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A Visionary Future

Psilocybin, ibogaine, and ayahuasca have one thing in common: they are a part of a wide variety of visionary medicines that are feared by the general public in the United States. In 1970, the federal government passed the Controlled Substances Act, declaring psilocybin, ibogaine, ayahuasca (DMT), and many more substances as “Schedule 1” drugs (DEA). As a result, these so-called “drugs” are believed to cause harm to the brain and induce individuals to not act as themselves. For years, research on these visionary medicines has been very limited, but few researchers and institutions have been able to move past the guard of the federal government and perform studies to show the benefits of these substances on the human being. Many legal drugs that are prescribed to individuals today are proven to be extremely harmful to the mental and physical functions of the body; visionary substances can take the place of many of these drugs and provide a more secure, safe path towards positive development. Thus, there is a necessary legalization of visionary medicines in therapeutic, rehabilitative, and spiritual contexts for the reduced fear of death, greater psychological openness, and increased life satisfaction.

The fear of death is something that accompanies terminally ill patients across the country. When these victims are left with no other option for survival except the time their heart will still be beating, a plethora of psychological problems can be activated in the brain. Among these are extreme depression and anxiety caused by impending death (MAPS Death). As of now, there is still very little research involving visionary medicines and their benefits for people in this

situation. However, prestigious universities like Harvard, New York University, and Johns Hopkins have conducted studies on terminally ill patients from all backgrounds and concluded that visionary substances, mainly psilocybin, can provide users with profound assistance in dealing with death. Psilocybin is the key component within *Psilocybe cubensis*, a naturally occurring fungus that grows throughout parts of the United States, Central and South America, Southeast Asia, and Australia. When these mushrooms are digested, the psilocybin is converted in the body to psilocin, which is the chemical with psychoactive properties (ADF). This compound found in a naturally grown mushroom may be the missing link between terminally ill patients and the acceptance of death. However, with the current state of illegality psilocybin and the other visionary medicines are under, these effects cannot be more rigorously tested and open to the free market.

Dr. Roland Griffiths, a professor in the Departments of Psychiatry and Neurosciences at Johns Hopkins, teamed up with Dr. Stephen Ross, the clinical director of the NYU Langone Center of Excellence on Addiction, to perform a study on 80 patients with life-threatening cancer (MAPS Death). In this study, patients were given laboratory-synthesized psilocybin in a controlled setting in combination with limited psychological counseling. The study was double-blind, meaning the researchers and the subjects did not know what was in the capsules being administered. The environment surrounding the patients was crucial, so Griffiths and Ross made it of utmost importance to have the subjects feel as comfortable as possible with a quiet, calm setting, important memorabilia from the patients' lives, and even music (MAPS Death). Upon conclusion of the study, the results found by the research team were astounding. More than 75% of the subjects who were given psilocybin noticed a significant relief from depression and anxiety, and these improvements lasted when the patients were involved in a follow-up survey

conducted six months after taking the compound (MAPS Death). In an interview with the *Scientific American*, Griffiths said, “After transcendent experiences, people often have much less fear of death” (Schiffman). This notion is cemented in the experiences that his subjects encountered. In a one- and fourteen-month follow-up, Griffiths administered the Death Transcendence Scale, a psychological test based on the premise that death is transcended through identification with phenomena more enduring than oneself (MAPS Death). He noticed an increase in the subjects’ ratings on statements like “Death is never just an ending but part of a process” and “My death does not end my personal existence” (Schiffman). Fourteen months after being involved, 94% of the subjects said the psilocybin study was one of the five most meaningful experiences of their lives, and 39% said it was the most meaningful experience of their lives (MAPS Death). In the fields of psychiatry and psychopharmacology, it is extraordinary that a single dose of medicine, let alone a dose of a natural fungus, can have these kinds of lasting and dramatic results. Griffiths, Ross, and their research team are advancing the thoughts around visionary medicines and the sustained positive changes in mood, attitude, and behavior they accompany. Terminally ill patients are just the beginning; depression and anxiety take root in the lives of millions of people, and whether or not these individuals fear impending death, visionary medicines can have unprecedented, positive effects on their mental stability and their outlook on life and death.

Visionary substances not only reduce the fear of death in terminally ill patients, but they also have profound effects on the psychological openness of the brain. Across the country, illnesses like drug and alcohol addiction as well as Posttraumatic Stress Disorder (PTSD) affect people from all walks of life. One of the most crucial qualities connecting these illnesses is that there is no known, proven cure. This puts addiction and PTSD on the radar for some of the most

prominent researchers and scientists across the world. One of the most extensively tested visionary medicines related to the treatment of addiction is ibogaine, a chemical compound extracted from two related African and South American tree genera, *Tabernanthe* and *Tabernamontana* (AAC). When ibogaine is digested, the compound is converted to noribogaine, which targets the areas of the brain affected by drug-seeking, addictive behaviors. Serotonin, dopamine, and other neurotransmitter pathways are characteristic of these regions of the brain, and ibogaine acts on these to reduce addictive behavior (AAC). Noribogaine essentially rewires these areas, giving the brain the ability to reorganize itself to a state similar to before addiction was activated.

Dr. Thomas Brown from the University of California, San Diego and Dr. Kenneth Alper from the New York University School of Medicine conducted a study involving ibogaine and its effects on opioid addicts in Mexico. The test subjects were all addicted to either oxycodone, heroin, or both, and each of them received on average three treatments for opioid dependence prior to the study (Brown). Thirty patients were given a total of 2,000 mg of ibogaine across a one-week period. Upon conclusion of the study, 12 out of 30 subjects reported 75% reductions in their drug use and 33% reported no opioid use after three months (Brown). In a similar New Zealand study directed by Dr. Geoffrey Noller from Dunedin School of Medicine, the concluding results were just as successful as the Mexico ibogaine study. Fifteen participants were given a single dose of ibogaine and were evaluated through the *Addiction Severity Index* (ASI) as well as the *Subjective Opioid Withdrawal Scale* (SOWS). Fourteen out of fifteen subjects positively reduced their scores on both the ASI and SOWS tests, achieving opioid cessation and substantially reduced use in dependent individuals over a 12-month period (Noller). In both the Mexico and the New Zealand study, opioid addiction was successfully

paused and mitigated over the following months. Even though ibogaine treatment does not completely end the addiction problem in its subjects, the addiction was significantly lessened and allowed time for these individuals to seek rehabilitative help. Ibogaine is the first step in a clinical process that help individuals facing addiction throughout the country and the world. With legal use of this medicine in the United States, the lives of people from the Pacific to the Atlantic can be substantially aided.

Addiction is only the first step in the broad spectrum of advantages of visionary medicines. Posttraumatic Stress Disorder is another mental illness that can be benefitted from the use of visionary substances, specifically ayahuasca. Known as one of the most intense vision-inducing chemical compounds, ayahuasca comes from the leaves of the *Psychotria viridis* shrub and the stalks of the *Banisteriopsis caapi* vine (Inserra). When the ayahuasca brew is digested, dimethyltryptamine (DMT) takes over the brain and along with it come visionary and bodily experiences. Even though research on ayahuasca and its effects on PTSD is limited, there is considerable evidence that this brew can support the effects PTSD has on a victim's brain. Posttraumatic Stress Disorder is triggered by a terrifying, traumatic experience that cannot be let go in the brain (Parekh). Victims constantly re-live dramatic flashbacks of these memories and are mentally not prepared to handle the recalling of these events. When under the effects of ayahuasca, the traumatic and emotional memory-related centers of the brain are hyperactivated, synaptic plasticity is enhanced, neurogenesis is increased, and the dopaminergic neurotransmission is boosted. These processes allow for the memory reconsolidation of past experiences and the fear response triggered by traumatic events to be either reprogrammed or terminated (Inserra). In theory, a PTSD victim can undergo ayahuasca treatment, encounter the past events that are causing trauma, and expose him/her to the conscious awareness in the brain.

Thus, victims will experience either far less trauma when recalling events from the past or no trauma at all, a result researchers have been searching for decades.

Visionary substances have also shown powerful assistance on the general well-being and life satisfaction of individuals. The ayahuasca brew is helping incarcerated individuals turn their lives around and become more satisfied beings. Since 2000, the number of prisoners in Brazil has doubled to more than 550,000, resulting in overpopulated prisons and gross living conditions. In one prison in particular, Urso Branco, the prisoners' rights advocacy group Acuda is giving ayahuasca treatment to inmates in order to positively affect their lives and reduce prison recidivism rates (Romero). Each month, Acuda takes 15 prisoners to their treatment center near Porto Velho and gives them the ayahuasca brew in a therapeutic, rehabilitative setting. The convicts' reactions to the treatment are quite profound. Celmiro de Almeida, a man serving a sentence for homicide, says, "I'm finally realizing I was on the wrong path in this life. Each experience helps me communicate with my victim to beg for forgiveness" (Romero). Another prisoner, Darci Altair Santos da Silva who is serving a 13-year sentence for sexual abuse of a minor, states, "I know what I did was very cruel. [Ayahuasca] helped me reflect on this fact, on the possibility that one day I can find redemption" (Romero). Acuda's work provides the fundamental steps the for the United States to use visionary medicine as therapeutic aids for rehabilitation and increased life satisfaction. With the legal use of visionary substances, prisoners across America can have the same insightful turn-around the Brazilian convicts experienced and change their lives for the better. The benefits of the ayahuasca brew are only researched on the surface level, and unless this visionary medicine is legalized and used in a clinical, therapeutic setting, PTSD and the trauma experienced by convicts will continue to dwell in the brains of victims and cause harm to their mental and physical functions.

Ayahuasca is not the only medicine that can increase the well-being and life satisfaction of the individuals consuming it. In a 2006 study conducted by Dr. Roland Griffiths, the same scientist involved in the treatment for depression and anxiety in terminally ill cancer victims, 36 healthy, “spiritually inclined” individuals who had never taken a visionary substance before were given high doses of psilocybin (Griffiths). Griffiths encouraged the participants to focus their attention inward in order to have a complete spiritual experience. Sixty-four percent of the individuals reported either a moderate or intense increase in their well-being and life satisfaction (Griffiths). These benefits did not simply go away months down the road. Fourteen months later, 67% of the volunteers said the experience was one of the most spiritually significant moments in their lives. When the study was published in the *Journal of Psychopharmacology*, Griffiths stated, “Most volunteers who had the mystical experience continue to endorse the same extent of positive changes in attitude, altruistic behavior, and mood” (Griffiths). This study holds great weight in the discussion of the legalization of visionary substances. In just one dose, healthy individuals with no prior visionary experience saw positive, sustained changes in their lives. These types of results could occur in other individuals with the legalization of these substances, however with the current status and state of visionary medicines in the United States, this is not a possibility.

The legalization of visionary medicines is necessary in the United States in order to move towards a safer alternative for the prescribed medicines of today. Where anti-depressants, pain killers, and other hard drugs stock the shelves of pharmacies and households across the country, natural visionary substances like psilocybin, ibogaine, and ayahuasca can have the same psychological benefits or even surpass those of the tested, legal methods of medication. For millions of American citizens to live better, more fulfilling lives, these substances need to be

available for research, treatment, and use, and this is only the result of legalization. In order for this visionary future to become a possibility, researchers like Dr. Roland Griffiths and institutions like NYU and Johns Hopkins need to continue their advancement of knowledge within the realm of visionary medicines and provide hope for those who need it most.

Works Cited

- Brown, Thomas Kingsley, and Kenneth Alper. "Treatment of Opioid Use Disorder with Ibogaine: Detoxification and Drug Use Outcomes." *Taylor & Francis, The American Journal of Drug and Alcohol Abuse*, 25 May 2017, www.tandfonline.com/doi/full/10.1080/00952990.2017.1320802. (Brown)
- Griffiths, Roland. "Psilocybin Can Occasion Mystical-Type Experiences Having Substantial and Sustained Personal Meaning and Spiritual Significance." *Journal of Psychopharmacology*, 27 May 2006, pp. 1–16., doi:10.1007/s00213-006-0457-5. (Griffiths)
- "How Psychedelic Drugs Can Help Patients Face Death." *MAPS, Multidisciplinary Association for Psychedelic Studies*, 20 Apr. 2012, maps.org/news/multimedia-library/3012-how-psychedelic-drugs-can-help-patients-face-death. (MAPS Death)
- Inserra, Antonio. "Hypothesis: The Psychedelic Ayahuasca Heals Traumatic Memories via a Sigma 1 Receptor-Mediated Epigenetic-Mnemonic Process." *Frontiers in Pharmacology, Frontiers Media S.A.*, 5 Apr. 2018, www.ncbi.nlm.nih.gov/pmc/articles/PMC5895707/. (Inserra)
- Noller, Geoffrey E. "Ibogaine Treatment Outcomes for Opioid Dependence from a Twelve-Month Follow-up Observational Study." *Taylor & Francis, The American Journal of Drug and Alcohol Abuse*, 12 Apr. 2017, www.tandfonline.com/doi/full/10.1080/00952990.2017.1310218. (Noller)

Parekh, Ranna. "What Is Posttraumatic Stress Disorder?" *What Is PTSD?*, American Psychiatric Association, Jan. 2017, www.psychiatry.org/patients-families/ptsd/what-is-ptsd. (Parekh)

"Psilocybin." *Psilocybin - ADF*, Alcohol and Drug Foundation, 26 June 2019, adf.org.au/drug-facts/psilocybin/. (ADF)

Romero, Simon. "In Brazil, Some Inmates Get Therapy With Hallucinogenic Tea." *The New York Times*, The New York Times, 28 Mar. 2015, www.nytimes.com/2015/03/29/world/americas/a-hallucinogenic-tea-time-for-some-brazilian-prisoners.html. (Romero)

Schiffman, Richard. "Psilocybin: A Journey Beyond the Fear of Death?" *Scientific American*, Springer Nature America, Inc., 1 Dec. 2016, www.scientificamerican.com/article/psilocybin-a-journey-beyond-the-fear-of-death/. (Schiffman)

"The Controlled Substances Act." *United States Drug Enforcement Administration*, U.S. Department of Justice, www.dea.gov/controlled-substances-act. (DEA)

"What Is the Success Rate for Ibogaine?" Edited by Editorial Staff, *American Addiction Centers*, 3 Sept. 2019, americanaddictioncenters.org/meth-treatment/success-rate-for-ibogaine. (AAC)