

Trance and transfiguration in rock art and literature

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What can San rock art research reveal about certain kinds of imaginative literature written in English? What do depictions of altered states of consciousness in literature reveal about human needs? In this lecture I explore depictions of altered states of consciousness in literature using the ideas of Aldous Huxley, based on his own experience of taking psychoactive drugs, the work of the German ethnobotanist Christian Rätsch on psychoactive plants, and the archaeologist David Lewis-Williams, whose work explains some aspects of some prehistoric rock art traditions using cognitive neuropsychology. Huxley was concerned with expanded consciousness and spirituality for much of his life, seeing in religion and art some form of salvation from what he saw as the meaninglessness of mass consumer capitalist culture that he critiques in his dystopian novel *Brave New World* (1932). Indeed, in this novel and in *Island* (1962), its follow-up and the final novel he wrote, he promotes the use of psychoactive drugs to achieve individual bliss and social cohesion. In *The Doors of Perception* (1954) and *Heaven and Hell* (1956) he documents his own experience of the effects of his consumption of mescaline and his reflections on this experience. Although his primary interest is in prehistoric rock art, Lewis-Williams (2002, 2005) also applies his theories of altered states of consciousness to *The Epic of Gilgamesh* and Coleridge's "Kubla Khan," helping to illuminate the poems in new ways. In this lecture, I compare Huxley and Lewis-Williams's theories and use them to illuminate aspects of various works of literature in English. The lecture investigates the significance of traces of shamanism and altered states of consciousness in literature, re-reading modernity in the terms of plant studies and indigenous belief systems.

Keywords

Aldous Huxley, David Lewis-Williams, Christian Rätsch, psychoactive plants, trance, altered states of consciousness, archaeology, literature.

This lecture explores trance states in selected literary texts written in English and their possible relation to shamanism. I consider altered states of consciousness in literature using a well-developed model taken from archaeology. Several questions arise. How are altered states of consciousness depicted in literature written in English? How does recent research on altered states of consciousness in archaeology help to understand literary representations of altered states? Does the model of altered states of consciousness suggest that supposed visions of a supernatural realm can be reduced to brain states? What is the function of mind-altering drugs: to facilitate a momentary escape from mundane reality, to act as a gateway to spiritually inspired revelations, to access suppressed emotions, or to help critique the social order? A related question is whether shamanism poses a challenge to capitalism. The question is not purely academic considering colonialism and capitalism's destruction of shamanistic hunter-gatherer societies and the indigenous knowledges they embody. The current capitalist assault on the Amazon jungle and the indigenous communities living there is a matter of particular concern, as the reckless and relentless pursuit of profit threatens our very existence on the planet.

Wendy Cousins (2011) provides a broad overview of altered states and literature, ranging from *The Epic of Gilgamesh* and covering Judaeo-Christian, Islamic, Irish, English and French, among other

traditions. She argues that the advent of literacy was a decisive intervention in human cultural history: "... the effects of literacy do not stop at the reorganisation of the individual brain; it transformed the collective architecture of cognition and how the larger human community think and remembers" (2011: 277) and "The development of literacy effected a shift in human experience second only to the development of language itself by extending our capacity to think beyond the here and now" (2011: 278). Cousins argues for the emergence of consciousness and self-consciousness in the narratives of literary work evident already in *The Epic of Gilgamesh* but adds that they also express other forms of consciousness, including altered states of consciousness. She does not, however, discuss the precise aspects of altered states of consciousness in *The Epic of Gilgamesh*, as the archaeologist David Lewis-Williams (2005) does. In fact, Cousins seems to conflate the various kinds of altered states of consciousness, apparently assuming that they are all ecstatic, visionary and euphoric. Furthermore, by emphasizing literacy, she appears to under-value preliterate shamanism.

By using Lewis-Williams's highly developed neuropsychological model that he applies to San rock art and myth, I provide a greater degree of clarity and precision in surveying the different kinds of altered states of consciousness evident in various texts written in English and restore shamanism to centre stage. Like the German ethnobiologist or ethnopharmacologist Christian Räscht, Lewis-Williams emphasises shamans as ritual specialists in altered states of consciousness. However, unlike Räscht, whose ideas on spirituality align more closely with Huxley's, Lewis-Williams dismisses claims that altered states of consciousness open doors to alternative realities or to a supernatural world. Räscht points out that:

Although no one has been able to provide a definitive answer, the hypotheses and positions that have been put forth can be divided into two camps. One assumes that all reality is merely a projection of our consciousness; the other holds that there are numerous or even infinitely many different realities in the external world.

We can take shamanism seriously only if we follow the second view ... (2005:21)

Nonetheless, all would agree that altered states of consciousness are direct, intense experiences unmediated by language. Ultimately, the process of reading and the experience of altered states of consciousness are radically different mental activities. Huxley (2004a:47-50) is particularly critical of the obsession of Western cultures with written texts and abstract concepts as opposed to the direct perception of reality and makes a plea for the inclusion of "non-verbal Humanities" in Western education systems. This agrees with the archaeologist David Whitley's (2009:177-79) criticisms of the overly bookish attempts of Westerners to understand prehistoric rock art, which was, after all, produced by preliterate people.

In 1953 Aldous Huxley was happy to oblige when an American researcher was looking for experimental subjects for research into the hallucinogenic effects of mescaline, "the active principle of peyotl" (2004a:1), the root of a cactus indigenous to New Mexico and the American South-West. As Huxley notes, research into this drug in Western science was in its infancy, although the plant was well known to and much loved by the indigenous populations "since time immemorial" (2004a:1). Huxley recorded his experiences and his reflections on his experiences in *The Doors of Perception* (2004a [1954]), *Heaven and Hell* (2004a [1956]) and eight appendices. In these essays, he partly elaborates theories of expanded consciousness, religion and art. As the titles of his essays suggest, Huxley's accounts are highly literary, although they also involve art history and religion.

Since Huxley's day, cognitive neuroscience has made many advances in the study of the brain, consciousness and altered states of consciousness, which the archaeologist Lewis-Williams (2002, 2005) has applied in detail to aspects of some prehistoric rock art traditions, as part of a complex shamanistic theory. He has also applied his theory to the rock art and recorded myths of the Southern African San, groups of hunter-gatherer peoples, and to Coleridge's poem "Kubla Khan". In this lecture, I compare Huxley and Lewis-Williams's theories, reviewing Huxley's in terms of more recent research, and I apply their ideas to various works of literature in English.

The San use the trance dance to induce altered states of consciousness, whereas other shamanic traditions make use of psychoactive plants, and those following Eastern traditions use meditation, sometimes with the assistance of psychoactive substances. All aim at transcending the self. However, where meditation often results in blissful, or even mystical, states, shamanistic trances are often unpleasant. Whitley (2009:192-95) cautions against the Western predilection to see shamanic trance in terms of self-realisation or mystical experience, pointing out that there are many forms of altered states of consciousness. Those hunter-gatherer societies that use various natural substances to achieve altered states of consciousness always do so within a ritual context. Modern Western recreational drug use lacks a comparable framework, as it has been criminalised. It is all too easy to use drugs as a short cut to altered states of consciousness. Rättsch (2005:10) summarises the different types of psychoactive substances into three categories: stimulants ("uppers"); sedatives, hypnotics, narcotics ("downers"); and hallucinogens ("all-rounders"). He (2005:13) emphasises the importance of Leary's model for the responsible and meaningful use of these substances: dosage, set, and setting. The term "set" could be understood as "mindset," as the experience of any drug depends heavily on one's prior emotional state. In Huxley's (2004a:86) terms, mindset can determine if one's experience is one of Heaven or of Hell.

In *The Doors of Perception* Huxley (2004a:10) quotes the philosopher C.D. Broad who, in turn, refers to Henri Bergson's notion of the self and brain as eliminative rather than productive; that is, our alert state of consciousness filters out the mass of sensory experience around us, selecting only those experiences that further our survival as biological organisms (2004a:10-11). This is the standard form of waking and alert consciousness that perceives the world in instrumental and utilitarian ways, as a collection of objects for the subject's use, what Georges Bataille described as the world of tools or work, bound by taboos. The use of certain drugs removes this filter, giving us access to the totality of sensory experience, which Huxley calls "Mind at Large" (2004a:11-13) and which he equates with Reality. Expanded consciousness gives us a greater but by no means complete access to this richer sensory universe. Huxley provides an explanation for the prevalence of the desire for altered states of consciousness in human communities:

That humanity at large will ever be able to dispense with Artificial Paradises seems very unlikely. Most men and women lead lives at the worst so painful, at the best so monotonous, poor and limited that the urge to escape, the longing to transcend themselves if only for a few moments, is and always has been one of the principal appetites of the soul. Art and religion, carnivals and saturnalia, dancing and listening to oratory – all these have served, in H.G. Wells' phrase, as *Doors in the Wall*. (2004a:38)

Festivals are one example of what Bataille describes as the world of art or play, which is a transgression of the taboos that circumscribe the world of work, allowing people to participate momentarily in the

sacred. In *The Doors of Perception*, Huxley (2004a:11) discusses the prevalence of percept over concept, of visual experience above language during his expanded consciousness. In *Heaven and Hell*, he describes the world of altered states of consciousness as “the mind’s antipodes” (2004a:55) observing that things do not necessarily appear totally different from their forms in this world, but that things appear to radiate with an “inner light” (2004a:7). Admitting that, unlike true visionaries, he is a poor visualiser, Huxley notes that, after taking mescaline, his visual experiences of the outer world were heightened but his inner experiences were muted, and that the categories of time and space became unimportant:

The mind was primarily concerned, not with measures and locations, but with being and meaning.

And along with indifference to space there went an even completer indifference to time. (2004a:9)

While visual experience is heightened and intellect is little impaired, the will becomes virtually paralysed (2004a:12). The *is-ness* of things is emphasized and the sense of self, diminished (2004a:7-8).

Huxley observes that it is probably a result of his individual idiosyncrasies that his expectations were not met in that he did not experience inner visions. Furthermore, his description of his experience and his reflections thereon are markedly influenced by his considerable knowledge of religion, literature and art. In line with what he had read in Swedenborg, William Blake and Meister Eckhart,

I had expected to lie with my eyes shut, looking at visions of many-coloured geometries, of animated architectures, rich with gems and fabulously lovely, of landscapes with heroic figures, of symbolic dramas trembling perpetually on the verge of the ultimate revelation. (2004a:5)

In *Heaven and Hell* (1965), a later reflection on his experience of mescaline, Huxley notes that, depending on one’s predispositions and state of mind prior to taking drugs (including mescaline), the visionary experience is not necessarily blissful (Heaven) but can be horrifying (Hell) (2004a:41, 87-88). Huxley relates expanded consciousness to schizophrenia (2004a:32-3). He mentions, in connection with the terrifying trance experience, the various experiences of submersion, suffocation and constriction that Lewis-Williams points out is often reported by shamans and is sometimes depicted in rock art and myths. However, San shamans do not interpret these experiences as diabolical, lacking as they do the mythological structure of Heaven and Hell. Instead, these experiences are interpreted either as a painful passage to the spirit world or as battles with the spirits. Huxley makes an important distinction:

Visionary experience is not the same as mystical experience. Mystical experience is beyond the realm of opposites. Visionary experience is still within that realm. (2004a:90)

Huxley argues that the luminescence of much visionary art represents the inner light of things (2004a:77). He extends his theory to gemstones, “precious stones are precious because they bear a faint resemblance to the glowing marvels seen with the inner eye of the visionary” (2004a:67). After discussing the history of visionary art in the Western, Indian, Chinese and Japanese traditions, Huxley (2004a:75, 80-81, et al), concludes that visionary art does not so much represent the Other World

(although it reminds us of it) as transport us to it. However, it is unclear if he means by this that visionary art puts us in a trance and induces visions in us.

In a paper entitled “The Signs of All Times: Entoptic Phenomena in Upper Palaeolithic Art” (1988), David Lewis-Williams and Thomas Dowson proposed a novel interpretation of the geometric patterns observable in much prehistoric rock art, which had resisted explanation until then. According to them, the geometrics are depictions of subjective images, inherent to the human optic system, what they call entoptic phenomena, experienced during altered states of consciousness. While not all archaeologists accept the theory, Lewis-Williams has developed it in his various publications since then, often in collaboration with researchers such as David Pearce and Sam Challis. While Bahn claims to have refuted the theory, Tom Froese, Gaston Guzman and Laura Guzman-Davalos (2016) expose the weakness of the supposed refutation, even as they point out how the apparent ambitiousness of Lewis-Williams’s theory prompted reactions to it. In another article, Froese goes even further. After outlining several theories of consciousness, he considers Lewis-Williams’s theory of altered states of consciousness a possible explanation of the origin of culture in answer to the question “... what happened at the very beginning of culture? What enabled us to detach from our ordinary preoccupations in the first place?” (Froese 2011:215). This aligns with the view of Schultes, Hofman and Rättsch (2001), when they write of fly agaric mushroom (*Amanita muscaria*), “probably the sacred god-narcotic Soma of ancient India”:

Most hallucinogens are holy mediators between man and the supernatural, but Soma was deified. So holy was Soma that it has been suggested that even the idea of deity may have arisen from experiences with its unearthly effects. (2002:62)

Rättsch, however, writes in his *Encyclopedia* that “Wasson’s thesis that the fly agaric was the renowned soma of the Aryans is still unproved” but asserts confidently that “There is no debate about the fact that the psychoactive fly agaric mushroom is associated with shamanism” (2005:631).

According to Lewis-Williams (1988, 2002, 2005), the geometric patterns found in many rock art traditions represent various entoptic phenomena experienced during trance states, usually by shamans during what they imagine to be journeys to the spirit world. However, the experience of entoptic phenomena is only the first phase of a three-stage process of altered states of consciousness. Lewis-Williams proposes the following spectrum of consciousness, a model confirmed by laboratory research in cognitive neuroscience. On the left of the spectrum is awake, alert, problem-solving consciousness, in the middle the state of daydreaming, and toward the right a split into two separate trajectories. The descending trajectory involves hypnogogic states, dreaming and unconsciousness. The ascending trajectory involves altered states of consciousness, that is, trance states, in three phases. The first phase involves entoptic phenomena (geometrical patterns) inherent to the human optical system: zigzags, diamond shapes, spirals, nested images, and others, in constant motion. The second phase involves construal, where the mind interprets the entoptics in terms of everyday objects. A vortex, a tunnel often with a light at the end and sometimes with objects embedded in its sides, separates the second and third phases. The third phase involves full-blown hallucinations including, sometimes, the experience of becoming animal. However, progression from one stage to the next is not automatic. The model allows phases to be missed, reversals to occur, and so on.

According to Lewis-Williams (2002, 2005), these phases are hard-wired into the human brain. They can be caused by physical trauma, fasting, sense deprivation, the consumption of mind-altering

substances, and other extreme experiences. In some shamanic traditions, the trance dance is used to induce altered states of consciousness, experiences which are interpreted as trans-cosmological forays into the spirit world. These experiences tend to be painful and frightening rather than blissful, and usually involve a radical sense of loss of self. Shamans sometimes explain this as dying in this world to access the Other World. Access to the spirit world involves portals of various kinds, such as caves, ponds, wells, and holes in the ground, as well as spiritual ladders, ropes, threads of light, and trees. Birds, feathers and flying are also frequent images of spiritual travel. The spectrum of consciousness is also reflected in the cosmology and mythology of many cultures, the alert state representing daily existence, the altered states representing the upper spirit world in the sky and the lower spirit world beneath the ground. In the Christian tradition, these upper and lower realms are interpreted as Heaven and Hell, respectively, but in most other religious traditions there is not such a stark separation of the realms into good and evil.

Lewis-Williams's model gives more precision to what Huxley calls "the antipodes of everyday consciousness" (2004a:54), that is, altered states of consciousness. Huxley (2004a:5) himself did not experience the geometric patterns (entoptics) that he had read about, nor the shifting landscapes and marvelous architectures that he expected to see. However, his discussion of gemstones corroborates research on North American shamans (and shamans of other cultures) who accord a special, spiritual meaning to quartzite on account of its luminescent qualities.

Lewis-Williams (2005) applies his theory in an interpretation of Coleridge's "Kubla Khan" in relation to his study of Neolithic cultures. Opium was most probably the "anodyne" that induced the trance in which Coleridge experienced his vision. The following aspects of altered states of consciousness experiences are evident in the poem: images grade one into another; there is a subterranean river flowing through 'caverns measureless to man'; the river leads to 'a sunless sea' – water and subterranean places go together; a sense, or fear, of falling – 'that deep romantic chasm', 'sinking in tumult'; there is a sense of floating. Finally,

If the poet could recapture his vision, all would cry, 'Beware! / His flashing eyes, his floating hair!'
(2005:35-6)

He comments further that there is more significance in the last line than may at first appear:

Eyes, properly stimulated to provide otherwise unattainable insights, would inspire in others 'holy dread' and cause them to close their own eyes; to submit to those believed to have preternatural sight; to shut out realities of the diurnal world and to seek realities of inner enlightenment. (2005:36)

"Kubla Khan," then, evidently describes several features of altered states of consciousness and Kubla, a stand-in for the poet, appears to be a shamanic figure. The descriptions of the physical scenery convey subjective trance states. The poem presents a radical otherness to the mores of the English society of the day, positioning the visionary poet, in true Romantic fashion, on the periphery of society.

Huxley (2004a:68-9) speculates that visionary art is a result of visionary experiences. In the Middle Ages, poor lighting, poor diet, fasting, self-flagellation, lengthy prayer, and singing and burning incense during mass would have created conditions favourable for inducing altered states of consciousness. In the English literary tradition, vision poetry is religiously inspired, often deriving its imagery from the

Book of Revelations, particularly the New Jerusalem built out of precious stones and metals. The Old English poem "The Dream of the Rood" (750) (Hamer 1970) opens with an illuminated vision of the Cross. Chaucer's early poetry often consists of dream visions, such as the "Parliament of Fowls" (c. 1380). The anonymous "Pearl" (c. 1400) poem (Gordon 1953), which involves the death of the speaker's child, consists of illuminated visions of Heaven. Huxley points out that it may be difficult for modern people in this light-polluted world, following the discovery of electricity, to understand the effect of bright gemstones, precious metals and illuminated art on the mediaeval imagination. The poet who wrote "Pearl" may have been the same person who wrote "Sir Gawain and the Green Knight" (Burrow 1972). Besides the Knight being green and meeting Sir Gawain at the Green Chapel, the poem contains other pagan elements that may be evidence of a much older, pre-Christian folk tradition, originally associated with shamanism.

This older mediaeval literary tradition concerns the fairy world, often associated with death and an underworld. Many of the features of this English folk tradition share similarities with San mythology and rock art. In "Sir Orfeo" (c. 1300) (Burrow 1977), a poem in the form of the Breton lay and a mediaeval reworking of the myth of Orpheus, the protagonist's wife is abducted by the fairy king and taken to the Other World. Sir Orfeo leaves court and subsists on roots, berries and bark for ten years until he sees his wife riding past among a host of fairies, who enter the underworld through a rock face, followed by Sir Orfeo, who discovers a glittering castle dominating a flat landscape on the other side. His meagre diet and self-deprivation share obvious similarities with the Christian ascetics, but it accords with shamanic activities too, as both ascetics and shamans seek visionary experiences through harsh self-discipline. Entering the world of fairy through a rock face has a fascinating parallel in San belief, where the rock face upon which rock art was painted or etched was considered a portal to the spirit world for shamans. This explains why rock art depicts some animals entering or exiting the rock face often through cracks.

Some of the fantastic elements of Shakespeare's *A Midsummer Night's Dream* and *The Tempest* are typical of hallucinations experienced during trance, for instance Bottom whose head changes into a donkey's after he falls asleep in the forest, transforming him into a therianthrope, or human-animal figure, as are often depicted in rock art. Caliban's experiences of mysterious sounds on the island also seem hallucinatory as he seeks to console two shipwrecked men:

Be not afeard, the isle is full of noises,
Sounds, and sweet airs, that give delight and hurt not.
Sometimes a thousand twanging instruments
Will hum about mine ears; and sometimes voices
(3.2.132-35)

Even Caliban's experience of being tickled (pinched) by spirits evokes the fact that hallucinations were not just visual but audial and somatic too. The depiction of bees in some San rock art suggests humming sounds and stinging, or at least tingling, sensations on the shaman's skin during trance. Huxley suggests that the visionary elements in literature and art may well be inspired by altered states of consciousness, making religious experience a source of art, the underlying motive being the desire for transcendence. Unlike mystical experiences where there is a radical loss of the sense of self, in vision poetry the speaking subject remains the same person. Ultimately, however, it seems more likely that the poetry of dream visions tended to support the status quo rather than present a significant

challenge to priestly and aristocratic authority in the Middle Ages, although mysticism was usually frowned upon by religious authorities. I turn now to later literature that involves the loss of self, whether through individual narcosis or collective ecstasy.

Victorian use of opium, a narcotic rather than a hallucinogen, was widespread. The lotus appears to be a narcotic serving to still the will in Tennyson's "The Lotus Eaters" and "Choric Song", the lines of which contrast so strongly with the final lines of his "Ulysses," where the speaker expresses his wish "to strive, to seek, to find, and not to yield". This corroborates Huxley's observation on the paralytic effect the consumption of mescaline had on his will. The lotus eaters have given up striving and lost their sense of self and duty, as the chorus represents. In "Choric Song" they sing:

Death is the end of life; ah, why
Should life all labour be?
...
Give us long rest or death, dark death, or dreamful ease.
(86-98)

The quotation alludes to the fall from grace in the Eden myth, the fall arguably being understood as a fall into consciousness and self-consciousness, in Bataille's terms, a fall into the world of work. In fact, the chorus has a long tradition in the West going back to Greek drama and reinvented by Nietzsche to pit the collective frenzy of the Dionysian against the individualistic self of the Apollonian. However, the archaeologist David Whitley (2009:193-94) cautions against the "myth of ecstasy" given currency by Mercia Eliade. The trance state, at least in shamanic traditions, is often frightening rather than blissful, although the loss of self remains central and involves a symbolic death. The trance involves transformation but not necessarily transcendence. Indeed, becoming animal implies immanence rather than transcendence, an embodied (spirit animal) rather than disembodied state. "Choric Song" involves a narcotic rather than a hallucinogen and seems to involve the paralysis of the will, suggesting political apathy. However, by questioning the meaningfulness of a life of labour, the poem strikes at the heart of Victorian utilitarianism and capitalism.

Lewis Carroll's *Alice in Wonderland* (1865) involves various stages of the trance state and various aspects of altered states of consciousness. Even though the story is framed as a dream, or perhaps a daydream, numerous details, including the presence of a blue, speaking caterpillar smoking a hookah and sitting on a mushroom (most probably *Amanita muscaria*), with whom Alice, shrunken down to three inches, discusses her loss of identity, suggest the world of the intensified trance trajectory. Even though she sees the talking rabbit (a hallucinatory experience) before she falls down the rabbit hole, Alice's fall is characteristic of the experience of the vortex and the hole (a well, it turns out) itself is a portal to the other world. Her sense of time is slowed as she feels that she falls for a long time, and she sees furniture in the walls. Her bodily transformations at the bottom of the hole, including her telescopic neck and her swimming in a river of her own tears, after she ingests various potions, are also typical of altered states of consciousness experiences. Like shamans who commune with spirit animals, Alice interacts with various animals. Wonderland is clearly a world of hallucinations. Even though it appears to represent an escape from Victorian bourgeois society, and even though Lewis Carroll makes fun of Victorian manners and conventions, Alice ends up returning to "normality". The final line of the poem that ends *Through the Looking Glass*, seems a mystification: "life, what is it but a dream?" Nonetheless, this evokes the fact that most indigenous communities consider the dream

world, often equated with the Primal Time of Myth, to be more real than waking consciousness. Indeed, Rättsch points out that “For many Indians in the Central and South American rain forests, the everyday world is an illusion, a superficial necessity” (2005:14). The fact that the book remains a perennial favourite indicates at least a need for escape in readers and the possibility of other realities, if only imagined.

Huxley considered primitive ritual and mind-altering drugs necessary in his modern, hyper-utilitarian state. In *Brave New World*, the use of soma, a drug derived from mescaline and free of bad side-effects, is used in the authoritarian state to control the citizens both through socially cohesive rituals and through individual use. The ritual, the Solidarity Service, climaxes in an ecstatic orgy between twelve men and women. It proclaims salvation but, in fact, involves mind control. As a contrast, Huxley has his protagonist, the slightly physically stunted Bernard and his girlfriend Lenina visit an indigenous community in a Native American reservation, where they witness a rather frightening and violent fertility ritual. In both communities, altered states are used to maintain social stability and inequality. They reinforce the social order rather than provoke the questioning of it, let alone challenging it. Indeed, Huxley elaborates on his idea in detail in his essay “Chemical Persuasion” in his collection of essays, *Brave New World Revisited* (2004b [1959]). Nonetheless, the so-called ‘primitive’ tribal society in the reservation does stand as a dramatic alternative to the dominant modern utilitarian society critiqued in the novel.

The protagonists in Margaret Atwood’s *Surfacing* (1972), *The Year of the Flood* (2009) and *MaddAddam* (2013) all experience altered states of consciousness at crucial moments in their lives. In *Surfacing*, the unnamed young female protagonist enters an altered state of consciousness after diving several times into the lake surrounding an island in search of her father’s body. In this case submersion in water is literal and, in fact, her oxygen deprivation most likely triggers her altered state of consciousness. Shamans in trance states sometimes feel as though they are submerged in water. She remains in the altered state of consciousness for several days after fleeing her three companions, becoming animal and hiding in the island’s more inaccessible areas. Her trance state helps to free her suppressed thoughts of a traumatic abortion that she had experienced during her former marriage. It facilitates her self-discovery and the liberation of her mind from patriarchal domination. She loses her false self to discover her true self. Atwood links her protagonist’s transformation to shamanism, as her protagonist’s father had been recording Native American rock art just before he disappeared. Atwood’s novel presents a challenge to “Americanness” and its instrumentalist and exploitative relation to nature, even though the people who kill a stork pointlessly and hang up its body turn out to be Canadians.

In Atwood’s *The Year of the Flood*, the second novel of her *MaddAddam Trilogy*, mushrooms feature significantly in various forms. Atwood’s knowledge of plant- and mushroom-lore is extensive and is represented in the novel by the scientist-turned-God’s Gardener, Pilar, who mentors Toby, one of the two female narrative focalisers. Indeed, in the late stages of terminal cancer, Pilar tricks Toby into administering poison extracted from death cap mushrooms (*Amanita phalloides*) to her to facilitate her death. Before this, Toby herself is given a dose of a hallucinogenic drug by Adam One, the leader of the vegetarian eco-religious cult, the God’s Gardeners, to induce visions in her to help her find her spirit animal and to decide if she is prepared to accept a leadership position as an Eve. Toby is sceptical and somewhat reluctant to participate but obliges Adam One, who has saved her from a horrific life on the streets. Her visionary experiences and her knowledge of mushrooms, plants, and beekeeping

(also taught to her by Pilar), mark her as a type of reluctant, modern shaman, albeit in a post-apocalyptic world and despite her sceptical attitude. Toby's altered states of consciousness can be seen in Bataille's terms as a transgression of boundaries, and therefore a challenge to the established order. However, transgression is always momentary, which raises the question whether trance states can challenge the established order in a more significant and sustained manner.

In *MaddAddam*, Toby ingests a hallucinogenic mushroom concoction of her own making, to assist her in making an important decision concerning the post-apocalyptic community that she leads, after a global pandemic, *The Flood*, destroys most of humanity. Toby's "Enhanced Meditation mixture" is a combination of *Psilocybe* and a pinch of *Amanita muscaria*, "Just a pinch: she doesn't want all-out brain fractals, just a low-level shakeup – a crinkling of the window glass that separates the visible world from whatever lies behind it" (2013:221). Atwood describes Toby's altered states of consciousness in detail:

Toby can feel the full strength of the enhanced Meditation formula kicking in. Zeb's head against the sun is circled with a halo of what she realises must be split ends ... but which nevertheless appears to her as a radiant burst of electric energy shooting out of his hair. A morpho-butterfly floats down the path, luminescent. Of course, she remembers, it's luminescent anyway, but now it's blue-hot, like a gasfire. Black Rhino looms up out of his own footsteps, an earth giant. Nettles arc from the sides of the walkway, the stinging hairs on their leaves gauzy with light. All around there are sounds, noises, almost-voices: hums and clicks, tappings, whispered syllables. (1013:222)

Protected by her companions, she undergoes a heightened, if not quite visionary, experience at the place where Pilar was secretly buried in a public park beneath an elderberry bush. Her question to the dead Pilar is answered, and Toby goes on to make the correct decision. Despite her scepticism, she is prepared to entertain the trance state, although her rationalisations seem somewhat confused, perhaps unsurprisingly, as she is still under the influence of the hallucinogens:

I was communicating with my inner Pilar, which was externalized in visual form, connected with my brain chemistry facilitator to the wavelengths of the Universe ... And just because a sensory impression can be said to be 'caused' by an ingested mix of psychoactive substances does not mean it is an illusion. Doors are opened with keys, but does that mean that the things revealed when the doors are opened aren't there? (227-28)

Toby's openness to the revelatory potential of psychoactive substances despite her scepticism most likely expresses Atwood's own attitude. Her detailed description of Toby's altered state of consciousness experience suggests an intimate familiarity with such states. In the post-apocalyptic world, however, there is no question of a shamanistic challenge to the capitalist, instrumentalist order, as that society has ceased to exist. Purely in terms of the narrative, industrial and consumer capitalism has been superseded by a shamanistic society that practices hunter-gathering and limited cultivation.

Mushrooms also play a metaphoric role in *The Year of the Flood*. After the CorpSeCor, a corporate police force, start persecuting the God's Gardeners, not least because their self-sufficiency is considered a threat to consumer capitalism, they go underground, their various cells being called Truffle cells. The truffle, the fruiting body of a subterranean mushroom, therefore, serves as a metaphor for subterranean resistance to the capitalist order. In *Surfacing*, Atwood has her unnamed

protagonist reflect that it is not the mushroom's fruiting body that is the organism proper but the network of roots that connect underground, analogous to Deleuze and Guattari's (2013) rhizome.

In a similar way, what Rättsch calls "the drug culture" has been forced underground even though, in its indigenous forms, it is a sacred institution of considerable antiquity. Its subversive potential is implicit in Rättsch's criticism of the suppression of indigenous people's use of psychoactive plants as one of the pernicious effects of ongoing colonialism, tracing its ideological beginnings to the myth of the Fall held by the Christian and capitalist colonisers:

The fruit of the tree of knowledge transforms a person into a god. But since we are allowed to worship only one god, no one else can on the same level as him (or her?). (2005:16)

He adds, "The direct experience of the world has been replaced by an elaborate, theologically driven religion and is monopolized by the state" (2005:16). For him, the Fall was not simply a fall into consciousness or self-consciousness, but a fall into altered states of consciousness, into visionary states. This glimpse of "true" reality beyond the confines of the everyday facilitated by the eating of the fruit of the tree of knowledge of good and evil is condemned in the Bible. According to Rättsch, only an oppressive religion or ideology would choose to close this door to visionary experience.

Huxley provides a compelling account of medieval and Renaissance literature and art as expressing visionary experience, that is, the representation of a numinous realm experienced during altered states of consciousness. Furthermore, even Victorian and modern literature, where a numinous worldview has been dispensed with in a relentlessly materialist and utilitarian world, contains a desire for transcendence. Indeed, art, which has its origins in religion, seems to have replaced religion in meeting this need in modern societies. Lewis-Williams's shamanistic theory and neuropsychological model of altered states of consciousness, helps give precision to Huxley's descriptions, although they ultimately would disagree on the reality of the Other World. Archaeology reveals a preliterate world where altered states of consciousness belonged to a self-contained, spiritualist world view, from which all the forms of art originated. Altered states of consciousness may have led to the emergence of culture from nature, but in shamanic and priestly societies, trance states seem mostly to have been used to uphold the existing social order and to support religious or spiritual authority. Episodes of altered states of consciousness may be momentary transgressions of taboos, but they are usually followed by a return to the established order. Indeed, their temporary disruption may serve, in the long term, to reinforce authority.

Yet altered states of consciousness have sometimes had politically disruptive effects, as evident in the story of Joan of Arc, whose visions turned the war against England in favour of France, and in the mystical traditions, at which orthodox Christianity and Islam have always looked askance. They do contain disruptive potential. Atwood's *MaddAddam* imaginatively explores the possibility of the displacement of a capitalist order with a much more ancient one. In our modern, materialistic world, we have largely forgotten the shamanistic world view and, although traces remain of it in our art and literature, altered states of consciousness research, far from confirming belief in a numinous world, contributes to the disillusionment begun by the Enlightenment. Yet, by giving access to other worlds of experience, perhaps altered states of consciousness will always express our desire for a better world than the sordid reality that confronts us daily.

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