Recovering the Vestiges of Primeval Europe: 
Archaeology and the Significance of Stone 
Implements, 1750–1800

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For the antiquaries of the seventeenth and eighteenth centuries who studied the few broken monuments and obscure artifacts that survived from the earliest periods of human history there was a dawning realization that these remote epochs were not as inaccessible as had previously been believed. This attitude was mirrored in geological research where natural historians were using fossils and geological formations to reconstruct the history of the earth, which was turning out to be considerably longer and more dynamic than had previously been thought.1 Antiquarianism and natural history shared many features and problems in common during this period and their fates would become more intertwined than either discipline realized at the time.2

Despite the growing hope that archaeological monuments could illuminate the past, a great deal of early human history remained hidden, enveloped in a fog that the antiquary could only occasionally peer through.3 Yet

2 See also Rudwick, Bursting the Limits of Time, 22–31.
3 This metaphor is taken from Glyn Daniel’s discussion of archaeology during the seven-
the nascent science of archaeology made great strides during the seventeenth and eighteenth centuries. Antiquaries throughout Europe were investigating field monuments, collecting artifacts, and excavating barrows in an attempt to throw some light on the original inhabitants of the continent.⁴ Antiquarianism, a scholarly discipline dedicated to the study of antiquities and other historical documents, had close links with natural history during this period and many antiquaries employed methods and a mode of reasoning drawn from the sciences.⁵ By the late eighteenth century, antiquarianism itself was changing and a new science of archaeology was emerging and defining its own professional identity.⁶

Among the objects investigated by these antiquaries was a particularly curious class of artifacts that had long been collected and examined in Europe. Natural historians throughout the early modern period had collected a type of stone called ceraunia, or thunderstones. It was not until the end of the seventeenth century that antiquaries and natural historians suggested that these stones were not produced in clouds by natural processes but instead were stone arrowheads, axe-heads, and other implements fabricated by early Europeans. Once these objects were accepted as ancient human artifacts, entirely new sets of questions arose: for example, why would early Europeans make tools out of stone instead of metal, what were these objects used for, and what could they tell us about the culture of ancient peoples.⁷ The latter question was all the more disturbing since it

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⁷ Matthew R. Goodrum, “Questioning Thunderstones and Arrowheads: The Problem of
was apparent that the stone artifacts found in Europe were very similar to the stone implements and weapons used by the so-called “savages” of the New World and the South Pacific. By the middle of the eighteenth century there was an increasing amount of evidence and a growing consensus that the inhabitants of many parts of northern Europe prior to the Roman era possessed only stone implements and culturally were rude and barbarous peoples. This idea that early Europeans had been barbarians was not new; Roman historians had asserted as much, but what was new was the quantity of archaeological evidence for this idea and the way it was understood within the context of European contact with the indigenous peoples of the New World and the South Pacific who still used stone tools.

Antiquaries and natural historians during the first half of the eighteenth century were still accumulating evidence to support the idea that so-called thunderstones were in fact archaeological artifacts. They were also attempting to understand what they meant as historical and cultural artifacts, and importantly they were trying to integrate this new understanding within the traditional biblical view of human history. A great deal has been written about the study of prehistoric stone artifacts in the early nineteenth century, especially since it was during this period that Scandinavian archaeologists formulated the Three Age System that organized prehistory into a succession of periods from the Stone Age through the Bronze Age to the Iron Age. In addition, the important theoretical breakthroughs of the early nineteenth century, combined with the expansion and professionalization of archaeology as a discipline during this period, have tended to focus the attention of historians of archaeology away from the eighteenth century.
As a result, very little has been written about the study of stone artifacts during the late eighteenth century.

I want to argue that significant developments did occur in the study and interpretation of ancient stone artifacts during the eighteenth century. There were important changes in the study of stone artifacts during the last half of the eighteenth century due in large part to the excavation of barrows, and this in turn had a notable impact on the development of prehistoric archaeology in Europe. In many respects the last half of the eighteenth century is a transitional period in the archaeological interpretation of stone artifacts. It is a period of consolidation, when antiquaries strengthened and extended earlier evidence that thunderstones were in fact ancient stone implements. It is also a period when new ways of studying antiquities and new discoveries raised questions and suggested ideas that contributed in significant ways to the transformation that occurred in archaeology during the early nineteenth century. For historians of science and intellectual historians this is a period when antiquaries were presenting an image of the earliest historical epochs and of the primeval inhabitants of Europe that challenged many traditional historical and theological accounts of human history. At a time when Europeans were increasingly exposed to peoples in the Americas, the South Pacific, and Africa that possessed only stone implements, lived in huts and wore animal skins, and lacked most of the accoutrements of civilization the growing evidence that early Europeans were also “barbarous” had profound implications.

THE CONSENSUS OVER THE MEANING OF STONE ARTIFACTS

The discovery of stone artifacts throughout Europe posed serious challenges to the traditional view of the primeval inhabitants of the continent prior to the Roman period. But by the middle of the eighteenth century antiquaries had accepted the cultural and intellectual implications of these artifacts, namely that early Europeans lived in much the same manner as the indigenous peoples of the Americas and the South Pacific Islands lived. These same antiquaries had also employed considerable skill in incorporating this new insight into the prevailing views of early human history that traced the origin of the first Europeans from Japhet, one of Noah’s sons who after the Deluge had migrated with his descendents into the primeval wilderness of Europe.10

Despite the biblical assertion that metallurgy existed prior to the Deluge, antiquaries such as John Woodward could argue that the descendents of Noah gradually lost not only the knowledge of metallurgy but also many other arts and sciences, resulting in the barbarous and heathenish conditions of the pre-Roman period.11

A prominent example of the consensus that scholars had reached regarding the historical meaning of stone implements is Antoine-Yves Goguet’s discussion of the progress of mankind in *De l’origine des loix, des arts, et des sciences* (1758). Goguet was the son of a lawyer and in addition to being a scholar of some note he also served as a counselor in the Parliament of Paris. Alexandre Conrad Fugère, the editor of the influential *Journal des sc¸avans*, assisted with the composition of this book and Goguet’s own links with this journal familiarized him with the ideas of many leading intellectuals. Goguet, like many of his contemporaries, viewed human history as progressive. Historians and social theorists such as Adam Ferguson in Scotland and the Marquis de Condorcet in France were increasingly arguing that humans originally lived in a savage state, with little science or technology, and lived primarily by hunting. Over time people invented the various arts and sciences, including agriculture and metallurgy, culminating in the refinements of civilization.12 To a greater or lesser degree scholars tried to harmonize this view of history with the biblical account of human origins, but there was now an increasing quantity of historical, anthropological, and archaeological data that informed eighteenth-century accounts of human history. Goguet’s discussion of human cultural and intellectual progress was very much informed by these new sources of information.13

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11 John Woodward, *Fossils of All Kinds, Digested into a Method, Suitable to Their Mutual Relation and Affinity* (London, 1728), part 2, 37.
Goguet was convinced that during the earliest times all peoples lived a crude and barbarous form of life. Not only did many classical authors assert this, but the presence of “Pierres de foudre,” the French term for thunderstones, was also evidence of this. Since the idea that thunderstones were in fact ancient stone implements was still unfamiliar to many readers he described these objects, drawing particular attention to their shapes and the fact that many possessed a hole through them to receive a wooden handle, and noted that it was “clear, by inspection alone, that these stones have been worked by the hand of man.” Goguet drew upon the accounts of antiquaries and voyagers for information on the use of stone implements by the indigenous peoples of America, who shaped and ground pieces of stone into tools that were used in the same way that modern Europeans use iron tools. Significantly, he argued that since ancient stone implements had been discovered throughout Europe and Asia it was reasonable to conclude that there must have been a time when people did not know the use of iron and so had to make their implements out of stone just as the peoples of the New World still did.

Goguet supported this remarkable conclusion with references to classical Greek and Roman authors who had also claimed that early humans lacked metal tools and instead made their implements from horn, bone, and stone. The question clearly arises then of why early peoples used stone tools and how metal came to replace stone over time. In order to reconstruct the historical events driving this process he considered it necessary to examine historical sources but also to compare their information with what had been learned about existing “savage” peoples. Goguet argued that metallurgy and even the use of iron was known before the Deluge, but after that disastrous event many skills were lost, including knowledge of how to work metals. For some period of time after the Deluge people lived a rude existence, but with the invention of agriculture there would have been an increased need for better quality tools. Goguet suggests that naturally occurring metal ores were probably discovered by accident and that necessity drove the invention of metallurgy. He saw the link between the invention of agriculture and metallurgy in the descriptions of ancient Egypt and
Phoenicia, where the development of agriculture and the smelting of gold, silver, and copper arose soon after the Deluge. Iron, which was a more difficult metal to work, only came into widespread use much later.17

The mere existence of stone artifacts in Europe implied the existence of ancient peoples who lacked not only metallurgy but also the other elements of civilization. But in the context of eighteenth century conceptions of human history they could be understood as evidence of the barbarous origins of humanity and our progressive cultural and intellectual development over time. Historians such as Goguet could make sense of stone implements, but for antiquaries there were still many questions that remained about who these stone tool using people were, what these artifacts were used for, when chronologically they were used and when metal implements replaced them. In order for these questions to be satisfactorily answered more artifacts would need to be found and new methods would have to be devised for studying them.

Some general background is required if the modern reader is to understand the conditions under which eighteenth-century antiquaries discovered and interpreted ancient artifacts. It is critical that we realize that most of these artifacts were discovered by accident, often by farmers or workmen in the course of their ordinary labors. These artifacts were usually isolated objects lacking any archaeological context. Most were polished stone axes and hammers, although some rough-hewn arrowheads were also occasionally found. They typically found their way to the private collections of antiquaries or the museums of local archaeological societies and they generated considerable discussion and debate about their origin and meaning.

By 1750 most antiquaries had come to agree that these stone artifacts belonged to the aboriginal inhabitants of Europe prior to their contact with Roman civilization. A long process of debate and research from the 1660s to the 1730s had transformed an opinion held by a small number of antiquaries and naturalists into an idea that was familiar to many educated Europeans.18 The English naturalist and antiquary William Borlase, a Fellow of the Royal Society of London and an avid collector of Cornish antiquities, argued that the ancient Britons, Gauls, and Germans used arrowheads and axe-heads made of stone.19 The vast majority of antiquar-

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17 Ibid., 133–48.
18 See Goodrum, 2002 and 2008 cited above for a detailed examination of this process.
ies by this time agreed with this opinion, but there was still the problem of why these peoples used stone for their tools instead of metal. Borlase argued that stone was used because of the scarcity of metals and, like Goguet and others, he believed that copper was first discovered in Asia, where people soon learned how to smelt it and mix it with tin or lead to make their implements. Since metal implements were superior to stone ones they stopped making tools from stone. He gleaned from classical sources that iron was not commonly used until after the Trojan War and was not introduced into Europe until much later.20

The discovery of a polished flint axe-head in Cornwall had prompted Borlase’s discussion of stone implements. A similar object was plowed up in a field near Carlisle, in northwest England, and was given to the antiquary Charles Lyttelton. Lyttelton was a Fellow of the Royal Society of London and an active Fellow of the Society of Antiquaries, in addition to being bishop of Carlisle. In a paper read before the Society of Antiquaries in 1766 he examined the issues posed by this artifact. He announced that there was “not the least doubt of these stone instruments having been fabricated in the earliest times, and by barbarous people, before the use of iron or other metals was known.”21 Lyttelton, citing the works of the seventeenth-century antiquaries Robert Plot and William Dugdale, argued that these objects were weapons used by the ancient Britons at a time not only before they made metal weapons but even before they had any knowledge of metal. Thus these were the most ancient remains of the Britons and were probably coeval with the first inhabitants of the island.22 As such they were a valuable source of information about the ancient Britons, who left no written records, and were an important supplement to the scanty descriptions given of these peoples by Roman authors.

ARCHAEOLOGICAL AND HISTORICAL QUESTIONS SURROUNDING STONE ARTIFACTS

While there was general agreement that the Gauls, Britons, Germans, and other aboriginal inhabitants of Europe made and used stone implements prior to their contact with the Romans there still remained many questions and problems associated with these objects. Antiquaries identified these

20 Ibid., 289–90.
22 Ibid., 121–22.
objects as arrowheads, axes, and hammers on the basis of their resemblance to familiar metal implements. These identifications were further strengthened by comparisons of European artifacts with stone implements used by the peoples of the New World and the South Pacific. Earlier in the century the French naturalist Antoine de Jussieu and the French missionary Joseph-François Lafitau had compared the stone tools used in the Americas with European artifacts. Later in the century the French scholar Charles de Brosses noted in his book on the recent voyages to the South Pacific that the aborigines of the region used crudely formed stone axes like those found in Europe while Cornélius De Pauw discussed stone implements in his book on the natives of the New World. Indeed, the interpretation of ancient stone artifacts by comparing them with the stone tools used by existing peoples remained an important method throughout the eighteenth and nineteenth centuries.

While it was relatively easy to identify the different categories or types of stone artifacts found in Europe there was significant disagreement over whether the majority of these objects represented weapons of war or rather domestic utensils. Charles Lyttelton was convinced that stone axes, spearheads, and arrowheads were weapons used by the ancient Britons, although other antiquaries had suggested that axes and hammers had been used to sacrifice animals as part of Druid ceremonies. The English antiquary Samuel Pegge strongly disagreed with this opinion, and in a paper read before the Society of Antiquaries in 1770 he argued that there was no mention made by Roman writers that the Britons or Gauls used stone weapons. Moreover, the size and weight of the stone hammers found in Europe argued against their having been used as weapons of war, despite the Scandinavian legends of the hammer of Thor that seemed to impress so many antiquaries. Pegge suggested instead that stone hammers and axes were domestic tools, or possibly instruments used in animal sacrifice. Most antiquaries assumed that stone implements were used in much the same way and for the same purposes that metal implements were, for cutting

25 Lyttelton, 119, 123.
wood, hunting and butchering animals, building shelters, and other practical needs. However, the simple fact was that without historical records explaining how these implements were used it was extremely difficult for antiquaries to be certain what these stone implements were used for solely by examining their design.

In addition to the question of what they were used for there was also curiosity over how they were manufactured. Antiquaries frequently remarked on how finely polished many of the stone hammers and axes were, but they were equally struck by the roughly chipped surface of most flint arrowheads. The skill and time required to make these implements contrasted, in their minds, with the obvious inferiority of stone implements to metal ones. Thus in one respect they clearly displayed an impressive level of skill and design while in another respect they implied a rude and barbarous level of culture. One sees this tension throughout discussions of stone artifacts in the late eighteenth and early nineteenth centuries. But as more artifacts were discovered and as some were found that had broken before completion, antiquaries began to perceive signs of how they might have been formed. For instance, the author of an article in *The Gentleman’s Magazine* described the discovery in 1783 of a chisel and an axe, both made of flint, by laborers leveling some marshland. After examining these artifacts carefully the author cogently argued that “the marks on the stone blades prove, that they were made in the rough state, by chipping them, or by nicking them with other flints, till brought nearly to their intended shape, and then polished probably in the same manner that we now polish marble in sands of different degrees of fineness.”27 This is a remarkable statement given that archaeologists during the early nineteenth century continued to speculate about how these stone artifacts were fabricated.

A more serious and profound issue surrounding the presence of stone artifacts in Europe was the implication that early Europeans were technologically, culturally, and intellectually barbarous. It was becoming apparent to most antiquaries that the presence of stone artifacts in Europe meant that it was “highly probable that the predecessors of the polished Europeans have, at some distant period, made use of such instruments as are now employed by the savages of America and the Southern islands.”28 As one contributor to *The Gentleman’s Magazine* noted, the flint implements and stone monuments of the ancient Britons were strong evidence that they were as ignorant of iron as the “savages of Otaheite.”29 The observed simi-

larity between the artifacts found in Europe and the ethnographic artifacts brought back from the New World and the South Pacific suggested that early Europeans had lived by hunting and fishing, lacked agriculture and metallurgy, organized themselves in small tribal societies, and lived a savage and wild existence. Charles de Brosses, for example, deployed this archaeological and ethnographic evidence to imagine ancient Europeans living in caves and forests and surviving by hunting wild animals much as the inhabitants of the South Pacific Islands did, precisely because they both possessed the same kind of stone tools.30

This way of thinking was adopted by many antiquaries at the end of the century. The Irish antiquary Edward Ledwich became convinced after many years of studying the ancient monuments and artifacts of Ireland that the Celts had lived in a state of nature when they first arrived in the British Isles. The artifacts from that period demonstrated that they used wooden clubs, stone hatchets, and spears headed with stone or bone. From his experience with the archaeological remains of the ancient Irish, Ledwich was convinced that they lived in the rudest state and had “more of the ferine than the human species” in them.31 After examining stone implements found in Britain and France, the English chemist and physician George Pearson concluded that the Britons were “very nearly in the same state as that in which our late discoverers found the natives of the South Sea islands.”32 The English antiquary James Douglas expressed the same view in his widely read Nenia Britannica (1793). Douglas had excavated numerous barrows and found stone arrowheads, spearheads, and axes. On the basis of these discoveries he believed “it is a natural and reasonable inference that they were used by a barbarous people who were, at a certain period, the inhabitants of this island.”33 Douglas reached this conclusion at least in part as a result of comparing artifacts from British barrows with ethnographic artifacts collected by the naturalist Joseph Banks from Tierra del Fuego and North America.34

These observations could easily be made to fit into a view of human history that was progressive. If humans had progressed through a succes-

30 De Brosses, 1: 19.
33 James Douglas, Nenia Britannica: or, a Sepulchral History of Great Britain; from the Earliest Period to its General Conversion to Christianity (London, 1793), 150.
34 Ibid., 77 note 4.
sion of stages, from barbarism to civilization, then the presence of stone implements “clearly prove that, in the infancy of arts, the necessities of war drove them to like inventions in all countries, however remote from each other.”35 In other words, ancient Europeans and present day savage peoples had been driven by the same practical needs and because they both existed at a similar cultural and intellectual stage of development they arrived at similar solutions to those problems. This is reflected in Edward Ledwich’s belief that stone hatchets were universally used among uncivilized peoples in every part of the world who existed in the first stage of society, and that apparently included ancient Europeans.36 But if the ancient Britons, Gauls, and Germans were barbarous peoples who lived at an early stage of cultural development, there were clearly implications for the chronological problem of establishing when the stone artifacts found in Europe were actually manufactured. Antiquaries and historians still generally agreed that human history extended less than ten thousand years into the past. Estimates based upon biblical chronology agreed with the accepted records of the Greeks, Romans, and other ancient civilizations, although there were some questionable historical records that purported to record events tens of thousands of years in the past but these documents were generally dismissed as fabulous or downright fraudulent.37 So while antiquaries such as William Borlase argued that the archaeological monuments of Cornwall belonged to the “first ages and customs of mankind”38 and James Douglas emphasized that the presence of stone implements indicated “a very high date of antiquity,”39 these pronouncements need to be understood within the chronological framework that was accepted by these researchers. Stone artifacts might belong to the earliest periods of human history when Europeans lived in the state of nature and at the first stages of social and cultural development, but that did not necessarily mean that the biblical chronology that supposed a roughly six thousand-year human history needed to be abandoned or even extended. It did mean, though, that these artifacts were among the earliest known extant records of European history, and as such they offered important insights into what those peoples and those epochs were like.

By the latter half of the eighteenth century there was widespread agreement on some of the basic issues relating to stone artifacts. Antiquaries

36 Ledwich, 452.
38 Borlase, 158.
39 Douglas, 92.
agreed that the aboriginal inhabitants of Europe, the Celts and Germans, made them prior to their contact with the Romans. There was also general acceptance that stone was used in this early period because these ancient peoples lacked the art of metallurgy or did not have access to metals. Since they were still barbarous and technologically primitive they had to rely instead on stone to make their domestic utensils and weapons of war. But either through contact with the Romans or other eastern civilizations, or through their own process of cultural development, they later began to make implements from bronze and iron.\textsuperscript{40} It is important to note, however, that by this time the very presence of stone artifacts was taken as evidence of great antiquity because it was accepted that stone implements were used before metal ones. Finally, the existence of these stone artifacts throughout Europe was persuasive evidence that ancient Europeans were barbarous and lacked the accoutrements of civilization. The first Europeans differed little, then, from the peoples living in the Americas and the South Pacific, which was a fact difficult to reconcile with traditional accounts of human history.

\section*{THE EXCAVATION OF BARROWS AND ITS IMPACT ON ARCHAEOLOGICAL RESEARCH}

One innovation that makes its appearance in the last half of the eighteenth century that significantly altered the study and interpretation of stone artifacts was the beginning of systematic excavations of barrows. A barrow, or tumulus, is a mound of earth or stones containing either a buried body or the cremated remains of the dead, often accompanied by artifacts, animal bones, and other objects. These burial mounds were common throughout the European countryside and were sometimes located near other stone monuments such as stone circles, cromlechs, or menhirs. Treasure seekers had occasionally opened barrows prior to the eighteenth century and antiquaries began to excavate barrows in the seventeenth century in the hopes of finding ancient artifacts but these efforts were sporadic and produced few remarkable results. The most spectacular excavation of an ancient tomb occurred in July 1685 in the French village of Cocherel. Workmen digging for stone on an estate stumbled upon a tomb constructed of rough-hewn stones containing twenty skeletons and numerous polished stone axes.

\textsuperscript{40} Ledwich, 453–55; Pearson, 402.
and a variety of other stone artifacts. This tomb generated considerable
discussion among antiquaries but it did not spur a wave of excavations of
ancient tombs. One could argue that the increased interest in excavating
barrows in England and France during the late eighteenth century was
prompted by the promising results obtained from Scandinavian antiquaries
in excavating their own tumuli. The Danish antiquary Erik Pontoppidan
excavated a jaettesue or giant’s chamber in Jaegerspris in 1744 that pro-
duced a wealth of artifacts, and Ove Høegh-Guldberg excavated three
Danish tombs in 1776 with equally exciting results. The results of these
excavations were described in the books of Scandinavian historians and
antiquaries, such as Peter Frederik Suhm, and antiquaries throughout
Europe were aware of their work.

William Borlase recognized the archaeological value of barrows but
did not attempt to excavate them. The British naturalist Thomas Pennant,
during his famous tour through Scotland, wrote about some urns and flint
arrowheads that were found in a cairn near the town of Banff. But it was
not until late in the century that significant excavations were undertaken in
Britain and France. The most extensive and systematic excavations of bar-
rows in Britain was conducted by James Douglas. Douglas was an Anglican
divine and an enthusiastic antiquary. He became a Fellow of the Society of
Antiquaries in 1780 and after spending years excavating dozens of British
barrows he published his Nenia Britannica: or, a Sepulchral History of
Great Britain; from the Earliest Period to its General Conversion to Chris-
tianity in 1793. The book is remarkable and unique because Douglas
describes the contents of individual barrows, stating the mode of burial
(whether inhumation or cremation) along with the artifacts and other
objects found in each barrow. The result was an immense catalogue of bar-
rows and their contents.

41 Henri Justel, “The Verbal Process upon the Discovery of an Antient Sepulchre, in the
Village of Cochere upon the River Eure in France,” Philosophical Transactions 16
(1686): 221–26; Bernard de Montfaucon, L’Antiquité expliquée et représentée en figures
42 Erik Ludvigsen Pontoppidan, “Kort Efterretning om en i Aaret 1744 ved Jægers-Priis
Slot i en Høy fundet, saakaldt Jette-Stuve, Med fire deri liggende Beenradde, hvis Ælde
undersøges efter Muelighed, dem til Behag, som elske Landets Antiqvitæter,” Skrifter som
udi det Kiøbenhavnske Selskab af Laerdoms og Videnskabers Elskere ere fremlagte og
oplaeste i Aarene 1743 og 1744 (1745), 307–16.
43 Peder Topp Wandall, De paa Jaegerspriis ved mindesteene haedrede fortiente maends
44 Borlase, 221.
What made this kind of research unique and important for the understanding of ancient artifacts was the fact that barrows produced large numbers of artifacts and within each barrow there were a variety of different kinds of artifact that now could be related to one another. Previously the vast majority of ancient stone artifacts examined by antiquaries were isolated specimens discovered by accident without any archaeological context. Barrow excavations allowed Douglas to amass a substantial number of artifacts, many made of stone but also a large number of objects made of bronze, silver, gold, and iron.

Douglas found that many barrows contained bronze implements, clay urns, and stone artifacts. But there were some tombs that only held stone objects, polished stone axes, rough-hewn flint arrowheads, and spearheads. Douglas not only carefully described the artifacts found in these barrows but he also provided numerous detailed illustrations of the objects he unearthed. This was another valuable contribution of the book since it offered antiquaries the opportunity to see the types of stone implements found in barrows and to observe the crudeness or refinement of their workmanship. Douglas was primarily concerned with accumulating facts and not in constructing theories about the people who built these barrows and were interred in them. However, he believed British barrows were constructed by the original Celtic inhabitants of Britain and probably dated from a period before 300 BCE, when the Celts were driven out of southern England by the Belgae. Moreover, he was convinced that an approximate chronological sequence could be discerned among British barrows. Given the widely held opinion that stone implements preceded metal ones among the ancient Celts, Douglas argued that wherever artifacts of stone “are found in barrows, they are incontestably the relics of a primitive barbarous people, and preceding the æra of those barrows in which brass or iron arms are found.” It is interesting to note that Douglas based this assertion not so much on the results of his archaeological research but rather on the statements of Greek and Roman authors that stone and bone were used by peoples who did not know metallurgy, as well as ethnographic evidence from the peoples discovered as a result of the voyages across the Atlantic and Pacific.

While Douglas was excavating barrows in England there were antiquaries in France who were engaged in very similar excavations. One of the most ambitious attempts to synthesize and interpret what was known about

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46 Douglas, 150.
47 Ibid., 154, note 3.
French tumuli was composed by Pierre Jean-Baptiste Legrand d’Aussy. Legrand d’Aussy was a professor of rhetoric at Caen and in 1795 was appointed conservator of manuscripts at the Bibliothèque Nationale in Paris. He was well known for his compilation of twelfth- and thirteenth-century fables, *Fabliaux ou Contes des douzième et treizième siècles* (1799), and for various historical works. In February 1799 he read a paper before the Institut on the ancient tombs and tumuli of France. Legrand d’Aussy was impressed by Bernard de Montauncon’s description of the tomb at Cocherel and more recently he had learned of Laurent-Joseph Traulée’s excavations of a tumulus near the village of Noyelle, in northern France, in 1791 that contained urns and stone weapons. The fundamental question Legrand d’Aussy posed was whether burial practices had changed over time and if it would be possible on the basis of the archaeological evidence to arrange ancient burial practices into a sequence of distinct epochs. He saw this as an entirely new problem in archaeology, but it is clear that he was prompted to investigate it through reading Paul Henri Mallet’s *Histoire de Dannemarc* (1758–65). Mallet was a Swiss historian who spent much of his life in Denmark and wrote extensively on the history, literature, and archaeology of his adopted country. Legrand d’Aussy noted Mallet’s claim that the earliest mode of burial in Scandinavia was in mounds (collines) but according to Scandinavian tradition Odin later replaced the practice of burial in tumuli with cremation. If this tradition was correct then tumuli containing corpses were older than tombs containing cremated remains. Since it was known that French tumuli contained both burials and cremations, Mallet’s assertions about the relative ages of Scandinavian tombs might offer a means of determining the relative ages of ancient French tombs.

Legrand d’Aussy recognized that there would be a great many difficulties in achieving his goal of arranging ancient tombs into a chronological sequence. Like other antiquaries, he believed that an immeasurable number

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50 Ibid., 70.
51 Ibid.
of years had elapsed since the Gauls first began to construct tombs in France and that very little was known of that history. Hence the modern antiquary could hope for very little guidance from tradition in interpreting the ancient tumuli of France: “The high antiquity that they embrace is for us the night of time, without guide, without torches, I am only able in this darkness to walk fumblingly and risk losing my way.”52 He approached the problem from the basis of the archaeological evidence, relying on evidence from tumuli that had been excavated and the kinds of artifacts found in them.

According to Legrand d’Aussy, the oldest tomb in France was the sepulcher at Cocherel, which contained buried bodies as well as cremated remains, along with polished stone axes and bone arrowheads. From the crudeness of these artifacts and his conviction that at the time this tomb was constructed the Gauls did not yet know metallurgy he argued that they had not yet left the savage state (“état sauvage”). This suggested that the Cocherel tomb was exceedingly old and probably represented the earliest form of interment used by the Gauls. Despite the fact that the tomb contained twenty buried bodies, Legrand d’Aussy concluded from the cremated remains also found at the site that cremation was the original form of interment practiced by the Gauls.53 He noted than many ancient peoples, as well as many of the newly discovered “savage peoples,” buried their dead with weapons and other objects and he inferred that the stone axes and arrowheads originally had wooden handles and shafts but that they were destroyed in the funeral fire leaving only the stone components behind.54 On the basis of the evidence from the tomb at Cocherel Legrand d’Aussy identified a primitive age of fire (“âge primitif du feu”), an aboriginal epoch when the Gauls burned their dead.55

Because it must necessarily take many centuries for peoples living in a state of nature to rise from a barbarous state to the invention of metallurgy, it was clear to Legrand d’Aussy that the ancient Gauls must have relied upon stone implements for a very long period of time. But there was evidence that during this time the mode of interment employed by the Gauls changed. The tomb at Cocherel was constructed of large blocks of unhewn stone but at Noyelle the cremated remains of the dead placed in a clay urn had been interred in a large mound of earth or tumulus. The artifacts found

52 “La haute antiquité qu’elles embrassent est pour nous la nuit des temps: sans guide, sans flambeaux, je ne puis, dans ces ténèbres, marcher qu’à tâtons, et que risquer de m’égarer.” Ibid.
53 Ibid., 71–72. On the stone technology of the Gauls see also pp. 27 and 69.
54 Ibid., 72–73.
55 Ibid., 74.
in the tumulus at Noyelle were crude stone implements like those found at Cochelrel which meant the tomb was constructed before the use of metal, but Legrand d’Aussy argued that large tumuli required more planning and much greater labor to construct than stone sepulchers which meant that tumuli indicated a higher level of social development. From this reasoning it was evident to Legrand d’Aussy that an age of mounds (“âge des collines”) followed the primitive age of fire.\textsuperscript{56}

This scheme was complicated, however, by the fact that some tumuli contained cremations but other tumuli contained buried bodies, such as the tumulus near the village of Crécy excavated by Laurent-Joseph Traullé in 1787. Traullé had discovered two sarcophagi in the tumulus, each holding a skeleton and numerous artifacts including a copper ring and buckle as well as remains of wool clothing. Since it was accepted that copper was used later than stone but prior to iron it was clear to Legrand d’Aussy that the tumulus at Crécy, although not geographically distant from the tumulus at Noyelle, must date from a later period when the Gauls had advanced beyond the state of savagery.\textsuperscript{57} Thus the “âge des collines” needed to be divided into two periods, an earlier period when burned remains were placed in tumuli (“âge des collines à corps brûlés”) and a later period when corpses were buried in tumuli (“âge des collines à corps sans ustion”).\textsuperscript{58}

By the time the Romans conquered Gaul the native inhabitants already possessed iron implements and made objects from silver and gold. There were also tumuli, like the one near the village of Dognon in central France that contained gold objects. These tumuli were still ancient but clearly were of a later date than the Crécy mound. But eventually the construction of tumuli appeared to have fallen into disuse and Legrand d’Aussy identified a period following the age of tumuli when the dead were cremated on funeral pyres. This period he designated the age of the revival of pyres (“âge du renouvellement des bûchers”).\textsuperscript{59} By the end of the second century this practice too fell into disuse, due mostly he believed to the introduction of Christianity into Gaul but also because the invading Franks and Visigoths did not burn their dead. The custom of burying the dead in a stone sarcophagus, along with precious objects and animal sacrifices, began at this time. Legrand d’Aussy calls this period the age of sarcophagi without pyres (“âge

\textsuperscript{56} \textit{Ibid.}, 74–76.
\textsuperscript{57} \textit{Ibid.}, 76–78. “Or, personne n’ignore que, chez les nations anciennes, le cuivre a été en usage avant le fer.”
\textsuperscript{58} \textit{Ibid.}, 76.
\textsuperscript{59} \textit{Ibid.}, 80–84.
des sarcophages sans bûchers’"). These sarcophagi often bore inscriptions and epitaphs, due to the influence of the Romans. The final form of sepulchral monument in Legrand d’Aussy’s scheme is the mausoleum, resulting in a total of six successive periods represented by distinct forms of burial that the antiquary could identify by the types of artifacts present, the kind of interment (burial or cremation), and the type of tomb. Legrand d’Aussy believed that the antiquary could trace the history of the ancient inhabitants of France by relying on the evidence from tumuli and other sepulchral monuments. Indeed, the quest to situate pre-Roman barrows, monuments, and artifacts in a historical framework or chronological sequence became increasingly important to archaeologists during the first half of the nineteenth century. But already by the end of the eighteenth century the investigations of James Douglas and Pierre Jean-Baptiste Legrand d’Aussy into barrows and the artifacts they contained had forced the question of a relative chronology of these monuments to the fore. The development of the Three Age System in the early decades of the nineteenth century was an extension and culmination of inquiries already begun in the 1790s.

Besides offering a chronological sequence of ages based on the burial practices of the ancient inhabitants of France, Legrand d’Aussy was also confronted by the more fundamental question of just how many years had elapsed between the “temps primitifs,” the earliest times when the Gauls lived in a state of nature (“état sauvage”) and the period when the Gauls became known to history as a result of their contact with the Romans. Throughout his discussion of the burial practices of the ancient Gauls and the advances required to progress from stone implements to the invention of metallurgy he emphasized the long periods of time required for such profound social and intellectual developments. If we descend by thought, he wrote, from the times when the Gauls built tombs of brute stone containing stone axes through the ages of barrows and cremation to the ages when the Gauls possessed metal implements “how many thousands of years must have elapsed.”

It is significant that Douglas and Legrand d’Aussy do not attempt to situate the ancient Britons and Gauls who built barrows and used stone implements in biblical history or chronology. Neither of them argued that more than the six or seven thousand-year biblical chronology was needed to

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60 Ibid., 84–86.
61 Ibid., 71.
62 “Si, du temps où ils n’avaient que des tombeaux en pierres brutes dans lesquels ils déposaient des haches de cailloux, nous descendons par la pensée au temps dont je viens de tracer l’esquisse, que de milliers d’années ont dû s’écouler!” Ibid., 81.
accommodate their theories, but one could easily come away from reading Legrand d’Aussy with a sense that the centuries separating the biblical Deluge from the Roman conquest of Gaul must be inadequate for the achievement of so many difficult accomplishments such as the invention of metallurgy, or such profound cultural changes as the shift from burial of the dead to cremation on funeral pyres. Moreover, it is striking that the framework employed by Antoine-Yves Goguet in the 1750s, where the stone implements and barbarous culture of early Europeans is explained as a consequence of the biblical flood and is entirely compatible with the conception of human history that had emerged during the sixteenth and seventeenth centuries, had been replaced by the end of the century by an understanding of human history that imagined early humans as primitive savages living in a state of nature, without the accoutrements of civilization, who had to progress gradually over time, inventing metallurgy, domesticating animals, and developing agriculture.63 Legrand d’Aussy proposed a sequence of successive ages and a conception of ancient European history that diverges in important ways from the history accepted by scholars who relied upon the Bible and classical sources for their conception of early European history. Archaeology, and most notably the substantial body of new evidence drawn from barrows, offered evidence that fit much better the progressive view of human history promoted by some Enlightenment scholars.

CONCLUSION

The period between 1750 and 1800 was a period of transition and consolidation with regard to the study of what we would now consider prehistoric stone artifacts. But in an era when the concept of prehistory had not yet been proposed and when antiquarianism was still in the process of transforming itself into a modern science of archaeology it is worth examining how the study of ancient stone artifacts was pursued within the context of late eighteenth-century science and historical scholarship. Antiquaries were still in the process of working out the historical implications of these objects, particularly that early European peoples had been barbarous and uncivilized. In the process of interpreting the origin and use of these artifacts, antiquaries found that comparisons with ethnographic artifacts from

63 See the references in note 12 for broader discussions of Enlightenment conceptions of social and historical progress.
stone tool-using peoples from the New World and South Pacific could help to answer questions about how these implements were fabricated and what they were used for. What had been a novel and controversial idea during the first half of the eighteenth century, that stone artifacts were the earliest implements made by Europeans at a time when they did not even know metallurgy, had become widely accepted by the latter half of the century and it was used to argue that the first Europeans had lived in a state of nature. Archaeology was providing evidence that the arts and sciences of ancient peoples had gradually improved over time and that from their savage and rude beginnings Europeans had slowly invented the accoutrements of civilization.

The increased interest in excavating barrows, which arose during this period, was a particularly important development in the history of archaeology and in the study of prehistoric artifacts. Antiquaries were severely limited in what they could learn from isolated artifacts found by accident, usually by farmers or laborers. Greater numbers and kinds of artifacts were unearthed from barrows than had ever been discovered before; and since barrows and their contents differed, there was the possibility of using the results of these excavations to form a more complete notion of the culture of ancient Europeans and how that culture had changed over time. Historians of archaeology have stressed the significance of barrow excavations in the formulation of the Three Age System in Scandinavia in the 1820s and 1830s but James Douglas and Pierre Jean-Baptiste Legrand d’Aussy were already utilizing barrow excavations to answer uniquely eighteenth-century questions about the ancient Britons and Gauls.

Significant new ideas about the earliest epochs of human history arose as a result of the study of ancient stone artifacts during the last half of the eighteenth century. The intriguing results of barrow excavations prompted further excavations as well as attempts to formulate a relative chronology of ancient burials. Yet the foundation was being established for dramatic advances in the decades that followed the close of the century that would build directly upon the ideas and researches of eighteenth century antiquaries.

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FIGURE 1a: illustration from Nicholas Mahudel’s “Sur les prétendues pierres de foudre,” Histoire de l’Académie Royale des Inscriptions et Belles Lettres (1740) depicting a variety of polished stone axes, some perforated.
FIGURE 1b: illustration from Nicholas Mahudel’s “Sur les prétendues pierres de foudre,” *Histoire de l’Académie Royale des Inscriptions et Belles Lettres* (1740) depicting a variety of polished stone axes of varying shape, as well as stone arrowheads and spearheads.
FIGURE 2: illustration from James Douglas’s *Nenia Britannica* (1793) of the contents of a British barrow depicting the skeletal remains in relation to the layout of the tomb as well as some artifacts found with the body.