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**BLOOD AND CONSCIOUSNESS**  
THE SEARCH FOR EXPANDED CONSCIOUSNESS  
FROM PALAEOLITHIC TO MODERN MAN  
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Expanded consciousness lies at the core of our cultural development. From our first expressions one can see the hand of heightened awareness. As we stand at the threshold of a new millennium changes are happening at lightning pace, throwing open the possibilities of ever-greater catastrophes or solutions. Our chances of riding the wave are enormously increased if we give our decision-making master organ, the seat of consciousness, its best chance of functioning optimally. The more we know about the brain the better are our chances of survival; the ladder of evolution is the story of the evolving brain.

Apart from the brain's development there is the matter of its irrigation - the relationship of blood and consciousness and how the possibility of improving the blood supply can enhance the consciousness.

Consciousness can ebb and flow - expand and contract. The raw consciousness of sensation is common to all animals - what separates us is language, which changes the type of consciousness. With words we become self-conscious and project ourselves into the past and the future. Language facilitates the process of externalization and prepares the ground for both progress and confusion.

In the brain there are something like 100 billion neurons and each neuron can be connected to as many as 10,000 others. As we go through life the neural networks begin to form connections, building up an awesome pattern of interconnectivity...shifting configurations. In a newborn baby the connectivity is slight, but as time passes, the anatomical machinery of connections is established and expanded. 'Mind' and 'consciousness' are not the same. Mind is the growth of connections which reflects life experience. Consciousness is all that we are aware of at a given moment, all the sights, sounds, feelings, smells and thoughts. To expand consciousness means to be aware of more, to have more simultaneous perceptions and associations.

The source of consciousness is the oxidation of glucose: the energy of sunlight is encapsulated by plants and from there enters the human brain as glucose via the blood stream, where it combusts with oxygen and emits psychic light. The brain's only source of energy is the glucose in the blood. The brain, particularly the cortex, is extravagant in its use of energy and, although the blood supply to the brain is generous it is barely adequate, since the metabolism of the brain is very high and the cerebral tissue contains no reserves either of glucose or of oxygen.

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It is from the capillaries that the exchange of nutrients and waste products takes place, so a key point in the whole equation is the capillary volume in the human brain. On that depends the extent of the brain activity. To empower brain cells to do their function they must have sufficient energy. Increasing the energy supply permits more brain function....more consciousness.

When the ape stood upright many advantages followed, such as freeing the hands, running faster, seeing further, etc., but there was one major disadvantage: loss of blood from the brain due to the fact that the heart must push the blood up against the force of gravity. In the upright position a new balance is formed between the two fluid volumes in the brain in favour of cerebrospinal fluid, which not only has squatters rights, since it is produced and circulates only in the central nervous system, but is also lighter than blood. Myth expressed it as the 'Fall of Man', the expulsion from the Garden of Eden. The enemy is gravity – loss of blood from the brain is man's great misfortune, from which many consequences flow.

The major effect of this shortage of blood in the brain was the necessity to develop a mechanism of constriction, which would direct the now diminished amount of blood to the parts of the brain most essential for survival. Many key areas, such as the talking centre, (the centre of Broca) are high up in the cortex and the blood can only reach these areas if the arteries leading to large blocks of the rest of the brain are kept constricted. It's like an unsaturated sponge; to saturate the top the bottom must be squeezed.

This mechanism of blood distribution, first visualised by Bart Huges in the 1960's, describes the physiological roots of consciousness as based on the energy supply to the brain. It both looks at the overall blood supply to the brain and how that can vary, and the local distribution of blood within the brain. He saw how the need for control is increased by the loss of blood to the brain due to the upright position. This was a new physiological way of looking at the 'ego'....a fusion of Freud's concept of repression and Pavlov's conditioned reflex.

I see it working like this : by conditioning, the sound symbol, the word, becomes the stimulus for the distribution of blood in the brain. The word is the stimulus and the recognition of it is the conditioned reflex, which directs blood to both the talking centre and the part of the brain to be stimulated. A closed circuit is formed between the making of a word and the recognition of it; one word leads to the next and a chain of word associations is established which permanently keeps a supply of blood directed to the word communication centres, thereby enabling them to control behaviour. The word becomes the stimulus to wake up any centre and then by reflex blood is directed to it.

The fact that the use of the sound symbol to control behaviour became so much more developed in man than in any other animal was due, I feel, to the fact that survival demanded it. We not only had the necessary physical attributes such as an enlarged fore brain, vocal cords and tongue, but also, with less blood to go round, a rationing system was essential. The development of word recognition as a conditioned reflex mechanism became the perfect vehicle to control behaviour. I propose that the shortage of blood in the brain was an important factor in the development of language.

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To recap, 'Necessity is the mother of invention'. Because of gravity the upright ape lost blood from the brain. To compensate for this loss he developed a mechanism of repression which, by constricting the arteries leading to the rest of the brain, concentrated the blood in the essential areas. Specialisation in these skills of repression coincided with the development of speech. The words and the constriction became associated by conditioned reflex. The recognition of the word triggered a particular pattern of repression. Through a network of word associations, superimposed on the brain, the talking ape maintained control over the distribution of blood. Control over the irrigation of the brain developed with the word and the ability to rehearse actions in the mind (to think) gave him greater control over the external world. All animals communicate through the use of sounds. Homo sapiens just took the trick much further because of his special needs.

With language we developed the most sophisticated mechanism of self-control which enabled us to direct our attention in ever more subtle ways and evolve our behavior ever further away from its instinctual base. As thinking beings we are able to control not only ourselves, but also the environment to a degree far beyond the capacity of any other animal.

However, as Aldous Huxley said: "Human beings often behave with a stupidity, a lack of realism, a total inappropriateness of which animals are incapable", I suggest that this lack of common sense stems from the fact that the upright talking ape is short of blood in his brain and must repress whole blocks of his brain in order to keep control of his behavior.

### THE SHAMANIC TRADITION

The cave paintings of Chauvet are about 31.000 years old - the dawn of art. There is no doubt in my mind that the people whose hands inscribed those images were high. The drawings have such a forceful intensity, such economy of line, that they have never been surpassed. It is magic – for the first time the animal is captured symbolically and caught on the wall. The image that is imprinted in the brain at the sight of the highly charged happening is projected through the newly acquired skill of art onto the folds of the cave wall. It thus recreates the inner mental world in the underground world of the cave - the world of primal magic, fire, entheogens and wish fulfilment through symbolic representation.

The creator was a magician, a Shaman. A magician is basically someone who knows the art of expanding his or her consciousness. From the first drawing on the walls of the projected brain, the first pictograms, in time there evolved a shorthand visual symbol system, which ended with the alphabet. Number counting ran along parallel lines of development

The cultural life of man grew and blossomed with the simultaneous mastery of the use of fire and entheogens and the development of speech.

Because the ape that stood upright suffered a loss of blood from his brain he compensated and thereby overcame his disability by mastering two special survival tricks.

The first, being the development of the mechanism of repression already talked about and

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the second being the search for mind-altering substances which would restore the lost consciousness (in mythology the fruits of the Tree of Knowledge and Paradise regained).

In the early Palaeolithic societies it was most probably the women gatherers who were responsible for finding the various entheogens, such as mushrooms and psychoactive roots. Quite possibly it was wanting to make sure that they did not run out of these magic substances that was at the root of agriculture. The story is told in the myth of Demeter, the goddess of agriculture and founder of the Eleusinian mysteries with its sacred drink enriched with the psychoactive mould from grain.

With the control of fire early man started cooking and most likely, when roasting toads or snakes, inhaled the psychoactive fumes from the burning venom...the beginning of the story of incense-burning, that cornucopia of psychoactive pharmaceuticals. Perhaps they threw entheogens onto the fires they lit in the caves to make the paintings and inspire the audience. We know stone-age cultures used cannabis in ritual fashion. The remains of Neolithic tent poles together with stones on which cannabis was burnt show the early development of burning psychoactive substances in enclosed spaces. All religions made use of this practise. In 500 BC Herodotus describes the Scythians enjoying the experience in the tents so much that they "howled with pleasure".

The use of opium stretches far back into antiquity. Stone Age man used it for magic and medicine. Evidence of its domestication by European farmers has been found as far back as 6000 BC.

The early hunter-gatherer, partnership society was in many ways ideal. It lasted many thousands of years and produced great art. It was finally overrun by horse riding, sky-god worshipping, Indo-European tribesmen and a whole new phase began. The fermentation of alcohol encouraged more aggressive behaviour. With herded animals came wealth and a male-dominated hierarchy. With stratification of the classes came a tendency by those in control to keep the experience of heightened awareness to themselves, to forbid the masses to eat the food of the gods, in fact in some cultures, as described in the Old Testament, to ban all knowledge of it.

In many cultures, the knowledge of how to heighten consciousness became hidden, esoteric. It was dangerous knowledge to have. The forces of repression cut a trail through history – particularly bad in the case of Christianity, with its peak in the Inquisition. We are now in the death throes of that tradition, suffering under a legal system which attempts to stop the population from learning how to use the tools to expand consciousness in the most effective way; and further, by association, denying access to these substances for medication or scientific research. It is an amazing situation when that which has always been at the creative core of our culture is made taboo and becomes punishable by prison or worse.

Meanwhile, the old Palaeolithic culture lingered on and emerged in glorious outcrops – high peaks in our cultural history. The shamanic tradition reverberated through Tassili and Egypt, Crete and Eleusis, India, Asia and America. The Kabbalistic and Alchemical traditions also contained the esoteric knowledge of how to transmute energy and create the 'white light' of expanded consciousness; how to enter the Light and see the

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interconnectedness of all things. In Alchemy there is the image of the Philosopher's Stone being bathed in the Red Sea, which represents the initiation into knowledge, bathing the brain in blood – the red ocean inside the brain. Palaeolithic Shamanism thus descended through Egypt and Alchemy to the heart of the scientific revolution with Isaac Newton, who had an alchemical garden in his Cambridge lodgings, where he grew cannabis and opium amongst other psychoactive herbs.

In the tradition of the Mysteries, the primordial flesh and blood of the gods manifested itself as Soma, Manna and the Eucharist and brought to the participant (with the help of the entheogenic Sacrament) an influx of Spirit commonly felt as orgasmic possession. As Carl Ruck has put it: "It is a Sacred Marriage, in which the devotee experiences physical union with the Divine as religiously transmuted eroticism".

### TREPANATION

I'd like to suggest that there is another aspect of the shamanic tradition of how to expand consciousness, which since the Stone Age has cropped up independently in every continent of the world, and that is trepanation.

Trepanation is the oldest known operation in history. It is the removal of a piece of bone from the skull without entering the brain or damaging the membranes surrounding the brain. Explanations of the practice ranged from treatment of head wounds, to letting devils out, or light in. As Richard Rudgley has put it: "it is known from historical and ethnographic sources that trepanation has been undertaken to treat epilepsy, mental illness, demonic possession, fractures, severe and recurrent headaches, vertigo and deafness, as well as for the removal of foreign bodies and even as a supposed aid to prolonging life".

Historically it is often associated with cultures which used entheogens suggesting the two practices went well together. Possibly it was used as an initiation into the priest cast as is suggested by the trepanned skulls found in ceremonial graves in Peru.

Shiva, god of drugs, was trepanned, and the Third Eye so often painted on the forehead in the East may have been a symbolic relic of trepanation. It is said to have been practised in Buddhist monasteries and even the Christian monks' tonsure is supposed to be an indication of their having practised it. There is the famous Bosch painting of the "Cure of Folly" and several others of that period, by Breughel among others. There is further evidence of trepanation being associated with Shamanic practises in Mongolia from earliest times. We know the Egyptians could trepan, as there are detailed descriptions of how to do it from the eighteenth dynasty, but it was hardly practised there, possibly because of the sacred preservation of the whole body. In Pre-Colombian America it was practised extensively. In Europe it was done as a treatment for many complaints including migraine, epilepsy and other mental disorders right up to the First World War when lobotomy started to be practised and simple trepanation was left behind as superstition, as it had no physiological explanation. In certain parts of the world, such as among the Kisii tribe in Africa it is practised to the present day.

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The survival rate in ancient times and in primitive cultures was surprisingly high, indeed much higher than was found in nineteenth century Europe, until the discovery of anti-septic techniques. One can tell if the person survived the operation by the character of the bone around the hole; the edges soften if the person survived.

I suggest that trepanation lifts the psychic level in the same direction as the entheogens, but to a much lesser degree. That it returns the internal economy of the blood supply to the brain to the level it was at in childhood before the sealing of the skull.

The hypothesis proposes that when the skull seals at the end of growth, there is a further loss of blood to the brain, that is in addition to the loss suffered by the adoption of the upright position. The level of brain metabolism in the adult is therefore at its lowest norm in life.

To understand why this may be so we must consider the development of the newborn baby, with its open fontanelles and unsealed sutures, progressing to adulthood when both fontanelles and sutures have closed. While they were open the membranes surrounding the brain could reverberate on the heartbeat. However when they close the expression of the pulse wave in the little arteries of the brain is inhibited.... pressure is lost to the brain contents and, as capillaries shrink, the volume of cerebrospinal fluid increases correspondingly. Making a hole in the skull restores the brain's ability to expand. The elastic membranes surrounding the brain can pulsate on the heartbeat. The enhanced pulse exerts force against the reservoir of cerebrospinal fluid, forcing some fluid out of the central nervous system. Capillaries dilate until a new balance is formed in the ratio between the two fluid volumes. The brain blood volume is restored to the level of childhood. Once restored the new level is permanent.

### MODERN DAY USE OF PSYCHEDELICS

As we all know one can have different degrees or levels of consciousness. To lift the level from its lowest norm tends to increase sensation and enhance common sense. When blocks of the brain are repressed from function and the natural flow of sensations and thoughts is impeded, common sense is obscured.

It takes time to learn how to use a new drug sensibly. In the 1960's the heroic trip was normal, with the result that many people ended in the emergency rooms and many flipped out, doing permanent damage to their psyches.

When I learnt about the mechanism of brain blood volume, I found it possible to work out a protocol where one could use LSD, with or without other substances such as marijuana and psilocybin, to enhance one's cognitive functioning and enjoyment of life for a prolonged length of time.

What I liked best was to raise the floor to a level where inspiration was optimised without the maintenance of control being too much of a problem.

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Of course most people adapt to the lower level of adulthood perfectly well, but there is a segment of the population that struggles to regain that lost vitality...they feel more inspired and happier when they get a little high. It is for this group that the information on how to expand consciousness in the safest way is so important. Without knowledge of the physiology it is easy to fall into toxicity and addiction. One of the troubles is that the non-addictive psychovitamins, like LSD and psilocybin, can be much more disturbing to take and so people often take refuge in toxic substances like alcohol and heroin, which get them high, but soften the hard edges by wrapping the person in a toxic blanket of forgetfulness which, in time, often leads to addiction.

I am a great believer in the potential benefits of the smaller dose – a gentle lift can be useful in a wide variety of situations: enhancing one's sense of fun and creativity, working out emotional problems, or enjoying beauty. It can also be a useful tool to alleviate different problems, such as old age, depression, addiction, anxiety and pain. I know a man in his 80's, whose wife had died after 50 years of marriage, who took a small dose of LSD and said it had been a great help, lifting him out of his depression and opening his ears to the beauty of music again. An American writer I know who tried the daily protocol told me his production had doubled. A racing cyclist said it put up his performance, and there are many other examples. Obviously, in time, these claims need to be scientifically measured.

When I was painting, I found I did my best work in the half-hour after a smoke -when the juices are flowing – the visual centres stimulated – more light – more play, widening the web of associations, adding to the excitement.

But obviously, having a smoke is a disaster for certain precision activities, such as doing accounts or sorting paperwork. The blurry heights just add to the confusion. The high of a small dose of LSD is slightly different from marijuana; it is cleaner and clearer. Marijuana can fog the issue, make one forgetful, for some people it makes them paranoid.

Even the spider is effected by different drugs.

I think a person needs to be very disciplined to keep taking the right drugs in the right way. It is much easier not to. Taking psychedelics can be looked on as a quasi-religious discipline. Most people give up taking LSD as they get older. After one or two traumatic occurrences they can't face it anymore. They follow the instructions of Allan Watts, who said: "once you've got the message, hang up the line". But, I think, it is not just one message one is looking for, it is a state of consciousness; it is a light to illuminate the dark recesses of the psyche. That is where the protocol of the small trip can be so valuable. It is not so frightening but it still lifts one above habitual restrictions, adds sparkle and cuts a small hole in the cultural fence, which, as Huxley said, is "such an urgent necessity".

The psychedelics can be used in several ways.

First they can be used at a heroic level – in the traditional religious context, to awake the god within - to lift the psyche to the place of mystical union – the place where the ego is lost in the oceanic unity - a place central to all Shamanic and mystical traditions – the core of the religious experience, so beautifully described by Huston Smith in his wonderful book 'Cleansing the Doors of Perception'.

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Secondly, at the opposite end of the scale, they can be used as recreational aids. They add joy and vitality to the lives of millions of people around the world.

They help lift them above the mundane life to dance and play the night away.

Drugs can be fun, and I never really understand why people snoot at the recreational use of these mood-lifting substances.

And thirdly drugs can be used as medicine. I use the term 'medical A' for the lower dose LSD trip. When used with discipline, the psychedelics can be used as tools to magnify awareness, they can be life enhancers, thought promoters. They can be used to increase cognitive functioning, and as essential adjuncts to brainstorming sessions. If one has to make a difficult decision, it can be a great advantage to look at it from the higher view point, as well as from the ground floor. The added height can give us a better perspective, a fuller picture. It's not always the case; mood – the set and setting - have their importance. However, I have found that with the knowledge that different levels of consciousness are dependent on different amounts of blood in the brain, plus knowledge of the sugar level factor, the psychedelics become much more usable in one's working life – particularly the creative side of it.

In traditional societies, psychoactive pharmaceuticals have always been a major part of the medicine box. It is only the effect of an overactive taboo which has put them beyond the pale. Even as recently as the nineteenth century psychoactive substances were regularly used by such upholders of conservatism as Queen Victoria and Bismarck. History is littered with stories; from the early mystery cults with their amanita muscaria sacraments to Marcus Aurelius, who had a lump of opium with his breakfast, and John Lennon, who had a cup of tea and a tab of acid with his, not to mention Socrates, who may have had to commit suicide because he was profaning the Eleusinian mysteries by taking the drugs out of their sacred setting and into the dinner party with his young friends. Recently, pipes with traces of cannabis and cocaine have been found at Stratford on Avon, which are contemporary with Shakespeare, making sense of some of his more obscure references.

The list is long and doubtless as the modern day psychedelic sleuths continue their detective work, more and more evidence will emerge of the importance of expanded consciousness in our cultural heritage. Only recently I was told by Michael Carmichael that the eighteenth dynasty in Egypt, that breakthrough high point of Egyptian culture, also marked the zenith of their use of entheogens. It was also the time when the custom of binding the royal skulls was practised.

I would like to suggest that seeing the different levels of consciousness as being dependent on the blood supply to the brain adds a keystone in our understanding of ourselves, by making it much easier to integrate the use of these substances and techniques into one's everyday life.

**THE MECHANISM OF BRAIN BLOOD VOLUME**

Now, as briefly as possible, I will try to summarise the hypothesis described by Bart Huges in 1962 and called by him the Mechanism of Brain Blood Volume.

It starts from the premise that the level of consciousness is dependent on the quantity of blood in the brain capillaries. In the brain there are two fluid volumes, blood and cerebrospinal fluid, and the ratio between them can alter depending on various factors. The cerebrospinal fluid is mainly water and is lighter than blood.

In order for the volume of blood to increase there must be enough intracranial pressure to expel some water out of the central nervous system, leaving extra blood in the brain capillaries until gravity reclaims it and the ratio returns to normal.

This intracranial pressure can be produced in a number of ways. The most obvious is to stand on one's head so that one uses gravity to one's advantage – the yogis know this, as does Albert Hofmann, who hangs from his feet every morning, "to get more blood in the brain". And a Sufi mystic of the 12<sup>th</sup> century, who claimed god was in his head, was executed by being hung upside down until his capillaries burst.

The body's technique to expand consciousness is through the hormone adrenaline. This is a vaso-constrictor. With the neck veins constricted, blood continues to enter the brain by the arteries but, as the exit is impeded, intra-cranial pressure builds up and cerebrospinal fluid is pressed out, leaving more blood in the brain, thereby enhancing rapid thinking and action. Adrenaline also maintains the correct level of sugar in the blood by releasing more glucose from liver and muscle for the use of the extravagant brain cells.

Adrenaline is the animal's trick to expand consciousness. If one looks at patterns of behaviour, one sees people repeatedly doing things to stimulate their adrenaline: such as excessive exercise, falling in love, chasing danger, losing the temper, getting inspired, or whatever.

However, there are also other ways to constrict the veins, for example by the ingestion of substances which have a similar action to adrenaline. Huxley wrote in 1954 of the close similarity in chemical composition between mescaline, LSD and adrenaline and it has been proposed that one of the basic actions of the psychedelics is to constrict veins.

It has always been noticed by observers of LSD how variable and unspecific its effect is - not only does it affect different people in different ways, but it affects the same person in different ways, both within the same trip, and from trip to trip.

As Lester Grinspoon remarks, "everything in the field of consciousness assumes unusual importance, feelings become magnified to a degree of intensity and purity almost never experienced in daily life". You cannot predict a specific effect. This ties in perfectly if you take as its basic effect the increase of the blood to the brain – the increase of blood brings about an acceleration of brain metabolism, the field of attention is widened, but which area is stimulated depends on where the blood is directed to.

The common denominator from one experience to another is that there is a much wider field of simultaneous action, more of the stimuli bombarding the gates of consciousness get through.

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There is one important consequence which comes from having more blood in the brain as a result of taking psychedelics: the sugar level falls. Brain cells are very greedy. With an increased supply of blood there is an increased consumption of glucose. The function of concentration, the focussing of attention, requires a normal level of glucose. Speech in particular, being a totally abstract function, is entirely dependent on an adequate level of glucose in the brain's blood supply. The less sugar there is the less meaning the words have. Since self-control depends on the meaning of our words, with the fall in the sugar level the maintenance of sanity itself is threatened.

The sugar level of the blood is regulated by two reflexes: the adrenal and the insulin. If it falls to a certain level adrenaline is automatically secreted, which injects more glucose into the blood from the liver and muscle. If the level is too high insulin is secreted to extract the surplus and store it in the liver. For the synthesis of adrenaline vitamin C is essential as an oxygen-reducing agent. As long as one has a supply of adrenaline one is safe on the physical side, but, for effective verbal operations one needs to maintain the normal sugar-level of the blood in the brain.

Without a supply of vitamin C one can easily run out of adrenaline and it is at this point that the dangers of insanity appear i.e.: permanent loss of the meaning of words.

Many of the characteristics attributed to LSD are actually the effects of hypoglycaemia, the inability to concentrate, uncoordinated actions, paranoia, hallucinations etc. One of the advantages of the low dose protocol, medical A, is that it lessens the effort of maintaining the all important sugar level.

### MODERN DAY TREPANATION

I trepanned myself in 1970, I know this probably sounds rather extreme, so I will tell you a little bit about how I came to that situation:

I grew up with an early interest in comparative religions and in particular mysticism. This was probably because my godfather was a renowned Buddhist monk in Ceylon. As I was forbidden to study mysticism at my Catholic school, I left at 16, and headed without any money towards Ceylon ending up living with the Bedouin in Syria. I then studied mysticism and comparative religions at Oxford with R. C. Zaehner of *All Souls*. At this time I started taking drugs (or rather bioassaying shamanic entheogens - as Jonathan Ott would say). When I was 21, while studying in Egypt, I thought I had caught bilhartsia from diving into the Pool of Osiris at Abydos. I felt so drained, but in retrospect, I think it was just perception of the loss of blood from the brain due to adulthood. When I was 23 I was lucky enough to meet Bart Huges, from whom I learnt about the physiology underlying the changing levels of consciousness. This enabled me to live and work at the higher levels. It was the information I had been looking for.

During the following years I lived on acid, I studied all the books of Freud and analysed my dreams. On the heightened level of LSD I could be both doctor and patient, keeping the sugar level high enough to concentrate to read and then allowing it to fall, often by fasting while on LSD, in order to dissolve the repressions and regress.

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During this period we played thousands of games of the ancient Chinese game of 'Go', a very good test of cognitive functioning as there is no element of luck. There was no doubt that one played one's best game on LSD with a normal sugar level.

After four years of unsuccessfully looking for a doctor to trepan me, I did it myself. I filmed the procedure and will show a shortened version today. That was in 1970. In 2000 I was trepanned again by a neurosurgeon in Mexico City as the hole had closed. I also wanted to check the proficiency of the surgeon before recommending him to other people. On both occasions I was very pleased with the results. I think trepanation gives you a little more energy, more buoyancy. You feel more positive. Obviously, it doesn't eliminate the personality shortcomings, but by lifting the psychic floor it becomes slightly easier to deal with them and life's problems. After the operation, on both occasions, I thought: 'this is worth having...'; of course the change brought about by trepanation is so subtle and subjective that it is essential to show with modern brain imaging techniques what, if any, are the physiological changes.

Since I came across this new angle of insight in 1966, I have wanted to both pass it on and verify it, by encouraging the medical profession to research it. Over the last 35 years I have written articles, done exhibitions in New York, London, and elsewhere and made programs for TV, including '60 minutes'. I also twice stood for parliament on the platform of 'Trepanation for the National Health'.

I hope to slowly work away at the taboo. In the last few years I have set up three foundations. The Trepanation Trust to give information about this ancient operation and research its physiological basis. The Beckley Foundation, which organises consultations on such subjects as 'Society and Drugs', 'Psychedelics as Medicine', etc. in the hope of helping to change the law and thirdly, the 'Foundation to Further Consciousness', whose main aim is to commission leading scientists to investigate the changes in the brain when consciousness is altered— by whatever means. Particular emphasis is placed on observing any possible changes in the blood supply to the brain and how that interrelates with changes in neural activity.

To illuminate the internal world of the brain one can now use the latest art of brain imaging: MRIs, PET scans, and Ultrasound. A PET scan has already revealed that glucose metabolism in a subject on psilocybin increases globally by 10% and in the frontal cortex by 30 to 40 %.

Just as Palaeolithic man gained control over the external world by capturing its image on cave walls, so too can we gain added control over our consciousness by better understanding how it works.

Just as the oxidation of carbon in a fire produces light, so too does the oxidation of glucose in a brain produce consciousness – psychic light.