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Cave Paintings and Psychedelics

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During the year 1994 a team of speleology explorers stumbled upon the Chauvet Cave and discovered one of the most well preserved and intact collection of cave drawings. With this new finding, researchers from across the globe came to study the ancient relics of the past and how they played a role in tribal society and their culture. The conclusions that these researchers came to, changed the past ideas and perceptions as to why and how these drawings were done. It is said that ancient cavemen would venture deep into this cave system to undergo a process known as hypoxia which causes one to have audio and visual hallucinations that would affect both their artwork and the reasoning. Instead of looking for the meaning of what the paintings can signify, I want to understand why the paintings were painted so deeply into the cave instead of near the entrance, where it would have been easily more accessible. It appears that they were getting out of body experiences and hallucinating which was why the first humans decided to make the effort to get deeper into the cave to draw the paintings. The *Panel of Lions*, being one of the biggest paintings in the Chauvet Caves and located deep within the cave shows the impact of hypoxia and how the hallucinations took effect on the artist. In comparison to the experiment done by Oscar Janiger who conducted an LSD experiment, regarding artist and the hallucinogenic effects on their works. According to my research modern artist under the effects of hallucinogens showed to have similar art styles to that of ancient cavemen. With the comparison of the artists, this means that the cavemen were purposefully reaching towards the end of the cave so that they could experience the out of body feeling which had an underlying meaning to these ancient tribes and their culture.

The Chauvet Cave system otherwise known as the “decorated cave of Pont d’Arc”, is known for its “ornamental limestone walls covered in cave drawings in southern France near the

Ardeche River.”¹ While there are other caves around the world that contain cave drawings, none compare to the drawings in the Chauvet Cave system which contains some of the most well-preserved early expressions of artistic design which is reflected in more than 400 drawings inside of the cave. “The cave drawings themselves are carbon dated to around 30,000 to 32,000 BP and are considered cultural heritages of the Aurignacian people.”² The imagery in the cave consists of repeated drawings of animals including rhinos, horses, bears, aurochs, mammoths, and cave lions to name a few. There were also paintings that featured human hands as well as abstracted red dots all over the caves. These paintings are known to be one of the oldest cave paintings in comparison to the other caves such as the Lascaux. The artworks were done primarily in red and black and are known to be the few very realistic depictions of animals from the Upper Paleolithic Era. The materials that were used to create these paintings were charcoal and red ochre. In addition, they have also found hundreds of animal remains in the caves that belonged to bears and even wolves. When it comes to understanding the meaning behind these paintings there is a lot of speculation, but with the discovery of said bones, many scientists believe that humans painted animals due to hunting, however, others assume that the animals had spiritual meaning. Furthermore, the location of these paintings has more significance for the reason and cause of these animals being depicted and for the style of work that they created. These narrow, dark, and twisting caverns made for the perfect conditions for a hallucinogenic experience and created an atmosphere where creativity was portrayed on these cave walls.

The Chauvet Cave, being one of the biggest discoveries for mankind, has preserved cave paintings the best due to its structure and size. “The Chauvet Cave system is comprised of

¹ Valladas, H, J Clottes, J.-M Geneste, M. A Garcia, M Arnold, H Cachier, and N TisnératLaborde. “Palaeolithic Paintings Evolution of Prehistoric Cave Art.” *Nature (London)* 413, no. 6855 (2001): 479–479.

² Valladas, H, J Clottes, J.-M Geneste, M. A Garcia, M Arnold, H Cachier, and N TisnératLaborde. “Palaeolithic Paintings Evolution of Prehistoric Cave Art.” *Nature (London)* 413, no. 6855 (2001): 479–479.

approximately 8,500 square meters consisting of long, winding, and narrow passages, small corridors, and large open chambers that lead into other smaller chambers. Due to its nature in length the cave has allowed for a stable climate inside that allows for the preservation of the cave paintings it holds inside.”³ During the late stone age roughly around 14,000 - 40,000 years ago, cavemen would deliberately put themselves in a trance-like state while drawing cave art through a process known as hypoxia. “Hypoxia is a condition in which oxygen is not readily available in adequate amounts in the tissue in which homeostasis can be maintained. This results in low oxygen content in the bloodstream which leads to hypoxemia. Research done in an altitude chamber test shows that some people introduced into an insufficient oxygen environment experience bouts of euphoria or an increase in happiness and comfort.”⁴ Regarding cavemen, it was found that it led to “hallucinations and an out of body experience thus allowing them to maintain their connectedness with nature and the cosmos.”⁵ In the Chauvet Cave system the levels of oxygen itself vary throughout the stretch of the cave. As one explores deeper into the cave system and finds themselves in narrow corridors the more the environment becomes oxygen depleted. What researchers have come to find is that most of the areas where they found these cave drawings are further down in the cave system. When running computer simulations, they found that the levels of oxygen in these parts were always lower than the rest of the cave. Based on these patterns these cavemen were not just randomly choosing a spot to draw their pictures, but rather were drawn to certain areas that helped lead to hypoxia.

³ Valladas, H, J Clottes, J.-M Geneste, M. A Garcia, M Arnold, H Cachier, and N TisnératLaborde.

“Palaeolithic Paintings Evolution of Prehistoric Cave Art.” *Nature* (London) 413, no. 6855 (2001): 479–479.

⁴ Yafit Kedar, Gil Kedar & Ran Barkai (2021) Hypoxia in Paleolithic decorated caves: the use of artificial light in deep caves reduces oxygen concentration and induces altered states of consciousness, *Time and Mind*, 14:2, 181-216.

⁵ Hypoxia in Paleolithic decorated caves: the use of artificial light in deep caves reduces oxygen concentration and induces altered states of consciousness, *Time and Mind*, 14:2, 181-216.

The lower oxygen levels throughout the cave in and of itself were not enough to cause hypoxia, but rather fire helped contribute to it greatly because it would fully induce them to this trance-like state. Exploring the dark reaches and crevices of caves requires light in which cavemen had to substitute for in the form of fire. However, whether they realized it or not, fire combined with the low oxygen environment ultimately led to their hallucinogenic states. Cavemen used fire in the form of “torches when burning the fuel source would react and use the oxygen surrounding the area and release heat and other combustible products such as gasses and smokes which leads to a further decrease in oxygen and an increase in gasses such as carbon dioxide that would contribute to the hallucinogenic factor that is on par with psychedelic drugs.”⁶ Another contributor that added onto the hallucinogenic effects of hypoxia were the sensory deprivation that these cavemen would experience in the dark caverns. “Sensory deprivation leads to an increase in dopamine which is one of the more neurochemicals produced in the brain that alters human behavior and feelings.”⁷ Dopamine is shown to have correlations with dreams and hallucinations. Pair this with the effect “peduncular hallucinosis which is a neurological event that causes lucid hallucinations which usually occur in said dark environments and you create a perfect recipe for a trip which replicates hallucinogenic drugs. Once hypoxia has set in in these sensory deprived environments deep within the caves, the dopamine release contributes to ASC symptoms which affects the brain in the frontal cortex and the right hemisphere of the brain, which is responsible for creative expression and associated with emotions.”⁸ This in return leads to hallucinations, a

⁶ Yafit Kedar, Gil Kedar & Ran Barkai (2021) Hypoxia in Paleolithic decorated caves: the use of artificial light in deep caves reduces oxygen concentration and induces altered states of consciousness, *Time and Mind*, 14:2, 181-216.

⁷ Yafit Kedar, Gil Kedar & Ran Barkai (2021) Hypoxia in Paleolithic decorated caves: the use of artificial light in deep caves reduces oxygen concentration and induces altered states of consciousness.

⁸ Yafit Kedar, Gil Kedar & Ran Barkai (2021) Hypoxia in Paleolithic decorated caves: the use of artificial light in deep caves reduces oxygen concentration and induces altered states of consciousness, *Time and Mind*, 14:2, 181-216.

change in mood, and a feeling of euphoria. These effects could play a part in why they drew what they drew and begs the question, were these early people drawing their day's events, replicating the animals they saw deep within the caves, or perhaps drawing things that they were visually seeing through these hallucinations.

With the understanding of hypoxia and psychedelic drugs, we can see the comparison of artwork when artists are under an influence. When it comes to the cave paintings there is a similar style that is repeated all throughout the Chauvet Cave when an animal is the one being depicted. The line strokes are strong, bold, and quick, there is a constant overlaying of the animals which creates an abstraction and realism to the work. The *Panel of Lions* depicts the best correlation with psychedelic drugs not only in style, but the clarity of this painting helps us fully see the comparison between the two states, hypoxia, and LSD. The *Panel of Lions* is in the lowest level of the Chauvet Cave, meaning this is one of the paintings that would most likely have been painted while hypoxia took effect on the first humans causing them to hallucinate and alter their reality. This painting strongly depicts a group of lions hunting or chasing a group of bison. The lions on the far right only have their heads shown, the linework is overlapping and the repetition of the lion head causes a sense of movement among the lions even though the viewer does not see the body or legs of the animal. The eyes of the lions are all facing the same direction, they are focused on going after the bison. The repeated expression and the grouping of the lions creates a sense of unity and goal that they all have, which is to capture one of the bison. The bison being chased, are all scattered and in complete chaos, as if the only thing on their minds is to run away and not get caught. The viewer can see some of the bison's body and legs, but there is still an overlapping of lines and quick flowy strokes of the charcoal. With how big the scene is, it is easy to assume that whoever drew this was down in the cave for quite a while.

Presumably, hypoxia took control of the person which caused both a realist and abstract depiction of the animals, which has a similar style to people who have made artwork under the influence of LSD.

LSD is known to be one of the most hallucinating drugs that a person could take and through the creation of making art, one can see the impacts that it takes on a person's mind. "Around 1950, Oscar Janiger, a psychiatrist from University of California-Irvine, decided to do experiments with LSD which consisted of giving over 100 professional artists this psychedelic drug to see what type of artwork would result from the impact. In this specific experiment, he gave his patient two 50-mircogram dose with an hour gap between the two and monitored the patient for 8 hours."⁹ The result from this experiment shows the effect of the drug as time goes by and how the body and mind are impacted through the expression of making art. In comparison, the cavemen who painted in the caves experienced the same symptoms through hypoxia, the longer they stayed in the cave. An artist whose name was not recorded, was asked to draw a portrait of the doctor that was monitoring the experiment. The artist, in the expansion of eight hours, drew the doctor nine different times. The patient was given a box of supplies that had crayons, pens, pencils, charcoal, and other painting and drawing materials. After the first dosage was given the patient decided to use charcoal as his choice of material and eventually changing the material two more times within 8 hours. As the hours pass and the artist completed the drawing of the doctor, the viewer can see the obstruction of the face and the overlapping of lines. The depiction of the doctor becomes more abstracted as the hours pass by but at the same time there is still a sense of realism to the face, the proportions of the face are still in the correct spot. Between the second and sixth hour, the drawing of the doctor gets interesting. At 2 hours

⁹ Dobkin de Rios, Marlene., and Oscar. Janiger. *LSD, Spirituality, and the Creative Process*. Rochester, Vt: Park Street Press, 2003.

and 45 minutes, the drawing of the doctor becomes extremely abstract, but one is still able to see the face of a person. It shows the most drastic change once it has been 4 hours and 25 minutes in, the artist starts to overlap the doctor's face and it has developed flowy and quick strokes all throughout the drawing, which in turn creates a feeling of vibration to the drawing. Once it hits the 5th-hour mark, the doctor's face starts to resemble music notes, the line movement is chaotic and repetitive making the drawing seem like it is being blown away by a gust of wind.

When comparing the cave paintings and the drawings from Janiger's experiment, it is easy to identify the similarity between the artworks; the works being thousands and thousands of years apart show that being in a hallucinogenic state does cause a familiarity even though one is through hypoxia and the other through intake of LSD. Both the works have a similar stroke outline of the figured depicted, there is a boldness to the thickness of the lines and a swift flow in the movement. They both have overlaps which create a vibration or sense of movement happening in the artwork as well as the repetition of the lines. In Janiger's experiment there are nine drawings but there is a similarity to the cave paintings in all of them even though they are each about an hour apart. Seeing the hour-by-hour drawing, one can comprehend where the first hour was in the *Panel of Lions* and around where it ended. So going back to the lions on the right, the lion's heads all face the same way as well as the eyes which are fixated on the bison have a similar style to the drawing from the LSD experiment after 1 hour and 25 minutes of the first dosage. The drawing of the doctor has lines that show in which direction the artist wanted the face to look and where the eyes were to set. The head is fully facing in the right direction as if he is ready to take on whatever is coming his way, the same way the lions are determined and focused on the bison. The frequent line strokes and boldness, both works represent the movement and focus of the objects without showing a full figure and doing minimal line work to get that

feeling across. The bison's side in the cave painting has similar traits from the drawings done between the second and fifth hour of Janiger's experiment. There is a lot of repetition of the figures, abstraction with a sense of realism, chaotic but also neat, and lots of movement. The more one looks at these drawings the more it feels like it was done by the same artist.

The discovery and further research of the cave paintings and the conclusion that most of them are drawn from cavemen hallucinating, changes the modern viewpoint on how we viewed early man. As research has proven it was not a one-time thing, but rather a continued process where these early cavemen would go into these caves and hallucinate and paint on the walls. This profound discovery opens the avenue for a deeper look into both early society and culture. Just like early Native American tribes, it is said that this was another form of early tribe rituals, what these rituals implied scientists are still not conclusive. What we do know is that these "rituals were ingrained in early tribes and played a huge factor in their society" which plays into factor the numerous cave paintings on the walls of the Chauvet Cave system.¹⁰ In modern society we can still look at more advanced tribes and see that hallucinating while doing a tribal dance or drawing are still ingrained in these types of cultures and play a huge role in their society. Furthermore, one can look at modern bands and artists that to this day still partake in hallucinogens before putting on a show or completing a masterpiece of some sort. This reach of getting an out of the body experience is something that seems to have connected humans from the very beginning to their inner discoveries whether within themselves or for the cosmos. A ritual that continues to be part of society whether we want to accept it or not, is something that humans have been doing forever. An understanding of how hypoxia effected the cavemen is best compared with LSD, they have similar symptoms and effects and helps the modern world

¹⁰ Prince MA, O'Donnell MB, Stanley LR, Swaim RC. Examination of Recreational and Spiritual Peyote Use Among American Indian Youth. *J Stud Alcohol Drugs*. 2019 May.

understand exactly how intense the cavemen were feeling being in the caves. The experiment from Janiger and the *Panel of Lions* having similar art styles shows that they both had out of body experiences that were similar even if the intake to get the same symptoms were different. Hallucinogens have been known to expand the creativity of artists and seem to be a high that helps view the world in a different perception which in turn creates more abstract artwork but as well as more expression too. The inner deep of the caves were most likely a place of ritual thinking that maybe because of the effects of hallucinogens that they were entering a world that could only be accessed through the end of the caves, which is why they made the effort to travel all the way down there instead of doing the paintings near the entrance where it was more easily accessible to paint.

In conclusion, cave paintings that were once believed to simply just be a representation of the physical world that surrounded them, may have been rather influenced by visual hallucinations. The Chauvet Cave's system having dark, narrow, and long passages becomes the perfect place for hypoxia to occur once a flame is introduced to see deep within. The *Panel of Lions* and Oscar Janiger's experiment with LSD share a high resemblance in style and structure which shows that hypoxia and psychedelics have the same impact and symptoms on the human psyche. This research has changed the old fundamental understandings of these ancient people and shed a new light on early culture and rituals. As these rituals and drawings were done deeper in the cave, the location of where these drawings took place had more of an underlying meaning to these ancient tribes and their culture rather than the context of the drawings themselves.

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