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CUPOLES, CIRCLES AND MANDALAS

ABSTRACT: *Cupoles, circles and mandalas appear very early in the human graphic vocabulary. By examining their manifestation in a variety of prehistoric cultures beginning with the European Paleolithic, an attempt will be made to decode some of their multiple meanings. Statements will be assembled by individuals who are part of the ongoing ancient traditions some of whom continue to produce these forms into historical periods and even, in certain instances, into the present.*

KEY WORDS: *Cupole symbolism – Circle symbolism – Mandala symbolism*

I have tried, as far as possible, to stay within the confines of the Paleolithic period. This is a flexible chronological classification depending on the society one is observing. However, on occasion I have felt justified in going beyond these boundaries, in slipping beyond the blurred border of what has been called the Neolithic. For example, tool usage among the American Indians remained in a stone age mode until contact with Europeans. Moreover, I think by now it is well demonstrated, after the discoveries of so much of the most ancient art including the recent finds at Cosquer and Chauvet, that regardless of whether one is looking at the Ages of Stone, Bronze, Iron, Steel or now Silicone, the human mind is not much changed when one examines such a cognitive process as the creation of symbols (for a definition of the "symbol" see Arnheim 1969, pp. 135-152).

CUPOLES

The earliest known man-made circular forms are cup marks. These rounded depressions carved in stone are found all over the world. Perhaps the earliest example is the cup shaped depression on a long flat stone facing the skeleton of a young child in a Mousterian burial which occurred at La Ferrassie (Dordogne) France. It is believed to have been made as much as 100,000 years ago. The cupoles recently found at Jinmium in northwest Australia are believed to be at least 75,000 years old. If that date is verified it will affect the chronology for the appearance of *Homo sapiens* on the Australian continent, but it will not change our understanding of the ability of early humans to make carefully crafted symbolic markings.

There are many theories about the meaning of these 'cupoles' depending upon the context in which they are found. For the much more recent people living on the North American continent, cupoles of this sort may be associated with openings into another world consistent with an origin belief prevalent among many of the Indian people of North America that human beings emerged through holes from lower to progressively higher worlds. There is a hole called a *sipapu* in every *kiva*. Other symbolic world navels exist at certain sacred spots in the landscape which are known as emergence sites.

Holes may suggest eyes. Natural holes in the rock in the caves are often seen as eyes for engraved figures at Font de Gaume (Dordogne) and Commarque (Dordogne) for example. The circle formed by the calcite dripped from a stalactite at Niaux (Ariège) is used as an eye around which the figure of a bison is engraved. The circular holes which were drilled in ivory carvings of the Old Bering Sea Eskimos are believed to have originated as eye symbols although they later were used in profusion apparently as a design element. Rocks that are covered with cupoles are found widely scattered over the American continent. On the top of the sacred Indian Black Mesa at San Ildefonso Pueblo in New Mexico is a rock with two natural holes which serve as eyes for a schematic face. When it rains the eye sockets fill with water and mirror the sky. Cupoles, eyes, weeping and rain were often associated. In sections of North America rocks chosen to be riddles with holes were called 'rain rocks'. This cupole making tradition continued into the historic era. The Karok and Shasta tribes of California, up until about 100 years ago, believed that the act of making pits in rock brought rain (Conway 1993).

Round holes may also have a female sexual connotation. At Bernifal (Dordogne) France, a female figure utilizes a natural circular opening in the rock as a vagina. The figure is constructed around that natural shape. One other clue which may suggest that cupoles may have been female symbols comes from the two famous clay bison of Tuc d'Audoubert (Ariège). The male bison has a convex eye. The eye of the female is concave. On the Zuni reservation (Arizona) there are two distinctive geological formations – two stone pillars which are considered to be male and female.

The female pillar is a fertility shrine for women who have been childless. The base of the pillar is honeycombed with small holes. The Pomo tribe also of California selected certain rocks to induce fertility. Pomo women who wished to become pregnant would, after fasting for 4 days, use the powder retrieved from the production of cup marks to rub on their foreheads and abdomens as part of a prayer. Even now in another part of the world, in India, holes are known to be associated with the female force or Yoni and to be involved with fertility.

Whatever their meaning, cupoles are found everywhere ancient people have left their mark. In few places are cup marks so numerous as in Pu'u'uloa, 'The Hill of Long Life' in Hawaii where there is a bleak and desolate lava slope from a still living volcano. The area around it is densely punctured with cupoles. On that slope there have been counted a minimum of 200,000 petroglyphs of which approximately 90,000 are cupoles. This is an area where there was a veritable mania for cupole making. Now the holes are used as the receptacles of the umbilical cords of new-born children (conversation with the archaeologist Georgia Lee). On a symbolic level, one can view this as a return of matter from the human womb back to the original chthonic womb.

CIRCLES

Circular forms were not commonly engraved or drawn on the cave walls of the European Upper Paleolithic. Vulvas were commonly depicted as slits in oval, horseshoe or triangular shapes. Circles within rounded shapes are sometimes considered to be the eyes of figures called 'ghosts'. These are seen at Les Combarelles (Dordogne) and Les Trois Frères (Ariège). An eye is represented by 3 concentric circles on a half-rounded rod from Isturitz (Pyrénées Atlantiques). The use of cupoles and circles as references to eyes and vulvas is visual metaphor based on appearance. It is only when the use is more abstract, more conceptual, that we can talk about these forms being symbolic.

The main thrust of the Paleolithic art of Franco-Cantabria was to reproduce the effect of visual stimuli. Therefore this art is unusually realistic. Perhaps this is the reason that circles are rare and when they do exist they are mainly abstractions of natural appearance. Concomitant with the figurative work is a group of abstract signs which vary from region to region but almost always accompany

it. A few circular forms are found: circular forms next to six vertical rods in Ebbou (Ardèche), a circle at Pech Merle next to two vertical rows of dots, concentric circles at Pair-non-Pair (Gironde). On a pendant from Saint-Marcel (Indre) there are concentric circles of three and four rings and one circle with a central dot.

Perhaps the artists with whom circles are most vividly associated are the Paleolithic Aborigines from the desert culture of central Australia. One site at Flinder's rock (South Australia) has 8,000 figures, 25% of which are circles (Walsh 1988). In Australia some of the oldest markings engraved on rocks are circles. One of the earliest dated sites in Australia, Sturt's Meadow, (New South Wales) has been dated to over 10,000 years ago. Circles may symbolize the sun. Sometimes they refer to yams, to breasts and to lactation. Under other circumstances circular forms are said to stand for clutches of emu eggs (conversation with the archeologist John Clegg). Circles and the 'cup and ring motif' are particularly common in Southern and Central areas and at Cameron Mountain in Tasmania for example.

Concentric circles are a predominant form in the art of central Australia. The motifs used are severely limited. The most common symbol is the concentric circle known as *kurri kurri*. This figure is always much the same but its meaning varies with the context and even varies depending on who made the art. For this reason interpretation is almost impossible unless the artist or those closely associated with the artist are still around to explain it. Fortunately, in this area there is a continuous and continuing tradition of art making. There are still people working in the same manner who can decode it if they are willing to do so. Fortunately, too, it is the site of the art and not the art product which is considered to be sacred. Therefore the meanings can be explained to outsiders without sacrilege. Concentric circles often mean mythical camp sites, present camp sites, camp fires, home bases, and waterholes. They can also indicate local landscape features. Sometimes they represent something that the uninitiated could never guess. At Musgrave range, just South of Uluru, concentric circles represent headdresses. The genius of these Aborigines was not in a proliferation of new forms, which we would normally consider to be inventive, but rather it was in the parsimonious uses of very few forms to enable this limited vocabulary to yield a varied range of meanings.

Circles and concentric circles are common in American Indian Rock art. Sometimes they can be literal depictions. In the Rio Grande area there are many literal representations of shields, but at other times the circles are evidently symbolic. From the Fremont culture at Dinosaur National Monument, Utah, there is a figure holding or attached to concentric circles (*Figure 1*). The rock art of the Mogollon and the Anasazi are full of concentric circles. At Anasazi panel from Canyon del Muerto in Canyon de Chelly, Arizona shows multi-ringed ones (*Figure 2*).

How can these forms be interpreted? Here, as in Australian Aboriginal art, multiple possibilities have been of-



FIGURE 1. Petroglyph from Dinosaur National Park, McKee Springs, Utah. Photograph by Salvatore Mancini.



FIGURE 2. Petroglyph from Canyon del Muerto, Canyon de Chelly, Arizona. Photograph by Salvatore Mancini.

ferred. According to one theory, when there are 3 or 4 concentric rings the outer ring is the light around the sun, the middle is the sun itself and the inner ring is the sun's umbilicus through which game emerges to provide for the tribe's survival (Ellis, Hammack 1968). It has also been argued that they represent clusters of population on what is essentially a map. Floyd Buckskin, an American Indian from the Pit River section of California said that concentric circles indicate special places where spirit beings or very powerful shamans can pass through the rock from one world to another (Benson, Sehgal 1987). Yet another American Indian, Le Van Martineau, has translated two concentric circles to mean something empty or hollow (Martineau 1973). One of the more striking interpretations is given by Alexander Stephen who is a member of the Hopi tribe. He says that concentric circles are footprints. Those who tracked this unusual spoor to find their source came upon a hideous stranger, flesh torn from his head, his body covered with blood and gore. They recognized to their horror the figure as Masau – the Kachina spirit of Death (Patterson 1992).

In some sense it is astonishing that the migrants to the American continent, for almost all of whom the circle is of enormous symbolic importance, somehow never discovered the wheel. The earliest Indians used round stones to heat water for cooking food. The Poverty Point people who date from as much as 3500 years ago fashioned clay balls. Their use is unknown but it is conjectured that they too were used for cooking. Many of the Indians played a hoop and stick game. Expertly crafted circular stone discs were used in a game called *chunkee*, the Southeastern version of a hoop and stick game played by various American Indians. Wood and stone round and doughnut shaped stones were used in a kick game. Round disks were fashioned for a Salish gambling game, but the circle was never used as point of departure for technological innovation. The great achievement in America was its use as symbol. Many of the Eskimo masks have a bent wood hoop projecting from the mask as a sort of frame or raised halo. On this hoop may be attached real feathers or carved leaves or

other artifacts. The Inuit say that the hoop represents the cosmos. Here we have a true use of the circle as symbol.

American Indians have a special relationship to the circle. Black Elk, the Oglala Sioux Holy man voiced it:

"Everything the Power of the World does is done in a circle. The sky is round, and I have heard the earth is round like a ball. The sun comes forth and goes down again in a circle. The moon does the same and both are round. Even the seasons form a great circle in their changing, and always coming back again to where they were. The life of a man is a circle from childhood to childhood, and so it is with everything where power moves. Our tepees were round like the nests of birds, and these were always set in a circle... But the *Wasichus* have put us in these square boxes. Our power is gone and we are dying, for the power is not in us anymore" (Niehardt 1961).

An example of the mystique of the perfection of the circle in Europe can be seen in an anecdote involving the early Renaissance artist Giotto. Legend has it that Pope Benedict XI wished to select an artist to decorate St. Peter's. When the Pope's messenger requested a sample of his work, Giotto took up paper and a brush and produced a perfect circle. On the basis of this display of virtuosity Giotto was chosen to paint five frescoes on the life of Christ for the choir of old St. Peter's and another picture for the sacristy. The same story has been transferred to other artists one of whom is Dürer and another the Chinese artist Wu Tao-tzu. The ubiquity of this story is a testament to our special human response to the circle and our awe of the virtuosity required to produce a perfect one (Kris, Kurz 1979).

The circle has a universal appeal. It is the richest figure in symmetry. In mathematical terms, symmetry of rotation refers to the degree of rotation a figure can sustain which still allows it to remain unchanged. A circle is the figure richest in this quality since it remains the same no matter what the degree of rotation. If it were tridimensional it would be a sphere. Plato thought reason resided in the head mainly because the human skull is that part out of gross anatomy which most resembles a sphere. From

the biological viewpoint the sphere is the richest in possibilities because it recalls the developmental calm of the organism before polarity. Another universal appeal of the circle is the fact that it is without beginning or end. It illustrates the mystical statement "in the beginning is the end". It has been used to depict a mythical figure which is symbolic of this same concept – the *ouroboros* – the snake that bites its own tail.

Circles were important in astronomy and cosmology. Early models of our universe were based on circular orbs which moved in concentric spheres. They could be represented by concentric circles. In the 17th century Johannes Kepler admitted that the orbits of the planets were elliptical and not circular because this hypothesis was the only one that could explain the actual astronomical observations. But the theory was arrived at with repugnance (Hawkins 1988). He, like his contemporaries and like a long line of people before them stretching back to Paleolithic times, could not believe that the Great Designer would make a universe using anything less than circles. Circles were perfect. Ellipses were thought to be deviations from circles.

MANDALA

About 100,000 years ago in the Mousterian period, a member of the species *Homo sapiens* found a marine fossil which was almost perfectly round. It was a nummulite (Figure 3). Perhaps it was the virtually perfect circular form of this fossil which intrigued and attracted the person who found it. It was picked up and carried about. At some point a line was scratched across the center of the nummulite to intersect a natural crack also running across the center. This formed a cross. What resulted was the first known expression of the mandala – a circle enclosing a cross. Much later at the end of the European Paleolithic

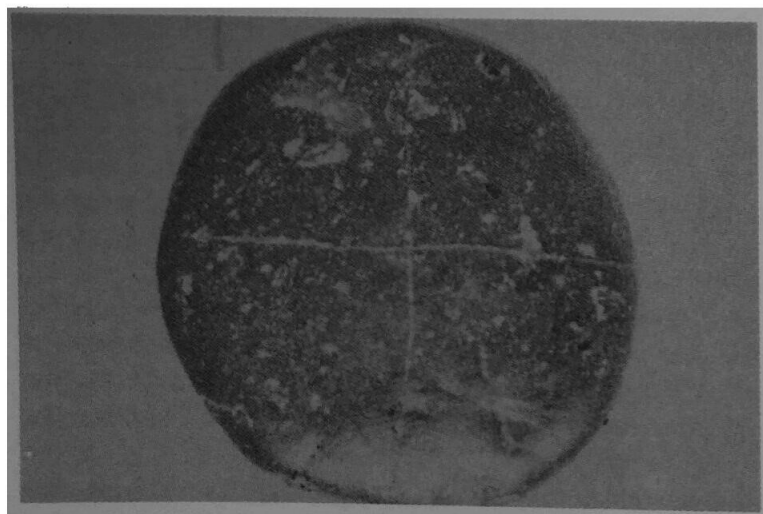


FIGURE 3. Nummulite amulet marked with cross, Tata site, Hungary. Mousterian culture, Middle Paleolithic period, c. 100,000 B.P. From collection of Magyar Nemzeti Múzeum, Budapest, Hungary.

similar images appear on pebbles from Mas d'Azil (Ariège) (Piette 1896). Carl Jung found examples of the mandala in the Paleolithic rock art of Rhodesia (Cirlot 1962). The mandala is abundant in ancient America. This archetypal form has been found in Egypt, Crete, Mycenae, Greece, Ireland, Lithuania, Romania, the Celtic region, Africa, India, the Solomon Islands, Sumatra, Micronesia, Melanesia, Polynesia, Madagascar, Indonesia, China, Mongolia, India and especially Tibet.

In North America there is an early example on a walrus-ivory carved figurine from Punuk Island in the Eastern part of the Bering Sea. It is dated to about 1600 years ago. The Okvik culture, from which this little statue comes, involved a Paleolithic Eskimo people who appear to have subsisted on sea mammal hunting. The little 17 cm female has a prominent round hole-cupole for a vulva. The two breasts are enhanced with concentric circles. Both the cupole and the concentric circle are used on this figure but they are for descriptive not symbolic purposes. Slightly below these, in an area which would be between the sternum and the diaphragm on an anatomically exact torso, placed at the convergence of diagonal markings, is a clearly carved mandala (Figure 4).

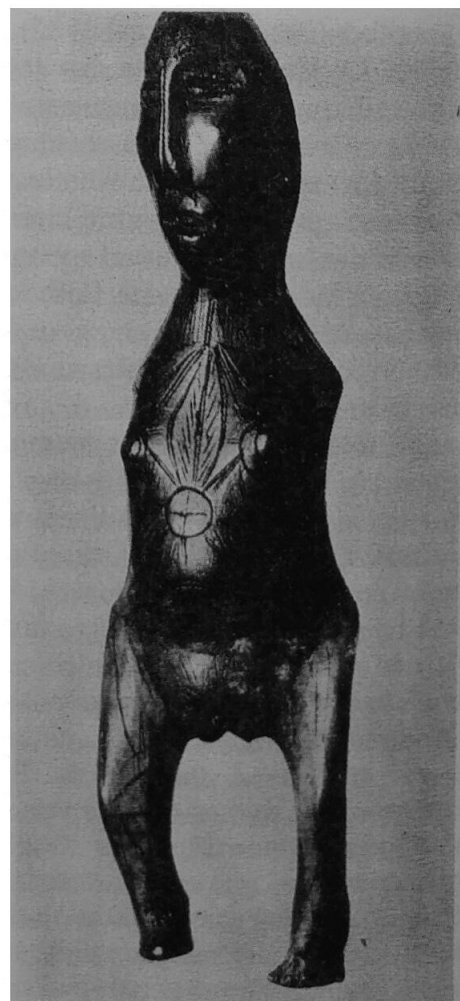


FIGURE 4. Walrus ivory figurine from Okvik culture, Punuk Island, Bering Sea. 2000–1600 B.P. 17 cm. From collection of University of Alaska Museum at Fairbanks, Alaska.

Many examples of mandalas are seen on artifacts from the Mississippian period of the New World. The Natchez who directly descended from the early Southeastern Woodland tribes, continued their traditions until the mid 18th century when they were virtually wiped out by the French. The Cherokee who subsequently inhabited the same area preserved some of their predecessors' legends. Information from the Cherokee, from the Natchez and from 18th century sources casts light on the possible meaning of some of the mandala symbols. These symbols appear on carved shell gorgets which were uncovered from Craig Burial mound, part of the Caddoan culture centered in what is now Ohio. The gorgets are dated to the Spiro phase of the Mississippian period. One carved shell gorget (*Figure 5*) has an ornate rayed mandala in the center. We know that in the moundtop temples a sacred fire burned perpetually. This fire was fed by 4 logs arranged like a cross and represented the solar deity as embodied in their chieftain. For the Caddoan people the mandala was probably a condensed symbol of the sun and of the absolute authority, both sacred and secular, of their chieftain (Swanton 1911).

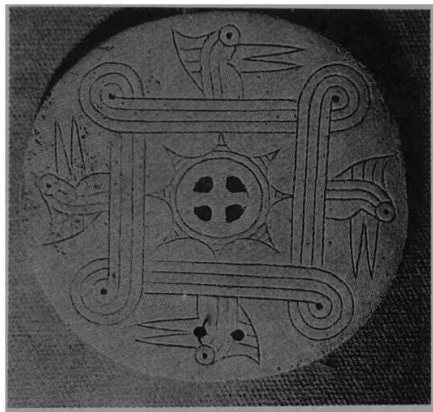


FIGURE 5. Shell disk from Tennessee, Mississippian period, c. 1000 A.D. 8.5 cm. From collection of the Museum of the American Indian, Smithsonian Institution.

Two hands carved from shell display two slightly oval mandalas in their palms (*Figure 6*). Perhaps this involves Mississippian mortuary practices. Authorities believe that the hands may depict a portion of the sun chief's remains which would be a relic of great spiritual power. Another shell disc shows a spider with a cross and circle on its

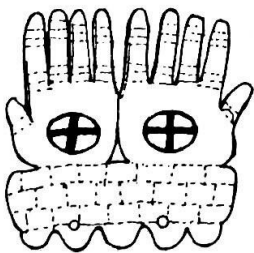


FIGURE 6. Engraved marine shell pendant from Oklahoma. Craig mound, Spiro phase, Caddoan culture, Mississippian period, 1200–1350 A.D. In the collection of the Thomas Gilcrease Institute of American History and Art, Tulsa, Oklahoma.

back (*Figure 7*). As in many subsequent Indian tribes the spider is an important creature. In a Mississippian legend it was a water spider that brought fire to the people by carrying coals on its back (Mooney 1900). A large conch shell shaped into a cup is engraved with four winged serpents surrounding a mandala. The cross within the circle symbolizes the four cardinal directions and describes the horizontal and vertical axes. The mandala is thus used as a cosmological diagram (Brose, Brown, Penney 1985).

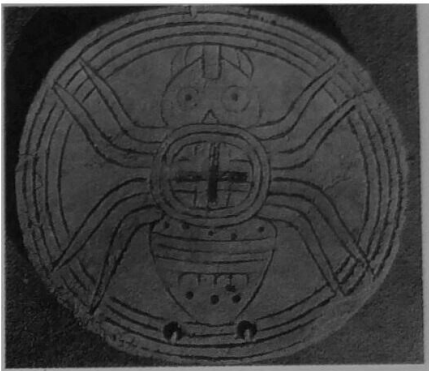


FIGURE 7. Shell disk from Illinois. Mississippian period, c. 1000 A.D. From the collection of the Field Museum of Natural History, Chicago, Illinois.

The Chumash of California left perhaps the most colorful painted rock art in North America. This consisted almost exclusively of geometric forms. The Cañalino branch of the Chumash culture is known to have developed about 300 A.D. but it is not known when in their history the existing cave shelters were decorated. Their largely geometric art is full of mandalic forms. One example is from 'Painted Cave' at Cañalino near San Marcos Pass (*Figure 8*). In the 19th century a surviving Santa Rosa Islander told anthropologists that his people worshipped the sun. The ornate circles and mandalas here have been described as sun symbols. Another explanation is that circles and mandalas are entoptic forms seen by users of hallucinogenic drugs. It is known that even up into modern times the Chumash used Jimson weed or *Datura* which they called *toloache*.

On the basalt escarpment of the Southwest United States, mandalas are etched and pecked in many areas: Newspaper rock near El Paso, Texas, and Nine Mile Canyon in Utah are some of the most famous sites but there are many more. At Willow Springs, Arizona, a whole series of mandalas are said to denote Hopi clan marks. In one mandala from San Cristobal Plateau in Galisteo, New Mexico, the cross is both a cross and the four pointed 'morning star' which is used to depict Venus (*Figure 9*). An unusual, possibly Navaho mandala, comes from the Four Corners area of New Mexico. The cross is made by two zig-zag lines tipped with arrows (*Figure 10*). A particularly striking version of the mandala surrounded by dots is found at the Alamos-Hueco Mountain in New Mexico and, as seen here, at the Jornada site at Three Rivers, New Mexico (*Figure 11*).

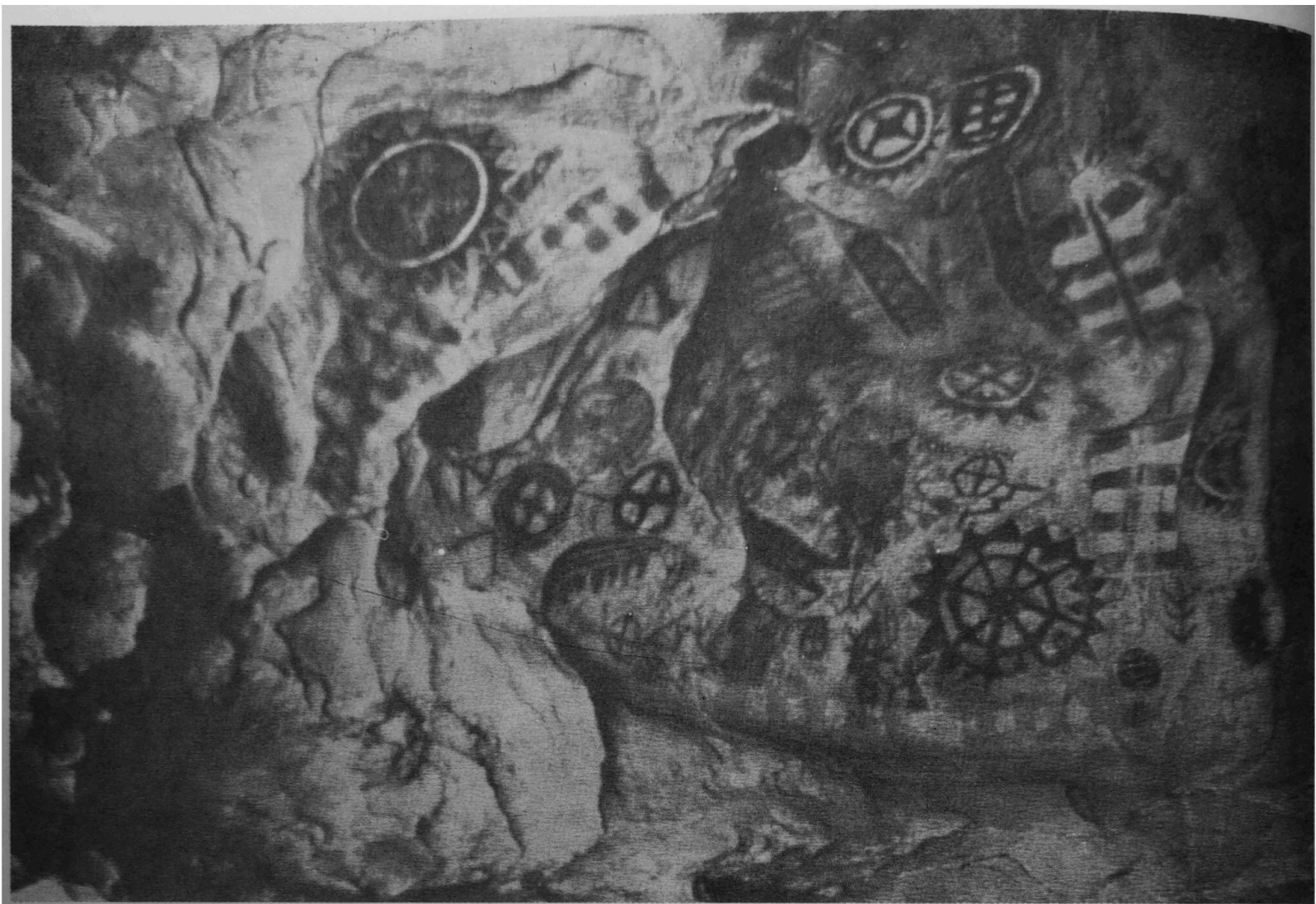


FIGURE 8. Polychrome pictograph panel, 'Painted Cave', from Kern County, California, near San Marcos Pass. Chumash culture, Cañalino region. Photograph by Campbell Grant.

The Navaho made enormous use of the mandala in their 'dry' paintings, commonly known as sand paintings. These are spiritual evocations of myths used in healing ceremonies. The Navaho developed the form to an almost unique degree of complexity. It was not quite unique because the Indo-Tibetan mandalas are at least as complex and, moreover, strangely resemble those of the Navaho. It has been suggested that the Navaho are related to the inhabitants of Tibet whom they resemble (Sandner 1979). But the Navaho did not originally perform sandpainting. They learned this skill relatively late in the 17th century from the earlier arrivals in this continent, the Pueblo peo-

ple who do not resemble Tibetans. This casts doubt on what appears to some to be a clear-cut instance of diffusion of ideas. Since so many people over so much of the world have singled out the mandala as a special form fraught with beauty and meaning, it seems impossible to explain this by diffusion alone. Psychiatric neurologist Howard Gardner calls the mandala "the ubiquitous mandala – as appealing and memorable as the universal chant of the minor third" (Gardner 1980).

In oriental religions the mandala is regarded as a symbol of the cosmos. Mircea Eliade called it a magical creation of the world (Eliade 1968). This is true in Native



FIGURE 9. Petroglyph from San Cristobal, Galisteo Basin, New Mexico. Photograph by Salvatore Mancini.



FIGURE 10. Petroglyph from the Four Corners area of New Mexico. Probably Navaho. Photograph by Salvatore Mancini.



FIGURE 11. Petroglyph from Three Rivers, New Mexico. Jornada culture. Photograph by Salvatore Mancini.

American images as well. The Aztec calendar has a mandalic form. The American Indian Medicine Wheel has a similar form. The cross within the circle represents the number four, a number which has special importance to American Indians. It represents the 4 directions, the 4 ages of man. In their central origin myth most Indian religions believe in an emergence from three earlier primeval worlds into the present Fourth World.

The mandala is used in Australia. Sacred aboriginal Tjuringa stones often have this form. It is used in Africa. Another explanation of the mandalic symbol comes from Zaire. The ancient Kongo culture uses a mandalic figure called the *dikenga*. The vertical axis is the power line which connects God above with the dead below. The horizontal axis or *kalunga* marks the boundary between the living and the dead. The surrounding circle charts the soul's timeless voyage. In this belief system the circle portrays the soul's cosmic orbit: birth, life, death and rebirth (Thompson 1993).

The mandala is indeed an ubiquitous symbol. The fact that there are so many diverse explanations for it lead one to suspect that different cultures rationalized and lent meaning to it but that it was the form itself, stripped of narrative explanation, that possessed its own universal appeal. The mandala is a complex yet symmetrical form: It appears the same when rotated every 90 degrees. It weds two forms each weighted with meaning: the circle and the cross. The wedding of these two forms creates a potent union of opposites like the Yin and Yang of Asia. In Eastern religions it has been stated that the cross within the circle symbolizes the male force within the female. In Buddhism the mandala serves as meditative tool. Carl Jung in the West was struck by its frequent appearance in dreams. For him it was the consummate therapeutic art form. An entire book has been assembled from Jung's assorted writings on the mandala (Jung 1959).

The mandala appears as a form which is experienced during hallucinatory phases of drug usage. We saw this as a possibility with the Chumash. It suggests that it may be one of the entoptic phenomena based on phosphenes. Phosphenes are luminous visual patterns generated within the body's neural system and perceived independently of any external stimulus. They are derived from the structure of our optic system itself. Phosphenes can be induced by emotional states like sensory deprivation and fatigue or by physical states like prolonged fasting or by pressure or a blow to the eyes or by meditation or hallucinogenic drugs. It has been reported that ingesting datura results in the perception of mandalas simultaneously and overlaying normal vision (Hudson, Lee 1984).

It was customary for American Indians, usually at the onset of adulthood, to go on a vision quest. Solitude, meditation, fatigue, fasting, fear, and even self-immolation were some of the intense new stimuli which the initiated experienced. These are the exact conditions which might induce phosphenes and result in the appearance of entoptic forms. The initiates are believed to have re-

corded their visions on rock art panels. So it is not surprising that one finds circular forms – single, concentric and mandalic, in areas where they may have gone for their vision quests.

The mandala has been seen as a naturally occurring phase in human graphic evolution. Rhoda Kellogg, a pioneer in the study of children's art, says that modern children find them in their scribbles beginning at the age of three. That is the ontological interpretation (Kellogg 1967, 1969). Can we go even further back? Can we find phylogenetic evidence as well? The ethologist Desmond Morris goes so far as to state that the chimp Congo, the most gifted of the 23 chimps who made paintings under his aegis, produced mandalas. According to Morris he first made a circular form (not uncommon in his opus) and then proceeded to mark the inside of it. "It almost reaches the stage of a combine with a cross inside a circle", Morris wrote, "It was created with intense concentration," Morris added, "The creation of a marked circle so fascinated him that he became almost human in his self-control." (Morris 1962).

I would like to suggest that both circular and mandalic forms are innately appealing and are selected because they are somehow uniquely adapted to being perceived by our cognitive system. Circular forms are fascinating both because they appear to be endless and because they are symmetrical. Symmetry has a strong appeal to people in all times and places. No other figure has the total symmetry of the circle. The mandala combines aspects of the circle with the cross. The cross is composed of a vertical and horizontal. It establishes our cardinal points. We respond to these two directional signs in part because they relate to our own orientation. We stand vertically on a largely horizontal plane. We stretch out our arms and become ourselves a cross. The sweep of our limbs creates the circle around us, our own private cosmos. Leonardo da Vinci's "diagram of human proportions" which shows a man with arms outstretched within a circle illustrates this human mandala. At a deeper level, our perceptual receptor, the retina, is a sheet of cells on the inside of the optical sphere. It is therefore both concave and round. Perhaps this innately structured circularity affects our concept of the world.

Like cupoles and circles, mandalas appear almost universally but seem to have symbolic meanings that vary widely depending on the context and culture in which they are used. These then are multivalent figures. What is more they may be simultaneously multivalent. Ambiguity has great appeal at all periods and there is much evidence of its appeal to Paleolithic people. Incremental meanings do not mitigate one another. They are not like waves in a scattered sea which cancel one another out. Rather, as in a storm sea in which crests coincide, they layer upon one another and add finally to the cumulative power of the symbol.

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