

# WILSON MUSEUM BULLETIN

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## THE PALEOLITHIC TOOL EXHIBITION AT THE WILSON MUSEUM

Museums are always more than the visible exhibitions that visitors enjoy. Behind the scenes are cabinets and drawers filled with larger collections. Curators choose among the objects and arrange exhibits for educational, ideological, and aesthetic purposes that are not always obvious to the visitor. Every museum display emerges from a particular time and place, shaped and influenced by prevailing tastes, cultural assumptions, and the state of scholarship of the time. Museum exhibitions can be seen as museums of themselves, encapsulating the knowledge and ideas that shaped them. In the same way, those larger collections from which exhibits are drawn embody knowledge, values, and assumptions that were current at the time of their acquisition.

These larger collections, hidden from public view, are just as important as the selection we see. They are a source of materials both for individual study and for disseminating new knowledge and understanding. My own handling of the Paleolithic tool collection, for example, immeasurably enlarged my understanding of stone tool technology and its history. Museum collections are significant historical resources holding the history of the museum itself, the history of museology, and clues to the history of the disciplines that their exhibits represent. The correspondence that Dr. J. Howard Wilson, founder of the Wilson Museum, carried on with the suppliers of his artifacts opens up intriguing byways into the

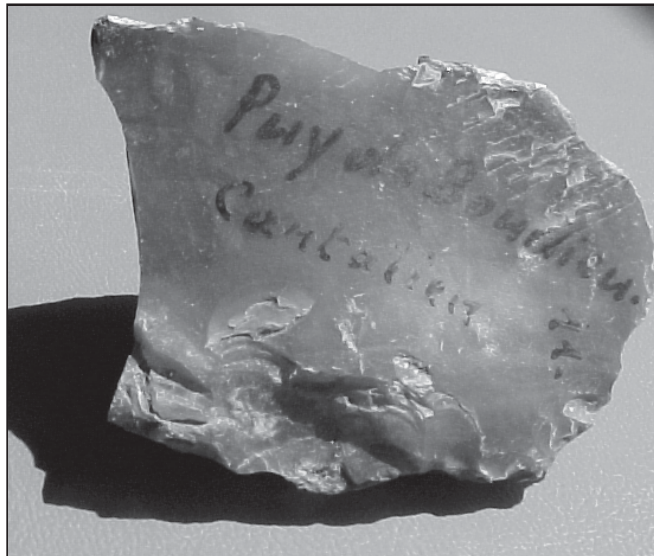
history of stone tool collection and scholarship, as well as illuminating the history of the Wilson Museum. The Museum and the research, collections, and correspondence that undergird it are unmined resources for which we must be deeply grateful.

This is the first of two articles devoted to the Paleolithic or Old Stone Age exhibition in the Wilson Museum. It will focus on the nature and interpretation of the earliest, Lower Paleolithic sections of the exhibition and explain the reasons for the arrangement we see in the case. The second article will deal with the documents that show how Dr. Wilson acquired important parts of the Paleolithic collection.

In 1902 J. Howard Wilson began in a serious way to pursue his interests in human prehistory. He began to collect Stone Age artifacts that year while he

and his brother Arthur explored French Paleolithic sites. Some artifacts he found himself, but many he purchased, as did other private collectors and museums at the time. He continued his explorations in 1903, traveling in France, England, Belgium, and Switzerland with his wife and establishing relations with archaeologists and museum curators, who subsequently helped him purchase representative collections of artifacts. Selections from these collections make up the Wilson Museum's Paleolithic exhibition.

Wilson earned a doctorate in geology from Columbia University in 1906. His research into glacial



stratigraphy complemented rather than replaced his interests in prehistoric archaeology. Quite a few researchers into human prehistory in the late nineteenth and early twentieth centuries had begun as geologists, bringing geological and evolutionary principles into their archaeological work. Some of these are evident in the explicit principles and implicit assumptions that guided Dr. Wilson as he assembled most of his Paleolithic material, from about 1902 to 1922.

First, like most other archaeologists of the time, he perceived the tools as objects to be properly ordered according to function and age, while preserving the identity of the sites from which they came. That is, keeping together collections from a single archaeological site and arranging them by time and use, was of first importance.

Wilson made a second principle explicit in 1921, when the museum was founded. This principle influenced Wilson's arrangement of the entire museum and the display of its artifacts. He wrote:

*The main purpose and plan. . .of the collections are to show the antiquity of Man and his cultural stages from earliest geologic times...down to our own historic and colonial times.* (Castine Scientific Society 1985:8)

The individual exhibits drawn from the Wilson collections were planned to show what Wilson called the "cultural level" of humankind progressing by stages from the first stone tools to firearms used in the Civil War (Castine Scientific Society 1985:8). The idea of progressive development in human culture, social organization, and technology pervaded nineteenth-century thought. The societies of nineteenth-century Europe and North America were perceived as the apex of this evolution.

This is the point at which Wilson's stratigraphic research came together with his studies in prehistoric archaeology and the prevailing nineteenth-century principles of cultural evolution. Much of our understanding of the earth's geologic history had begun to open up in the early nineteenth century with the work of Charles Lyell and his doctrine of Uniformitarianism. Uniformitarianism is the principle that, where there are no signs of disturbance, the lower layers of any stratigraphic sequence must have been deposited earlier than the upper layers, and thus undisturbed stratigraphic sequences move from oldest at the bottom to youngest at the top. Archaeologists and paleontologists understood from this principle that any fossils or artifacts embedded undisturbed in each layer must be the age of that layer. Lyell's thought was foundational for Charles Darwin's evolutionary thought. The idea of evolution pervaded the nineteenth

century, and the idea of orderly development in human culture and technology, though it had arisen independently in the eighteenth century, blended with and swelled the stream of evolutionary thought. Wilson's plan for and philosophy of the museum he was creating rose out of these powerful and pervasive streams of thought.

The assumptions hidden in Wilson's stated purpose are clearer to us today than they were in the 1920s. One is that the human "cultural level" rises with technological innovation. Even in 1921, when



Wilson wrote those words, that assumption, widespread in the nineteenth century, had been challenged. Today we know that complex technology, especially in weaponry, is no index to humane and civil societies.

The arrangement of the museum was also meant to demonstrate human agency; that is, the ability of human societies to innovate their own paths rather than react in patterned ways to external, determining events. Today we see the relative roles of agency and determinism in human history as a question to be explored in particular instances, and not as assumed universal features of human societies. Another nineteenth-century assumption that influenced Wilson has also become a question rather than an answer: the

essential psychological sameness of all human beings, whatever their time and place.

Wilson wrote further:

. . .we examine man's handiwork from ages past and find. . .proof that his aim. . .has remained the same: survival on the best terms he could exact from a known environment and an unknown fate. (Castine Scientific Society 1965:2).

This passage illustrates his belief that human purposes and goals can be read from the material things produced in particular societies, and that these goals are, like human psychology, universal. Yet material things are often mute. The way we select, arrange, and interpret these objects tells as much about ourselves as about the people who made them. Dr. Wilson's statements exemplify a particular understanding of human history that was developed in the late nineteenth and early twentieth centuries and that shaped both the museum's exhibits and the larger collections from which the exhibits draw.

The exhibits are arranged to show what Wilson envisioned as progress in human societies and cultures, progress gained through human initiative in finding the best modes of survival in a given environment by using innovative technology. Certainly Wilson's ideas were and are very American.

The Paleolithic tool case is therefore the beginning of the entire museum journey. This display of stone tools takes us back to the Old Stone Age in human history, the time when our hominid ancestors first began to shape stone into useful tools. The tool exhibition was organized in the 1920s, but many of the objects, as we saw, had been collected earlier in the century. The exhibition thus preserves a way of thinking about and displaying our Stone Age history that prevailed almost a hundred years ago. It focuses on Europe, an emphasis that was typical of the 1920s and earlier. Europe was the site of most research on human fossils and tools, and Eurocentrism pervaded Euro-American thinking.

The Paleolithic tool case also illustrates the emphasis on classifying stone tools and arranging them in chronological sequence that was a feature of archaeological study from the nineteenth to the mid-twentieth centuries. It keeps together artifacts that came from a single archaeological site and were acquired from a single collector. The exception to this emphasis is in the Chellean exhibition, which shows similar tools found in Italy, England, India, South Africa, and Maine. The original exhibit text, however, did not identify the place from which each item came, or attempt comparison. It is interesting to contrast the

universal, encompassing statements that Wilson made about human history and technology with the focused particularity of the stone tool exhibit. There are, in fact, materials in the museum's collections from which an exhibition could be assembled that compares stone tool technology across times and places, but it was the linear development of technology that interested Wilson, and most other archaeologists of the time, illustrated mainly from a few European sites.

Today museums show human prehistory with new emphases and new information that were unavailable in the 1920s. Most contemporary exhibitions try to reconstruct the ways that our Stone Age ancestors lived and the environments in which they got their livelihoods. They try to reconstruct social life, economy, and daily activities. The manufacture, use, and exchange of stone tools are seen as social as well as technological processes. Each stone implement is part of human social and cultural life, and not only an object to be classified. With the pan-continental scope of modern archaeology, contemporary exhibitions can acknowledge and explicate human cultural change and development on every continent.

Nevertheless the Wilson Museum's stone tools succeed in linking us to an otherwise remote human past, and it is awe-inspiring to think about the ancient hands that touched and formed them. We can try to connect the tools in the case with what we now know about the lives and evolution of our Paleolithic ancestors. Living together in small mobile groups, our Paleolithic ancestors made and used these tools to help them gain a livelihood by means of scavenging, hunting wild animals, gathering wild plant foods, or any combination of these.

In Africa a species of hominid or proto-human being known as *Homo habilis* began to make simple stone tools about a 2.5 million years ago. There is provocative evidence from Asia, but right now Africa is the place that most evidence supports as the locus of human origins. *Homo habilis* had ancestors too, whom we call Australopithecines. Various Australopithecine species had lived in Africa as long ago as 4.4 million years. They were upright walkers, but the making of tools is one important feature that distinguishes *Homo habilis* from its Australopithecine ancestors. There are no *Homo habilis* tools in the Wilson collection because *Homo habilis* was not discovered until 1960. The first Australopithecine was found in 1924, in South Africa, just at the time when Dr. Wilson and other museums were emphasizing Europe.

You'll notice that the Paleolithic tools come mainly from France, England, Belgium, and



Switzerland, as we would expect from the European focus on human prehistory that prevailed when Dr. Wilson was building his collection. Since then, stone tools have been found on all continents. The case is arranged chronologically, beginning with *Eoliths* on the first shelf and moving through eight shelves that take us from those eoliths, or dawn stones, to the Upper Paleolithic, the last period of the Old Stone Age. Shelves labeled *Aurignacian*, *Solutrean*, and *Magdalenian* represent the three conventional stages of the Upper Paleolithic, which together cover a period from about 40,000 years ago to about 11,000 years ago. Between these are *Pre-Chellean*, *Chellean*, *Acheulian*, and *Mousterian*. This article will take up the Eolith display, and the Pre-Chellean, Chellean, and Acheulian periods.

From 1889 to about 1912 controversy swirled around the question of eoliths. These stones originated in a geological time far earlier than the times for which we have any other evidence of human existence. Excitement about the possibility of eoliths as human artifacts had been rising since 1889. Could prehistoric human hands have shaped them, or did natural processes such as wave or stream action, glaciation, and temperature changes form them? Did our human ancestors make them, or did some other extinct primate more cousin than ancestor?

Early in the twentieth century Aimé Rutot, curator of The Royal Institute of Natural Sciences of Belgium in Brussels, became the most vocal and prolific champion of eoliths as the first human tools. He was a geologist by training, but shifted his work toward human prehistory. He argued forcefully that human use had modified the stones into eoliths, even though they had not been shaped deliberately. Rutot's arguments did not prevail. By the 1930s, research had shown definitively that natural forces shaped these stones, and the eolith debates faded away.

J. Howard Wilson acquired directly from Rutot the eoliths exhibited in the Wilson Museum. Even though they are now known to have no connection with human or proto-human activity, they are still valuable and enlightening. They illustrate one of the dead-end byways along the course of scientific research and endure as a chapter in the story of our growing understanding of human evolution. Understanding the historical and scientific context of the exhibition when it was shaped in the 1920s enriches our enjoyment and understanding of eoliths.

In Wilson's scheme of prehistoric technology, the Pre-Chellean and Chellean follow the Eolithic and, in turn, evolve into the Acheulian. These terms come from the places in northeastern France where the tools

of these types were first found, Chelles and Saint-Acheul. The ancestral human beings who made the tools are now usually known as *Homo erectus*, and prehistoric archaeologists no longer make distinctions among Pre-Chellean, Chellean, and Acheulian. Let us think first about the people and then return to the artifacts.

Our *Homo erectus* ancestors lived from some time after two million years ago to about 300,000 years ago. According to the best evidence so far, they evolved in Africa and spread into Asia and Europe around 1.9 million years ago. Europe is the place we find the most numerous tools and living sites, but many more fossil bones are found in Africa and Asia. Right now our understanding of *Homo erectus* is in flux as new fossil discoveries in Europe, Asia, and Africa emerge. There is a great deal of anatomical variation in *Homo erectus* fossils, and paleoanthropologists are still working out the relationships among populations on different continents. Nor do we yet understand fully just how the European *Homo erectus* people are related to the prehistoric peoples of Europe who came right after them.

But there is much we do know about *Homo erectus* people. They were in the same size range as modern human beings. Their brains were smaller than modern brains, and their skulls were shaped quite differently from modern skulls. Archaeological sites show that *Homo erectus* people used fire and followed a hunting and gathering way of life. We have evidence that some populations hunted cooperatively, which implies communication, but whether they had language and speech is not yet known and quite controversial. Their brains might have been adequate for managing language, but we do not know if they had the anatomical features that make speech possible.

Most *Homo erectus* groups, excepting those of southeast Asia, made and used a variety of stone choppers, cleavers, and picks. One common tool is the hand axe, made by working both sides of a lump of stone and hence called a "biface." *Homo erectus* bifaces are especially widespread in Europe and Africa. The ancient Greeks recognized their unique features and called them "thunderstones" that Zeus tossed to earth. Flaking and retouching along the edges sharpened the biface. Hand axes probably had no haft, but were held directly in the hand and used for many cutting and chopping tasks. The original label in the hand axe exhibits told us that bifaces were used in war. That judgment is a good example of how the prominent features of our own society influence our interpretation of the prehistoric past. There was no evidence of *Homo erectus* warfare in Wilson's time,

and no certain, non-controversial signs of it in what has been discovered since.

Archaeologists no longer interpret the differences in style and workmanship between the exhibits labeled *Pre-Chellean*, *Chellean* and *Acheulian* as technological refinement over time. They now see the differences as individual or regional variations on a widespread and long-lasting technology. The “Chellean” hand axes from four continents that are placed, mostly unlabeled, in the case illustrate its geographical spread. According to present knowledge, the Acheulian tool kit and the *Homo erectus* way of life remained in place for nearly 1.5 million years.

The Wilson Museum Paleolithic exhibition includes a small diorama, in a separate case, depicting *Homo erectus* life. It was an innovative exhibit made by Ned J. Burns, who was also developing dioramas for the American Museum of Natural History in New York City (Castine Scientific Society 1985:11-12). It makes an excellent complement to the more conventional tool classification of the period. We do not really know much about how *Homo erectus* looked, but the scene shows fire, a dwelling inside the mouth

of a cave, and a hunter with a spear. Imagining, fleshing out, and domesticating our prehistoric ancestors from the evidence we have is often an exercise in incorporating the strange and unfamiliar into categories with which we are more comfortable.

The remaining sections of the Paleolithic case show the tools of the two subsequent periods of human prehistory in Europe. We see the Mousterian tools of the Middle Paleolithic and the technological innovations of the Upper Paleolithic. My second article will discuss these artifacts and the unique documentation that preserves the history of their acquisition.

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Riva Berleant, Ph.D. is Professor of Anthropology (emerita) at the University of Connecticut. History and theory in anthropology are among her teaching specialties. Paleolithic prehistory has intrigued her ever since, at the age of nine, she read *The Cave Twins*, by Lucy Fitch Perkins, and became a “museum kid” at the Buffalo Museum of Science. Much later she joined the staff of the Nassau County (New York) Museum of Natural History to organize an archaeology and geology library. Dr. Berleant has studied the representation of the Paleolithic in fiction, and thanks the Wilson Museum and its staff for the opportunity to study its presentation in museums. She lives in Castine.

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## WORKS CITED

Castine Scientific Society

1985 *The Wilson Museum*. Castine ME: The Wilson Museum

1965 “History of the Wilson Museum.” *Wilson Museum Bulletin* Number 2

## SUGGESTIONS FOR EXPLORING FURTHER:

### Human Origins and Evolution

Arsuaga, Juan Luis and Ignacio Martinez

2005 *The Chosen Species*. Oxford: Blackwell.

This new and engaging account of human origins and evolution is intended for a popular audience.

Campbell, Bernard G. et al.

2005 *Humankind Emerging*. 9th ed. Boston: Allyn & Bacon Inc. This clear and detailed textbook account of what is known about paleoanthropology includes a short history of paleoanthropological research and an accessible explanation of biological evolution. It provides an up-to-date account of human evolution and hominid fossils, including such topics as the behavior and social life of our hominid ancestors and the evolution of brain, language, art, religion, and technology.

### Introduction to Archaeology

Ashmore, Wendy and Robert J. Sharer

2005 *Discovering Our Past: A Brief Introduction to Archaeology*. 4th ed. Hightstown NJ: McGraw-Hill.

This is a basic introduction to theory and technique in archaeology

as it is practiced today. There are abundant illustrations and case studies of archaeological sites from a variety of dates and world locations.

Schick, Kathy D. and Nicholas Toth

1994 *Making Silent Stones Speak*. NY: Simon & Schuster.

This is an introduction to stone tools and tool-making by archaeologists who have learned much by experimentation in making stone tools.

### Paleoanthropology and Paleolithic Life

Gamble, Clive

1999 *The Palaeolithic Societies of Europe*. Cambridge UK and New York: Cambridge University Press.

This scholarly book assumes prior knowledge. It emphasizes Stone Age social life in Europe, building from archaeological evidence about living sites, hunting, and tool-making, and from observations of social interactions among foragers of the present or recent past. Not everyone agrees with Gamble’s inferences from artifacts and settlement sites, but this book illustrates a contemporary approach to paleoanthropology.

Rightmire, G. Philip

1993 *The Evolution of Homo Erectus: Comparative Anatomical Studies of an Extinct Human Species*. NY and Cambridge: Cambridge University Press

This scholarly book deals with fossil bones rather than stone tool remains. It covers the history of *Homo erectus* and its evolution toward modern *Homo sapiens*.

Boaz, Noel T and Russell Ciochon

2004 *Dragon Bone Hill: An Ice-Age Saga of Homo Erectus*. New York and Oxford: Oxford University Press.

This account of *Homo erectus* life is written for a lay audience. It is based on casts of the famous Peking Man fossils from China, which were lost or destroyed in World War II. The authors offer provocative revisionist interpretations of *Homo erectus*, including the proposition that *Homo erectus* people were more scavengers than hunters.

#### **History of Anthropological Thought**

Erickson, Paul A. and Liam D. Murphy

1998 *A History of Anthropological Theory*. Peterborough, Ontario: Broadview Press.

This is a brief and accessible students' introduction with an excellent glossary and annotated bibliography.

Stocking, George W., Jr.

1987 *Victorian Anthropology*. New York: The Free Press.

This is a collection of definitive essays on nineteenth-century ideas about evolution, human prehistory, language, racial attitudes, and human cultural and physical diversity.

#### **Web Sites**

There is a wealth of websites devoted to human evolution and paleoanthropology.

*AnthroNotes* from the Smithsonian National Museum of Natural History has links to many of these sites. It is a twice-yearly bulletin intended to keep readers updated on new anthropological research. [www.nmnh.si.edu/anthro/outreach/anthnote/anthback.html](http://www.nmnh.si.edu/anthro/outreach/anthnote/anthback.html)

*Stone Age Reference Collection*. from the University of Oslo Institute for Archaeology offers information about Stone Age technology, raw materials, tool forms, and bibliography. [www.hf.uio.no/iakk/roger/lithic/sarc.html](http://www.hf.uio.no/iakk/roger/lithic/sarc.html)

*Anthropology in the News* is maintained by the Department of Anthropology at Texas A & M University. It consists of daily new links to news items classified by topic, including paleoanthropology. <http://anthropology.tamu.edu/news.htm>

*AnthroSource* is a huge searchable database of full-text anthropological literature. It can be accessed through libraries that subscribe to it. [www.aaanet.org/anthrosource](http://www.aaanet.org/anthrosource)

~ The summer schedule is available at [www.wilsonmuseum.org](http://www.wilsonmuseum.org). ~

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