



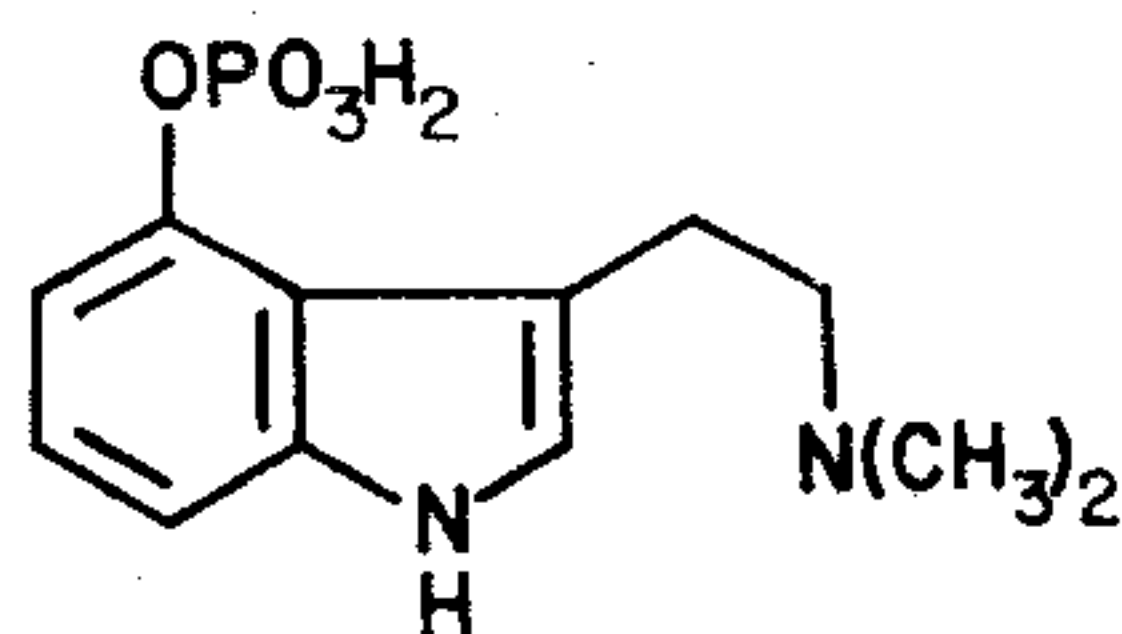
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PSILOCYBIN DEMAND CREATES NEW DRUG DECEPTION

This fall and winter, the country has experienced an abnormally large amount of rainfall, particularly on the West Coast. With this general dampness, there has been a great proliferation of mushrooms, many species of which have not been seen in certain localities for a decade or more. This, in turn, has awakened amongst the drug cult, a renewed interest in hallucinogenic mushrooms; i.e. *Amanita muscaria* (the ancient soma of the Aryans) and species *Psilocybe*, the source of psilocybin. Certain unscrupulous characters in the guise of your friendly dealer, have taken advantage of the situation, and have provided the street-drug scene with a new deception. Of nearly a hundred samples of alleged psilocybin analyzed at Pharm Chem Laboratories, only two contained psilocybin, and these were authentic *Psilocybe* mushrooms. The majority of the samples were either LSD or a mixture of LSD and PCP. To provide greater credence to this deception, psilocybin is being sold as edible mushrooms, either dried or freshly purchased at the supermarket, after being generously sprinkled with LSD. It should be noted that psilocybin is quite expensive to either extract from mushrooms or synthesize in the laboratory.



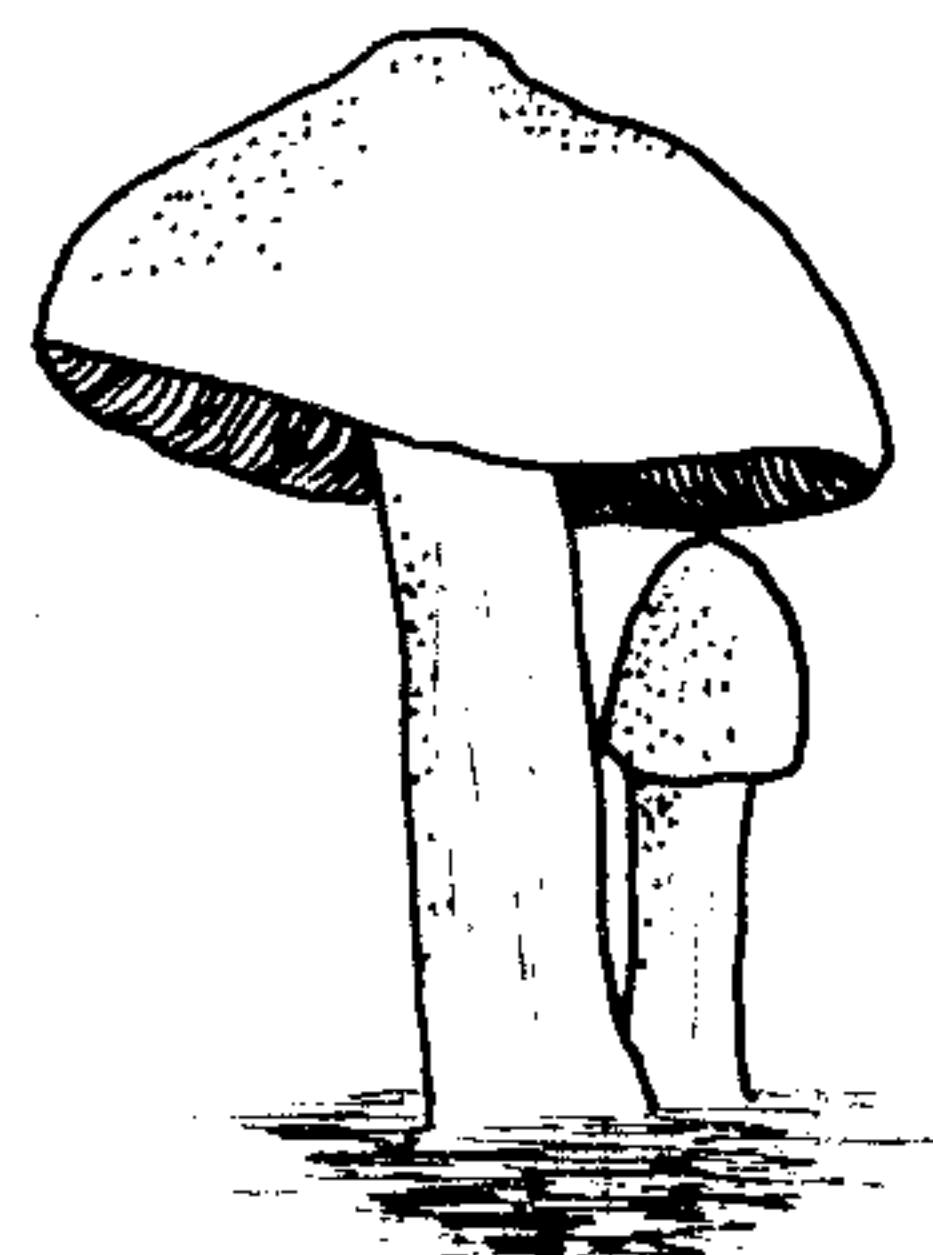
PSILOCYBIN

Historically, psilocybin has been used as a ritual drug for at least 3000 years, as evidenced by remarkable archeological artifacts known as "mushroom stones" unearthed in southeastern Mexico and highland Guatemala. *Psilocybe* mushrooms have been used by certain tribes in New Guinea to induce collective hysteria. In Mexico, one of the most important religious cults—and to the conquering Spaniards perhaps the most loathsome—was the cult of teonanacatl, the Nahuatl name for mushroom, meaning "flesh of the gods". Teonanacatl was

mentioned by the Spanish chroniclers as early as the sixteenth century. The most important source of information is de Sahajun's famous "Historia General de las Cosas de Nueva Espana," written in 1529-1590. He wrote of mushrooms "which are harmful and intoxicate like wine" so that those who eat them "see visions, feel a faintness of heart and are provoked to lust." The sacred mushrooms were not only ingested at social and festival occasions but also by witchdoctors and soothsayers. The mushroom god, which the Christian missionaries called the devil, endowed them with clairvoyant properties, which enabled them to identify the causes of diseases and indicate the way in which they could be treated. It was not until the late 1930's that actual specimens of these mushrooms were obtained and identified. *Psilocybe mexicana* is probably the most important species utilized hallucinogenically in Mexico, with a number of other species playing

secondary roles. In 1955, R. Gordon Wasson, a noted mycologist, was able to take part in a mushroom ceremony at Oaxaca, Mexico, probably the first white man to do so. He has written detailed accounts of his experiences in a number of books.

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Psilocybe caerulea

Albert Hofman, the Swiss chemist who first synthesized LSD, was able to isolate two compounds possessing psychoactive properties from these mushrooms. Psilocybin is a white crystalline solid—the acidic phosphoric acid ester of 4-hydroxydimethyltryptamine. Dried specimens of *P. mexicana* contain 0.2-0.4% of psilocybin. Psilocin, 4-hydroxydimethyltryptamine, is a relatively unstable compound often found accompanying psilocybin in *Psilocybe* mushrooms, usually to a lesser extent. It is believed that psilocybin is first metabolized to psilocin in the body before exerting its psychotomimetic properties.

Psilocybin and psilocin produce psychotomimetic effects in man which are similar to those produced by mescaline or LSD. The medium oral dose for man is 4-8 mg; equivalent to the consumption of 30 dried *P. mexicana* mushrooms. About one-half hour after ingesting such a dose, changes in the psychic sphere occur. With a small dose (4 mg) the psychic symptoms comprise effects on mood and environmental contact in that there frequently is a pleasant sensation of intellectual and bodily relaxation and detachment from the environment. With higher doses (6-20 mg), more profound effects are prominent and are associated with alterations in spatial and temporal perception and with changes in awareness of the self and body image. Visual hypersensitivity is present and may lead to illusions and hallucinations. Auditory

hallucinations are also common. In this dreamlike state, long-forgotten memories are often recalled. The general consensus amongst persons having experienced the effects of psilocybin is one of "ecstatic euphoria".

The psychotomimetic effects of psilocybin, psilocin, LSD, and mescaline have been found to be qualitatively similar. The time course of the psilocybin and psilocin reactions is shorter than that of LSD or mescaline. Psilocin is approximately 1.4 times as potent as psilocybin. Psilocybin has 1/30th the potency of LSD, and is 50 times more potent than mescaline. The development of cross-tolerance between LSD, psilocybin, and mescaline supports the idea that these drugs act by some common mechanism. The influence of expectations and mood on responses to psilocybin has been studied. It was found that positive expectations, in general, lead to positive experiences; anxiety or preoccupation leads to unpleasant experiences. Mood before the session is the best predictor or mood during the session.

Experiments with animals have shown that psilocybin does not exhibit typical effects on isolated organs. It does exhibit a pronounced inhibiting effect toward serotonin. It has characteristic autonomic effects, i.e. dilation of the pupils, temperature increase, etc. These effects mainly result from central stimulation of the sympathetic nervous system. In the elec-

troencephalogram, there is a practical disappearance of the slow waves. In contrast to the autonomic excitation syndrome produced by the central nervous system, the motor behavior is in general rather dampened. A very characteristic effect of psilocybin is the enhancement of monosynaptic spinal reflexes; i.e. the reflex of the knee when struck.

Psilocybe mexicana and its psychoactive alkaloids, psilocybin and psilocin, are illegal in the United States. However, there are at least fifteen other species of mushroom containing these alkaloids which grow in this country. The species found north of Mexico are *P. baeocystis*, *P. caeruleipes*, *P. caeruleus*, *P. cubensis* var. *cyaneus*, *P. pelliculosa*, *P. quebecensis*, *P. semilanceata*, *P. silvatica*, *P. strictipes*, *Conocybe cyanopes*, *Copelandia cyaneus*, *Panaeolus foenisecii*, *Panaeolus subbalteatus*, and *Pholiotina cyanopoda*. These various species differ in potency, *P. caeruleus* having the reputation of being the strongest. When a mushroom containing psilocybin and/or psilocin is broken, the injured portion usually turns bluish within half an hour. However, this should not be used as convincing evidence for the presence of psilocybin, as many other species of mushroom will turn blue when injured, some of them being poisonous. In general, one should be very cautious about ingesting any mushroom which has not been expertly identified.

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