

# THE MAGIC OF MUSHROOMS

BY JUDY CHAPMAN

*'Biodiversity is our biosecurity'*

PAUL STAMETS



Mushrooms have emerged to become one of the most unexpected remedies for treating modern-day diseases, mental health, and even our environment. *Judy Chapman goes underground to explore the magic of mushrooms.*

Have you seen 'Fantastic Fungi' yet? Directed by Louie Schwartzbe, the awe-inspiring documentary is a descriptive time-lapse journey about the magical and medicinal world of fungi and their power to heal, sustain, and contribute to the regeneration of life on Earth.

It's possibly one of the most inspiring documentaries of the decade!

Mushrooms are the largest living organism in the world for the creation of soil and play an essential role on Earth. They have been recycling and helping to heal our planet for centuries.

Mushrooms have long been used in the medicine to treat chronic diseases including infections, cancer and even Alzheimer's. More recently, psychedelic 'microdosing mushrooms' are being trialed to therapeutically treat depression, anxiety and PTSD.

No longer a hippie movement, fungi wellness brands are mushrooming all over the planet.

Meet Paul Stamets, the world's most renowned mycologist and a leading authority, author and medical researcher in fungi including habitat, medicinal use, and production.

According to Stamets, our biosphere is quickly changing, eroding the life support systems that have allowed humans to ascend. Unless put into action policies and technologies that can cause a course correction in the very near future, species diversity will continue to plummet, with humans not only being the primary cause, but one of the victims.

Stamets says that Fungi, particularly mushrooms, offer some powerful and practical solutions.

In his words: "Let's be more friendly. Let's

be mushrooms. Scientists across disciplines need to work together. Biodiversity is our biosecurity. Think of the bigger picture. We were forest people. We are losing the perspective of the synergism and symbolism of the eco system that has given us birth. I think it's wise to go full circle and reinvestigate."

## Can mushroom help save our home, Planet Earth?

For the last 15 years, the root mycelia has been used to clean up all sorts of environmental disasters – from oil spills in the Amazon to boat fuel pollution.

Mushrooms are also able to convert pesticides and herbicides into organic matter, remove toxins from contaminated soils and even break down plastics.

Could mushrooms be the answer to the world's growing plastic problem?

On a global scale, humans generate around 300 million tons of plastic waste each year and at least 79% accumulates in landfill or our oceans (only 9% is recycled and biodegradable plastic does not break down in our oceans).

In 2011, Yale students on a class trip to the Amazon Forest in Ecuador discovered that a rare fungus, the *Pestalotiopsis microspora*, has the ability to break down polyurethane plastic. According to the research, this mushroom can live in environments without oxygen for days,



break down and even digest polyurethane before turning it into organic matter.

Mycelium can also help clean up air pollution.

Last year, a pop-up display in the Netherlands, 'The Growing Pavillion' demonstrated how mycelium captured twice its weight in carbon dioxide (compared to concrete that is the most widely used man-made material that is responsible for producing eight percent of the world's CO2 emissions).

With the understanding that mushrooms absorb the nutrients (and toxins) from the soil, it's important to choose pesticide and herbicide-free mushrooms that are wild foraged – or grow your own.





## MUSHROOMS FOR HEALTH AND LONGEVITY

For over thirty years, medicinal mushrooms have been approved as an addition to cancer treatments in Japan and China. In fact, it's reported that there are over 100 types of mushroom used across Asia to treat cancer which makes sense as over 78% of all cancer drugs derive from nature. Some of the types of mushrooms used to treat cancer include Shiitake, Maitake, Reishi and Turkey Tail.

A recent study by Penn State College of Medicine found that people who consumed 18 grams – about 1/8-1/4 cup of mushrooms daily had a 45 percent lower risk of cancer than people who didn't eat mushrooms. The study credits ergothioneine, an antioxidant in most mushrooms, in particular shiitake, oyster, maitake, and king oyster mushrooms.

Another promising study (published in the Journal of Alzheimer's Disease) demonstrated that eating more than two portions of cooked mushrooms per week could lead to a 50 percent lower risk of mild cognitive impairment (MCI) which often precedes Alzheimer's disease. The six-year study included 663 people aged over 60, The types of mushrooms included in this study were easily accessible ones including shiitake, oyster, golden white button and canned button mushrooms.

## THE MICRODOSING PSILOCYBIN MOVEMENT

There's now increasing evidence that suggests that physician-supervised use of psychedelics (such as microdosing psilocybin mushrooms) can successfully treat mental-health conditions.

Microdosing involves taking very small amounts (such as 1/10th of a dose) every few days over several months. It's not about having a hallucinogenic trip, but boosting creativity, focus, energy, thinking, happiness, and connection.

In the 'Fantastic Fungi' documentary, researchers look at the 'Stoned Ape Theory' developed by Terrence McKenna and his brother Dennis McKenna. The theory is that it's possible that a community of proto-humans might have consumed the magic mushrooms they found which profoundly changed their brain over time - the human brain has tripled in size in just two million years!

Although psychedelics in general remain classified in the US as a Schedule 1 narcotics, they are now a multi-million-dollar movement.

Start-ups are raising in the hundreds of millions in venture capital, and it's reported that the global psychedelic drug market could reach nearly 11 billion by 2027.



## TRENDS IN THE PSYCHADELIC & HEALING MOVEMENT

Back in 2018, The Global Wellness Summit ([www.globalwellnesssummit.com](http://www.globalwellnesssummit.com)) identified the microdosing magic mushroom trend. Fast track to 2021, and here are five trends in their *Psychedelic and Healing Initiative 2021* trend report.

### TREND 1 Expanding University Centers

From the founding of the world's first formal center for psychiatric research at Imperial College in London in 2019, followed that same year by the opening of the Center for Psychedelics and Consciousness Research at Johns Hopkins Medicine, other dedicated centers for psychedelic study include the 2020 arrival of the UC Berkeley Center for the Science of Psychedelics. This year alone, 2021 welcomes the Icahn School of Medicine at Mount Sinai's new Center for Psychedelic Psychotherapy and Trauma Research; NYU Langone opened its new Center for Psychedelic Medicine; and the new Neuroscape Psychedelics Division was founded at the University of California, San Francisco (UCSF).

What's next? Harvard Law School. It has announced a new psychedelic research initiative called POPLAR, which stands for the Project on Psychedelics Law and Regulation. It will work to promote safety and equity in psychedelic research and commerce.

### TREND 2 Thriving Research

Global research in psychedelics continues to gain momentum; a snapshot of current clinical trial numbers aggregated by the US Department of Health and Human Services reveals 71 clinical trials for psilocybin (which is found in psychedelic mushrooms).

A literature review of the PubMed.gov database shows a nine-fold increase in psilocybin research published between 2010 and 2020.

With signs of encouragement from the FDA and increasing awareness of the limitations of treatment for mental wellness, research in psychedelics is skyrocketing.

### TREND 3 Changing Hearts and Minds, and the Law, too

At the federal level, for the first time, the House Appropriations Committee in July released a budget report with an urgent request for psychedelic therapies. Citing the suicide rate for US veterans of 17 a day, the report's lead author Rep. Rosa DeLauro pleaded for the National Institutes of Health to "undertake, and where appropriate expand, research to evaluate the effectiveness of psychedelic therapies in treating PTSD, major depressive disorder, and other serious mental health conditions."

At the state level, it's not just the West Coast anymore. Changes in psychedelic drug laws are sweeping the nation, even in Texas.

Voters, aware of the growing research on how psychedelic medicines can achieve therapeutic benefits in the treatment of depression, anxiety, PTSD, existential distress during end-of-life, and addiction disorders, are passing ballot measures and supporting legislation.

The Mile High City of Denver, Colorado, was first with a 2019 ballot measure to decriminalize psychedelic psilocybin mushrooms. Santa Cruz and Oakland, California, promptly followed with successful city council votes for decriminalization, as did Ann Arbor, Michigan, and Somerville and Cambridge, Massachusetts.

In the November 2020 election, Oregon

passed two milestone initiatives in support of psychedelics. One decriminalized possession; the other authorized the state's health department to license psilocybin growers and train facilitators in psychedelic-assisted therapy with an eye to making treatment available in 2023. That November election also saw Washington D.C. pass Initiative 81 to decriminalize psychedelic plants and fungi. The measure received 76% of the vote.

In Texas, conservative Republican icons, including the former Texas Governor Rick Perry and US Senator Ted Cruz, urged support of a bill that would authorize the study of the therapeutic benefits of psychedelic medicines to treat military veterans diagnosed with PTSD. Last month, that bill became law. A measure before the California State Assembly, S.B. 519, to legalize possession of psychedelics is out of committee and expected to reach the floor for a vote and be signed into law.

### TREND 4 Arriving on Wall Street

Those psychedelic start-ups that emphasize new research and innovative approaches are now receiving investor attention.

The UK-based Compass Pathways made history in September of 2020 when it was the first psychedelic company to arrive on Wall Street with a listing on the NASDAQ exchange.

Other psychedelic companies now listed on the NASDAQ include MindMed, as of March 2020, which counts Kevin O'Leary from the television show "Shark Tank" among its investors.

ATAI Life Sciences, founded by Christian Angermayer, the Berlin-based billionaire, with support from PayPal founder Peter Theil, listed on the NASDAQ in June.

In July, the Toronto-based Cybin became the first psychedelic company approved for listing on the New York Stock Exchange.

### TREND 5 Psychedelic Media, Much More Media

A constellation of luminaries in psychedelics is now shining brightly. Two-time

Stanley Cup winner Steve Carcillo, a former NHL player for the Chicago Blackhawks, is founder and CEO of Wesana Health Holdings, which looks at using psychedelics to heal Traumatic Brain Injury.

Authors, public intellectuals and celebrity doctors Andrew Weill, MD, and Deepak Chopra, MD, have both joined psychedelic companies.

The late reggae great Bob Marley will be a name associated with Psilo Wellness in Jamaica. Psilo will first release Marley-themed wellness products and later work on a Marley-branded psychedelic offering.

## THE FANTASTIC FUNGI SUMMIT 2021

If all of this sounds fascinating, experience the movement in more depth this October 15-17th. Hosted by 'Fantastic Fungi' director Louie Schwartzberg, the summit will feature visionaries including Deepak Chopra, renowned Mycologist Paul Stamets, celebrity chef Rick Bayless, author Michael Pollan and many more.

Says Louie Schwartzberg: "We're in the midst of a full cultural 'shroom boom' and the Fantastic Fungi Summit is at the forefront of the movement. Whether you're a mushroom neophyte or an expert, there is something for everyone. We've brought together the best in class for a powerful, fun, inspiring, never-been-done-before multi-day virtual experience"

Registration for Fantastic Fungi Summit 2021 can be reserved at [www.FungiGlobal-Summit.com](http://www.FungiGlobal-Summit.com). □

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