Session 2 (24/03/2025): **Philosophical Assumptions of Shulgin's Chemical Research**
Text: Some Qualitative Properties of the Psychotomimetics (1970)
Text: The Chemical Catalysis of Altered States of Consciousness (1975)
Audio: Drugs of Perception (lecture in Santa Barbara, 1983, 26m) [transcript] [audio]
Text: Drugs of Perception (Tihkal, pp. xxi-xxvii; Polish translation: Kronos 2024 no. 2)
Video: A Conversation with Terence McKenna (1993, 15m) [transcript]
Audio: Self Medication and Psychotherapy (2002, 47m) [transcript]
Audio: The Good Drugs Guide Interview (2005, 30m) [transcript]
Video: Shulgin on Alchemy (Visit in Paracelsus' Lab, Basel, 2006, 4m) [transcript]
Optional Texts:
The Cutting Edge of Psychedelic Knowledge (1993)
Ann and Sasha Shulgin interviewed by Jon Hanna and Sylvia Thyssen (2002)
Chemistry and Memory (2008)

Google Drive folder:
https://drive.google.com/drive/folders/1br-s4oovXlmcSXonoQ7yK-LU_1oOgeBj

Let us focus on three three texts (the rest is auxiliary, secondary):
Some Qualitative Properties… (1970), Chemical Catalysis (1975), and Drugs of Perception (1983)

Drugs of Perception = Shulgin's manifesto, the talk that made him famous

We can show these photos:
https://boingboing.net/2015/11/24/never-before-published-photos.html

Questions to answer:
what? why? how? – what is the change induced to the human subject? why induce it? and how?

ad 1 and 2:
[develop a theory on the basis of Shulgin's remarks (basis for the projected journal)]
main assumption: "anything that the human is capable of doing through the mind is duplicable pharmacologically"
then: see how far you can push it
cf. Heraclitus: one can never discover the limits of the soul, so deep is its logos
cf. Spinoza: no one yet has determined what the body can do

1. Why: Motivation

Some Qualitative Properties of the Psychotomimetics (1970):

The term "scientist" is the correct title of the searcher.
there are very few in these areas who search for new worlds purely for the human love of questing.
an honest response to stimuli that lie outside our educational framework must per force be excluded from our "acceptable" community

The Chemical Catalysis of Altered States of Consciousness (1975):
So these altered states of consciousness need not be happy states, and they may have little survival value. But to reject them or to try to deny their existence is to forego the rewards to be gained from the awareness of an increased share of reality. It is to forego true scientific investigation of reality.
Knowledge is not a body of facts but rather the degree of communication with reality, and it is in this context that the psychedelic drugs promise to be of value.

Drugs of Perception (1983)
why have I, for the last twenty-five years or so, conducted a persistent search into the design, the preparation, and the evaluation of new and different psychotropic drugs, be they hallucinogenic, psychedelic, dissociative or merely intoxicating?

psychotomimetic: they could, to some measure, duplicate the syndrome of mental illness and, as such, might serve as exploratory tools in the study of some forms of psychosis and of sensory disorder

two principal neurotransmitters in the brain just happen also to be a phenethylamine (dopamine) and a tryptamine (serotonin); there is an encouragement to the neuroscientists to search for some neurotransmitter mismanagement, with the use of psychedelic drugs as chemically related probes

I seek tools that should be words in a vocabulary, a vocabulary that might allow each human being to more consciously — and more clearly — communicate with the interior of his own mind and psyche
a vocabulary of awareness
a synthesis, a union, between the physical world and the spiritual world
tools of enlightenment, and of some form of transcendental communication

Within the human mind there must co-exist the Eros, the life-loving and self-perpetuating force, with the Thanatos, the self-destructive death-wish. Both are present in each of us, but they are usually separated by the difficultto-penetrate wall of the unconscious… communication between these two sides…

tools which might tunnel through the unconscious, between these conflicting aspects of mind and psyche.
instruments of entertainment, escape and turn-ons
instructive vehicles for learning, enlightenment, and insight
tool which allows this connection to be made between the brain and the spirit

Perhaps there are the enkedelics (from the psychedelics) and the specific enescalines (from mescaline) yet to be discovered, that are related to these communication factors. They may be natural and normal, and may be found, same day, to be associated with the receptor sites involved with transcendental communication. The structures of these compounds, if they exist, may someday be known. Their function may someday be understood.

[Brown - Professor X (Wired 2002)] "It's the excitement of discovering something totally unknown," he tells me later. "I feel an incredible tingle when I look at a white solid I've just synthesized that I know has never existed anywhere in the universe before this moment." He stops himself. "Oh, maybe someone on a planet around some sun way out there may have looked at it, but this is its first existence on Earth. And I'll be the first to know what it does."

[Bennett - Doctor Ecstasy (New York Times 2005)] His job is to be first and then push on somewhere new. What to do with the widening wake of chemicals he leaves behind is for the rest of us tofigure out.

[Bennett - Doctor Ecstasy (New York Times 2005)] Sometimes he compares the moment to that of artistic creation ("The pleasure of composing a new painting or piece of music"), and sometimes it sounds more like a close encounter of the third kind ("You're meeting something you don't know, and it's meeting something it doesn't know. And so you havethis exchange of properties and ideas"). [...] "I've always been interested in the machinery of the mental process," Shulgin told me not long ago.

[The Chemical Catalysis of Altered States of Consciousness (1975)] So **these altered states of consciousness** need not be happy states, and they may have little survival value. But **to reject them or to try to deny their existence** is to forego the rewards to be gained from the awareness of an increased share of reality. It is **to forego true scientific investigation of reality**.]

[Twenty Years On an Ever-Changing Quest, 1983] Here was the start of my quest of caring. I began the study of these drugs, not from the viewpoint of classification and simple assignment of potency, but inquiring into the values of human interaction that can result from their study in terms of personal development. I became aware that it was of little merit merely to observe what a drug does to the human nervous system, unless one also observes how it permits a person to interact with others, and especially, how it allows him to acknowledge himself. Some of the most

complex psychedelics will achieve, in persons who are psychologically well centered and personally on terms with their internal anger, little more than an adventure in sensory release, with an occasional insight which reminds them of their humanness.

[PiHKAL, p. xvi-xvii = Confessions of a Psychedelic Alchemist] "From where did her unique soul come?" you wonder. "And to where will my own unique soul go? Is there really something else out there. after death' Is there a purpose to it all? Is there an overriding order and structure that makes sense of everything. or would, if only I could see it?" You feel the urge to ask, to probe, to use what little time might be left to you, to search for ways to tie together all the loose ends. to understand what demands to be understood. This is the search that has been part of human life from the very first moments of consciousness. The knowledge of his own mortality - knowledge which places him apart from his fellow animals - is what gives Man the right, the license, to explore the nature of his own soul and spirit, to discover what he can about the components of the human psyche. [...] This is one of the reasons I hold the psychedelic drugs to be treasures. They can provide access to the parts of us which have answers. [...] The potential of the psychedelic drugs to provide access to the interior universe is, I believe, their most valuable property.

the potential for learning. And that is why I have chosen to explore this particular area of pharmacology.

potential for personal inquiry and self-discovery, and what might be called the mystical or spiritual nature of the drug experience

potentially valuable research and therapy tools

profound insight or religious significance

religious insight, reevaluations of purpose and personal role, of coming to understand one's self in some new light

internal revolution

one characteristic of a genuine mystical experience is that it must be perceived as being completely real.
more real then sensous reality
deeper, comprehensive reality
more real than real

It is within this province that one encounters the transcendental, mystical, or religious experiences wherein the internal world is reassembled, incorporating that which was first understood during the drug intoxication

proclivity to extensive psychological interpretation

genuine and unmediated insight

potential of reviewing the former [prepsychedelic] world with some unexpected interpretation more usable than the image of one's life and environment that had been accepted

recallable phenomenon […] can strongly influence the subject's subsequent behavior

[introduce] reinterpretations and re-evaluations

extra information about some supramundane reality

intellectual or spiritual discovery

2. How: Research Method: Bioassay / Self-Experiment

[Rheingold - Future Highs (Playboy 1978)] The most important skill, the one that can't be taught, but only learned, is how to recognize a molecule's psychoactive effect by imagining its shape. "Mood-changing drugs can be organized into chemical families," he says, " with its own qualitative aura. The psychological effect of any drug, including the sense of being high, can be changed by systematically altering its chemical arrangement, especially in those areas we have identified as active sites. A carbon atom here, a free electron there, and you have the difference between insight and anxiety. Some drugs induce fear or a feeling of well-being, others evoke pleasure, distorted or heightened perception, paranoia, or awe. I look for those connections between chemistry and consciousness. Many of the drugs we create in laboratories are analogs, or synthetic reconstructions, of compounds that exist in nature. Other psychopharmaceutical creations never existed until they were synthesized. Both categories hold virtually endless possibilities for exploration.

[Brown - Chemophilia (1994)] And it turned out that all the known psychedelics around the time I got curious in this area - back in the `50's and 60's - were either phenethylamines or tryptamines. It's now been shown that this is a very good guide. Nature said, "here are the two basic building blocks and if you're going to do something with the brain it's going to be with one or the other." [...] My doctorate degree is in biochemistry, but I found that it didn't have the magic and the music of chemistry. In my teaching class at Berkeley I would ask, "How many

people are taking organic chemistry?" And you'd hear this groan. Why? Because the typical instruction would be, "Go and read pages 83-117 in the textbook and we'll have a quiz on Monday." People hated it! Chemistry, however, is an art, it's music, it's a style of thinking. Orbitals are for mathematicians, chemistry is for people who like to cook!
[...] How do you discover the action of a molecule? A molecule when it's hatched is like a baby. There's no personality there. As the baby develops, your relationship to the baby develops, and eventually it forms into something of its own shape and character. The first time I made MDOH I distilled it as I like to do before I make the salt. I found that it began a threshold activity at around 80mg, but I didn't know that something was amiss. I ran some tests and discovered that when I did the distillation of MDOH I had gotten it sufficiently hot to split up the hydroxy group. I had made a mixture of the base without the hydroxy group which had gone on to the MDOH and become an oxine. The material I was left with was MDA. So I had accidentally rediscovered the property of MDA. I went back and made MDOH again keeping the vacuum temperature down, and I came out of it with a brand new compound that I never would have made before. So from a divorced position I had to come back and reinstitute a rapport because the material I had thought I had met, I had not met. You don't discover these things, you interact and develop them together. If you want to incarnate elves into the materials that's fine, but either way it's a relationship.

[Bennett - Doctor Ecstasy (New York Times 2005)] Sometimes he compares the moment to that of artistic creation ("The pleasure of composing a new painting or piece of music"),

[Dirty Pictures, 2010] Sasha Shulgin in a monologue
Sasha Shulgin: "**I did not have a goal, I still don't have a goal. What I'm looking for is learning from the process**. What's the goal of a – ah I can't think of a good analogy. Ann?"
Ann and Sasha Shulgin are pictured inside a household
Ann Shulgin: "It's like an explorer, you know there's a hill in front of it. **A hallway full of closed doors – go through them and you find another hallway with more doors. It's an absolutely marvelous continuous process of discovery**."

[Rheingold - Future Highs (Playboy 1978)] It is Dr. G's custom and scientific protocol to ingest his own compounds and commune with the geometry of his transformed perceptions, sometimes finding clues to his next creation in the pattern of his hallucinations. G. considers this deliberate, systematic hallucinating to be a valid tool for using new drugs to create newer drugs. He defends the ethics of this procedure as "the epitome of informed consent," and has published articles in technical journals on the various protocols he uses for self-mapping new mindspaces. There are bound to be some harrowing adventures along the way, like the time he discovered a psychedelic that lasts longer than LSD and took a tenfold overdose. Bizarre as this research method might seem, there is his torical precedent for hallucinatory theorizing: The science of organic chemistry

was born when a chemist named Kekule dreamed of a snake that swallowed its own tail and awoke to draw the first diagram of the tail-swallowing benzene ring.

[A Review of Pihkal by Peter Stafford] The investigative technique used by Sasha is impeccably traditional. He has specialized in what are largely analogs of the mescaline molecule (the simplest of the "one ring phenethylamines"), all of which are fairly easy to synthesize, in contrast to the four-ring indolic psychedelics such as LSD, psilocybin, harmaline and ibogaine. After he has concocted one of these compounds that he suspects might produce significant mental activity, he tries a very small amount. He then tries it every other day, doubling the dosage, until and appropriately intensified experience appears to have been reached. After his return to "baseline consciousness," he then examines the specimen's effects once again to try and discover its promise. If it seems that there's something going on here, Sasha recommends it to his wife, hoping to get her reaction. Once she has concluded that the molecule in question may be an excellent candidate for being "loved," 11 associates who have been with this master chemist for a score of years all take it together with the Shulgins.

[Bennett - Doctor Ecstasy (New York Times 2005)] Shulgin tested for activity by taking the chemicals himself. He would start many times below the active dose of a compound's closest analog and work his way up on alternatedays. When he found something of interest, Ann, whom he married in 1981, would try it. Ifhe thought further study was warranted, he would invite over his "research group" of six to eight close friends -- among them two psychologists and a fellow chemist -- and try the drugs out on them. In case of a truly dangerous reaction, Shulgin kept an anti-convulsanton hand. He used it twice, both times on himself.

[Brown - Chemophilia. Interview with Alexander and Ann Shulgin (1994)] You start out with a reasonable estimate of what you think might be an effective level and you divide that by whatever number your wisdom and judgment tells you. Admittedly the first time is an unknown, but you start with a level where it would be hard to believe it would have an effect. Almost never are you surprised, and when you are surprised you learn from it. [...] When I test a new drug on myself I use extremely small levels with much space between each time to eliminate the effects of tolerance. When I get up to a level that I feel comfortable with, Ann and I share it and see if indeed we have the same responses. Then we introduce it to individuals within the research group. [...] We often find that some of the materials have radically different responses within the group. I had to abandon a whole family of compounds which I called the Alephs because they were too erratic. Someone would have an over-stimulating experience on 2 mg and someone right next to them on 7 mg would experience nothing at all! We also have the occasional idiosyncratic difference from day to day of one person to one chemical. TMA6 was a compound I had worked on and abandoned because it was not that interesting. We were exploring it because it was an opening to a new family of compounds. It was clearly active. You knew you were in an altered place, but you couldn't give it a name or a character. There were no visuals and no time

distortion - nothing. So we threw it open to the group, and we were all up against the wall! When I went to take a pee in the bathroom the wallpaper came out and shook hands! (laughter) Everyone had an intense experience. [...] It's like soldiers marching across the bridge. If you break step, you're not going to have the rest of the bridge getting to some resonance which could lead to a catastrophic event. You search out your thought patterns and abort them before they come to any consequence. Then you start another thought pattern and stop it. If you don't let things consummate that diffuses things and pretty soon you realize that it's not necessary any more. [...] The group doesn't get any of these things until we've gone up to a plus 3 and usually beyond that to the point where it's too much. So we know for sure that it's not going to attack our nervous systems.

[Dirty Pictures transcript] Cut scene to Sasha Shulgin, he is in an area with many small glass bottles
Sasha Shulgin: "You're making a material that's never been looked at before, no one has ever made it, so you wonder, is it psychedelic? You don't know. You can't look at the literature for it, it is a brand new thing."
Cut scene to a beaker swishing a liquid around.
Sasha Shulgin: "It meets you and you meet it. You begin learning from it, and it learns from you.
Cut scene to a close-up of Sasha Shulgin
Sasha Shulgin: "You can find the basic emotions in animals, but you don't find the subtleties of the mental process and that is why you must use human subjects and why you must be really careful because sometimes you bend something that doesn't unbend"
Cut scene to Sasha Shulgin sitting in his laboratory
Sasha Shulgin: "What happens is, it's like the hair on your neck stands up a little bit, ooh, something is going on. It's a little aura of beginning effect. Once I have found what I believe to be the active level then Ann joins me in the experiment to confirm it is not me that's strange, but that the compound has the same action in both of us to some extent and once that has been confirmed then our research group will meet about the compound of about maybe 8 or 10 people. And we'll share the compound all around. Maybe he is a little more sensitive so he'll take a little bit less, he's a little into refractory so he'll have a little bit more, so then we get a feel of the whole group and group all confirms the activity which answers the question."
Cut scene to Sasha Shulgin close-up again
Sasha Shulgin: "What you have is a part of the self-preservation is to ignore 95% of the stuff that's out there. You have a person who is observing everything and remembers everything; he can't cross the street because he's fascinated by the green light, by the cars, by the gravel, by the flies that are over there by the thing, by the car that has the little blinker going, and if he pays attention to everything he saw, he'd be at life's risk to go across the cross-walk crossing the street. So he learned to turn that off, turn that off, watch for the green light, watch for the first step foot goes down there, glance right and left to see there's no car coming, and you get across the street safely. You have to ignore 99% of what is around you to be safe, to achieve what you

want to achieve. What these things catalyze, letting you get access to those things you've been ignoring or have been denying.

[Twenty Years On an Ever-Changing Quest, 1983] First, there must be complete confidence on the part of the experimenter that there are no toxicological or physically threatening properties that might color the responses evoked. This means, simply, that the observer must be completely aware of the potency and the potential quality of the effects to be experienced before there is any interaction whatsoever with a subject. In this regard I have used the term coined by Gordon Alles, of "double conscious" protocols. In the evaluation of a new drug, the rubric of the medical community is that, for the sake of objectivity, both the subject and the experimenter must be unaware of the presence or absence of an active component being used in a trial, and that the nature of the expected action should also be hidden. In the area of psychedelic drugs, this is both unethical and absurd. If the potential exists for the upheaval of a person's "change oflife flow," then it is unprofessional, if not criminal, to fail to advise him of this potential outcome. And if you, yourself, as the investigator, are uncertain of the potential ramifications of such an experiment, then you are remiss in exposing others to that with which you are not personally familiar. One must personally know the experience to understand properly another's experience. Humphry Osmond states this well in his analogy: "A eunuch could write an authoritative book on sexual behavior, but a book on sexual experience by the same author would inspire less confidence. '

Second, the experimenter should enter the experiment along with the subject, with the same chemical and at the same dosage. The classic arguments of objectivity versus subjectivity are not applicable here. The barriers of distrust, a familiar hurdle to be overcome in psychiatric interactions, have thus been lowered. Otherwise, the "subject," feeling himself without defenses in interaction with an "observer" who has all of his own defenses intact, may feel alienated and inhibited. Openness must be reciprocal. Two unmarked and equal capsules can dispel dramatically any anxieties that might arise during an experiment.

Third, the setting must be familiar and benign. Two (unintentionally) parallel studies bear witness to this need. One, in Los Angeles several years ago, was conducted with some hundred subjects taking LSD in a clinical environment, with medical back up, blood pressure measurements, and thorazine at the ready. Many of the subjects had a difficult time within the experiment, and most stated that they would not choose to repeat the experience. The other study took place in New York at about the same time, with a similar number of subjects and the same drug and dosages, but in a private home with support and personal interaction. This produced a largely positive result and a sustained interest in further exploration.

There is really a fourth consideration, in addition to the trilogy above. One must have a genuine curiosity about new directions of personal growth and the fabric of psychedelic insight and discovery, rather than just a wish for sensory entertainment or escape. There should be dedication of purpose or recognition of need.

[Boal, The Agony & Ecstasy of Alexander Shulgin (Playboy 2004)] "Sasha and Ann became the core around which the psychedelic community really cohered," says Rick Doblin, who has a doctorate from Harvard and is the head of the Multidisciplinary Association for Psychedelic Studies, a leading ecstasy advocacy group. "The Shulgins created the context for this whole community of people who really felt under attack in the wider culture." This elite community includes chairs of university departments, leading research scientists, an anthropologist, writers, M.D.'s, a research chemist and a wealthy entrepreneur. The most trusted among them are also members of Shulgin's "research group," a dozen or so volunteers who have met regularly for the past 30 years to be the first to road test hundreds of Shulgin's potent new drugs. Whenever he emerged from the lab clutching a promising variation of mescaline or LSD, Shulgin would gather the group and explain the basic chemistry and effects of his new molecule (for example, short, mild and emotional); then everyone would drink it down with a glass of juice and a notebook on hand to record the results while relaxing in some forest cabin, with a fire in the hearth and Bach on the five-channel home theater system. These were effectively the drugs' first human trials, conducted outside the system of big science, without the red tape of a protocol from the Food and Drug Administration. Self testing gave Shulgin the freedom to work without restriction but at some cost to himself. Over the years he has become violently ill, blacked out, lain shaking on the floor and felt his limbs freeze and his bones disintegrate. Still, he believes he is under an ethical imperative to sample his drugs before he gives them to anyone else - human or animal.

[Brown - Professor X (Wired 2002)] Sometimes his psychedelic adventures scare him, Shulgin says, "but how else are you going to learn?" In case the worst does happen, "I always keep an anti-convulsant on hand." These days, though, the group doesn't meet as much anymore. "We're getting too old," he says.

[Ann & Sasha Shulgin Speak... in discussion with Earth and Fire Erowid (The Entheogen Review 2008)] I was very glad on the day that the invasion happened, which is described in the first chapter of the second book. I looked the agent straight in the face; he was asking me, "Who are the members of your research group?" I said, "Mr. So-and-so, the research group is total fiction." He looked at me with a look that said, "I do not believe you, lady," and remarked, "Well, that may be, ma'am, but if we ever find out who is in your research group, we would really like to have a long talk with them." I replied, "It has never existed." That's my story, and I'm sticking to it.

3. What: Typology / Phenomenology of Altered States of Consciousness
3: Typology of Altered States of Consciousness

Qualititive distinctions
qualitative comparisons between compounds

properties that may be specifically assignable to individual drugs, rather than those that are common to all.
(1) all compounds produce identical psychological effects and that all lead to the same end point.
these materials differ only in their potencies
(2) each of these compounds is discrete and pharmacologically unique
shared property: complete recall of details of the drug experience
no easy explanation in such an explanation for the diverse qualitative natures observed among the various psychotomimetics
from the profoundly introspective to the overtly entertaining
construct some model of a state of consciousness

Shulgin believes that all of these compounds have the potential for achieving this, and that **these chemically diverse materials may, after all, lead to the same end result. Their differences might be considered as different scenic tours along the general route to the same destination. With** all of this variation, perhaps only the simplest generalizations should be attempted. One can say that those materials which are **catecholaminelike**, the methoxyamphetamines and the methylenedioxyamphetamines, are to a large extent entertaining, oriented primarily towards the visual processes. There is not the profoundness that is found within the indole group where there is more proclivity to extensive psychological interpretation. These ideas are advanced merely as colorings and hints in the formulation of an explanation to account for the action of these materials. **To ignore the fact that there may be differences between the psychotomimetic drugs, would be to ignore a potentially useful tool**.
There are three major dimensions of quality of action that contribute
to this end-number. The nature of the altered state of consciousness can be
described as involving **intoxication, introspection, and escape**.
Intoxication = disinhibition and diffuseness
ease of talking and inteacting without defensiveness
Also, there isthe deepening of my emotional rap-port with another person, which canbecome an exquisitely beautiful ex-perience, with eroticism of sublimeintensity.
Following the general psychic activation elicited by these drugs the **resistance of the ego disappears**
cognitive value, communication enhancers!
Man has sought out and used
specific plants which have had the effect
of altering the way he interacts
with his world and **communicates**
with his gods and with himself.
Also, there isthe deepening of my emotional **rapport with another person**, which canbecome an exquisitely beautiful ex-perience, with eroticism of sublimeintensity.

(1) effects upon the senses
(2) effects upon the soma
(3) effects upon the psyche

division into four groups, based upon a number of qualitative generalities.
(1) Some seem to generate states that are invariably cloaked in amnesia. For this reason they are largely ineffective in the promotion of a constructive altered state of consciousness.
parasympatholytics, scopolamine
absence of conscious recall
(2) Some seem to promote states of perceptual change, playing mainly upon the external senses.
one sees other people, other things, in a new light
mescaline, TMA, DOM
(3) Some seem to promote states of conceptual change, invoking new and unexpected interassociations between previously unrelated bits of knowledge.
provocation of awareness alteration; LSD, LSA, DMT
(4) Some call upon past memories and upon past events, whether they be true or synthetic.
facilitated access to subconsciously suppressed material
MDA, MMDA, 4-Br

Primal Amnesia Theory
The function of the brain and nervous system, and sense organs, is in the main eliminative and not productive. Each person is at each moment capable of remembering all that has ever happened to him, and of perceiving everything that is happening in the universe. The function of the brain and nervous system is to protect us from being overwhelmed and confused by this mass of largely useless and irrelevant knowledge, by shutting out most of what we should otherwise perceive or remember at any moment, and leaving only that very small and special selection which is likely to be practically useful.
Some **call** upon past memories and upon past events, whether they be true or synthetic.
facilitate memory recall
an authentic reliving of some event or events in one's personal past;
being able to come to grips with an especially threatening or uncomforable archetype;
Introspection = viewing of one's own psyche as opposed to viewing one's relationship with the external world.
dialog with the unconscious.
access to early memories, down to [according to some analysts] the birth trauma and earlier lives
[adjuncts to psychotherapy]
Introspection is thephenomenon of"going inside." It is the viewing ofone's own psycheas opposed to viewing one's relationshipwith theexternalworld.
cf. limbic system – David Nichols
cf. Huxley's Reducing Valve theory

Our cultural heritage requires the initial conclusion that these transient yet potentially enduring changes of states of consciousness are unnatural or abnormal. But perhaps **they reveal the "normal" state through some disinhibition of an evolutionarily imposed safeguard**. Perhaps these chemicals, by themselves, or through the in vivo conversion to **some intrinsically appropriate metabolite, may serve a neurotransmitter role at some synaptic network, restoring certain neurological functions that have been lost through evolution**. To many people, the states of awareness that are experienced are not "**abnormal**," but rather, familiar territory that had been lost in some **primal amnesia**.

I am completely convinced that thereis a wealth of information built intous. with miles of intuitive knowledgetucked away in the genetic material.of every one of our cells.Somethingakin to a library containing uncoun-table reference volumes.but withoutany obvious route of entry.And.with-out some means of access. there is noway to even begin to guess at the ex-tent and quality of what is there.Thepsychedelic drugs allow explorationof this interior world,and insightsinto its nature.

[…]

Our generation is the first ever to havemade the search for self-awareness acrime. if it is done with the use ofplants or chemical compounds as themeans of opening the psychic doors.But the urge to become aware is alwayspresent,and it increases in intensityas one grows older

[…]

This source.this part of ourselves.hasbeencalledbymany namesthrough-out human history.the most recentbeing"the unconscious."

[…]

This is one of the reasons I hold thepsychedelic drugs tobe treasures.They can provide access to the partsof us which have answers.They can.but again.theyneed not and prob-ablywill not.unless that is the pur-posefor which theyare being used.

Baudelaire correctly observed: "Drugs can add nothing new to a man, but can only raise to a higher power that which is already within him." Hess has phrased it as follows: "Psychodysleptic drugs only provoke symptoms which are already potentially present within the cerebral organization."

A euphemism that has come into popular usage in this area of medical practice is the use of a drug "as an adjunct to psychotherapy." Within psychotherapy there is a rich value given to anything that can release and expose any personal information in the hidden history of the patient. Most of these drugs, without question, release the reservations that maintain privacy over such information and thus allow a free exchange of communication.

Also, there isthe deepening of my emotional rapport with another person, which canbecome an exquisitely beautiful ex-perience, with eroticism of sublimeintensity.

They are able to release the patient from his autistic fixation and isolation by shattering and transforming his customary setting. As a result, the patient can obtain a more satisfactory relationship with the therapist. 2. Following the general psychic activation elicited by these drugs the **resistance of the ego disappears**, and forgotten or repressed memories may be evoked. Even experiences of early childhood are often remembered. This is of major importance for the success of psychotherapy, particularly when the experiences concerned are those which have led to psychic trauma.
2C-E, which permits **extraordinary fantasy**, **both factual (childhood reliving) and insightful.** easily elicited fantasies

(1) effects upon the senses

Sensory Alterations
distortion of the visual sense
distortions of the size, the shape, the motion
Some seem to promote states of **perceptual change**, playing mainly upon the external senses. **catalyse responses** that are mainly **perceptual** rather than conceptual.
Formerly accepted sizes, shapes, and intrinsic significances of all objects in the external world abruptly become suspect.
eleboration of sensory input,
visual distortion,
The many compounds chemically related to mescaline, and to the ring-substituted amphetamine family, lead to generally consistent reports of attention paid to external objects, to visual (and rarely auditory) syntheses which seem to have their origins in the physically surrounding environment, and to constructive interpretations resulting from such experiences being directed primarily to the relationship between the subject and his exterior world.

sensory hallucination affecting the sense of touch are rare
intense empathy associated with the mescaline state makes it almost impossible even to touch an object
rarely any invention in the auditory area
psilocybin and marijuana: three-dimensional incorporation into what is heard

Sensory amplification
amplification of imagery.
amplification of sensory inputs
visual change
interference with the visual system

[Visual amplification is often seen, colors may be brighter, or they may be completely new. Changes in the delineation of shapes or edges of objects are often commented upon. Movement of things immobile can be distracting.
Unexpected interpretations of the significance of familiar things are
common. One may report lights flashing, being enveloped by darkness, or
feeling surrounded by chaos. Changes in sound interpretation can occur.]
2C-B: sensory enhancement (**visual, sexual, gustatory**) with a **minimum of introspective demands**.
distortion of the visual sense
effects … on color perception
color changes, color distortions, and color syntheses are the most dramatic effects noted
distortions of the size, the shape, the motion of viewed objects
Objects and colours, which generally become more brilliant, lose their symbolic character, they stand detached and assume an increased significance, having, as it were, their own more intense existence.
rarely any invention in the auditory area
This sensory field is frequently affected by compounds of the atropine group
with the psychotomimetics there are almost never hallucinations in auditory input
It is not uncommon, however, to observe a distortion in what is actually heard, or, especially, an unexpected interpretation of sounds.
DIPT produces changes only at the auditory level.
DIPT — reported to amplify and distort the auditory sensory input signals
Both psilocybin and marijuana have been mentioned repeatedly in the literature as materials that evoke unusual responses to music. With both of these drugs, the subject often undergoes a three-dimensional incorporation into what he is hearing.
sensory hallucination affecting the sense of touch are rare
with polymethoxylated phenylisopropylamines… the process of confirmation of texture will lead to damage or even destruction of the object in view
intense empathy associated with the mescaline state makes it almost impossible even to touch an object to determine if it is hard or soft, for fear of hurting it

(2) <u>effects upon the soma</u>

<u>Synesthesia</u>
Certain compounds, notably psilocybin and DOM, have been reported to produce synaesthesia, wherein there is an interchange of senses. Touch, for example, may evoke the sense of sound, or sound itself brings forth the appearance of colors (chromaesthesia).
Somatic sensitizer

2-CB: In addition to an extensive visual syndrome, the phenethylamine 2-CB (4-bromo-2,5-dimethoxyphenethylamine) (13) produces an intense awareness of physical responses to stimuli: olfactory, auditory, gustatory and sexual.
2C-B: sensory enhancement (**visual, sexual, gustatory**) with a **minimum of introspective demands**.

Alienation / Depersonalization
Depersonalization is the principal somatic change that is subjectively observed.
separation of the brain and the body is produced by a class of drugs known as the hypnotics.
[Ketamine]
I was being destroyed -- all that was familiar, all reference points, all identity -- all viciously shattered in a few seconds. I couldn't even mourn the loss -- there was no one left to do the mourning.
sense of a reality-unlocking secret
Psychotomimetic agent
3,5-dimethoxy-4-methylthiophenethylamine / 4-TM / Thiomescaline
dimethyl ether of dopamine = associated with the clinical diagnosis of schizophrenia.
The dimethyl ether of dopamine is 3,4-dimethoxyphenethylamine (DMPEA)
DMPEA in urine
The immediate external world and the immediate internal world are both abandoned. A person may feel as if he or she were on some "astral plane" or at some "cosmic level" that makes the acknowledgement of the real world quite unnecessary. This aspect of the state of consciousness change may be perceived as the ultimate escape by the user.
Some philosophies call it ecstasy, and others call it death.
"to die before one dies”
Depersonalization is the principal somatic change that is subjectively observed. This phenomenon has been noted often with DOM and is observed very consistently with LSD.
changes even in space and time and the consciousness of self. Phenomena of depersonalization may also occur.
experience of unity, a dissolution of self and a merging with a singular, all-encompassing reality
Preller, Vollenweider: Ego-Dissolution as a Dynamic Process, w: Phenomenology, Structure,…
Preller, Vollenweider - Phenomenology, Structure, and Dynamic of Psychedelic States (2018)
vanishing of the sense of self
I was being destroyed -- all that was familiar, all reference points, all identity -- all viciously shattered in a few seconds. I couldn't even mourn the loss -- there was no one left to do the mourning.
[…]
I am at the speed of light, expanding, expanding, expanding, faster and faster until I have become so large that I no longer exist
[…]

here I gaze upon the entire universe
losing self in a perception of supreme power and love
unio mystica = total loss of self-identity
Fana in Sufism is the "passing away" or "annihilation" (of the self)
Subject and object merge and boundaries to the self are weakened.
sense of oneness with all things, a unity of consciousness where the subject transcends the self-other divide
strange sense of voidness. In this Void, everything loses its meaning; cf. sunya/sunyata

(3) effects upon the psyche (mind)
most dramatic effects
most difficult to put into a neat classification
change in the state of awareness
induced psychosis: expansion upon the anxiety state
intoxication syndrome
varied duration

Nonsensory awareness
[zerwanie z zewnętrznością to tylko etap wstępny]
The potential of the psychedelic drugs to provide access to the **interior** universe. is. I believe. their most valuable property.
Then there is the need to explore the world that lies just **beyond the immediate limits of our senses** and our understanding;
It is the area of the state of **awareness modification**, the **changes in interpretation of one's environment**, and the property of a **catalytic unfettering of imagination**.
Hofmann (1959) has described this as follows: The psychotomimetics produce profound and acute changes in the sphere of experience, in the perception of reality. **changes even in space and time and the consciousness of self. Phenomena of depersonalization may also occur. Retaining full consciousness, the subject experiences a kind of dream world, which in many respects seems to be more real than the customary normal world.** Objects and colours, which generally become more brilliant, lose their symbolic character, they stand detached and assume an increased significance, having, as it were, their own more intense existence.
One can find reference to subjective phenomena such as positive (and negative) hallucinations, including pseudohallucinations; visualizations, including illusions, dread-states, eidetic images (with or without reality character, memory images (including projected images, afterimages, and pseudomemory images), reperceptions; déjà vu phenomena; depersonalization (or derealization) phenomena; Sinnengedächtnis; and no on. The fine structure of these **psychological nuances** is discussed in detail in this volume by Hollister in Ch. 8.
It is in the area of the psyche that one finds the most dramatic effects, although they are, unfortunately, the most difficult to put into a neat classification.

Hellpach (1941) proposed the term "eidetika" to put emphasis upon the particular nature of the hallucination evoked.
"**thaumaturgic agents** - which evoke sense - illusions in a great variety of forms."
The classification of events that may be considered as "hallucinations" may range from the volatile images, those seen with the eyes closed but lost upon looking about, to the more compelling and persistent illusions, those that can be watched with open eyes.

CEV
the experience of eyes-closed imagery
MDA, MMDA, DMMDA, DMMDA-2
recollection of past events, of childhood memories, a reliving of earlier times
synthetic structures of imagery: moving lines, billows of light, arabesque patterns
At the "eyes-closed" side of this spectrum, specific mention should be made of a group of drugs, the methylenedioxy compounds, that share this property.
[…]
There is quite consistently a recollection of past events, of childhood memories, a reliving of earlier times that appear to be, as far as can be documented, quite accurate. These compounds have found some value in experimental psychotherapy through the release of subconscious material. Harmaline evokes an unusual eyes-closed hallucination in which there are synthetic structures of imagery that are certainly entertaining, although they appear to have no particular bearing on reality at all. The most general type of eyes-closed effect, that of moving lines, billows of light, arabesque patterns, and a multitude of entertaining maneuverings of the visual field, can apparently be induced by virtually all of these compounds.

OEV
(1) real thing, and find that it is modified into something absurd and yet quite believable
(2) completely synthetic image that is projected upon the actual visual field
The "**eyes-open**" hallucination can arise from one of two stimuli. The one can create a distortion of something that is really viewed, a confirmably real thing, and find that it is modified into something absurd and yet quite believable. The other style of illusion is represented by a completely synthetic image that is projected upon the actual visual field. The subject may look at the wall, but there is a world interposed between him and the wall, and it is this illusory world that commands his attention. The distortion of the field is quite common with LSD and with mescaline and can be considered a hallmark of these compounds. The latter phenomenon, the superimposition of a hallucination upon the background rather than the development of the hallucination as an outgrowth of the background is quite rare, and to my knowledge has been reported only with DMT, mescaline, and psilocybin. I know of no well-established instances in which any other materials actually produced a totally synthetic hallucinatory structure.

One can say that those materials which are catecholaminelike, the methoxyamphetamines and the methylenedioxyamphetamines, are to a large extent entertaining, oriented primarily towards the visual processes.
The effects are nonetheless mainly interpretational rather than sensory, and thus appear to be meaningful rather than being predominantly entertaining.
most are visual or auditory presentations (visions and auditions), but not through the physical eyes or ears
The most conspicuous effects are upon the visual processes.
overwhelming impression of reality of these pictures
entirely internal, like a hallucination or imagination, it is nevertheless a veridical experience, through some spiritual analog of the eye or ear
A super sense-perceptual mode of experience may accompany sense-perception
widzenie wewnętrzne:
the language of "seeing" is used in its extended sense of realization, as when a yogi is said to "see" his or her identity with Brahman; Buddhists speak of "seeing things as they are" as one of the hallmarks of true enlightenment.
Dhyāna, Pali jhana, from Proto-Indo-European root *√dheie-, "to see, to look", "to show"
Sanskrit root √dhī and n. dhī
in the earliest layer of text of the Vedas refers to "imaginative vision"
qualitative analysis of perceptions: modes of giveness & content of giveness

Reality
thesis of a **unified reality**
if the doors of perception were cleansed, everything would appear to man as it is, infinite.
communication: touching between body of fact (consciousness) and total fact (reality)
God equals communication.
The capability of communication was the hope of contact with creation and reality.
state of consciousness: the available constellation of known aspects of reality, at the given moment NOW
the input of new material (experience) and the deletion of old material (amnesia) make available to the individual a continuously changing collection of bits and pieces
experience and amnesia represent a diseducation procedure
overwhelming impression of reality of these pictures (Shulg)
I must first venture into the philosophical arena with a personal conception of "reality." Many fragments and subdivisions of the idea of reality have been used as convenient concepts in descriptions of drug-induced changes. Terms such as **"unreal," "alteration of real ity," "separate real ity," and "alternate real ity**" are commonly heard, but I feel that all are inherent contradictions. I **hold that there is a single infinite reality** composed of all time, all matter, all space, and all concept.

This reality contains our finite universe and all the infinite interactions between the components within it.
The subdivisions that are noted, the Eddington space-time continuum,
another world, another place, another time
the generation of a form of dream-world; for some subjects this is structured in the framework of past events, while for others it appears to be merely a dreamlike entertainment (Shulg.)
nonsensory awareness or a nonstructured sensory experience granting acquaintance of realities or states of affairs that are of a kind not accessible by way of ordinary sense-perception structured by mental conceptions, somatosensory modalities, or standard introspection
Some mystics have referred to a distinct "spiritual" means of knowing appropriate only to a non-physical realm (nous, intellectus, buddhi).
A super sense-perceptual mode of experience may accompany sense-perception
"ultimate vision" in which the psyche "stands immediately, face to face as it were, with the eternal"
https://psychonautwiki.org/wiki/Perception_of_eternalism
The immediate external world and the immediate internal world are both abandoned. A person may feel as if he or she were on some "astral plane" or at some "cosmic level" that makes the acknowledgement of the real world quite unnecessary.
the world becomes an Arabian labyrinth, a palace, a more than possible Martian jewel, vast with motifs that flood the gaping mind with complex and wordless awe
see things as they are
Seeing reality
to see the true nature of things is called Vipassana (insight) meditation
"see" his or her identity with Brahman
Retaining full consciousness, the subject experiences a kind of dream world, which in many respects seems to be more real than the customary normal world.
more real then sensous reality
deeper, comprehensive reality
acquaintance of realities
one characteristic of a genuine mystical experience is that it must be perceived as being completely real.
vision, not hallucination … I saw it and I knew it was real
overwhelming impression of reality of these pictures and the accompanying feeling of unity with the universe (Shulg.)
more real than real
profound experiences accompanied by a belief in their truth
"one replaces a real world with an alternate real world which is equally real and yet different"
Phantastica:
Here, one replaces a real world with an alternate real world which is equally real and yet different. We must return to this philosophic argument: How can one determine which of these

two is the "real" real world? There are people in South America, for example, who use the native drug ayahuasca, and who live as much of their lives as possible in a drug-modified world. They consider that state the real world, and it is only when the body becomes purged of these chemicals that they inhabit what we accept as our real world. They consider our world an idyllic heaven, but they soon return to their drugged state which is their real world, whereas ours is the escape world. Which of these two exclusive states is real?

We must now concern ourselves with the **aspects of insight in these states**. Any drug experiment, when observed within the structure of the "psychedelic" experience, has the potential of reviewing the former world with some unexpected interpretation. This latter view is automatically **accepted as being real**, certainly more usable than the image of one's life and environment that had been accepted earlier. Because this is a recallable phenomenon, it can strongly influence the subject's subsequent behavior. This is a dramatic property of LSD, which may be potentially a virtue of, and is certainly a hazard in, the use of the compound. The reinterpretations and re-evaluations can also be extended to include the internal world as well. It is within this province that one encounters the transcendental, mystical, or religious experiences wherein the internal world is reassembled, incorporating that which was first understood during the drug intoxication. Again, it is LSD that is most frequently associated with this internal revolution.

The Unitary Consciousness; the One, the Void; pure consciousness [transcendental]

Reality itself is perceived as oneness.

in this intermediate world that the entire dramaturgy of the mystic experience is played out

we have denigrated the meaning of images by transforming them into figments of our imagination

we are reduced to identifying as imaginary, or as unrealistic fantasy, all things that we cannot perceive through our senses or that we cannot grasp with our intellect

<u>Transtemporality</u>

outside normal perception of space and time.

As for phenomena that concern subjective time, we are still uncertain into which category - sense, soma, or psyche - to place them. They are introduced here only because the autonomic biological rhythms are somatic. As mentioned above, psilocybin and marijuana change the interpretive quality of the musical experience by slowing subjective time. All of the materials to be discussed below, those that lead to some form of visual synthesis, as a rule create the tendency to compress many events into a small amount of real time.

the slowing of time,

<u>Ineffability</u>

the chief character of the visions … is their <u>indescribableness</u>

world beyond language

"the chief character of the visions (this, in reference to mescaline) is their **indescribableness**" (Ellis, 1898), and "we enter [upon taking these compounds] a **world beyond language**, so it is hardly surprising that they may be **difficult to name"** (Kluver, 1928)
w upojeniu LSD albo CY radykalnie opuszczamy ową >>długość fal<<, dla której stworzono ludzki język i pismo
wartość poznawcza obrazów (poznanie pozasłowne)
>> przeddyskursywność
overwhelming impression of reality of these pictures (Shulg)
A super sense-perceptual mode of experience may accompany sense-perception
we must begin now to develop our new vocabulary of the human soul, to build a new language with which to communicate this area of experience and knowledge
we should create new language for the mystical experience
If one keeps the search for explanation [...] restricted to the brain, the terms encountered involve receptor sites, synapses, and neurotransmitter concentrations. But when one explores a bit further, into the dynamics of the mind, the words become harder to find.
>> cf. shulgin: substancje są słowami
the capacity of the mind to see more than it can tell, to experience more than it can explicate, to believe in and be impressed with more than it can rationally justify, to experience boundlessness and “boundaryless" events, from the banal to the profound
can’t be characterized accurately in sensory language, even analogically

Cognitive / Noetic quality
insight
the former world with some unexpected interpretation
reinterpretations and re-evaluations can also be extended to include the internal world
transcendental, mystical, or religious experiences
the internal world is reassembled, incorporating that which was understood during the drug intoxication
a catalyst is a material that brings about some change without itself being noticeably modified.
a catalyst is a material that greatly changes the rate of a natural process.
Some seem to promote states of conceptual change, invoking new and unexpected interassociations between previously unrelated bits of knowledge.
provocation of awareness alteration / insightful content
the potential forlearning.And that is why I have cho-sen to explore this particular area of pharmacology.What do I mean whenIsay there is apotential for learning?It is a poten-tial,not a certainty.I can learn,butI'm not forced to do so;Ican gain in-sight into possible ways of improvingthe quality of my life.but only myown efforts will bring about thedesired changes [Confessions of a Psychedelic Alchemist]
I am completely convinced that thereis a wealth of information built intous. with miles of intuitive knowledgetucked away in the genetic material.of every one of our cells.Somethingakin

to a library containing uncoun-table reference volumes.but withoutany obvious route of entry.And.with-out some means of access. there is noway to even begin to guess at the ex-tent and quality of what is there.Thepsychedelic drugs allow explorationof this interior world,and insightsinto its nature.

Our generation is the first ever to havemade the search for self-awareness acrime. if it is done with the use ofplants or chemical compounds as themeans of opening the psychic doors.But the urge to become aware is alwayspresent,and it increases in intensityas one grows older

the achievement of an unexpected exalted state or religious experierrce

I deem myself blessed in thatIhaveexperienced,however briefly,the ex-istence of God.I have felt a sacredoneness with creation and its Creator,and - most precious of all - I havetouched the core of my own soul.

Some researchers came up with another interpretation of the actions of these materials, the previously **unacknowledged potential for personal inquiry and self-discovery, and what might be called the mystical or spiritual nature** of the drug experience.

It became apparent to some researchers that these were **not simply agents of mental disruption but, rather, potentially valuable research and therapy tools.**

Knowledge is not a body of facts but rather the degree of <u>communication</u> with reality, and it is in this context that the psychedelic drugs promise to be of value.

Man has sought out and used specific plants which have had the effect of altering the way he interacts with his world and **communicates** with his gods and with himself.

Also, there isthe deepening of my emotional **rap-port with another person**, which canbecome an exquisitely beautiful ex-perience, with eroticism of sublimeintensity.

The **development of a complete and productive individual requires access to all possible alterations within his state of consciousness**.

So these altered states of consciousness need not be happy states, and they may have little survival value. But to reject them or to try to **deny their existence** is to forego the rewards to be gained from the awareness of an increased share of reality.

It is to forego true **scientific investigation of reality**.

it may be possible to attain new knowledge or even insight of a religious nature (Shulg.)

We must now concern ourselves with the **aspects of insight in these states**. Any drug experiment, when observed within the structure of the "psychedelic" experience, has the potential of reviewing the former world with some unexpected interpretation.

The effects are nonetheless mainly interpretational rather than sensory, and thus appear to be meaningful rather than being predominantly entertaining. (Shulg.)

If the interpretative changes are based on objective fact and confirmable observations, they may be accepted as being instructional (Shulg.)
profound insight or religious significance that is so characteristic of the **indolic**
psychotomimetics (Shulg.)
= the property most generally accepted as "psychedelic." (Shulg.)
the consensus of subjective reports concerning the psychiatric changes following experiments with the indole, or serotonin-related drugs, is that the reinterpretation of relationships is entirely within the individual. Here one reads of **religious** insight, reevaluations of purpose and personal role, of coming to understand one's self in some new light (Shulgin, 1970).
One can say that those materials which are catecholaminelike, the methoxyamphetamines and the methylenedioxyamphetamines, are to a large extent entertaining, oriented primarily towards the visual processes. There is not the profoundness that is found within the **indole** group where there is more proclivity to extensive psychological interpretation.
genuine and unmediated insight
has learned something valuable from the experience
intellectual or spiritual discovery
Free-association enhancer
DOET: relatively free of sensory distortions and thinking disorganization at dosage levels that allowed alteration of normal cognition and enhanced free association

<u>Panpsychism</u>
our entire universe is contained in the mind and the spirit
mind at large
universal mind
universal consciousness
The mind and the self literally unfold before one's eyes
conscious of the entire complex of interhuman and intercosmic relations
looking at a molecular level, seeing the spin of atomic particles; this is matter/life itself.
Everything was made of this material. It was alive and buzzed with energy
cf. Sablina: fabric of the world (Schultes)

<u>Religious experience</u>
"see" his or her identity with Brahman
Our very essence is Absolute Consciousness
They carry you there where God is
seeing = becoming
one must become "God" (henosis)
"oneness with God."
suddenly you are running the show, you are God
"we both become one with the Absolute and we become aware of our oneness" (James 1902)

"peak experience," a "religious experience," "divine transformation," a "state of Samadhi" “ecstatic madness”, “beyond everything earthly and merely human”

Chemical Catalysis of Altered States of Consciousness

[The Chemical Catalysis of Altered States of Consciousness - Alexander T. Shulgin (1975)]

My original intent in this paper was simply to list the many agents known to be effective in altering one's state of consciousness and to discuss their qualitative distinctions and differences. I feel, however, that I should construct some model of a state of consciousness, so that alterations in it as I see them can be assigned to specific chemical catalysts. For those who may have their own conceptualization of a personal state of consciousness and who may take offense at my naivete in setting up such a definition, I ask patience, for I feel that with the end result we shall agree on many points.

I shall attempt to give my own personal interpretation of this subject, in my own vocabulary, by starting at the end of the title of this essay, with "consciousness," and working backwards. The last portion of this word is "science," but before discussing this I must first venture into the philosophical arena with a personal conception of "reality." Many fragments and subdivisions of the idea of reality have been used as convenient concepts in descriptions of drug-induced changes. Terms such as "unreal," "alteration of reality," "separate reality," and "alternate reality" are commonly heard, but I feel that all are inherent contradictions. **I hold that there is a single infinite reality composed of all time, all matter, all space, and all concept.** The subdivisions that are noted, the Eddington space-time continuum, the logical-digital as opposed to the artistic-analog, the hallucinatory as opposed to the objectively verifiable—all are useful means of organization, but all are, *in toto*, still parts of this single reality. This reality contains our finite universe, and all the infinite interactions between the components within it. It contains the prejudices, the misinformation, the lies, and the superstitions to be found in our social history, and it contains all conceivable miracles. It contains you yourself, if you believe it to. Thus there can be no states of reality or of contradictions within reality that are not part of this whole.

Nothing can be nonexistent, as this very concept assures it a place within our complex unity. Science is, quite literally from its Latin origin ***scientia*, knowledge**. It is the complete knowledge of this single reality in all of its microscopic detail and in all its integrated purpose. Within our limited ability to communicate (this is a key word and the heart of the concept of chemical catalysis which I wish to discuss in detail), the scientific approach to knowledge is our personal search for information. The term "scientist" is the correct title of the searcher. I mean scientist here in the Renaissance sense, not in the perverted meaning which has become current idiom. One thinks of a scientist in modern day as an architect who designs or as an engineer who builds; however, these individuals are technologists who have specialized in areas of technical discipline, and who have both mastered that which is known in it and developed polished skills

in its application. Sadly, there are very few in these areas who **search for new worlds purely for the human love of questing**.

Our society has provided an extensive educational process which has prepared these technologists and has promoted an unprecedented development in the physical arts (physical sciences). Our observations of nature have given birth to statements concerning natural behavior, and the use of these man-made laws of nature has proved productive but, unfortunately, inflexible. These laws cannot be relaxed to accept any unexpected interactions within our only reality, interactions which might be surprisingly rewarding. The "scientific" process has been made sacred. Our culture has evolved a tautologous dogma: that being well educated is synonymous with being knowledgeable. This process, although mandatory for the development of our society, does a disservice to the individual in that an honest response to stimuli that lie outside our educational framework must perforce be excluded from our "acceptable" community state of consciousness.

The **word "consciousness" unites the term "science" with the prefix "con-" meaning with or together**. Consciousness, then, embraces the totality of one's personal collection of known facts, believed facts, and taken-on-faith facts. Within one's consciousness, no sense can be made of distinctions between true or untrue, or between provable or unprovable, as these are technologist's terms. Many words have been used to describe the touching between body of fact (consciousness) and total fact (reality), but I have chosen the word "**communication**" to express this contact.

Within this definition of consciousness, **one's "State of Consciousness"** may be described as the available constellation of known aspects of reality, at the given moment NOW, which in an intellectual sense both arms a person and limits him. The term "intellect" embraces all modes of human expression from imagination to insight. The restriction "at this moment" is needed in my definition, for one's present state of consciousness is the only possible state of consciousness. All altered states are either past or future. As one changes the body of memory detail available, one continuously undergoes a change in one's state of consciousness. The input of new material (experience) and the deletion of old material (amnesia) make available to the individual a continuously changing collection of bits and pieces, which, of course, constitutes an **alteration of one's state of consciousness**. Both processes, that of experience and that of amnesia, represent a diseducation procedure. One may be freed from taught survival values by the invocation of memory structures, undoing in the backwards sense all the rote and conditioning insisted upon through the formative years in school. One may express awareness of the inherited survival values by becoming an independent individual and contesting each reflex action that is evoked by social interaction. Borgson has described this well in his theory on memory:

> "The function of the brain and nervous system, and sense organs, is in the main eliminative and not productive. Each person is at each moment capable of remembering all that has ever happened to him, and of perceiving everything that is happening in the universe. The function of the brain and nervous system is to protect us from being overwhelmed and confused by this mass of largely useless and irrelevant knowledge, by shutting out most of what we should otherwise perceive or remember at any moment, and leaving only that very small and special selection which is likely to be practically useful."

Blake has spoken of this hiding of reality from an opposite viewpoint, but one which leads to the same conclusion. A well-known phrase of Blake's is often quoted in part, in emphasis of honesty of observation: "if the doors of perception were cleansed." But the entire quotation lends support for this thesis of a unified reality: "... if the doors of perception were cleansed, everything would appear to man as it is, infinite."

> *Cf. [Aldous Huxley, The Doors of Perception & Heaven and Hell (1954)] "To make biological survival possible, **Mind at Large** has to be funnelled through the **reducing valve** of the brain and nervous system. What comes out at the other end is a measly trickle of the kind of consciousness which will help us to stay alive on the surface of this particular planet. To formulate and express the contents of this reduced awareness, man has invented and endlessly elaborated those symbol-systems and implicit philosophies which we call languages. Every individual is at once the beneficiary and the victim of the linguistic tradition into which he or she has been born -- the beneficiary inasmuch as language gives access to he accumulated records of other people's experience, the victim in so far as it confirms him in the belief that reduced awareness is the only awareness and as it be-devils his sense of reality, so that he is all too apt to take his concepts for data, his words for actual things."*
>
> *Cf. [Aldous Huxley, The History of Tension (1956), in Moksha] "Elsewhere in the* Varieties *James cites the dictum of one of his medical friends: "There is no cure for dipsomania except religio-mania." In their somewhat too epigrammatic way, these words express a truth that the collective experience of Alcoholics Anonymous has amply confirmed. Mystical experience stands to drunkenness in the relation of whole to part, of health to sickness. For the alcoholic as for the mystic there is an opening of doors, a bypassing of what I have called the cerebral reducing valve, the normal brain function that limits our mental processes to an awareness, most of the time, of what is biologically useful. For both there is a glimpse of something transcendent to the world of everyday experience—that narrow, utilitarian world that our self-centered consciousness selects from out of the infinite wealth of cosmic potentialities. What the drunkard sees in the earlier phases of intoxication is immediately recognized as excellent. What is not excellent is the particular method employed for achieving this transcendental experience. Alcohol is one of the oldest and certainly the most widely used of all consciousness-changing drugs. Unfortunately it is a rather inefficient and, at the same time, a rather dangerous drug. There are other and better ways than getting drunk for achieving the same intrinsically excellent results. Some of these ways are chemical, others are psychological. Others involve fasting, voluntary insomnia, and various forms of self-torture. All these procedures modify the normal body chemistry and so facilitate the bypassing of the cerebral reducing valve and the achievement of a temporary escape from the prison of insulated self-hood."*
>
> *Cf. [Laura Huxley, Love and Work (1962), in Moksha] Especially after his psychedelic experiences, Aldous often mentioned the Bergson theory—that our brain and nervous system are not the source of our ideas, but rather a reducing valve through which Mind-at-Large trickles only the kind of information that is necessary for us to survive on this planet. A temporary widening of that valve, or "a hole in the head," permits a fragment of Mind-at-Large to flow in—that is what we usually call inspiration. In* The Doors of Perception*, where Aldous reports his*

first psychedelic experience, he speaks at length of this theory of Bergson's and says that it should be seriously considered

Two **rates** can be observed in the alteration of one's state of consciousness. One is the slow and unalterably progressive change that has already been discussed. This accumulation of information is gradual and is the result of scientific inquiry. Through a continuing exposure of a person to reality there is certain to be some interchange of understanding through an increasingly large number of areas of contact. However, the rate of exchange resulting from this interaction can be accelerated or de-accelerated, and it has been often observed that a single concept or simple chemical can serve to greatly change this rate.

By usual definition, a catalyst is a material that brings about some change without itself being noticeably modified. This is a poor definition of a drug, for there are few chemicals that are not themselves somehow modified within the body, producing a sequence of chemical forms. The argument will always be raised that one of these derived forms might, in fact, be responsible for the observed transformation.

A better definition comes from the physical sciences: namely, a **catalyst is a material that greatly changes the rate of a natural process**. The process may indeed be slowed, and I can only reiterate that the social education system is a negative catalyst of awareness change. On the other hand, the processes may be accelerated. These are positive catalysts. A strong emphasis must be placed on the fact that drugs do not *do* things, they merely allow things to happen, although perhaps at a changed rate.

> Baudelaire correctly observed: "**Drugs can add nothing new to a man, but can only raise to a higher power that which is already within him**." Hess has phrased it as follows: "Psychodysleptic drugs **only provoke symptoms which are already potentially present within the cerebral organization**."

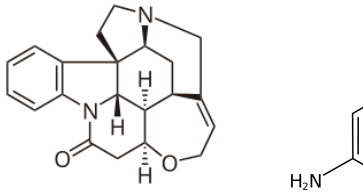
Exactly what terms should be used in referring to such chemicals? The term "psychodysleptic" can be used, but it indicates that the user has had a European medical education. "Hallucinogenic drugs" implies that there are hallucinations generated, and this is a rare occurrence. The term "psychotomimetic" is widespread in the medical literature. This stems from the early belief that there was a recapitulation of the schizophrenic syndrome observed in the intoxicative state produced by these drugs. This "genesis of psychosis" proved to be largely misleading, and this term has dropped out of use except in the medical literature where there is a need to appear unbiased. The term "psychedelic" has wide popular usage, but it implies a virtue associated with such drug experiments, and it is etymologically unsupportable. However, proper or not, this term has been broadly used, and I will use it without prejudice.

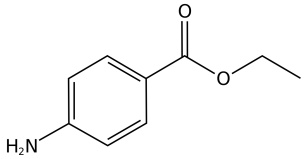
The psychedelic drugs are those which can alter man's intellectual integrity, and can provoke a reversible alteration of one's state of consciousness. **Such modification is the direct reflection of the extent of communication between a person within his own consciousness and the rest of reality outside him**. There is a continuous and gradual change which is always altering one's awareness of this outside world. However, there is also the possibility of acute disruption which will expose one to new material without preparation, and which will produce changes that are only partially reversible. Communication here must be expanded in that contact must be maintained with out-of-body or, better, out-of-mind reality.

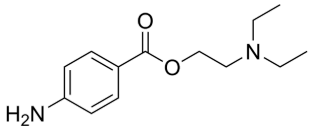
Before I try to build up a model to explain this, let me explain my concept of communication. The Gospel according to St. John begins: "In the beginning was the Word, and the Word was with God, and the Word was God." In the Greek transcription of the New Testament, the word for "the Word" was **λόγος, meaning word or thought or discourse**. The order of the words has been reversed, and the concept intended was that in the beginning there was discourse. But in the Hebrew version, the order is as in English, and one finds "דבר" which can serve dual purpose. It is the "dictum" from Him to us ("the Word was God," the sense of the Greek form), but it is also the reply in that we must provide a definition to the "thing" that is with us ("and the Word was made flesh"). **Thus to a statement made, there is a statement in response; in short, communication**. Perhaps the phrase "דבר יהוה" was intended to provide an identity: God equals communication.

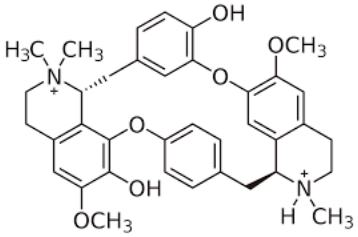
The capability of communication was the hope of contact with creation and reality. Communication itself was the vehicle of sensory honesty. Even the simplest organism must thrust itself against the rest of the universe, and so its surface becomes the quintessence of communication between the inside world and the rest of reality. The only awareness that this body has of interaction is through afferent communication reaching him inwardly through this interface, and his own efferent reply. Even in this simplest model of an individual, there is still a generalized response to an outside stimulus. Although the afferent impulse may be only diffusely recognized, it is still possible to modify the intensity of this input. This awareness is expressed and transmitted by the **peripheral neural structure**, and there are many drugs which modify this incoming communication. Strychnine can be a sensory stimulant that is effective at peripheral levels, and if the senses are sufficiently amplified there are convulsive seizures provoked by even minor stimuli. Many of the local anaesthetics, such as benzocaine or procaine, can effectively isolate such a simple individual from all external awareness.

The reflexive response to the outside world, the efferent reply, can also be easily distorted. It can be exaggerated by many nerve poisons that achieve their pharmacological action by a neurological collapse of control, for example, the carbamates or phosphates. Conversely, response can be quieted by paralytics such as meprobamate or curare. These drugs, **modifiers of ingoing and outgoing communication, affect the responses to the somatic body, to the animal in man**, and are quite far removed from the cerebral processes which are of immediate interest. This is the simplest possible communication loop. An afferent impulse is diffused through a broad network of neural synapses, which upon mobilization emits an efferent response.



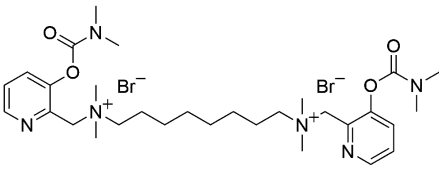


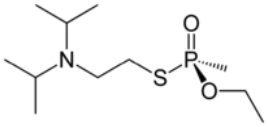


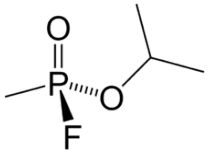


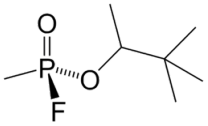
Strychnine Benzocaine Procaine

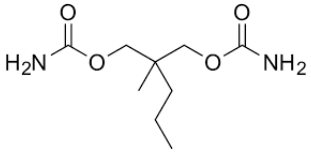
Tubocurarine











EA-3990 VX Sarin Soman

Meprobamate

As simple life forms evolved in complexity, this neurological structure progressively became more organized and more localized. The body of input signals is known as the sensory stimuli, which are transmitted to a coordination center. From here, there arises a reply, an output burst of signals called motor responses that are transmitted back to the peripheral world outside. The integrity of this communication is the definition of animal behavior; the mechanism for the transmissions involved is known as the central nervous system; and the coordination center is known as the brain. This **new interface, between the body and the brain**, can serve as the site of action of a number of drugs which again can be considered as rate catalysts.

The conduction of impulses inwardly from outside the body, through the body, and to the brain, has already been mentioned. These are the **exteroceptive, or sensory, inputs**. A second type of input arises from the involuntary regulation and homeostatic balance of the mechanical organs of the body itself. These are the **enteroceptive inputs**, which are generally beyond an individual's regulation, and often

occur without his awareness. One's blood pressure and pulse, for example, are generally controlled without any continuous directed attention. Some of the somatic enteroceptive signals can demand recognition due to physical responses that are secondary to them. Bladder fullness (pressure and touch) and hunger (auditory and musculature signals) alert us in this way.

A third type of afferent signal can arise from the body, but it is due to an intellectual awareness of it rather than to a corporal reality. These are the **proprioceptive inputs**, the continuous knowledge of just what the body is, and where it is, at all times. Without any visual or sensory level of confirmation a person somehow knows whether his toes are pointing up or down.

This increased degree of complexity found between an organism and its environment, the complex motor instruction conceived and organized within the brain, must pass out to the body, or through the body to the outer world, employing this new interface. These efferent efforts may be separated into those which are consciously controllable (related to the voluntary nervous system and directed largely to the external sensory world) and those which are involuntary (related to the autonomic nervous system and directed largely to the internal somatic world).

The reciprocity of communication from the body to the brain and to the body again can be interfered with by drugs that exaggerate or drugs that quiet. In the **voluntary system**, which unites a person's brain with external performance, this interaction is easily amplified by a host of sympathomimetic stimulants such as caffeine and drugs related to amphetamine. On the other hand, the intimacy between motor impulse and motor response can be abruptly attenuated by those psychotropic drugs known as the tranquilizers. The tricyclic agents related to chlorpromazine are effective in quieting psychotic situations that are characterized by inappropriate behavior (over-attention to socially trivial sensory inputs). Communication at the autonomic level is modified by drugs that involve the **parasympathetic nervous system**. An increased sensitivity results from the use of agents such as pilocarpine, and inhibition results from scopolamine and atropine. These two families serve as antidotes for one another, and yet they are both involved in the delusional chapter of hallucinogenic drug abuse. These amplifications and diminutions of body-brain communication are quite well defined pharmacologically.

There are also chemicals that disrupt, rather than augment or diminish, this interaction. These are the intoxicants, as defined in social rather than in pharmacological terms. Disruption is the early state of disconnection. As a general rule, those chemicals that disrupt with modest usage, such as alcohol, become hypnotics with excessive use. Similarly, those drugs known to be effective hypnotics (disconnectors) at clinically established levels—the barbiturates, for example—are consistently found to be intoxicants at low doses or in the early stages of pharmacological effectiveness.

An effective separation of the brain and the body is produced by a class of drugs known as the hypnotics. The barbiturates have been mentioned in this regard, and there are a large number of broadly abused drugs that need to be included here. The several compounds related to glutethimide (Doriden) and methaqualone (Quaalude) are sedative-hypnotics which provoke a heavy sedation that leads to hypnosis.

We are still dealing with the animal within us, and all of these effects are easily demonstrated in sub-human species. However, **with the addition of a yet higher degree of organization—that uniquely human concept, the mind—a new boundary of interaction is introduced, a new interface for drugs that can alter intra-personal communication**. It is here that the class of drugs which we have decided to call the "psychedelics" appears to be effective. **This pharmacological action is unique to the human; there has been no convincing demonstration of such properties in animal studies**. Psychedelic drugs are the materials that seem to be remarkably effective in promoting changes within the state of one's consciousness. These are the drugs that induce the partially reversible transformation in sensory and intellectual awareness.

I have arbitrarily divided the psychedelic drugs into four groups, based upon a number of qualitative generalities.

1. Some seem to generate states that are invariably cloaked in amnesia. For this reason they are largely ineffective in the promotion of a constructive altered state of consciousness.
2. Some seem to promote states of conceptual change, invoking new and unexpected interassociations between previously unrelated bits of knowledge.
3. Some seem to promote states of perceptual change, playing mainly upon the external senses.
4. Some call upon past memories and upon past events, whether they be true or synthetic.

In the group that I would call "**amnesia-producing,**" there are many drugs of both natural and synthetic origins. Plants related to Datura or to Mandrake (Mandragora) have been used as intoxicants for generations. The black henbane of the Old World was a widely known cosmetic used for pupilary dilation, but its capability for producing a confused and irrational state was recognized. The principle active ingredient in all of these plants is the alkaloid scopolamine. This, and its biogenic ally atropine, represent extremely potent parasympatholytic drugs that have been well explored clinically, and which have served as models for many extensive chemical studies. The geometric features of the molecule closely resemble those of the neurotransmitter acetylcholine and seem to be responsible for the particular intoxication syndrome provoked by drugs of this series.

Pharmacologically, there is observed extensive (and unreflexive) mydriasis, and some degree of xerostoma with accompanying thirst. Intellectually, a state of confusion is generated, accompanied by hallucinogenic synthesis that is frequently denied later by the experimental subject, and a degree of incoherence lapsing into apparent somnolence. Psychologically recognized symptoms such as apraxia (object blindness), aphasia (inability to express ideas), and agnosia (inability to recognize things or people) are common. Emotional displays (anger, panic, fear) are often evoked. Most of the synthetic drugs considered here are either benzylic acid or glycolic acid, esterified with an amino alcohol. A number of these materials are known in the scientific literature by names such as JB-318 and JB-336 (N-ethyl and N-methyl-3-piperidyl benzilate, respectively). This chemical family is very large: there are many analogs known that are active at levels similar to those employed with LSD (i.e., in the microgram range).

A number of clinically explored dissociative anaesthetics can play a similar pharmacological role. Phencyclidine (sernyl) has received wide currency in extra-prescriptional use under the name PCP. There are a number of related drugs (chemically quite distinct from atropine, but allied in the pharmacological

sense) that are capable of generating the confusional state. These are clinically observed and tolerated as side-effects associated with the recovery phase of anaesthesia, but there can be no argument that this "hallucinatory" recovery period can properly be called an "altered state of consciousness." The absence of conscious recall places these drugs in a compromised position from the point of view of the experimentalist who is studying these altered states.

The second classification of drugs involved in the provocation of awareness alteration is the most widely studied of any. This contains drugs that appear to promote understanding from within the person. I have used the word "**conceptual**" to separate the insightful content of such experiences from the sensory or externally experienced states to be discussed shortly. Many books have resulted from experiences with LSD, and indeed this single chemical is most descriptive of this class of action. I will restrict myself here to a brief discussion concerning close chemical relatives and several botanicals that have similar action.

Although LSD is a completely synthetic substance, there are a large number of plants that upon ingestion lead to a similar intoxication syndrome. The seeds of the morning glory (Ipomoea spp. and Rivea corymbosa) and of the Hawaiian baby wood rose (Argyreia nervosa) can substantially reproduce the mental state effected by LSD, through the action of the chemically similar ergot-like alkaloids that are present. A New World psychedelic decoction, Ayahuasca, is prepared from plants of the Banisteriopsis genus. This contains harmaline and related alkaloids which, although much less potent than LSD, appear to show a similar nature of consciousness alteration. A number of snuffs are found in the Caribbean area that contain dimethyltryptamine (DMT) as a major ingredient. This chemical is readily available synthetically and has served as the foundation for extensive synthetic studies. It is unusual in that it is one of the few psychedelic drugs to be discussed which is not active via the oral route. The lengthening of the alkyl chains on the nitrogen seems not to change the character of central activity but merely to decrease the potency. Branching of these alkyl groups, on the other hand, increases potency and leads to compounds that are orally active. The 5-hydroxyl analog of DMT is bufotenine, an alkaloid unusual in that it is found in both the plant kingdom (Amanita spp.) and the animal kingdom (Bufo marinus). It has an undeserved reputation of being a hallucinogen. The methyl ether, however, is 5-methoxy-N,N-dimethyltryptamine, an active component of a wide array of South American intoxicating snuffs. It is highly potent upon inhalation, but again is not active orally. The 4-hydroxy counterpart, psilocin, will be discussed below.

The third classification of drugs discussed here includes those that catalyze responses that are mainly **perceptual** rather than conceptual. With the use of drugs in the previous group, one generally sees himself in a different light (changes of a personally interpretive nature); but with this group one sees other people, other things, in a new light. Formerly accepted sizes, shapes, and intrinsic significances of all objects in the external world abruptly become suspect.

The best-known plant used as a drug in this classification is the North American cactus Lophophora williamsii, or Peyote. Peyote provides an excellent example of the external, interpretive nature of the altered states induced by this class of drugs; in that the plant itself is considered the supreme Deity by many who have formed their religions around its use. The principal active component of Peyote is the alkaloid mescaline, and chemical modifications of its structure have given rise to many pharmacologically

related drugs. Although there is a wide range of potencies represented by members of this family, such as trimethoxyamphetamine (TMA) and dimethoxymethylamphetamine (DOM, STP), they share with mescaline the property of inducing interpretive changes of the external world by amplification or distortion of the various senses.

A fourth classification has been made to try to distinguish those drugs that can seem to facilitate **memory recall**. Such drugs would be a boon in the area of psychoanalytic therapy if the presumed recollections were factual and there was no interpretive distortion associated with their presentation. A number of drugs seem to show promise in this direction, such as methylenedioxyamphetamine (MDA), its methoxy analog (MMDA), and bromodimethoxyamphetamine (4-Br or PBR). There seems to be little perceptual distortion generated in connection with the facilitated access to subconsciously suppressed material, yet there is fantasy and synthetic imagery that overlap the previous two classifications. More consistently leading to a synthetic sensory construct are drugs such as 4-hydroxydimethyltryptamine (psilocin) and high dosages of Cannabis extracts such as hashish. Psilocin (and its phosphate ester psilocybin) are found in the sacred mushroom Teonanacatl. This plant has been used in North America for centuries to promote a consciousness alteration, primarily in a religious context. Hashish has been more generally employed in the Old World as a stupefacient. But in the continuum of alteration of the state of consciousness induced by this class of materials there are perceptual states that may properly be called hallucinatory.

This has been an extremely brief distillation of an intriguing family of drugs which we have called the psychedelics. Their use can be constructive, as many philosophers and scientists have demonstrated. There is, however, a negative side to this *ex stasis*. The drugs can also reveal to the user an otherwise well-suppressed personal state that society has condemned as less than sane. As Aldous Huxley has said:

> "Sanity is a matter of degree. For many visionaries, the universe is transfigured for the worse. Everything in it from the stars in the sky to the dust underfoot is unspeakably sinister and disgusting. Every event is charged with hateful significance. Every object manifests the presence of an indwelling horror, infinite, all-powerful, eternal."

So these altered states of consciousness need not be happy states, and they may have little survival value. But **to reject them or to try to deny their existence is to forego the rewards to be gained from the awareness of an increased share of reality. It is to forego true scientific investigation of reality.**

The development of a complete and productive society requires the generation of a uniform, stable state of individual consciousness. The development of a complete and productive individual requires access to all possible alterations within his state of consciousness. But each of these is a challenge and a threat to the other, and **it should be of concern to all that the means are presently at hand, pharmacologically and educationally, for achieving either extreme. A viable balance must be found**.

At the socially-conscious level, the process of education (dis-education, as described earlier) appears to be the most successful procedure. But at the personal-conscious level, I believe that Galileo has stated it well: "**You cannot teach a man anything. You can only help him find it within himself.**" We each have our personal view of reality, but we must always bear in mind that those things which we have come to

accept as facts are still only observations. They may help us to understand, but they cannot be the end-goal of understanding. Science, as the term is currently used, confuses the means with the ends. **Knowledge is not a body of facts but rather the degree of communication with reality, and it is in this context that the psychedelic drugs promise to be of value**.