birrenswark', *Proc Soc Antiq Scot*, 33 (1898-9), 243-9.
- 1900a 'Notice of the discovery of a cist containing three urns of food vessel type at Duncra Hill Farm, Pencaitland', *Proc Soc Antiq Scot*, 34 (1899-1900), 131-4.
- 1900b 'Description of a collection of objects found in excavations at St Blane's Church, Bute, . . .', *Proc Soc Antiq Scot*, 34 (1899-1900), 307-25.
- 1901a 'Notices of nine brochs along the Caithness coast from Keiss Bay to Skirza Head, excavated by Sir Francis Tress Barry, Bart., . . .', *Proc Soc Antiq Scot*, 35 (1900-1), 112-48.
- 1901b 'Relics [from the excavation of the Roman camp at Lyne, Peeblesshire]', *Proc Soc Antiq Scot*, 35 (1900-1), 183-6.
- 1901c 'Notice of a hoard of bronze implements, and ornaments, and buttons of jet found at Migdale, on the estate of Skibo, Sutherland, . . .', *Proc Soc Antiq Scot*, 35 (1900-1), 266-75.
- 1901d 'Notice of the pottery, bronze, and other objects found at Camelon', *Proc Soc Antiq Scot*, 35 (1900-1), 380-417.
- 1902a 'Notice of the pottery, bronze, and other objects found in the excavation of the Roman camp at Inchtuthil', *Proc Soc Antiq Scot*, 36 (1901-2), 236-42.
- 1902b 'Notices of cists discovered in a cairn at Cairnhill, parish of Monquhitter, Aberdeenshire, and at Doune, Perthshire', *Proc Soc Antiq Scot*, 36 (1901-2), 675-88.
- 1903a Allen, J R and Anderson, J, *The Early Christian Monuments of Scotland*. Edinburgh.
- 1903b 'Notices of the pottery, bronze and other objects found during the excavations at Castlecary', *Proc Soc Antiq Scot*, 37 (1902-3), 330-46.
- 1904a 'Note on a late Celtic armlet of bronze now presented to the National Museum; with notes on the identification of two other late Celtic armlets in the Museum, and on a massive bronze armlet recently found in Sutherlandshire', *Proc Soc Antiq Scot*, 38 (1903-4), 460-7.
- 1904b 'Notices of a sculptured stone with ogham inscription, from Latheron . . . and of two sculptured stones recently discovered . . . at Edderton, Ross-shire', *Proc Soc Antiq Scot*, 38 (1903-4), 534-41.
- 1905a 'Description of sepulchral urns exhibited by Col. Malcolm, C.B., of Poltalloch', *Proc Soc Antiq Scot*, 39 (1904-5), 232-44.
- 1905b Christison, D, Anderson, J and Ross, T, 'Report on the Society's excavation of forts on the Poltalloch estate, Argyll, in 1904-5', *Proc Soc Antiq Scot*, 39 (1904-5), 259-322.
- 1905c 'Notes on a Romano-British hoard of bronze vessels and personal ornaments found in a moss on Lamberton Moor, Berwickshire', *Proc Soc Antiq Scot*, 39 (1904-5), 367-76.
- 1905d 'Notice of the pottery, bronze, and other articles found at Rough Castle', *Proc Soc Antiq Scot*, 39 (1904-5), 489-97.

- 1907 'Notice of bronze brooches and personal ornaments from a ship-burial of the Viking time in Oronsay, and other bronze ornaments from Colonsay. With a description of a ship-burial of the Viking time at Kiloran Bay, Colonsay', *Proc Soc Antiq Scot*, 41 (1906-7), 437-50.
- 1909 'Note on a group of perforated stone hammers remarkable for their similarity of form and ornamentation', *Proc Soc Antiq Scot*, 43 (1908-9), 377-84.
- 1910 'The architecturally shaped shrines and other reliquaries of the early Celtic Church in Scotland and Ireland', *Proc Soc Antiq Scot*, 44 (1909-10), 259-81.
- 1911 'Notice of a hoard of bronze implements recently found in Lewis', *Proc Soc Antiq Scot*, 45 (1910-11), 27-46.

REFERENCES

- Abercromby, J 1902 'The oldest Bronze-Age ceramic type in Britain; its close analogies on the Rhine; its probable origin in central Europe', *J Royal Anthropol Inst*, 32 (1902), 373-407.
- Bateman, T 1861 *Ten Years' Diggings in Celtic and Saxon Grave Hills in the counties of Derby, Stafford, and York from 1848 to 1858*. London.
- Begg, R B 1888 'Notice of trials for witchcraft at Crook of Devon, Kinross-shire, in 1662', *Proc Soc Antiq Scot*, 22 (1887-8), 211-41.
- Childe, V G 1935 *The Prehistory of Scotland*. London.
- Dryden, H 1890 'Notes of the Brochs or "Pictish towers" of Mousa, Clickemin, &c., in Shetland, . . .', *Archaeol Scot*, 5 (1873-90), 199-212.
- Guthrie, Lord 1913 [Address to the Society following the resignation of Dr J Anderson], *Proc Soc Antiq Scot*, 47 (1912-13), 334-40.
- Hamilton, J R C 1968 *Excavations at Clickhimin, Shetland*. Edinburgh.
- Hoare, Sir R Colt 1812 *Ancient History of South Wiltshire*. London.
- Joass, J M 1890 'The brochs or "Pictish Towers" of Cinn-Trolla, Carn-Liath, and Craig-Carril, in Sutherland, with Notes on other Northern Brochs', *Archaeol Scot*, 5 (1873-90), 95-130.
- Macfarlane, W 1906-8 *Geographical Collections relating to Scotland*, Mitchell, Sir A and Clark, J T (eds), Scottish History Society, Edinburgh.
- Petrie, G 1890 'Notice of the brochs or large round towers of Orkney . . .', *Archaeol Scot*, 5 (1873-90), 71-94.
- RCAMS 1957 Royal Commission on the Ancient and Historical Monuments of Scotland, *An Inventory of the Ancient and Historical Monuments of Selkirkshire*. Edinburgh.
- Stuart, J 1864 'Notice of excavations in the chambered mound of Maes-Howe, in Orkney, and of the runic inscriptions on the walls of its central chamber', *Proc Soc Antiq Scot*, 5 (1862-4), 247-79.
- Stuart, J 1878 'Historical notices of St Fillan's crozier, and of the devotion of King Robert Bruce to St Fillan', *Proc Soc Antiq Scot*, 12 (1876-8), 134-82.
- Wilson, D 1878 'Notices of the Quigrich or crozier of St Fillan and of its hereditary keepers, in a letter to John Stuart, LL.D.', *Proc Soc Antiq Scot*, 12 (1876-8), 122-31.