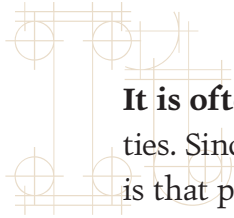


## Psychedelic Regeneration: **Hallucinogens and Spontaneous Healing**

by James L. Kent



**It is often reported** that hallucinogens have miraculous healing properties. Since psychedelics appear to act on the mind, the general assumption is that psychedelics heal the body by mending emotional and psychological trauma, and that healing of the mind trickles down into healing of the body. This mind/body duality is a common theme in fields of psychology and medicine, working its way into theories of stress-related illness, the paradoxical power of placebos, and holistic approaches to healing like psychoneuroimmunology (PNI). The general premise underlying the mind/body connection is that psychological resilience builds physical resilience, and that a healthy mind facilitates a healthy body. However, one point that is often overlooked in the mind/body discussion is that the mind is made of cells, the same thing our bodies are made of, and thus mental healing and physical healing both rely on the same process: Cellular regeneration in response to stress, inflammation, and trauma.

Let's assume that psychedelics heal by promoting cellular regeneration, and through this regeneration psychedelics can assist in building both mental and physical resilience. This would mean that in addition to producing hallucination, psychedelics also stimulate cellular repair, cellular proliferation, and potential apoptosis, or cell death, in response to damaged or infected cells. These claims all seem quite miraculous, except when you consider that these basic cellular housekeeping processes happen naturally when we sleep: dreaming, healing, cellular regeneration, and rebuilding of organism resilience. Cellular regeneration is a natural process that occurs every night. In neural cells this nightly regeneration presents itself as dreaming and learning, a process where synaptic pathways are tested, strengthened, and integrated into memory, also known as neuroplasticity. In other cellular tissues nightly regeneration is due to the release of trophins in deep sleep, which stimulate cellular repair in response to inflammation and stress, or daily wear and tear. Obviously, if there were a class of drugs which stimulated the body's innate powers of dreaming, plasticity, and cellular regeneration, their healing powers would seem miraculous indeed.

Although it is popular to claim that psychedelics have a direct positive influence on mental and spiritual health, the notion that psychedelics have a positive influence on physical health has always been an afterthought. In the 1950s psychedelics were quickly integrated

into psychiatric practice, but general medical practitioners saw no reason to integrate psychedelics into the treatment of chronic disease, even though this is how hallucinogens have been traditionally used in shamanic cultures. In fact, the pervasiveness of the notion that



James Kent is the editor of DoseNation.com and author of *Psychedelic Information Theory: Shamanism in the Age of Reason* (CreateSpace, 2010).

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the mind and the body are somehow split has kept modern medicine from accepting that a drug which works on the mind can somehow also treat ailments of the body. Why, for instance, would someone give a hallucinogen to a patient with a physical ailment like arthritis? Why use a hallucinogen to treat common tissue inflammation? The very notion of using a psychedelic to treat a physical ailment flies in the face of Western medical practice, where doctors are told to treat the symptoms, not the patient. Psychedelics are classified as hallucinogens, not anti-inflammatory agents, so there is no reason to give a patient with arthritis a psychedelic; it just doesn't happen. However, in the light of current research, this course of treatment isn't as strange as it is sounds.

In addition to being hallucinogens, psychedelics also produce a wide range of dramatic cellular responses. An early and popular theory of psychedelic action stated that psychedelics are in fact neurotoxins, and that the physiological response to hallucinogens is an extreme auto-immune reaction intended purge and cleanse toxins from the entire organism. Parts of this theory are clearly true – the purging, the nausea, the intoxication – but other parts make no sense. Why don't all neurotoxins, or all toxins for that matter, produce hallucination and dramatic physiological response? And why would someone feel reborn and rejuvenated after taking a dose of neurotoxin? And, finally, why aren't psychedelics actually toxic? The obvious answer is that psychedelics are not neurotoxins, but perhaps they are the opposite of neurotoxins. What if instead of neurotoxins, psychedelics are actually neuro-tonics, and instead of destroying cells they actually impart vitality and energy to cellular signaling systems? This definition of a neuro-tonic not only meshes with the subjective experience of feeling a "healing energy" suffusing the body on psychedelics, it also proposes that instead of being toxins, hallucinogens actually promote cellular regeneration, rejuvenation, and holistic organism resilience.

The most potent hallucinogens – like LSD, psilocybin, and DMT – are agonists at the 5-HT2A receptor site (among others). The fact that hallucinogens are agonists means that they promote cel-

lular signaling, as opposed to blocking or dampening it. The 5-HT2A receptor is a G-protein coupled receptor (GPCR), which means that agonistic action at this site promotes a cascade of signaling mechanisms within the cell membrane, in the cytoplasm and around the cellular nucleus. The intracellular pathways stimulated by 5-HT2A agonism includes the activation of protein kinases that mediate cellular regeneration, repair, and proliferation in response to stress and learning.

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By stimulating the 5-HT2A receptor, hallucinogens switch on a cascade of generative cellular activity that continues long after the molecule leaves the receptor site. This effect would be interesting enough if we were only talking about neural cells, but 5-HT2A receptors are ubiquitous in the body, particularly in the central nervous system, intestines, smooth muscles, cardiovascular system, and in blood platelets. 5-HT2A activation produces super-potent anti-inflammatory effects in cardiovascular tissues, as well as potent anti-inflammatory effects in non-cardiovascular tissues. 5-HT2A platelet activation causes platelet aggregation and the release of various cellular growth factors. These 5-HT2A mediated actions are all similar in that they are located in soft tissues directly related to auto-immune responses to stress and trauma: in other words, healing.

All of the information on the role of 5-HT2A activation promoting anti-inflammatory or generative cellular activity

is due to recent research, most of it occurring within the last three years. However, taking this new data into account, it no longer seems unreasonable to treat a patient with arthritis (or similar chronic inflammation) with a 5-HT2A agonist, all of which are classified as hallucinogens. In the case of prescribing a hallucinogen for physical ailments, the visions should be considered a perfectly normal side effect of treating chronic inflammation, just as dreams are a perfectly normal side effect of cellular regeneration during deep sleep. The visions and the cellular regeneration are intimately linked. While the body repairs itself, the mind dreams; while the mind dreams, the body repairs itself. If we alter our thinking to view spontaneous internal visions (dreams, hallucinations) as a function of spontaneous internal healing, then it becomes obvious that in terms of psychedelic therapy, there is no mind/body split.

The regenerative power of psychedelics is something that is intuitively felt by people who use them, but this power has always been couched in metaphors of spiritual cleansing or metaphysical death and rebirth. Spiritual metaphors may serve shamans or entheogenic enthusiasts, but even the most glowing report of physical rejuvenation is not enough to sway the beliefs of a school of medicine still trapped in the paradigm of mind/body duality. Simply "feeling better" after a psychedelic session is easily dismissible as temporary delusion produced by being high, but these claims become harder to ignore as clinical research continues to demonstrate the long-term benefits of even a single psychedelic session. Trauma, stress, and inflammation – even emotional stress and inflammation – are physical issues that require physical therapy. Hallucination may be the most observable effect of 5-HT2A agonism, but that does not mean it is the only effect. Psychedelics promote cellular regeneration, and both the mind and the body are made of cells. By facilitating cellular regeneration, psychedelics stimulate a core function of the body's auto-immune system, making hallucination a waking dream the body experiences as it heals itself. •

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