



BECKLEY
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FROM TABOO TO TREATMENT:
THE COMING OF AGE OF PSYCHEDELIC MEDICINE

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After decades of draconian drug-laws and repressive stigma obstructing the development of psychedelic research, we are finally seeing a new dawn. Clinical studies are progressing at a pace, neuro-imaging is breaking new ground in helping to explain the mechanisms underlying the action of these drugs, and the media are awash with stories of the therapeutic power of psychedelics.

There is increasing clinical evidence of something that users of psychedelics have always known – that these drugs are invaluable tools with which we can unlock deeper levels of the psyche, and that they can transform the individual in profound and beneficial ways. They are the new *neural-transformational medicines* of the future.

The combination of psychedelics and brain-imaging enables us to study the mind and consciousness - the very things that define our quality of life and, indeed, the human condition - at a new level.

An interest in consciousness is where my own personal journey began. I grew up in an isolated, rural situation, with nothing much to do except drift around dreaming of possible realities. This later developed into a passion for mysticism, and the unifying mystical states of different religions.

William James and Aldous Huxley had both been family friends of my grandparents, and perhaps the ideas of these men silently permeated the environment. James had declared that “compared to what we *ought* to be, we are only half awake”, a sentiment that has resonated with me throughout my life.

Huxley's idea about the brain as a *reducing-valve*, *constraining consciousness* always made sense to me, and in many ways predicted the findings of our neuro-scientific research today.

At 16 I left school early, because the nuns refused to allow me books on Buddhism. I then studied under the world's leading expert on mysticism, Prof. Zaehner of All Souls' College, Oxford. He had recently written *Mysticism, Sacred and Profane*, which designated his own psychedelic experience as profane. It was some years later, in 1965, that I took my first LSD, and realized that he was wrong, and that far from being *profane*, the experience was *spiritually profound*. LSD clearly exposed the different states of consciousness hiding behind the "filmiest of screens" that William James had described.

Unfortunately, in 1966 a mal-intentioned individual who ran the *World Psychedelic Centre* in Chelsea, and who had turned Leary onto his first LSD trip, spiked my coffee with thousands of doses of LSD, which he kept in a famous vinegar bottle. Once I regained consciousness, I retreated to a hut in the countryside, and pulled the fragments of my shattered psyche back together again.

This might have put me off psychedelics for life but, by good fate, I soon afterwards met Bart Huges, a Dutch scientist of exceptional insight, who had developed a hypothesis of how LSD worked in the brain, and of how one could maintain control over one's expanded consciousness by ensuring a sufficient supply of vitamin C and glucose. Because we fell in love, I pulled myself together, and dived back into a life enhanced by LSD.

In those days, before prohibition, we took large doses on a regular basis, to enhance and sharpen our cognitive abilities. We wanted to maintain our concentration in order to gain a deeper insight into the human condition, and to build up a better understanding of the importance of the ego, and of its rôle in forming a filter between *external reality as-it-is*, and the *internal perception of it*.

We humans are unique in having developed this ego-mechanism, which is based upon *word-recognition*. It underlies our brilliance, but also our neuroses and psychopathologies.

Bart's hypothesis was that altered states of consciousness brought about by psychedelics are based upon an *increased volume of blood in the brain-capillaries*, which provides more brain-cells with oxygen and glucose. His other major insight was the first scientific description of the 'ego', as a *conditioned-reflex mechanism which controls the distribution of blood in the brain*.

With a better understanding of the ego, and of the mechanisms underlying altered states, we were able to use the LSD-experience both to enhance our working abilities, and to delve deeply into the psyche and wash out repressed trauma. I felt as if I had passed through a 'portal' of new understanding, both of myself and of humankind.

It was then that I decided that I had found my mission in life: to *scientifically* research these changing states of consciousness, and their potential value for the individual and humanity, and to *integrate* this knowledge into modern society.

However, as a female-with-a-vision, but with no letters after her name, and little money, how can one change global drug-policy, and undertake controversial scientific research into psychedelics and consciousness?

Answer: become a Foundation!

So, in 1996 I did just that, and set up the *Foundation to Further Consciousness*, later renamed the *Beckley Foundation*. I gained credibility by getting the best scientists in the field onto my Scientific Advisory Board, starting with Albert Hofmann.

My first scientific endeavour to investigate the truth of our hypothesis was in 1998 with Franz Vollenweider. Using PET, we investigated the changes in blood-supply in the brain brought about by psilocybin. The results were positive, but the paper was, alas, never published.

However, in these early days, my main focus was on policy-change, because psychedelics had become so taboo that it was almost impossible to find scientists or institutions willing to get involved, and to face the regulatory barriers to conducting the research, particularly if there was the possibility of *positive findings*, which could ruin their careers.

I set about organizing a series of international Seminars at the House of Lords, to which I invited leading scientists, politicians and experts. Key policy-issues were debated, that shed light on the harms of the present prohibitionist approach, and on how best to develop new policies to reduce harms, improve health, cut costs and respect human rights. Through the Beckley Foundation, we produced reports and books, and set up organisations, which later became independent. We presented at the UN, and advised international governments. Slowly, attitudes began to change.

The devastation caused by the unintended fall-out of the War on Drugs was far greater than the damage arising from the drugs themselves. I think there has been no other civil issue which has caused such *unnecessary* suffering worldwide. The drug laws, which were created by the US, through the mouth of the United Nations, were based upon misconceptions and political expediency. Although they have shown themselves to be a total failure, they are set in stone, like the Book of Mormon. Hundreds of billions of dollars are spent each year, prisons are filled, tens of thousands die, corruption is rampant, and the flow of drugs still increases. There has been no commitment to reviewing, let alone to reversing, these policies.

I had watched the drug-war take root in the early 1970s, and grow like a cancer through the flesh of society. It is a clear reflection of the mistakes that man can make, because of the interference of a misinformed ego.

Surprisingly, however, the US, which prohibits the rest of the world from reforming its drug-policies, has made great strides itself in reforming cannabis policy. Recreational cannabis is now legal in 8 states and Washington DC, and 28 states permit the medical use of cannabis - testimony to the fact that change can, and will, occur. Decades from now people will puzzle at the absurdity of our current drug-laws, and be appalled by the suffering that they have caused.

Among the sources of suffering is the fact that research into the healing potential of psychedelics, and cannabis, has been virtually blocked, so that millions of people have been deprived of psychedelic-assisted therapy which could have improved, or healed, their conditions.

For many years, I found myself caught in a Catch-22: policy-reform was impossible without scientific evidence to support it; and scientific research was impossible without policy-reform. But now, after nearly two decades of slow advance on both fronts, the tide has turned, and Catch-22 has been replaced with a positive feedback-loop, where ground-breaking research will hopefully lead to policy-reform, to a widening of research, and to the availability of psychedelic medicines.

During my 18 years as Director of the Beckley Foundation, I have established collaborative programmes with scientists and universities around the world.

A major breakthrough happened in 2005, when I joined forces with Prof. David Nutt to re-launch psychedelic research in the UK. As this had not been done for decades, we started with cannabis, as Dave doubted we would get approvals for LSD, which was what I most wanted to do. Later, Robin Carhart-Harris joined us, and when in 2009, Dave moved to Imperial College, London, we launched the *Beckley/Imperial Research Programme*, co-directed by Dave and myself, with our first brain-imaging study on psilocybin.

We have since carried out pioneering brain-imaging studies with MDMA, LSD and now DMT. It has been a wonderfully productive partnership, and I am delighted to be working with Dave, Robin, and now the larger team.

Another exciting collaboration has been with Jordi Riba, in the forming of the *Beckley/Sant Pau Research Programme*. This has concentrated primarily on ayahuasca, although we are now starting the first research to investigate 5 MeO-DMT in comparison with DMT.

Our research is confirming what we had expected - that psychedelics can evoke powerful, often transcendent experiences, that can lead to positive changes in mood, well-being and personality-traits, persisting for days, weeks or even years.

Results from our 2015 *Beckley/Imperial* investigation of psilocybin for *treatment-resistant depression* were remarkable. 67% of subjects, who received 2 doses of psilocybin, one of which was very low, were in remission one week after taking psilocybin, and 42% remained depression-free after three months. This was an unprecedented achievement, as participants had suffered from depression for an average of 18 years, and had failed to respond to any other treatment.

In 2014, within the *Beckley/Imperial Research Programme*, we started the *first-ever brain-imaging study with LSD in human subjects*. This study was particularly close to my heart, as I had wanted to do it since the 1960s, and I had made a promise to Albert Hofmann to reintegrate his “problem child” into the scientific world for his 100th birthday present.

One of our key results was a *dramatic increase in global connectivity across the brain*. Brain-regions that do not usually communicate with each other became *highly-connected* under LSD, resulting in a *more integrated* brain. In addition to more connectivity across the entire brain, we found that LSD *reduced* communication between certain regions of the brain that are responsible for creating a narrative self, namely the *parahippocampus* and the *posterior cingulate cortex*. These changes were associated with participants reporting that their normal sense of self had been altered, or lost entirely.

Many aspects of selfhood can be attributed to the functioning of a brain-network called the *Default-Mode Network* - the DMN - which is active when we are not focused on a specific task, but rather are reflecting on our personal past, present and future.

Normal functioning of the Default Mode Network affords a relative stability to this sense of self. However, an *over-active* DMN can result in *maladaptive* thought patterns, ruminations and compulsive behaviours, that become over-dominant and entrenched, and seemingly inescapable.

These can manifest as a sense of hopelessness for personal change, contributing to the development of mental illnesses, such as depression and addiction.

Knowing that the DMN is overactive in mental illnesses, we were interested to see that the psychedelics - namely psilocybin, LSD and ayahuasca - have all been shown to *lessen the censoring control* of the Default Mode Network.

Many of the changes to the Default Mode Network were associated with alterations in the normal sense of self, and, in our ayahuasca studies with Jordi, we found certain changes in the DMN to be associated with an improved *ability for mindfulness*, particularly an ability to “*decentre*”.

"Decentering" is the capacity to observe your thoughts and feelings, rather than closely identifying with them, so that you can be less judgmental and reactive towards them. The ability to "decentre", whether natural or fostered by meditation, has been strongly linked to a *reduced risk of mental illnesses*. In our study, participants' scores, after a single dose of ayahuasca, were similar to those of experienced meditators with many years of training.

Interestingly, our Beckley/Sant Pau research has also revealed a shrinking in the *posterior cingulate cortex* among regular ayahuasca drinkers. The posterior cingulate cortex is part of the brain's Default Mode Network, and its shrinking was found to correlate with *increases in mindfulness-related traits*, such as self-transcendence and openness.

We are only just beginning to untangle the mechanisms underlying the psychedelics, but it appears that their healing capacity comes largely from the interruption of the *repressive control* of the Default Mode Network.

The psychedelics can **reset** fixed patterns of behaviour, **rebooting** the mind, so that the compulsive voice of need, or depression, is quietened.

For those who are *not* suffering from a particular ailment, the experience of diminishing the repressive power of the Default-Mode Network, and stimulating the *whole of the brain* to communicate, can lead to a *looser style* of cognition, more prone to making new associations, increasing intuitive pattern-recognition, facilitating spontaneous self-insight, fresh perspectives, and enhanced creativity.

I think that psilocybin is now well on the road to recognition as a drug with medical benefits. We have demonstrated its remarkable power to help people to overcome addiction and depression and the existential fear of dying. And it has been proved to reliably stimulate the mystical experience, which plays a key role in its therapeutic effect.

However, while LSD can most likely do everything that psilocybin can do, it is the Cinderella of the psychedelics, wrapped in 50 years of toxic media—it is the baby chick just cracking out of its shell - I have a great fondness for birds. I am dedicated to righting this wrong, and to carrying out research which will demonstrate its great value.

I am currently undertaking a series of studies investigating the mechanisms underlying LSD's action, as well as resuming the research started in the 1950s to investigate *its efficacy in the treatment of alcohol-*

addiction – it is good to remember that Bill Wilson, the founder of AA, was a keen advocate of LSD in the treatment of addiction, but was over-ruled.

Another study I would like to mention harks back to the days when I was a keen Go player. I found that I won more games when on LSD, indicating to me its power to increase *intuitive pattern-recognition* and creativity. In addition to using the game of Go as a test for enhanced creativity, this brain-imaging study will investigate whether, and how, micro-dosing LSD can improve mood, productivity and cognition.

I hope that expanding the research into LSD will help to lift the taboo on this extraordinary compound, that has such an array of potential applications.

We are now at the stepping stones, crossing from one bank to another. We are in the process of uncovering some of the mysteries of consciousness by lifting the veils to a clearer view of the mind's potential - and thus fulfilling the instructions of the Delphic Oracle: to '*Know thyself*'.