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978-1-107-66261-2 - The Three Ages: An Essay on Archaeological Method

Glyne E. Daniel

Excerpt

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THE THREE AGES

IT is just over a hundred years since the first scientific formulation of a concept—the concept of the three technological ages of man—which Joseph Déchelette described as ‘the basis of prehistory’¹ and which Professor R. A. S. Macalister called ‘the corner-stone of modern Archaeology’,² for it was in 1836 that Christian Jürgensen Thomsen published, in his preface to a Guide-book,³ his division of human history, on the basis of the raw materials of industry, into three ages—the Stone Age, the Bronze Age, and the Iron Age. A century of archaeological discovery and research has changed the use and modified the significance of this concept. ‘While’, to quote Professor Fleure, ‘we are permanently indebted to the archaeologists who first made a chronological scheme of Old Stone, New Stone, Bronze, and Early Iron Ages, we are getting beyond that classification as some of the pioneers foresaw that we should.’⁴ It is the object of this paper briefly to describe the origins and development of the idea

¹ *Manuel d'archéologie préhistorique* (1908), 1, p. 11.

² *Textbook of European Archaeology* (1921), 1, p. 11.

³ *Ledtraad til Nordisk Oldkyndighed* (Copenhagen, 1836); the preface is not signed. A German edition of the Guide appeared in 1837 under the title of *Leitfaden zur nordischen Alterthumskunde*; an English translation by Lord Ellesmere in 1848 entitled *A Guide to Northern Antiquities*. Thomsen develops his ideas in his *Skandinaviska Nordens Urinvånare* (1838–43); second edition 1862–6.

⁴ *Arch. Camb.* 1924, p. 241.

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of the three ages, and to discuss some of the aspects of its applicability to the modern study of prehistoric archaeology.¹

I

The story of Thomsen's life and work has often been well and fully told.² In 1806, a Commission was appointed by the Danish Government to investigate scientifically the geology and the natural and human history of Denmark. One of the Commission's many problems concerned the Danish burial chambers and kitchen-middens; and Professor Rasmus Nyerup, its secretary, made extensive collections of antiquities from these ancient sites and from the Danish bogs. These and other collections formed the nucleus of a museum in Copenhagen. In 1816, Thomsen succeeded Nyerup as secretary of the Commission and was, at the same time, appointed the first curator of the newly-formed National Museum, a post which he held until his death in 1865. Thomsen's first task was to arrange

¹ Professor Childe discusses the modern applications of Thomsen's three ages in his Presidential Address to the Prehistoric Society (*Proc. Preh. Soc.* 1935, pp. 1 ff.), and I am much indebted to this brilliant and scholarly study of prehistoric methodology.

² See especially Moritz Hoernes, *Geschichte und Kritik des Systems der drei prähistorischen Culturperioden* (*Mittheilungen der Anthropologischen Gesellschaft in Wien, Sitzungsberichte*, 1893, pp. 71-8); Reinach, *L'Anthropologie*, 1893, pp. 476-84 (a summary of Hoernes); Hugo Mötefindt, 'Das Dreiperiodensystem', *Mannus*, II, 294-308; Beltz in Ebert, *Reallexikon der Vorgeschichte*, s.v. Dreiperiodensystem; Seger, 'Die Anfänge des Dreiperioden-Systems', in the *Schumacher Festschrift* (Mainz, 1930).

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the collections in his museum. Nyerup, who had been collecting and studying northern antiquities for many years, and who has been described as ‘the most eminent archaeologist of his time in Denmark’,¹ had been unable to introduce any order into the collections, and indeed confessed that ‘everything which has come down to us from heathendom is wrapped in a thick fog; it belongs to a space of time which we cannot measure. We know that it is older than Christendom, but whether by a couple of years, or by a couple of centuries, or even by more than a millennium, we can do no more than guess.’² Nyerup’s attitude was typical of informed opinion all over northern Europe before the formulation of Thomsen’s concept.³ All the prehistoric antiquities were grouped together, and the few literary references that could be gleaned from early histories and sagas and from old traditions were eagerly applied to them all. In Britain, for instance, it was customary to describe all the most ancient monuments and portable antiquities which had no place in written history as Celtic or Druidic or Pictish or by other names derived from Caesar and Tacitus. This was because archaeologists believed with Dr Johnson that ‘All that is really known of the ancient state of Britain is contained in a few pages.

¹ Macalister, *op. cit.* p. 9.

² *Oversyn over Fædernelandets Mindesmærker fra Oldtiden*, quoted by Sophus Muller, *Nordische Altertumskunde* (Strassburg, 1897), I, p. 218; the translation quoted here is from Macalister, *op. cit.* p. 9.

³ And, alas, uninformed and conservative opinion for a long time afterwards. Who has not come across museum specimens labelled ‘Ancient British’ in a delightful non-committal way?

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We can know no more than what old writers have told us.’¹ It was Thomsen who, with his concept of the three ages, first introduced some form of classification and some semblance of order into the study of prehistoric remains and began to show that we can know more ‘than what old writers have told us’.

Thomsen arranged the specimens in his museum and classified them on the basis of the material used in making weapons and implements—especially cutting tools such as axes and knives—and on this basis he divided his museum collections into three groups representing what he claimed were three chronologically successive ages of stone, bronze, and iron. As Déchelette insisted,² Thomsen’s concept was first and foremost a museum classification. This arrangement of the museum and the postulation of the three ages was of the greatest value, for, in the first place, it provided a basis for prehistoric systematisation—a basis which would have been valuable even if it subsequently was proved to be incorrect; it produced some kind of order out of the chaos of Ancient Britons and Iberians and Druids and Germans which had hitherto represented the pre-Roman period in northern Europe. Secondly, it was a generalisation made by scientific deduction about the industrial progress of man which all subsequent research has shown to be, for the greater part, true. There is no doubt in my mind that Thomsen’s work on the three ages

¹ For a good account of Johnson’s disputes with Lord James Burnett Monboddo see Casson, *The Discovery of Man* (1939), pp. 164–6.

² *Op. cit.* pp. 11–12.

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is the first and most important advance in prehistoric research in the nineteenth century; as Déchelette declared, it marks 'une date dans les annales de la science'.¹ Thomsen himself realised that the formulation of this concept was the most important scientific contribution of his life; and he showed this in an amusing way, as Hermansen notes,² by bearing as his coat of arms a shield blazoned in three colours—grey to represent the Stone Age, bronze for the Bronze Age, and black for the Iron Age.

Thomsen's idea was based on an analysis of large quantities of prehistoric antiquities, but even so it was still only a plausible theory of the progress of human industrial development: it was still, as Macalister says, 'nothing more than a working hypothesis'.³ Thomsen's pupil (who later succeeded him in 1865 as curator of the museum at Copenhagen), Jan Jakob Asmussen Worsaae, however, demonstrated stratigraphically in the Danish peat-bogs that these three ages were distinct entities, and that they succeeded each other in the order that Thomsen suggested. Worsaae has been called 'the founder of comparative prehistoric archaeology',⁴ and it was his work and that of other contemporary Scandinavian archaeologists such as Sven Nilsson, Japetus Steenstrup, and Forchhammer that proved beyond all cavil that Thomsen's hypothetical three ages were, at least in northern Europe, historical facts and not merely classificatory abstractions.

¹ *Op. cit.* p. 11.

² *Aarbøger for Nordisk Oldkyndighed og Historie*, 1934, p. 99.

³ *Op. cit.* p. 10.

⁴ Hoernes, *op. cit.* p. 72.

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The concept of the three ages spread rapidly among the archaeologists and historians of other parts of Europe; the works of Thomsen, Worsaae, and Nilsson were widely translated. Lord Avebury translated into English one of Nilsson's books,¹ and himself wrote a book called *Pre-historic Times*,² which introduced to the English reading public the three-age system. Wherever in Europe the three-period system was applied, it was found to agree with the evidence of archaeology and excavation: by the middle of the nineteenth century there were few serious antiquaries who doubted that in Europe and the Near East there had been in prehistoric times three chronologically successive stages in the industrial evolution of man.

Certainly there were some doubters: it would have been very surprising if there had not been, and if the system had not met with some opposition. The idea of an age when only bronze and stone tools, and no iron ones, existed, was especially attacked in many areas. Christian Hostman and Ludwig Lindenschmidt³ in Germany, and James Fergusson in England,⁴ criticised severely the concept of the Bronze Age. Indeed Hostman declared that

¹ Sven Nilsson, *The Primitive Inhabitants of Scandinavia* (edited by Avebury), 1868.

² First published in 1865. New editions from 1865 to 1913 (the 7th). See also his *Origins of Civilisation* (first published 1870).

³ Hostman, 'Zur geschichte und kritik des nordischen Systemes der drei Kulturperioden', *Archiv für Anthrop.* III (1875): republished in 1890 as *Studien zur vorgeschichtlichen Archaeologie*, with a foreword by Lindenschmidt.

⁴ See his *Rude Stone Monuments* (London, 1872).

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no Stone Age had existed either, and that the finds attributed to the Bronze Age were really those of the pre-Roman and Roman iron ages. But the attackers of the Thomsen system did not attract a great following, and the system soon became the fact of prehistory.

Although, as we have already mentioned, Thomsen did not publish his three-age system until 1836,¹ he had devised the concept soon after his appointment as secretary and curator, if not before. The reports of the Commission for 1818 and 1820 refer to Thomsen's 'new arrangement' of the museum,² a letter which has recently been discovered from Thomsen to a Swedish scholar, dated July 1818,³ refers to these arrangements, an entry for September 1820 in Professor Paulsen's diary refers to Thomsen's classification,² and in 1824 Thomsen is defending his system in a correspondence with Dr Büsching,⁴ who had denied the chronological succession of these ages. It is clear then that the genesis of the scientific formulation by Thomsen of the three-age system dates from the second decade of the nineteenth century, even if its first publication by him does not antedate 1836.

¹ Adolf Michaelis (*A Century of Archaeological Discoveries* (1908), pp. 209, 343) unaccountably gives this date as 1832.

² Victor Hermansen, C. J. Thomsens Første Museumsordning, *Aarbøger for Nordisk Oldkyndighed og Historie*, 1935, pp. 99–122 (with French résumé). See this article for the dating of the development of Thomsen's ideas.

³ To be published by Bengt Hildebrand.

⁴ See Dr Büsching's book, *Abriss der deutschen Alterthumskunde* (Vienna, 1824) and the discussion by Seger, *op. cit.* and Hermansen, *op. cit.*

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It has sometimes been claimed that other archaeologists had a share in the first scientific formulation of the system. Friedrich Lisch was in 1836 appointed curator of the Grand-Duke of Mecklenburg-Schwerin's museum in Ludwigslust Castle, and began to classify the collections on the three-age system. He continued a publication begun by his predecessor and called *Frederico-Francisceum*, and in an issue dated 1837 he sets forth the three-age system.¹ Lisch does seem to have hit upon the three-age system independently of Thomsen, but his exposition of it was not as detailed nor as clear as that of Thomsen and he cannot claim priority for its discovery, for, as we have seen, Thomsen had evolved the idea in the second decade of the nineteenth century. Danneil, working on the pre-historic graves in the Salzwedel, seems to have hit upon the idea of the three ages at much the same time as Lisch.² Lowie³ follows Undset⁴ in according to the Danish historian Vedel-Simonsen the honour of first proposing the three ages, but it was certainly Thomsen who first put forward the system on empirical grounds, and in any case, whether the idea was first conceived by Thomsen or by Vedel-Simonsen or Lisch or Danneil, there is no doubt that it was the work of Thomsen and Worsaae that diffused the idea throughout Europe.

The phrase 'scientific formulation' has been used ad-

¹ Hoernes, *op. cit.* p. 72.

² On Danneil's work see Mötefindt, *op. cit. supra*.

³ *History of Ethnological Theory* (1937), p. 21.

⁴ *Revue d'Anthropologie*, 1887, pp. 313 ff. On Vedel-Simonsen see also Hoernes, *op. cit.* p. 72.

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visedly in discussing the part played by Thomsen in the origin of the three-age system, for, as with so many modern scientific and philosophic concepts, the idea of the three ages was not unknown to the ancient Greek and Roman writers. Thus Lucretius (98–55 B.C.) in his work, *De Rerum Natura*,¹ contends that man first used his nails and teeth, and stones and wood and fire, and then later copper, and then still later iron gained in popularity.² Of course, this was just a general scheme of the development of civilisation and was based entirely on abstract speculation: the Greeks had many other ‘ages’ which they postulated—the Age of Reason, the Golden Age, the Heroic Age. Nevertheless, for all its speculative character, Lucretius’s analysis was a very shrewd guess at what had actually been the industrial development of early man in Europe.

There was no clear statement of the notion of the three

¹ See especially Book v, lines 922–1457. The following oft-quoted lines (1283 ff.) summarise his ideas:

‘arma antiqua manus ungues dentesque fuerunt
et lapides et item silvarum fragmina rami,
et flamma atque ignes, postquam sunt cognita primum.
posterius ferri vis est aerisque reperta.
et prior aeris erat quam ferri cognitus usus,
quo facilis magis est natura et copia maior.’

² On Lucretius’s three-age notions see Penniman, *A Hundred Years of Anthropology*, p. 35. Hesiod expressed in the eighth century B.C. similar ideas to those of Lucretius (see *Works and Days*, l. 150) and spoke of a period when bronze had not been superseded by iron. Pausanias (writing about A.D. 170) declares that in Homeric times all weapons were of bronze (III, 3⁸).

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ages between Lucretius and Thomsen in 1836, although some writers in the eighteenth century seem vaguely to anticipate Thomsen. Rhind,¹ de Mortillet,² and Evans³ have drawn attention to some of these eighteenth-century writers: they include Professor Iselin of Basle, Professor Eckard in Germany, Mahudel and Goguet in France, Pennant, Dr William Borlase, Littleton, and Sir Richard Colt Hoare in England. Rhind goes so far as to declare that Thomsen was not the originator of the three-age system but merely the first to give it practical effect.⁴ It is no doubt true that in the writings of some of these eighteenth-century scholars we may detect the idea of former ages of stone and bronze and iron in the prehistoric past, but these writings, like those of Hesiod and Lucretius, are based on abstract speculations. We repeat: it was Thomsen who first induced scientifically the existence of these ages, and Worsaae who first proved them empirically. It is to these Scandinavian archaeologists that we must ascribe, as Lord Avebury has said, 'the merit of having raised these suggestions to the rank of a scientific classification'.⁵

Goldenweiser, in his masterly critique of the development and limitations of the comparative method,⁶ regards the theory of the three technological ages merely as an

¹ *Arch. Journ.* 1856, pp. 208-14. ² *Le Préhistorique* (1901), Chap. II.

³ *Ancient Stone Implements of Great Britain* (1897), pp. 3-4.

⁴ *Op. cit.* p. 211.

⁵ *Prehistoric Times*, 7th ed. (1913), p. 6.

⁶ *Anthropology: An Introduction to Primitive Culture* (New York, 1937), Chaps. xxx and xxxi, 'Evolution and Progress'. On the three ages see especially p. 510 and pp. 513-14.