

Visions on the Rocks

Rock and cave art may offer insights into shamans' trance states and spiritual sightings

By BRUCE BOWER

In the shadowy recesses of French and Spanish caves, the weathered confines of South African and North American rock shelters, and the dank innards of massive Irish stone tombs, ancient shamans and their otherworldly visions are coming back to life. This is no tale of literal resurrection, nor is it a development likely to inspire an episode of television's *X-Files*.

Instead, the case of the revived shamans is the latest chapter in scientists' efforts to wring meaning from painted and etched images rendered by people who lived as many as 33,000 years ago.

Growing numbers of researchers now theorize that the art adorning caves, rock shelters, and even burial sites frequently depicts the trance-induced, supernatural journeys of shamans. Historical accounts of many hunter-gatherer and foraging groups include descriptions of shamans who periodically conduct rituals that they believe allow them to travel to parallel worlds set out in local belief systems. In these realms, dead ancestors, deities, and various fearsome creatures await the shaman, who deals with them in ways intended to make rain, heal the sick, and meet other vital community needs.

In preparation for their otherworldly commutes, shamans typically take steps to induce trances. These techniques include dancing, isolation in dark places, rapid breathing, or the ingestion of hallucinogenic plants.

In the first stage of a trance, the shaman perceives any of a handful of basic geometric forms. These shapes are brought to mind automatically by brain processes that facilitate altered states of consciousness and form the basis of shamans' supernatural visions, according to proponents of the neuropsychological model of rock art. After coming out of the trance, shamans artistically recreate their visions, both as memory aids for later ritual travels and as portals through which they pass into the spirit world, these scientists propose.

"Rock art in South Africa, as well as art in a number of other parts of the world, has been, in large measure, closely associated with the trance experiences of shamans," contends archaeologist David Lewis-Williams of the University of the Witwatersrand in Johannesburg, South

Africa. "These paintings were powerful ritual objects, not just pictures."

This view—which first attracted international attention when Lewis-Williams and Thomas A. Dowson of the University of Southampton in England presented it in the April 1988 *CURRENT ANTHROPOLOGY*—sparks plenty of controversy, particularly among archaeologists who doubt that anyone can decipher the original meanings of prehistoric artworks. But Lewis-Williams considers it a crucial theoretical advance.

Support for Lewis-Williams' view now comes from influential quarters. For instance, archaeologist Jean Clottes, scientific adviser for prehistoric art at the French Ministry of Culture in Foix, has joined the South African researcher in an investigation of a dozen prehistoric caves in France and Spain. They plan to document the presence of images linked with altered states of consciousness and shamans' rituals.

"We'll probably get a lot of flak, especially from French prehistorians," Clottes asserts. "But it looks to me like people produced many works of art in these caves as a means of traveling to a supernatural world."

Those who study ancient art readily acknowledge that the field has embraced shifting analytical fashions. About 100 years ago, influential archaeologists propounded the view that European cave art represented attempts by Stone Age groups to harness "hunting magic." This interpretation leaned heavily on descriptions of modern Australian aborigines' hunting rituals.

Another school of thought, known as structuralism, has reigned in the latter half of the 20th century. While documenting various types of images and their locations, this approach treats the behavior of living hunter-gatherers as largely irrelevant to how prehistoric folk lived. A prominent structuralist theory posits that Western European art from 30,000 to 10,000 years ago contained masculine and feminine images that became increasingly complex over time.

The discovery last year of a huge French cave containing exquisitely wrought paintings (SN: 1/28/95, p. 52) dating to 33,000 years ago, the earliest known in Western

Europe, has challenged the widespread assumption that prehistoric art gradually became more elaborate, Clottes contends. The new find also highlights the need for testable theories of why people bothered to create these haunting scenes at all, he adds.

The neuropsychological model attempts to fill that need. Its first line of argument—based on laboratory studies of altered states of consciousness induced by hallucinogenic drugs, migraine headaches, prolonged exposure to flickering lights, and other means—proposes that six geometric forms commonly appear as mental images in the first phase of a trance state: grids or lattices, parallel lines, dots, zigzags, concentric circles or U-shaped lines, and meandering lines.

The model also outlines ways in which these forms can be perceived during altered states. For instance, a shape can be seen in various quantities (a cluster of dots, for example), broken into fragments, combined with another shape, or rotated at an angle.

Finally, the model divides altered states of consciousness into three stages: the perception of geometric shapes (which often shimmer or undulate next to an arc-shaped blind spot in the visual field), an interpretation of the shapes as representative of actual objects or organisms, and—in the deepest stage of trance—a full-blown hallucination of an apparently real experience. Vortex or tunnel shapes often appear as individuals enter the deepest stage of a trance, Lewis-Williams maintains. The shapes foster a sensation of traveling through a passageway, he says.

Lewis-Williams notes that 19th and 20th century descriptions, or ethnographies, of the cultural practices of South Africa's San people (also known as Bushmen) include detailed accounts of shamans' trance rituals. These accounts, when combined with neuropsychological evidence of altered states of consciousness, open a new avenue to understanding San rock paintings, he holds.

In the April 1995 *CAMBRIDGE ARCHAEOLOGICAL JOURNAL*, Lewis-Williams used these sources to argue that a group of eight San pictures dating to several hundred years

ago depicts shamans' trance-induced journeys to the spirit world. Historical accounts note that San shamans used dancing and hyperventilation rather than hallucinogenic substances to enter trance states.

Several features indicative of trances characterize the San paintings, Lewis-Williams says. Dots, zigzags, and other shapes linked to altered states of consciousness appear in all these works.

Some images show half human-half antelope figures entering or emerging from arc-shaped spaces or from smears of paint applied to folds in the rock surface. Lewis-Williams asserts that the paintings depict shamans inducing trances, entering the spirit world (either through arc-shaped representations of the blind spot that mars the visual field during the first stage of a trance or through the streaks of paint along the rock face), and becoming man-beasts, considered by the San to be capable of wielding supernatural power.

The pictures also portray fish, bees, and oar-shaped implements known as fly whisks. The buzzing or humming sound that frequently accompanies the initial stage of a trance apparently spurred visions of bees swarming over honeycombs, judging from depictions of such scenes in some San paintings, Lewis-Williams says. Depictions of fish correspond to historical accounts of San shamans diving into water holes and traveling underground as they entered trances. In addition, he holds, shamans danced with fly whisks and used them to deflect mystical arrows of sickness that malevolent spirits were said to shoot into people.

Although the eight pictures studied are relatively recent, San rock paintings with similar elements date to about 27,000 years ago, and Lewis-Williams sees the shamanistic influence on art and religion extending back at least that far. "Shamanism structured the belief systems of ancient societies in general," he contends.

That argument strikes a chord in some North American rock art investigators.

Native American rock art includes many scenes of shamans' journeys to spirit worlds, according to David S. Whitley of the University of California, Los Angeles. Artistic metaphors for successful arrival in the supernatural sphere include the death and rebirth of an animal or person, mystical flights taken by winged shamans, and the submerging or drowning of



This rock painting near the Texas-Mexico border shows a shaman (left) diving through an entryway to the spirit world.

shaman figures, the UCLA researcher holds.

Whitley has also noted the presence of geometric shapes associated with altered states of consciousness in Native American rock paintings in south central California. The same shapes were incorporated into depictions of animals

and shamans by various California Indian groups, Whitley asserts. He describes his research in *Shamanism and Rock Art in North America* (S. Turpin, ed., San Antonio: Rock Art Foundation, 1994).

Ethnographic accounts of south central California shamans' visions state that the experience involves passage through a tunnel, Whitley notes. Painted images of spirals and concentric circles in the art of that region apparently represent "tunnel visions," he says.

Whitley has dated one California rock art site to about 20,000 years ago, based on analysis of the varnish covering the painted stone. This has provoked controversy among archaeologists who take the view that the first North American settlers arrived no more than 12,000 years ago.

However this debate pans out, geometric forms and animal figures in this and other early pieces of California rock art recur in later examples from the same region, including pieces dating to a few hundred years ago, Whitley argues. This supports the theory that religious beliefs and practices prove far more durable than other aspects of culture, such as styles of tool making. It also boosts Whitley's confidence that ethnographic descriptions of culture offer valuable insights into ancient artworks that were inspired by belief systems.

Whitley's spiritual scenario for California's early denizens is reflected in shamanistic images in rock art located along the Texas-Mexico border and dating to at least 4,000 years ago (SN: 7/20/96, p. 41). Those paintings, says Carolyn E. Boyd of Texas A&M University in College Station, show shamans surrounded by jimson weed and peyote, two consciousness-altering substances. She interprets other images as representing hallucinogenic visions of shamans transformed into animals that are considered by local Native American groups to have supernatural powers.

At other rock shelters in this region, painted images consist of geometric forms linked by Lewis-Williams to altered

states of consciousness, as well as animal figures that incorporate those forms, Boyd says.

"Since far back in prehistory," she asserts, "there have been people who tried to make sense of human existence and control the environment by using altered states of consciousness to go to spirit worlds."

Images painted on passage tombs in Ireland also reflect ancient shamanistic rituals, asserts Jeremy Dronfield of the University of Cambridge in England. Each of these approximately 5,000-year-old stone structures consists of an inner chamber (which usually contains human bones) and a passageway, both topped by a mound of earth and surrounded by large stones.

Dronfield documented the types and locations of painted images in three large passage tombs and in 20 smaller, nearby tombs from approximately the same period.

Lattice shapes along the walls of the inner chambers of all of these tombs may have been used by shamans to contact the spirit world on behalf of the recently deceased, Dronfield reports in the April *CAMBRIDGE ARCHAEOLOGICAL JOURNAL*. In addition, niches within the passages and chambers contain clusters of engraved concentric circles, which may have marked access points to otherworldly realms.

Other shapes associated with altered states, such as arcs and dots, occur mainly on stones placed outside the tombs. Shamans may have conducted group ceremonies and rituals at these spots, he proposes.

Whatever specific activities took place at the Irish structures, Dronfield says that they were places where people used myths, rituals, and altered states of consciousness to contact ancestors and other spiritual beings.

Such conclusions elicit heated criticism from some scientists. Paul G. Bahn, an independent archaeologist in Hull, England, refers to the expanding number of researchers aligned with the neuropsychological model as "shamaniacs" who tout a monolithic explanation of rock art that neglects its diverse forms and functions.

Investigators must document the full range of images and markings at a site before speculating about altered states of consciousness and shamanistic rituals, adds Randall K. White of New York University.

Although the neuropsychological model cannot illuminate every piece of rock art, it offers the only available means of trying to make sense of these images, responds Lewis-Williams.

Adds Clottes, "The shamanistic theory can't explain everything about this art, but it explains more than any other theory we have right now." □