

Psychedelic medicine



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Drugs that warp the perception of reality have long been seen as agents of countercultural rebellion and as a chemical means to tune into nature and the universe at large. Heady stuff. People who dropped acid or imbibed mescaline or magic mushrooms were expressing their rejection of a single, unambiguous empirical reality.

But things are changing: the drugs responsible for these exotic experiences are now taken seriously as medical therapies. Most of the benefits will be seen by people with mental-health conditions, such as post-traumatic stress disorder (see pages S83, S86) and depression (S87). But the possibilities extend to other medical realms. Psychedelics are showing value, for example, in mitigating the severe chronic pain of conditions such as migraine and cluster headache (S100).

Leading the pack of psychedelic therapies is psilocybin – the ingredient that adds the magic to certain mushrooms. Efforts are also under way to find medical applications for mescaline, which is derived from the peyote plant, *Lophophora williamsii*, and other cacti native to the Americas (S90). But intensive research is also being done to develop synthetic drugs that provide the health benefits of psychedelics without launching the user into a disturbing hallucinogenic trip (S80).

Tapping the potential of these drugs depends on knowing how they work (S98). Advances in brain imaging are revealing the biological mechanisms that kick in under the influence of psychedelics – knowledge that should help doctors better match the therapies to conditions (S92). And researchers are getting closer to finding out whether microdosing – the practice of taking these drugs in tiny amounts – can deliver therapeutic benefits (S96).

Translating clinical trials into routine therapy will be no small feat. For one thing, there are not enough mental-health professionals to provide the sort of supervision these drugs are likely to need (S95) and regulatory constraints pose another barrier to research. Psychedelics might not have hit the medical mainstream yet, but they're closer than ever.

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Herb Brody

Chief supplements editor

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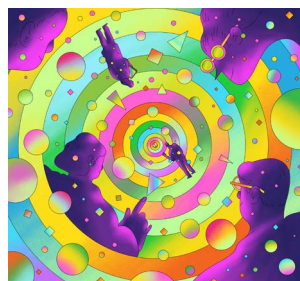
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**On the cover**

Scientists enter the strange world of psychedelic drugs to find medical therapies. Credit: Scott Balmer

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