

'LSD generation' honors Hofmann, looks to future

LSD-25 played a vital role in opening a whole generation to an expanded reality, but the drug is no longer an important tool of transformation for most of its best-known former advocates.

That was the consensus at a remarkable symposium, "LSD—A Generation Later," at the University of California-Santa Cruz honoring Albert Hofmann, the 71-year-old Swiss chemist who discovered the drug's psychedelic properties in 1943.

Among those attending: John Lilly, Stanley Krippner, Ralph

Metzner, Allen Ginsberg, Timothy Leary and Richard Alpert (Ram Dass).

"You may have expected a guru," Hofmann said, "and you meet just a chemist." He went on to describe not only his discovery of LSD-25 but also his research in the "magic mushrooms" of Mexico, which led to his successful isolation and synthesis of psilocibin.

Hofmann pointed out that the development of LSD was not "accidental." He had been working with chemicals derived from the fungus ergot in an attempt to synthesize a variation that would serve as a caffeine-like stimulant. He produced LSD-25 in 1938, then put the project aside.

"But I had a strange feeling that it would be worth carrying out more profound studies with this compound. I prepared a fresh batch in 1943." While handling the substance he apparently ingested a minute amount and had the first LSD 'trip.' (See related article, page 2.)

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BRAIN MIND bulletin

FRONTIERS OF RESEARCH,
THEORY AND PRACTICE

November 7, 1977

Volume 2, Number 24

TM termed 'religion,' banned from schools

The teaching of Transcendental Meditation in public schools has been declared in violation of the doctrine of separation of church and state in a decision by a New Jersey federal judge.

The suit had been filed by a coalition of fundamentalist churchmen and civil libertarians, who charged that TM is a religious practice. A description of the rituals of the secret *pau* ceremony in which the initiate receives a mantra convinced U.S. District Judge Curtis Meanor. During litigation the plaintiffs published the text of the initiation ceremony and a list of mantras used.

Federal grants have supported experimental projects in which TM was taught. Defendants were four public high schools in New Jersey and New York, the State of New Jersey, TM groups and Maharishi Mahesh Yogi.

Gray Panthers founder warns of preventable brain damage in aged

Maggie Kuhn, founder of the Gray Panthers, told a Los Angeles audience that American medicine has failed its older patients by its give-up stance. "The usual attitude is, 'What do you expect at your age?'"

She emphasized the need for early diagnosis to prevent brain damage from malnutrition and from other problems, such as undetected heart attacks and kidney infections, "often painless in the old."

There is a short lead time, she observed, between the detection of those diseases and the onset of confusion. "The American people could save billions of dollars spent on nursing homes every year, not to mention personal tragedy."

She enumerated five 'myths': 1) That old

age is a *disease*, a belief reinforced by the medical establishment and the media image of old people. 2) That old age is *mindless*—that the old are not educable. 3) That old age is *sexless*. "We need sex education for our grown children and for ourselves." 4) That old age is *useless*—an idea that rubbed off from the concept of built-in obsolescence. 5) That old age is *powerless*. Kuhn spoke of the "misguided efforts" of her peers to obtain services and care (reduced utility rates and prescription prices). "Services are Novocain. They dull the pain, but they don't solve the problem."

The need, she said, is for "radical social change, a new agenda." Such an agenda would include age-integrated, public-supported housing and an end to mandatory retirement. She said she welcomes the growing number of young people allied with the old to solve the problems of aging.

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Munich researchers announce finding

'LSD-displacing factor' may be key to psychosis

According to a recent German study, the cerebrospinal fluid of psychotics contains substances capable of displacing LSD at its supposed receptor sites in the brain. The psychotics with the highest concentration of these "LSD-displacing factors" (LDF) also showed the most dramatic improvement when given anti-psychotic medication.

The findings have major implications for understanding dysfunctions of the neurotransmitters in psychosis. LSD and LDF act on the serotonin receptors in the brain, and anti-psychotic drugs act on the dopamine receptors. Psychiatric researchers have offered conflicting theories about whether the primary disorder in schizophrenia is attributable to the serotonin system of the dopamine system. More recently it has been suggested that the interaction of the two is dysfunctional—a view supported by the LDF discovery.

E. Mehl, E. Ruther and J. Redemann of the Max Planck Institute in Munich purified membranes from pig cerebral cortex, then incubated the preparations with LSD and cerebrospinal fluid from either

psychotic or non-psychotic clinic patients. (The subjects were 19 acute psychotics, each experiencing his first episode and thus far untreated, and 50 controls.)

The LDF inhibited the binding of LSD, displacing it at the receptor sites. When LDF was removed by dialysis from the neuronal membranes, LSD binding was restored.

When the psychotic patients later were rated for the effects of neuroleptic (antipsychotic) medication, there was a high positive correlation between improvement and a prior high concentration of LDF.

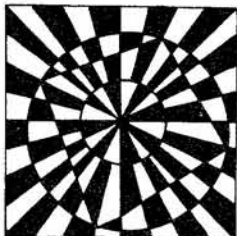
Males had a significantly higher LDF concentration than females. Four of the non-psychotic patients who had "pathologically high" LDF concentrations were suffering from severe inflammations or conditions affecting the circulation of spinal fluid.

The full report appears in *Psychopharmacology* 54: 9-16. For reprints: Mehl, Neurochemische Abteilung, Max Planck Institut für Psychiatrie, Kraepelinstrasse 2, D-800, München 40, West Germany.

'LSD generation' honors Hofmann at conference, looks to future...

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The extremely high potency of LSD is not just a curiosity, Hofmann said. "In many respects it is of the greatest scientific interest. It lends support to the hypothesis that certain mental illnesses have a biochemical cause. Previously they were supposed to be of a purely psychic nature. The effects of LSD made it seem feasible that undetectable traces of [certain] substances produced by the body itself might be the cause of psychic disturbances."



Although LSD was unique in its extremely high hallucinogenic potency, Hofmann said, it was not new in the quality of its properties. The effects are markedly like those of mescaline, although LSD is 5,000 to 10,000 times more potent.

The structures of the hallucinogenic drugs reveal an interesting relationship to the neurotransmitters, he said. "This is no mere coincidence but of major importance. Mescaline is closely related to norepinephrine and epinephrine, LSD to tryptamines and serotonin. It is probable that the drugs' psychotomimetic activity is due to an interaction of these substances in the metabolism of the central nervous system." (See *LDF story*, page 1.) Hofmann also presented a seminar on pharmacology at the University of California Medical School in San Francisco.

Later a panelist, Art Kunklin, founder of the Los Angeles *Free Press*, said, "What I think happened with LSD is that a whole generation had a religious experience. We had a new sense of the unity of mankind—a sense that previously had been restricted to a few mystics."

A number of the participants alluded to the recently published activities of the MK-Ultra project of the Central Intelligence Agency, which included the administration of LSD to many experimental subjects, including unsuspecting persons. Poet Ginsberg remarked that many of those who later became advocates of LSD had first experienced the drug as subjects in university experiments funded by the CIA and the Army. "I was first 'turned on' by the Army at Stanford. It may be that the Army and the CIA were primarily responsible for the LSD phenomenon—they sent us all out..."

Although a few attendees urged the legalization of LSD, most viewed the drug as the agent of a powerful personal breakthrough that did not require regular repetition. An informal inquiry disclosed that most of those attending had not ingested LSD recently. Typically, one to four years had elapsed since their last use of the drug.

Other methods of consciousness alter-

Hofmann remembers his 'maiden voyage'

Albert Hofmann described his accidental ingestion of LSD in 1943:

"Friday, April 16, 1943, I was forced to stop my work in the laboratory in the middle of the afternoon and go home because I was seized with a peculiar restlessness associated with a sensation of mild dizziness. On arriving home I lay down and sank into a kind of drunken sleep. It was not unpleasant, and it was characterized by an extremely active period of imagination."

"As I lay in a dazed condition with my eyes closed, I experienced daylight as excessively bright... There were images of extraordinary plasticity and vividness accompanied by intense kaleidoscopic light and colors. This condition passed gradually after about three hours."

ation—meditation, sensory isolation—had been taken up by most of the well-known panelists, who typically expressed concern about social transformation, "consciousness and politics." There was some debate among researchers about the purity and efficacy of street LSD and dispute over the methods of U.S. assay. Hofmann said the street LSD he had tested was relatively impure.

IN BRIEF

Birth Imprinting and Bonding, a seminar with David Cheek and Nancie Brown on the use of clinical hypnosis to relieve birth imprinting, will be held Dec. 3 in **San Francisco**, Pacific Medical Center, Learning Disabilities Dept., Box 7999, San Francisco 94120, (415) 921-1055. ... **Infant Feeding: Human Milk in the Modern World**, an all-day seminar at UCLA Dec. 10, UCLA Extension, 10995 Le Conte Ave., Los Angeles 90024, or call Marilyn Murray, (213) 825-7186.

Symposium on Change, Nov. 19, **New York City**, with Fritjof Capra, Kenneth Phillips, Charles Ponce, Edward Whitmont relating psychology, eastern philosophy, physics, the I Ching and holistic medicine, C. J. Jung Foundation, 28 E. 39th St., NYC 10016, (212) 697-6430.

First Conference in Applied Parapsychology Nov. 25-27, **Monterey, Calif.**, with Alan Vaughan, Robert Morris, Arthur Hastings, Eleanor Criswell, Telemachos Greanias, John Palmer, others, on psi and business, ethics, education, family relationships, religion, research, medicine, psychotherapy. Psychic Integration Institute, 1510 Grant Ave. #204, Novato, Calif. 94947, (415) 897-6723.

First American Conference on the Fantasy Imaging Process, Nov. 10-13, **Chicago**, Helen Wambach, Bob Samples, Norman Don, Akhter Ahsen, Paula Klimek, others. Relating imagery to psychotherapy, transpersonal experiences, education, medicine. Well-Being Center, 349 Morgan St., Jacksonville, Ill. 62650, (217) 245-9913. ... **Biofeedback and Medicine**, Dec. 3-4 symposium in **Los Angeles**, David Shapiro, William Rickles, M. B. Sterman, Michael Cohen, others. Biofeedback Training Institute, 1800 N. Highland #500, Hollywood 90028, (213) 462-1319. ... Swami Nadabrahmananda, a master of **nad yoga**, will give programs Dec. 16-17 at the Institute for Self Development, 50 Maple Place, Manhasset, N.Y. 11030, (516) 627-0048.

The **Biofeedback Institute of San Francisco** is sponsoring a series of lectures on biofeedback, stress, emotion, the immune response and pain. Information: 3428 Sacramento St., San Francisco 94118, (415) 921-5455. ... The annual meeting of the **Biofeedback Society of California** will be held Nov. 11-13 in **Claremont, Calif.** Leslie Tauber, 2043-B Pine St., San Francisco 94115.

Training 77, Nov. 30 and Dec. 1-2, Statler Hilton, **New York City**, workshops and seminars. Sponsored by Training: The Magazine of Human Resources Development. Conference Management Corp., 500 Summer St., Stamford, Conn. 06901. ... James Swan and Associates is a corporation formed recently to assist in the planning of conferences and community programs relating to human potential: 507 Third Ave. #805, Seattle 98104.

The **Healthiest Show on Earth** Jan. 19-22 and 27-29 in Madison Square Garden, an expo on diet and nutrition. Health Promotions, 275 Madison Ave., **New York City** 10016. ... A group in **Houston** is attempting to organize a chapter of the **Association for Humanistic Psychology**. Call Kenan Branam, (713) 522-0742.

Endorphin work wins Nobel prize

The independent discovery and isolation of the brain's hypothalamic hormones has won a Nobel prize in physiology and medicine for Roger Guillemin of Salk Institute in LaJolla, Calif., and Andrew Schally of the New Orleans VA Hospital.

The discovery of the endorphins and enkephalins has opened a vast, exciting realm of research on pain, behavior, fertility, psychosis, growth and learning (see *Brain/Mind Bulletin* V. I, #11, 19, 21-A; V. II, #8, 15, 17, 22). When Guillemin submitted his preliminary findings in 1969, his report was rejected by a leading science publication on the assumption that the hypothalamic hormones did not exist at all. The substances since have been demonstrated to control the pituitary and thereby the entire hormonal system of the body.

Guillemin and Schally shared half of the \$145,000 prize. The other half went to Rosalyn Yalow of the Bronx VA Hospital for her development of the radioimmunoassay technique for the measurement of protein hormones in the body.

The Nobel prize for chemistry was awarded to Ilya Prigogine, the Belgian scientist who uncovered a loophole in the Second Law of Thermodynamics, the classic principle that maintains that all processes tend toward disorder.

Prigogine first hypothesized 30 years ago that systems receiving constant inputs of energy can become increasingly organized and complex rather than moving toward chaos and disorder. Experimental chemical reactions have since verified the theory. (See reference to Prigogine's ideas and consciousness research, *B/MB*, July 19, 1976.) Prigogine's work is of particular relevance to unorthodox theories of evolution because it helps to account for increasing complexity in nature, a phenomenon difficult to explain strictly on the basis of natural selection.

