Alvarez Photography

Credit them with a pivotal innovation in human history: the invention of symbolic expression.

First Artists

The greatest innovation in the history of humankind was neither the stone tool nor the steel sword, but the invention of symbolic expression by the first artists.

By Chip Walter
Photographs by Stephen Alvarez

It is as if we are walking into the throat of an enormous animal. The tongue of a metal path arcs up and then drops downward into the blackness below. The ceiling closes in, and in some places the heavy cave walls crowd close enough to touch my shoulders. Then the flanks of the limestone open up, and we enter the belly of an expansive chamber.

This is where the cave lions are.

And the woolly rhinos, mammoths, and bison, a menagerie of ancient creatures,
The Birth of Art

The first anatomically modern people evolved in Africa some 200,000 years ago, but undisputed evidence of modern human behavior does not begin to appear for another 100,000 years.

Art Collecting

The team squeezes, scrapes, and samples its way through caves in France and Spain to get information about the world’s earliest artists and their paintings.

Video

stampeding, battling, stalking in total silence. Outside the cave, where the real world is, they are all gone now. But this is not the real world. Here they remain alive on the shadowed and creviced walls.

Around 36,000 years ago, someone living in a time incomprehensibly different from ours walked from the original mouth of this cave to the chamber where we stand and, by flickering firelight, began to draw on its bare walls: profiles of cave lions, herds of rhinos and mammoths, a magnificent bison off to the right, and a chimeric creature—part bison, part woman—conjured from an enormous cone of overhanging rock. Other chambers harbor horses, ibex, and aurochs; an owl shaped out of mud by a single finger on a rock wall; an immense bison formed from ocher-soaked handprints; and cave bears walking casually, as if in search of a spot for a long winter’s nap. The works are often drawn with nothing more than a single and perfect continuous line.

In all, the artists depicted 442 animals over perhaps thousands of years, using nearly 400,000 square feet of cave surface as their canvas. Some animals are solitary, even hidden, but most congregate in great mosaics like the one I am looking at now, in the deepest part of the cave.

Hidden by a rock slide for 22,000 years, the cave came to light in December 1994, when three spelunkers named Eliette Brunel, Christian Hillaire, and Jean-Marie Chauvet scrambled through a narrow crevice in a cliff and dropped into the dark entry. Since then, what is now known as the Cave of Chauvet-Pont-d’Arc has been ferociously protected by the French Ministry of Culture. We are among the rare few who have been allowed to make the same journey the ancient artists did. The age of these drawings makes youngsters of Egypt’s storied pyramids, yet every charcoal stroke, every splash of ocher looks as fresh as yesterday. Their beauty whipsaws your sense of time. One moment you are anchored in the present, observing coolly. The next you are seeing the paintings as if all other art—all civilization—has yet to exist.

How did such human accomplishment come to be, so long ago, seemingly out of nowhere? Until recently it was thought that the drawings found on the walls of well-known Upper Paleolithic caves in southern Europe like Altamira, Lascaux, and Chauvet were the expression of a superior kind of human—us—who had arrived on the continent, driving out the brutish, artless Neanderthals who had been living and evolving there for hundreds of thousands of years.

It turns out that the story is a good deal more complicated, and more interesting. It begins, as stories often do, in Africa.

Christopher Henshilwood unwinds his six-foot-five frame, dusts his hands, and gazes out over the Indian Ocean. He stands at the very tip of Africa, and except for the immense, sea-battered rocks 80 feet below, nothing lies between his boots and Antarctica but 1,500 miles of rolling, white-capped sea.

“No a bad day,” he says, in a baritone you might call godlike, if God had a South African accent.

True, it has not been a bad day. Henshilwood, of the University of the Witwatersrand, South Africa, and the University of Bergen, Norway, and his colleagues have been excavating all morning here at a site known as Klipdrift Shelter,
adding some stone tools and other new finds to the mounting evidence that modern human beings have inhabited these hills and shallow caves off and on for more than 165,000 years. Yet Henshilwood has had better days. Some of his most memorable discoveries have come from Blombos Cave, 28 miles east of Klipdrift, near an area where he used to play as a kid. One day in 2000 his team dug out a small block of engraved red ocher a bit smaller than a flip phone. Ocher is common in this part of Africa and has been used for millennia for everything from body paint to a food preservative. This piece, though, was different: Roughly 75,000 years in the past, some clever person had carefully etched on it a pattern of overlapping, parallel, triangular markings.

No one knows the meaning of those marks, which have since been found on 13 other pieces of ocher. A signature? Calculations? A primeval grocery list? Whatever their elusive purpose, they were 35,000 years older than any other undisputed evidence of symbolic behavior known at the time.

Controversy dogged the discovery at first. Some scientists attacked the little rock as a one-off, nothing but random scratchings or idiosyncratic doodling. “They said it was meaningless,” says Henshilwood. “They said everything negative you could possibly think.” In time, however, others regarded it as a breakthrough.

Soon more examples of symbol and ornament were uncovered. Henshilwood’s team discovered the shells of little sea snails called Nassarius that were some 75,000 years old and perforated, with evidence they had been strung together. Other finds were even older. Nassarius beads have been dated to 82,000 years ago at a site called Grotte des Pigeons (Pigeon Cave) in Taforalt, Morocco. At the opposite end of the Mediterranean, similar beads from two Israeli caves, Qafzeh and Skhul, were dated to 92,000 and at least 100,000 years ago. Back in South Africa, a 2010 team led by the University of Bordeaux’s Pierre-Jean Texier reported finding 60,000-year-old engraved ostrich eggshells in Diepklouf Rock Shelter north of Cape Town. Meanwhile, Blombos itself kept yielding treasures: finely carved and decorated bone tools, and evidence that as long as 100,000 years ago the cave’s inhabitants had methodically ground ocher into fine powder and mixed it with other ingredients to make a paste. Stored in abalone shells—the earliest known containers—it could have been used as a decorative paint for bodies, faces, tools, or clothing. In 2009 Henshilwood reported finding more ocher and rocks marked with deliberate cross-hatchings, also dating as far back as 100,000 years.

Compared with the jaw-dropping beauty of the art created in Chauvet Cave 65,000 years later, artifacts like these seem rudimentary. But creating a simple shape that stands for something else—a symbol, made by one mind, that can be shared with others—is obvious only after the fact. Even more than the cave art, these first concrete expressions of consciousness represent a leap from our animal past toward what we are today—a species awash in symbols, from the signs that guide your progress down the highway to the wedding ring on your finger and the icons on your iPhone.

There’s something else telling about these early African and Middle Eastern eruptions of symbolism: They come, and then they go. The beads, the paint, the etchings on ocher and ostrich egg—in each case, the artifacts show up in the archaeological record, persist in a limited area for a few thousand years, and then
vanish. The same applies to technological innovations. Bone harpoon points, found nowhere else before 45,000 years ago, have been uncovered in the Democratic Republic of the Congo in sediments nearly twice that old. In South Africa two relatively complex stone and bone tool traditions appear—the Still Bay 75,000 years ago and the Howieson’s Poort 65,000 years ago. But the latter lasted just 6,000 years, the former 4,000. Nowhere has a tradition been found to spread across space and through time, gathering richness and diversity, until just before 40,000 years ago, when art began to appear more commonly across Africa, Eurasia, and Australasia. As far east as the Indonesian island of Sulawesi (Celebes), stenciled handprints—once thought of as an invention of the European Upper Paleolithic—were recently shown to be almost 40,000 years old.

It seems unlikely, therefore, that some genetic “switch” flipped in our African ancestors to produce the capacity for a new, higher-order level of cognition that, once it evolved, produced a lasting change in human behavior.

So how do we explain these apparently sporadic flare-ups of creativity? One hypothesis is that the cause was not a new kind of person but a greater density of people, with spikes in population sparking contact between groups, which accelerated the spread of innovative ideas from one mind to another, creating a kind of collective brain. Symbols would have helped cement this collective brain together. When populations again fell below critical mass, groups became isolated, leaving new ideas nowhere to go. What innovations had been established withered and died.

Such theories are difficult to prove—the past holds its secrets close. But genetic analyses of modern populations do point to a surge in population in Africa 100,000 years ago. A 2009 study conducted by Adam Powell, Stephen Shennan, and Mark G. Thomas of University College London also provides some statistical support for the power of larger populations to generate innovation. And research by Joseph Henrich, now at the University of British Columbia, suggests that as populations shrink, they have an increasingly difficult time holding on to the innovations they invented in the first place. The inhabitants of the island of Tasmania had been making bone tools, cold-weather clothing, and fishing equipment for 15,000 years before these advances disappear from the archaeological record some 3,000 years ago. Henrich argues that when sea levels rose 12,000 to 10,000 years ago and isolated Tasmania from the rest of the world, the indigenous population of perhaps 4,000 individuals was simply not large enough to keep the cultural traditions alive.

Why Africa’s archaeological record grows dim for 150 centuries is by no means clear. Perhaps pestilence, natural catastrophe, or a sharp swing in climate caused populations to collapse. Yet Francesco d’Errico, an archaeologist at the University of Bordeaux, points out that although harsh conditions might spell doom for some cultures, others might be spurred on by them. There is no set formula.

“Each region of the globe produced cultures with a number of different trajectories,” says d’Errico. “You could have situations where some short-term chaotic disaster might wipe out a culture in one area, but in another, people were able to take advantage of the challenge.” He likens it to a recipe. “Even if the ingredients are the same, you don’t necessarily get the same outcome.”

“Let me show you something.” Nicholas Conard glances over his shoulder, then
carefully spins the dial on an enormous safe in his office, housed in a 16th-century German castle at Tübingen University. From the safe he extracts four small pine boxes and sets them gingerly on the table in front of me. Within each sits a tiny carving: a horse, a mammoth, a bison, and a lion. All are from a German cave called Vogelherd. They display a grace and beauty and playfulness that would make any artist today proud. Yet they are 40,000 years old—predating the painted masterpieces of Chauvet by 5,000 years.

“Jaw-dropping,” says Conard, the university’s scientific director of prehistory. “Every piece is different. But when you look at them, it’s obvious they form a coherent whole.”

The humans who made these objects were part of a population that left the African homeland some 60,000 years ago, taking a route through the Middle East and what is now Turkey, along the western fringe of the Black Sea, and up the Danube River Valley. As far as we know, nowhere along that journey did they leave signs of an artistic inclination, not even a piece of marked ocher. But once settled some 43,000 years ago in the Lone and Ach River Valleys of southern Germany, they suddenly began to create—not crude etchings but fully realistic animal figurines carved out of mammoth tusk.

The sources of most of these objects are four caves: Hohle Fels and Geissenklösterle in the Ach Valley, and Hohlenstein-Stadel and Vogelherd in the Lone. Not much more than indentations in the rock face, the caves could easily be missed today by someone driving the backcountry roads that wind through Germany’s southwestern mountains. Lush and green today, the Ach and Lone Valleys 40,000 years ago, at the beginning of a period known as the Aurignacian, were frigid steppe landscapes, dotted with herds of horses, reindeer, and mammoths. In spite of the harsh conditions, the richness of the archaeological sites indicates that population sizes in the Aurignacian were growing. The increases could help explain an apparent flare-up of creativity, not unlike those seen earlier in Africa. Maybe the difficulties these European settlers faced, says Conard, led them to share customs that spread from one group, and generation, to the next. In hard times prized carvings and tools could have smoothed the way toward intertribal marriages, trade, and alliances and helped spread new techniques for hunting, building shelters, and making clothing.

In Hohle Fels, Conard’s team recently uncovered some objects whose messages are so sexually explicit they might require a parental warning. One is a carving of a woman with exaggerated breasts and genitalia, found in 2008. At least 35,000 years old, the Venus of Hohle Fels is the most ancient figure yet discovered that is indisputably human. (Two much earlier figurines from Morocco and what is now Israel may be natural rocks that vaguely resemble the human form.) Earlier the team had found a polished rod of siltstone, about eight inches long and an inch in diameter, with a ring etched at one end—likely a phallic symbol. A few feet away from the Venus figurine, Conard’s team uncovered a flute carved from a hollow griffon vulture bone, and in Geissenklösterle Cave found three other flutes, one made of ivory and two fashioned from a swan’s wing bone. They are the oldest known musical instruments in the world. We don’t know whether these people had drugs. But they clearly had the sex and rock and roll.

Of all the findings to emerge from this period in Germany, none is more fascinating
than the Löwenmensch (Lionman) of Hohlenstein-Stadel Cave, a fantastical sculpture nearly 40,000 years old. The original Löwenmensch fragments—some 200 of them—were discovered in 1939, on the eve of World War II, by Robert Wetzel, a professor of anatomy at Tübingen University, and a geologist named Otto Völzing. Wetzel had hoped to work on the pieces of mammoth tusk when the war ended, but they sat untouched in a box for 30 years. Then, in 1969, archaeologist Joachim Hahn pulled them out and began to piece them together like a three-dimensional puzzle.

As he did, an extraordinary work of art emerged. At nearly a foot high, the Löwenmensch dwarfs all other carvings so far discovered in the German valleys. But what makes it particularly interesting, says Claus-Joachim Kind, an archaeologist at the State Office for Cultural Heritage in Baden-Württemberg, is that it depicts for the first time a creature that was completely imaginary, part man and part lion. Its creation required not only an unusually inventive mind, but also impressive technical skills and an enormous amount of time—an estimated 400 hours. “This is not something you do in the evening after work,” says Kind.

You can feel the power of the figure when you look at it, the seamless melding of a stately human and a ferocious animal. Does the sculpture reflect a wish to bestow a lion’s power on a human? Or could it represent a shaman’s special ability to straddle the spiritual worlds of human and animal? Hohlenstein-Stadel is the only cave in the region where archaeologists have found no everyday tools, bones, or rubbish. It is deeper than the other caves too. It’s not difficult to imagine that within its chambers early hunters venerated the Lionman and that Hohlenstein-Stadel Cave was an early locus of prehistoric religion. This was “a holy place,” says Kind.

Conard thinks these people possessed minds as fully modern as ours and, like us, sought in ritual and myth answers to life’s mysteries, especially in the face of an uncertain world. Who governs the migration of the herds, grows the trees, shapes the moon, turns on the stars? Why must we die, and where do we go afterward? “They wanted answers,” he says, “but they didn’t have any science-based explanations for the world around them.”

Soon after modern humans arrived in Europe, the continent’s long-term residents began to die out. The Neanderthals had emerged in Eurasia some 200,000 years earlier. Very little evidence remains that they engaged in symbolic behavior. But the traditional view of Neanderthals as brutish beings incapable of such behavior has been slowly chipped away. Having never reached the population densities that may have triggered the appearance of symbolism in Africa, Neanderthals may never have had much need for it, or revealed it in ways we don’t yet understand.

For decades the debate over the Neanderthals’ ability to rise to the standards of their successors centered on a site in France called Grotte du Renne, where artifacts normally associated with Upper Paleolithic modern humans—bone tools, distinctive stone blades, and pierced and grooved animal teeth probably worn as pendants—were found along with Neanderthal remains. Some researchers reasoned that although the Neanderthals may have been responsible for this tool tradition (known as the Châtelperronian), they were still a species capable only of emulating the fancy craftsmanship of their new modern human neighbors, not inventing it on their own.

The more we learn about Neanderthals, including their ability to interbreed with our
direct ancestors, the more the “copycat” explanation for the Châtelperronian sounds like special pleading. The record for Neanderthal symbolic behavior elsewhere may be faint, but it is discernible. Some scholars argue that Neanderthal skeletons found in France and Iraq were deliberately buried. Cut marks recently found on bird-wing bones hint that Neanderthals used feathers for ornaments up to 50,000 years ago, and a crisscross pattern engraved at least 39,000 years ago in the rock of a Neanderthal cave in Gibraltar suggests they could think abstractly. And a single red disk painted on a wall in El Castillo Cave in Spain was recently dated to about 41,000 years ago, tantalizingly close to a time when only Neanderthals are known to have been in western Europe. Perhaps they, not us, were the first cave artists.

But most of the cave paintings in southern France and Spain were created after the Neanderthals disappeared. Why there? Why then? One clue is the caves themselves—deeper and more extensive than the ones in the Ach and Lone River Valleys of Germany or the rock shelters of Africa. Tito Bustillo in northern Spain is a half mile from one end to the other. El Castillo and other caves on Monte Castillo dive, twist, and turn into the ground like enormous corkscrews. France’s Lascaux, Grotte du Renne, and Chauvet run football fields deep into the rock, with multiple branches and cathedral-like chambers.

Perhaps the explosion of creativity we see on the walls of these caverns was inspired in part by their sheer depth and darkness—or rather, the interplay of light and dark. Illuminated by the flickering light from fires or stone lamps burning animal grease, such as the lamps found in Lascaux, the bumps and crevices in the rock walls might suggest natural shapes, the way passing clouds can to an imaginative child. In Altamira, in northern Spain, the painters responsible for the famous bison incorporated the humps and bulges of the rock to give their images more life and dimension. Chauvet features a panel of four horse heads drawn over subtle curves and folds in a wall of receding rock, accentuating the animals’ snouts and foreheads. Their appearance changes according to your perspective: One view presents perfect profiles, but from another angle the horses’ noses and necks seem to strain, as if they are running away from you. In a different chamber a rendering of cave lions seems to emerge from a cut in the wall, accentuating the hunch in one animal’s back and shoulders as it stalks its unseen prey. As our guide put it, it is almost as if some animals were already in the rock, waiting to be revealed by the artist’s charcoal and paint.

In his book La Préhistoire du Cinéma, filmmaker and archaeologist Marc Azéma argues that some of these ancient artists were the world’s first animators, and that the artists’ superimposed images combined with flickering firelight in the pitch-black caves to create the illusion that the paintings were moving. “They wanted to make these images lifelike,” says Azéma. He has re-created digital versions of some cave images that illustrate the effect. The Lion Panel in Chauvet’s deepest chamber is a good example. It features the heads of ten lions, all seemingly intent on their prey. But in the light of a strategically positioned torch or stone lamp, these ten lions might be successive characterizations of just one lion, or perhaps two or three, moving through a story, much like the frames of a flip-book or animated film. Beyond the lions stands a cluster of rhinoceroses. The head and horn of the top one are repeated staccato-like six times, one image above the other, as if thrusting upward, its whole body shuddering with multiple outlines.
Azéma’s interpretation fits with that of eminent prehistorian Jean Clottes—the first scientist to enter Chauvet, only days after its discovery. Clottes believes the images in the cave were intended to be experienced much the way we view movies, theater, or even religious ceremonies today—a departure from the real world that transfixed its audience and bound it in a powerful shared experience. “It was a show!” says Clottes.

Thousands of years later you can still feel the power of that show as you walk the chambers of the cave, the sound of your own breath heavy in your ear, the constant drip, drip of the water falling from the walls and ceilings. In its rhythm you can almost make out the thrum of ancient music, the beat of the dance, as a storyteller casts the light of a torch upon a floating image, and enthralls the audience with a tale.