WILSON MUSEUM BULLETIN

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STONE AGE TOOLS AT THE WILSON MUSEUM: The Middle and Upper Paleolithic

This is the second of two articles about Stone Age tools in the Wilson Museum collection. The first, in the last issue of this bulletin, began with European eoliths, now known to have no connection with human creativity, and ended with the stone tools of *Homo erectus* in Lower Paleolithic Europe. Now we continue from there to *Homo neanderthalensis*, the Neandertal people of Middle Paleolithic Europe, and finally to *Homo sapiens*, our anatomically modern ancestors of the Upper Paleolithic, also as they are found in Europe. An evolutionary framework continued to guide J. Howard Wilson as he assembled his collections and arranged their exhibition in the Wilson Museum. As he himself said,

> *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 1958:8).

Visitors to the museum today can see displayed some of the objects he collected; many more are stored in drawers and cabinets.

The period in human prehistory that we call the Middle Paleolithic falls between 250,000 years ago and 40,000 years ago. Fossil hominids of the period are found in Asia, Africa, and Europe; none have so far come to light in the Americas. Only those hominids found in Europe and western Asia are Neandertals. *Homo neanderthalensis* fossils are dated from about 300,000 to 30,000 years ago. We call their culture Mousterian, after the early archaeological discoveries at Le Moustier in southern France.

The Wilson Museum's Middle Paleolithic tool exhibits show clearly the important technological innovation that the Neandertals devised. Their predecessors in Europe, *Homo erectus*, fashioned solid nodules of flint into the bifacial tools we call Acheulian hand axes and did not fully utilize the flakes of stone struck from the nodules. Neandertal people began to use these flakes. They developed a variety of new techniques to make planned flakes and retouch the edges to make them sharp. These techniques made efficient use of both labor and raw material. Every flint nodule became the source of many flakes, each one a potential tool. Each lump of stone, by the skillful striking of flakes, could be made to yield multiple sharp-edged blades, scrapers, and other tools instead of just one biface.

Mousterian implements are shown in the Paleolithic exhibit case. There are many good ways to approach the study of stone tools. The emphasis in the early twentieth century was on typology – classifying tools according to their shape and their use, at least as far as their use could be known – and on the evolution of technology. Archaeologists also wanted to study as a whole each assemblage of artifacts from a single site, and museums kept together the objects that came from a single source.

In keeping with these emphases the Wilson Museum exhibits are chronological and arranged to assemble artifacts found at particular archaeological sites. Thus the Mousterian tools shown all come from France and include the later Mousterian development called Levallois, in which a core was specially prepared ahead of time so that thin, flat flakes with a continuous sharp-edged perimeter could be struck off and made into small tools. The core tool was the biface hand axe, probably an all-purpose chopping and cutting tool. Some of the small points fashioned from flakes may have been hafted to spear shafts. The terms "blade" and "scraper" cover a variety of shaped flakes and were probably used in a variety of cutting and scraping tasks.

Also important in early studies of prehistoric stone tools was understanding how the tools were made. A long history of experiments in stone has allowed archaeologists to recapture the techniques of

flintknapping that our prehistoric ancestors devised, and to re-create their stone tools.

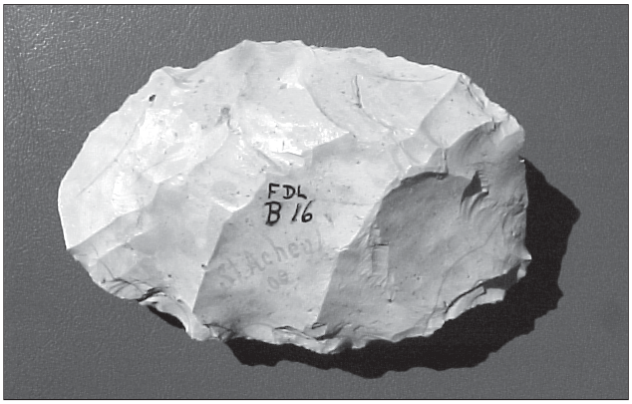
After developing an understanding of assemblages, uses, and techniques, archaeologists turned their interest toward the social, individual, behavioral, and environmental contexts in which tools were made and to their makers. What do we know about the Neandertal people who made Mousterian and Levallois tools? Their history and nature has always been controversial, but most contemporary opinion and evidence leans toward the placement of Neandertals outside the direct ancestry of modern humans. In Africa, for example, modern types appear in the archaeological record as long ago as 130,000 years before the present. They co-existed with other *Homo* species that ultimately became extinct. Most paleoanthropologists agree that Neandertals constitute a separate and now extinct biological species with distinctive anatomical features. As a group, Neandertal people were a little shorter on the average than moderns, and more heavily built. The shape of Neandertal heads and faces was different from those of moderns. Their average cranial capacity or brain size was just a little larger than our own, and visibly increased in the long duration of the fossil record we have. They were probably very intelligent. Those familiar cartoon stereotypes we see that represent dim and brutish Neandertals are misconceived.

Important aspects of Neandertal culture were entirely within the range of what we think of as human. *Homo neanderthalensis* developed a culture that facilitated survival in extraordinary glacial climate conditions. Neandertals innovated the prepared core technique in tool making, and hunted cooperatively. We have evidence of purposeful burial, care for injured and disabled members of the group, beliefs and rituals that we call religious, the beginnings of the arts, and interpersonal violence. All of these are characteristic of modern *Homo sapiens*. Indeed, one of the most recent books about Neandertals, Stephen Mithen's very conjectural *The Singing Neanderthals*, credits them with the origin of music, even though we can probably never know the origin of any behavior that leaves no traces in the archaeological record. Even though it now seems clear that Neandertals are not biologically ancestral to moderns, the cultural relationship between the two species is still a question.

Around 40,000 years ago, the Middle Paleolithic of Europe gave way to the Upper Paleolithic. None of our contemporary knowledge was available to Dr. Wilson when he assembled and arranged the Wilson Museum collections. Thus the Upper Paleolithic exhibits following the Middle Paleolithic Neandertal exhibits all come from European sites, the only ones known at the time, and illustrate a linear evolutionary sequence based on technological innovations.

The people of the European Upper Paleolithic, often called Cro-Magnons, were anatomically modern humans, *Homo sapiens*. Dr. Wilson adopted the accepted classifications of their culture at the time, which was a scheme of three stages. Each stage is defined by a characteristic technological complex and named for a French archaeological site in which that complex was found: the Aurignacian first, the Solutrean following, and finally the Magdalenian. This sequence takes in the period of 40,000 to 11,000 years ago, and we now know that it applies only to Europe. Modern prehistorians recognize an additional industry, the Chatelperonnian, roughly contemporaneous with the Aurignacian but not represented in the Wilson Upper Paleolithic exhibition.

The Aurignacian industry begins the Upper Paleolithic in Europe. In most sites there is a disjunction between the Aurignacian and the



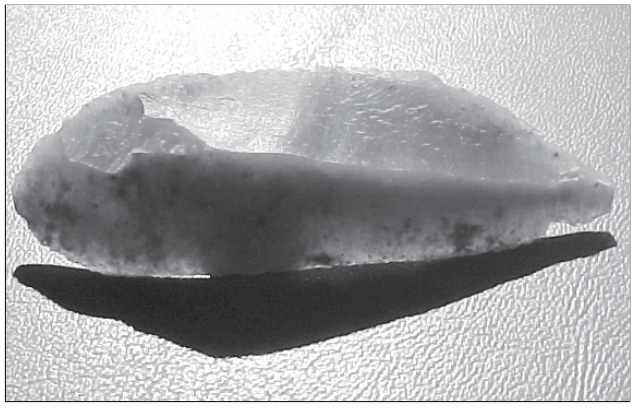
underlying Mousterian layers. This break suggests that a population of new arrivals brought their technology with them, replacing Neandertals and their culture. The new Aurignacian technology expanded the possibilities of flake tools and added bone as a raw material. It also includes tools for making other tools, a highly significant innovation. Aurignacian people made sharp cutting blades distinguished by a length twice as long as the width. They used bone for beads as well as for fine tools, and used flake tools for working bone.

The Aurignacian exhibits at the Wilson Museum came from two well-known archaeological sites in the Dordogne of southern France, Abri Blanchard and Abri Labattut ("Abri" means "shelter"). Dr. Wilson purchased most of them from Louis Didon, the excavator of Abri Blanchard who also supplied objects

to other museums in the United States. The exhibits include scrapers, bone points, blades, a flint core with a retouched sharp edge completely around the perimeter, and engraving tools or burins. The scrapers shown are of a type called *racloirs* and were apparently to be held between thumb and fingers and used for scraping large surfaces.

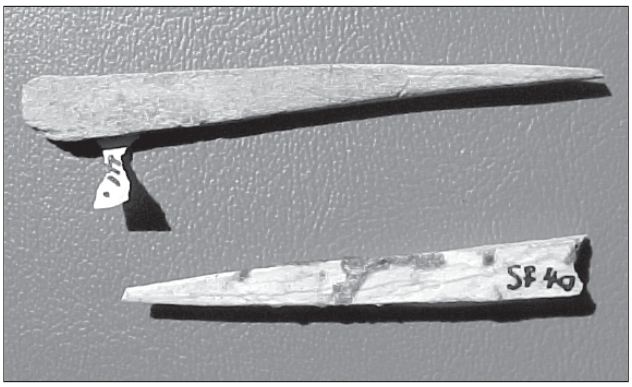
Even though the Wilson Museum has no examples of the Chatelperronian industry, we need to understand its relationship to its contemporaneous Aurignacian and preceding Mousterian. Like the Aurignacian, the Chatelperronian lasted from 40,000 to 27,000 years ago. It is thought to be an indigenous development in France and Spain rather than an imported industry. It is associated with Neandertal material, and thus poses significant questions. Does the association mean that Neandertals made some cultural contribution to the Upper Paleolithic of Europe? The controversy that used to swirl around this question has for the most part settled. The majority opinion among paleoanthropologists is that surviving Neandertals who overlapped the coming of Cro-Magnons adopted and absorbed into their Mousterian complex some Aurignacian styles and techniques.

The period following the Aurignacian in western Europe is called the Solutrean and lasted from about 21,000 years ago to 16,500 years ago. Early twentieth-century typologists marked off the Solutrean from the



Aurignacian by the appearance of a new and characteristic flaked stone technique. The distinctive new technology spread from the Iberian peninsula into southern and central France. It involved complete retouching all over both sides or faces of the object to thin it out, as well as along the fine cutting edge. The result was a flattish point with concave retouch scars on both sides and a narrow biconvex cross-section. The finely crafted leaf-shaped points that are often taken to typify the Solutrean are found only in France. These thin and elegant laurel-leaf points range from nine to thirteen inches long and may have been made for ritual uses or as prestige art objects rather than utilitarian tools. The Wilson Museum exhibits a cast of a typical Solutrean laurel-leaf point, along with a collection of small points, blades, scrapers, and engravers that came from the cave of Le Placard in southern France. Smaller Solutrean tools fit into the general morphology of tools that prevailed throughout the entire Upper Paleolithic. Dr. Wilson purchased the collection in 1916. One of the best-known archaeologists of the period, L'Abbé Henri Breuil, chose and assembled it.

The final stage of the Upper Paleolithic in western Europe, the Magdalenian, lasted from about 16,500 years ago to about 11,000 years ago. Our



common images of the ice-age hunter and cave artist come from what we know of the Magdalenian. Magdalenian people developed domestic implements such as sewing needles and toggle fasteners, spear points, barbed harpoons, chisels, saws, awls, and tools with handles. Their kit included burgeoning numbers of objects made from ivory, bone, and antler, and many new tools to make tools. The Magdalenian exhibits in the Wilson Museum include a series showing the technological process of crafting an animal bone into a long, eyed needle. Another series shows nodules of flint and jasper on which a flintknapper had begun to strike off flakes, and accompanies them by some well-used final products made from flakes. Dr. Wilson reached beyond France to assemble his Magdalenian collection: most of the material comes from Schaffhausen, a well-known site in Switzerland.

Who were these modern human beings of the Upper Paleolithic, and where did they come from if they did not evolve from their Neandertal predecessors? All evidence so far points to Africa as our place of origin. Upper Paleolithic moderns were skilled hunters and trappers of herding animals, such as mammoths, reindeer, and wild horses. They developed

fishing equipment and clothing that was tailored and sewn. Their culture included ritual, art, music, complex group life, and most likely language. We especially know them for their cave paintings and small sculptures of pregnant women. It is a great loss to us that we can never know the actual stories they told, the games they played, and the songs they sang.

Today prehistorians have many new interests and research questions that go beyond tools into other aspects of prehistoric culture and society. After investigating hominid-environmental relationships, archaeology moved into new ways of interpreting the material evidence. Paleoanthropologists now explore whether and how symbolic and expressive thought can be read from archaeological sites and technology. They try to read the decisions and identities of the persons whose actions produced the tools found in archaeological sites, and to reconstruct the social and economic processes of which tool making was a part. Such a sequence of interests is common in the accumulation of knowledge and the deepening of understanding. Faced with new phenomena, we begin by classifying them. The close examination of shape and detail that classification and typology require are the foundation of deeper understandings of function, social matrix, and meaning.

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In American usage, *Neandertal* is the preferred spelling, even though British and continental usage prefers *Neanderthal*. The scientific binomial, however, is always and everywhere spelled *Homo neanderthalensis*. This paper uses *Neandertal* except in book titles by British authors who use *Neanderthal*.

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SUGGESTIONS FOR EXPLORING FURTHER:

Archaeology

O'Brien, Michael J., R. Lee Lyman, and Michael Bryan Schiffer
2005 *Archaeology as a Process.* Salt Lake City: University of Utah Press.
An accessible history of persons and ideas in American archaeology from the theoretical innovations of the 1960s to the present.

Trigger, Bruce G.
1989 *A History of Archaeological Thought*. Cambridge: Cambridge University Press.
A complete scholarly survey of archaeological thought from the middle ages to 1989.

Neandertal and the Middle Paleolithic

Arsuaga, Juan Luis
2002 *The Neanderthal's Necklace*. New York: Four Walls Eight Windows. Translated by Andy Klatt.
An accessible and engaging account of Neandertal life founded mainly on evidence from the spectacular archaeological site at Sierra de Atapuerca, Spain.

Mithen, Steven
2005 *The Singing Neanderthals*: The Origins of Music, Language, Mind and Body. Cambridge: Harvard University Press.
Presents the author's theory of the origins of music and language in an accessible way. Despite the title it is not solely concerned with *Homo neanderthalensis*.

Stringer, Christopher and Clive Gamble
1995 *In Search of the Neanderthals*. New York: Thames and Hudson.
A readable treatment of the controversies surrounding the relationship of *Homo neanderthalensis* to modern *Homo sapiens* that argues in favor of the replacement of Neandertals by moderns rather than their evolution into moderns.

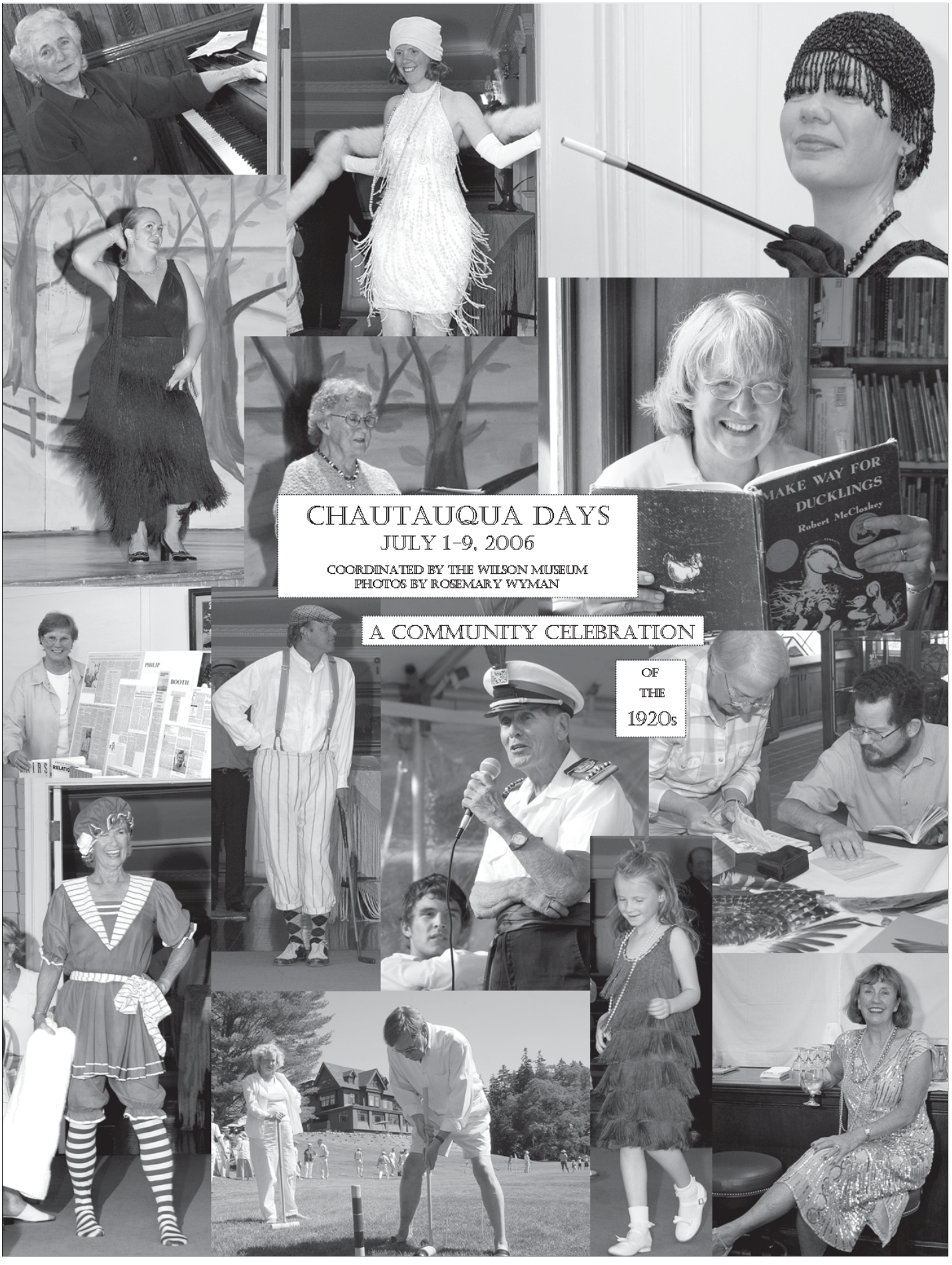
Trinkhaus, Erik and Pat Shipman
1993 *The Neandertals*. New York: Alfred A. Knopf.
Traces the history of Neanderthal discoveries and our growing understand of Neandertal people and their place in human evolution.

Modern Humans of the Upper Paleolithic

Brantingham, Jeffrey et al.
2004 The Early Upper Paleolithic Beyond Western Europe. Berkeley: University of California Press.
Interprets the evidence for human behavior after 45,000 years ago as gradual development over a wide area rather than as abrupt disjunction from the Middle Paleolithic.

Dickson, D. Bruce
1990 The Dawn of Belief: Religion in the Upper Paleolithic of Southwestern Europe. Tucson: University of Arizona Press.
Reconstructs Upper Paleolithic religious beliefs from the material evidence of archaeology and ethnographic comparison.

Guthrie, R. Dale
2005 The Nature of Paleolithic Art. Chicago: University of Chicago Press.
Presents a fully illustrated and radically new way of interpreting Paleolithic art and the way it can illuminate Paleolithic life.



CHAUTAUQUA DAYS

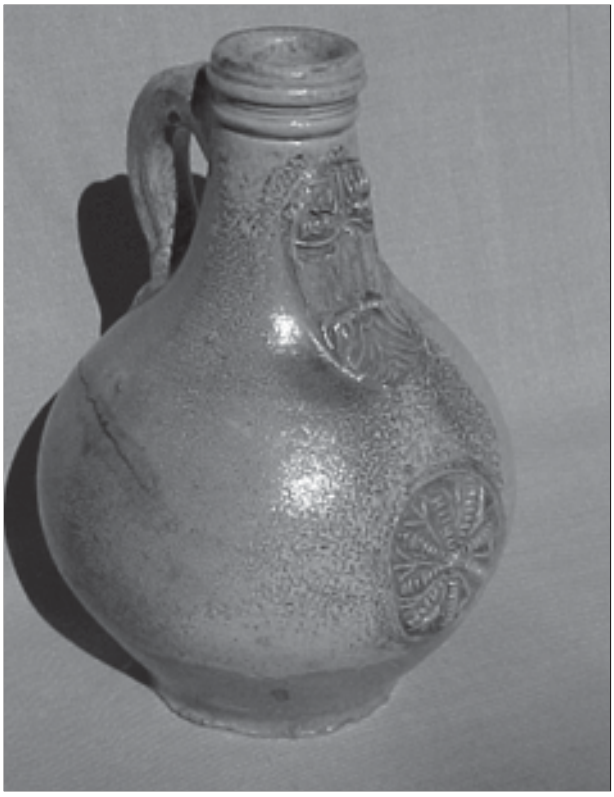
JULY 1-9, 2006

COORDINATED BY THE WILSON MUSEUM
PHOTOS BY ROSEMARY WYMAN

A COMMUNITY CELEBRATION

OF
THE
1920s

A Recent Gift . . .



This jug is of the type known as *bartmann* or "bearded man" for the bewhiskered face that adorns its neck.

Although the origin of this design is too early to have been a caricature of Cardinal Roberto Bellarmino (1542-1621), the bearded jug came to be identified in literature as "Bellarmines," a satiric reference to the much despised and zealous opponent of Protestantism in the Low Countries and northern Germany. Originally used for beer or wine they were sometimes used by the superstitious to hold items chosen for their presumed ability to ward off witches.

The bartmann was collected in 1892 by Dr. George A. Wheeler from the site of Fort Pentagoët (1635-74) in Castine. It was recently donated to the Wilson Museum by his grandson Thomas S. V. Bartlett.

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