BECKLEY
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The Coming-of-Age of LSD

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This is a celebration of the coming of age of LSD, Albert Hofmann's great discovery, and of the overturning of the 50-year ban on LSD research.

On Monday we released the results of the first-ever brain-imaging study of the mechanisms underlying the actions of LSD - enabling us better to understand how it brings about its fundamental changes to consciousness.

I think Albert would have been delighted to have his "Problem child" celebrated at the Royal Society, as in his long lifetime the academic establishment never recognised his great contribution to science and to humanity. But for the taboo surrounding this field, he would, surely, have won the Nobel Prize.

He discovered LSD on the 16th April, 73 years ago – through a strange premonition: to resynthesize a compound he had made and discarded 5 years earlier. Unaccountably, he ingested a minute amount of the compound, LSD-25. He experienced strong sensory and cognitive alterations, which reminded him of the mystical episodes of his youth.

That was the beginning of the modern psychedelic age, which has fundamentally changed society.

Its contemporary, was the atom bomb.

After the discovery of LSD in 1943, there was a burst of excitement in the medical and therapeutic worlds – over 3000 experimental and clinical studies were undertaken. Then, in the early 60s, LSD escaped from the labs and began to spread like wild-fire into the world at large.

Fuelled by its transformational insights, a cultural evolution took place, whose effects are still felt today. It sparked a wave of interest in Eastern mysticism, healthy living, nurturing the environment, individual freedoms, and new music and art among other things

The establishment panicked and turned to prohibition, partly motivated by the American youth becoming disenchanted with fighting a war in far off Vietnam.

The UN, controlled by the United States, created the drug conventions of 1961, 71 and 88. This resulted in LSD becoming as strictly controlled as nuclear weapons. All research ended. Although, in theory, scientific and medical research was allowed by the UN Conventions, in fact the obstructions were so great that it became impossible: there was no funding or ethical approvals, and institutions and

scientists didn't want to be contaminated by finding positive results, which would damage their reputations and careers.

It is an amazing indictment of modern society that these substances that have played such a vital role in the cultural evolution of homo sapiens – aiding our development of language, spirituality, music, art and medicine – became Taboo. They have always been at the core of society, shrouded in mystery, but they became toxic in the mind of society – moving from being known as the "Flesh of the Gods", to substances of damnation and criminalization.

I was introduced to LSD in 1965. I discovered that this compound enabled one to reach the state described by the mystics. In 1966 I met, and started working with, a Dutch scientist of unique insight, Bart Huges, who had developed two new hypotheses: one about the changes in blood supply in the brain, underlying the changing states of consciousness; and the other describing the ego as a conditioned-reflex mechanism, that controls the distribution of blood in the brain.

For many years I used LSD as a tool to enhance work, creativity, self-discovery and enjoyment. I decided to devote my life to understanding more about the brain and how to improve its functioning, and to undertake scientific research to unravel the mysteries underlying consciousness and its altered states. This period of my life fundamentally influenced my future endeavors, and ultimately led to my setting up the Beckley Foundation in 1998.

The Foundation had two main aims: firstly, to investigate the mechanisms underlying consciousness and its changing states; and secondly, to reform global drug policy.

With the advent of brain-imaging technology in the 1990s, it became possible to correlate the subjective experience of altered states of consciousness, with neurobiological findings.

I realised that only through the very best scientific investigations of how these substances work in the brain, could one overcome the taboo.

My aim was, and is, to re-integrate these valuable compounds into the fabric of society, and to make their benefits available where appropriate.

I met Albert Hoffman in the 1990s. Later, I promised him that I would overcome the taboo and carry out scientific research with LSD and human subjects, in time for his 100th birthday, in 2006. But slow grind the mills of the gods! Due to the extraordinary administrative and psychological obstacles placed in the path of psychedelic research, I missed the date by ten years!

I hope that the results of the current study, presented today, will launch a wave of new research, and lead to the recognition of LSD as the jewel in the crown of psychoactive substances - an invaluable tool to enhance human consciousness and help heal many of man's most intractable illnesses, most often based on an excessively rigid pattern of thinking.

It is only by altering consciousness that we can compare it with daily consciousness, and thereby learn about the mechanisms underlying its function. LSD is the most incredible tool to advance neuroscience.

Over the years I undertook many collaborations with leading scientists and institutions around the world. My partnership with Dave Nutt has been particularly rewarding. It began in 2005 with a brain-imaging study into the effects of cannabis. Shortly after that, Robin Carhart-Harris came to see me about his Ph.D., and I suggested he visit Dave Nutt. After Dave moved to Imperial College in 2009, we started

the Beckley/Imperial Research Programme, with the first study investigating psilocybin using fMRI and MEG, with Robin as lead investigator.

This was a very important study which demonstrated for the first time how psilocybin reduces the repressive, censoring function of the default mode network – a major network associated with maintaining a sense of self and ego boundaries. With its controlling function reduced, brain activity becomes more entropic, chaotic and primal. This looser state of consciousness helps re-set entrenched and obsessive patterns of thoughts, as well as enabling new associations and solutions to be formed.

In 2014, we finally got approval for an LSD study, something I had been intent on doing for many decades.

The results of the study are very revealing. They give us a glimpse of how LSD affects brain-activity. They demonstrate how marked changes in blood-flow, electrical activity and network communication patterns, correlate with the subjective experiences of LSD.

The study uncovers the neural basis of such important phenomena as "ego-dissolution", as well as increasing our understanding of the mechanisms underlying visual hallucinations, and the synergetic effects of LSD and music.

These latter results confirm the long-held, but never scientifically-tested assumption, that LSD and music work together to evoke emotions, visions and personal memories. This affirms the importance of music for psychedelic-assisted therapy.

We also find that LSD produces lasting changes in personality - two weeks after taking the drug, people report being more "open to experiences" and "optimistic". Interestingly, people who reported the most positive changes in personality, were the ones whose brain-activity was more "entropic" or chaotic.

The major emphasis of our research and analysis is on the changes in network connectivity. After psychedelics, the connectivity within individual networks decreases, while the connectivity between the separate networks increases. In other words, networks that normally 'don't talk' to each other become connected, producing a more unified brain.

These results have deep implications for the neurobiology of consciousness, and for the potential applications of psychedelics in the treatment of mental health problems, and the enhancement of well-being.

Our latest pilot study – psilocybin-for-depression- is already providing remarkable results, where after only two treatment sessions, patients with severe treatment-resistant depression, experience rapid and enduring reductions in their symptoms.

We hypothesise that the changes in network connectivity brought about by psychedelics play an important role in their beneficial effects.

I am also collaborating on a number of scientific projects around the world using psychedelics, and they continually surprise one with their very positive results. This is an indication that these substances do indeed have medical value, and that in order not to deprive patients in need of appropriate treatment, they should be moved from Schedule 1 to Schedule 2, thereby, by-passing many of the obstacles which make this research so very difficult, and also enabling doctors to prescribe them where appropriate.

Later this week I am going to New York to attend UNGASS – the UN Special Session on Global Drug Policy. I will be promoting a Beckley Foundation petition calling for countries to reschedule cannabis and psychedelics.

The last such UNGASS, in 1998, came up with the empty slogan: "A drug-free world: we can do it!" Over the last 18 years, slow progress has been made towards reform, mainly due to civil society and to the Latin American countries, which have suffered the most from the unwinnable war on drugs.

We cannot maintain a drug policy as unsuccessful and counterproductive as that of the twentieth century. A new global response to drugs is essential, one grounded in science, health, compassion and human rights.

It is really exciting to be at the forefront of psychedelic research, which has the ability to help treat many of today's most intractable illnesses, such as depression, anxiety, and addiction. And apart from helping to cure disabilities, these compounds can also help improve the lives of healthy people – increasing openness, wellbeing, empathy and compassion, creativity and enjoyment of beauty.

LSD has the great advantage that it can be used in many different doses - from the microdose, through the median dose, to the high dose, each of which has its separate characteristics. From stimulating creativity and productivity, to breaking through to the heart of the trauma … or preparing the ground for a mystical experience.

What I find particularly exciting, is learning more about consciousness itself. What indeed can be more important than unravelling our inner most being, and following the instruction of the Delphic oracle to "know thyself".

We need to recognise that changing states of consciousness can be an enhancement, and just as the freedom of conscience, religion and the right to develop the personality are human rights, recognised by the UN, so too should be the freedom of consciousness, so long as the individual does not harm others.
It seems amazing that something so totally personal as changing one's level of consciousness could be considered an illegal act. But there is a turning of the tide both in policy and in scientific research.
This study is just the beginning.

Our next research will further the investigations we have already begun, including comparing LSD with DMT. A study I am particularly keen on doing, is investigating the potential of LSD to enhance creativity ... using the ancient Chinese game of GO as the test. This game is a wonderful measure of intuitive pattern recognition.

Thank you, everyone, for coming here today, and now I will pass you over to the other members of our great team.