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LSD-25, A TOOL IN PSYCHOTHERAPY*

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A. INTRODUCTION

In a Swiss laboratory in 1943, an accidental discovery was made by a Swiss chemist, Dr. Hofmann, which was to bring a new approach to psychotherapy. This treatment, which the author calls *analytical and integrative therapy,* is based essentially on the trigger effects of the discovered substance, which was named d-lysergic acid diethylamide or, in short, LSD-25.

It is very difficult to describe the experience which this trigger effect produces, because profound changes in the perceptive system of the person taking the drug are engendered. The reason is that our world of day-to-day reality is based on our normal perceptive system. This reality finds its symbolic expression in our language, which is essentially a vehicle of communication from person to person.

Therefore, language is wholly inadequate to communicate productions of a perceptive system which has been altered due to the trigger effect of LSD-25. Actually, the situation is similar to that of a normal person trying to convey the beauty, the feelings, and the sounds and organization of a symphony to another person *born deaf.*

B. SENSE PERCEPTION AND REALITY

Human beings tend to accept their daily world uncritically as an absolute reality, because habit is a strong power, and a more sophisticated approach to reality falls somewhat outside their life routine. Only when they read or hear about something unusual (e.g., premonition, precognition, extrasensory perception, or any other phenomenon belonging to the field of parapsychology), do they become faintly aware that their world of absolute reality contains elements as yet to be explained.

However, there is one simple fact: 92 per cent of humanity can see the full color spectrum. About 8 per cent cannot see the difference in the colors red and green, and are therefore called color-blind. In other words, we consider

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them somewhat defective as far as their eyes are concerned. Yet, if only 8 per cent of humanity were able to perceive the difference between red and green, we may safely assume that these individuals would be considered as defective in some respect. So this world of the *reality* of our *daily life* seems to hinge strongly on a *majority decision.*

It may be well to point out that the electromagnetic wave band is extremely large, ranging from the infrared via the ultraviolet to the ultrashortwave. Our eyes are able to perceive only a very small part of this spectrum. All the other waves are known only through inference. It can be easily imagined then how limited our color perception makes our world, and should there be any other *being* perceiving a greater range, obviously the reality of this being would be different from our reality.

Sound waves have a wide range, and yet our sense of hearing is limited to a rather small segment. There is a change in perception of sound from childhood to old age. The spectrum of sound becomes more limited with age, sometimes to the point of deafness. Zoologists have demonstrated experimentally that bats perceive sounds which are inaudible to the human ear. Scientists do speak about infrasound and ultrasound waves which are also only known by inference. Therefore, a world containing sounds beyond human perception has to be of a different order of reality to any organism or being able to perceive a fuller range of sound waves.

Human eyes, in addition to perceiving colors, have a special structure for the awareness of three-dimensional space. There are animals, like horses or flies, in which the eye structure or the eye location is completely different from the human eye, aside from the fact that their brains are different. It can, therefore, safely be assumed that their space world looks entirely different from our space world.

C. Relativity of Measurements of Time

There is another aspect of our reality which is taken for granted; namely, that all measurements are absolute in themselves. Yet they are based on the preponderance of the eye as a major sense organ of the human being and on an agreement made at one time or another. The reader can convince himself easily of the relativity of the awareness of size by looking at one of his teeth in a mirror. Then he may touch the tooth first with the tongue and then with his fingertip. Now he will have difficulty in deciding what the real size of that tooth is, because all three senses (eye, tongue, and finger) indicate a different size. It becomes clear then that each sense has its own referential

system with its own reference points, each having a certain experiential reality (however, none that could be considered absolute).

Astronomical, calendar, or clock time is but an awareness of the rate at which the earth turns around itself and at the same time revolves around the sun. This time is divided for measurement purposes into years, months, weeks, days, hours, minutes, seconds. A clock's speed is attuned to this stellar movement. Time in this sense is nothing but movement in space, where the objects are moving with reference to each other, as perceived by the human organism. Experiential time is time elapsing during our daily life, and may change its speed. If the day has been spent in a show, a football event, or watching some interesting spectacle on TV, time has been going fast. If this day is spent in solitary confinement, time seems to have been slow. It is obvious, therefore, that the speed at which experiential time passes depends on the amount of happenings in space and on awareness of them. Another aspect of time also shows that time perceived is not something absolute. For children, holidays never seem to end. The older a person becomes, the faster the time seems to pass. To an old man, ten years have gone faster than one year to a child. One explanation is that time experience seems to be measured by the human being against the background of time already experienced.

Under biological time, the biologist understands the period elapsing for a wound to heal. In a young person relatively little time is needed to heal an injury; the older the organism becomes, the longer a wound takes to heal. However, there is no such thing as a uniform time-clock in an organism—e.g., the uniformity of the chronological measurement of time—and it therefore can happen that a man who is of a chronological age of 70 may have a biological age of 50, and *vice versa*. The life cycle of pregnancy, adolescence, adulthood, and senility varies from organism to organism, and the time span of a horse or of a fly is entirely different from the life-span of a human being; and yet biological time in its aspect of birth and death is identical despite its chronological difference.

D. Relativity of Matter and Energy

Substance, mass, or matter must be looked upon as the most "tangible" sense experience. According to the classical physicist, the smallest building stone of all substances is the atom, and all theories in chemistry have been built around this smallest building stone. The atomic scientist has discovered that this smallest building stone consists again of even smaller particles. Electrons, protons, and neutrons actually cannot even be called particles anymore, as they behave sometimes like particles and sometimes like waves. A better way

to describe them would be *wellicle* (according to Professor Schroedinger and Professor Heissenberg), a combination of particles and wave, the same as light quanta in motion. These electrons, negatively charged particles, supposedly circulate around a nucleus which consists of protons (positive electricity) and neutrons. The originally depicted universe of the atom, as designed by Professor Niels Bohr, in which infinitesimally small electrons circulate around a very small nucleus and where the distances between electrons and the nucleus are comparable proportionally to the distances of the planets from the sun, had to be thrown overboard, as it turned out that a space concept in those minute systems was inapplicable for practical and theoretical purposes. It was found that location for experimental purposes in atomic structure became meaningless because the observed object changed with the observation. In other words, *observer, observing,* and *observed* became one unit. In these minute systems, the bundles of energy (electricity) in motion seem to be stable in their own relationship in some systems. However, in other systems, they are consistently changing and giving off enormous quantities of energy (radioactive elements). Atomic scientists have proved by experiments with atomic bombs and nuclear reactors that subatomic structure or substance is in fact nothing but energy in motion. This means that even our "tangible" reality (namely, materia) is only a relative reality, or nothing but substance in relation to the perceptive system.

Energy, sometimes manifesting itself as electricity, however, is never known in any other way than by inference, as we know about energy or electricity only indirectly in its form of heat, light, motion or resistance, and sound—all of which are sense impressions. Daily habits create the impression that when a name like *electricity* or *energy* is used, an explanation of the phenomenon has been found. However, all that we have been doing is summing up the background of inference under a semantic term, which of course is no explanation.

The preceding paragraphs have explained that the human-being's reality is subjective because it depends on his perceptive system. The background of each individual—his history and his value system—influences his perceptive system emotionally and intellectually. A forester, a lumberman, and a painter see a forest with different eyes. Each individual perceives his own reality even though he may observe and measure parts of it nearly uniformly.

Often reality is considered only in terms of what can be put into quantities and measured (the scientific reality) and it is forgotten that there is also what could be called the experiential reality, which cannot be measured scientifically (e.g., the dream world of each individual, which is quite real

to the person while he experiences it). Sometimes this is called psychic reality. From the preceding paragraphs, however, it can be seen that the distinction between physical (substantial) and psychological (perceptive) proves to be artificial in the last analysis, as an actual separation is impossible. Sophisticated analysis, therefore, denudes the absolute reality of science of its objective character and shows that the reality of science is also bound to a perceptive system (of man).

E. Personality, Mind, and Environment

Personality is described as consisting of the conscious and the subconscious mind in addition to the body; or of the conscious, the subconscious, and the unconscious mind in addition to the body. The conscious mind is often compared to an iceberg's head (being out of water) and the subconscious and unconscious mind is that part of the iceberg which is submerged. However, the term *unconscious mind* is of a semantically unsound nature, because one can hardly talk about anything that is unconscious (not known). Unconscious can only be considered something at some time to a specific individual; it has to become conscious at one time or another either to himself or to somebody else to enable anybody to speak about it. Therefore, the use of the terms *preconscious* and *subconscious,* which always includes the possibility of their emergence into consciousness, seems preferable.

In psychology there is, as in philosophy, the dichotomy of the individual, *I,* as opposed to the surroundings. This I, or ego (in the popular sense), is the self-concept of an individual "I." In other words, it is the stream of *thoughts* and *feelings* a particular person has and *perceives* about *himself.* It is naturally a dynamic entity changing from moment to moment and based in some measure on the individual's past. The concept *I*—Ego or Individuality, and separateness from the surroundings—starts as the very first thought at the moment when the individual wakes up in the morning; nobody seems to need to tie this thought to his memories of the day before. While one is in deep sleep, one is unaware of one's individual identity—the "I" seems to be nonexistent. When one gives oneself an order in the evening to wake up at a specific hour in the morning, one can often follow this command. In other words, there seems to be an awareness in the subconscious, or somewhere else, which receives the order and carries it out, even though the "I" or ego is asleep or nonexistent.

The phenomenon of sleepwalking is another aspect of mind. A person can be deeply asleep and fully unaware of his ego, and yet walk safely with closed or open eyes through a house full of furniture. He can open doors and windows, look out, ascend stairs, and perform other complex acts without a

false move. However, the same person, if he closed his eyes while awake, would never be able to perform such an act without hurting himself. The only explanation is to assume an awareness which transcends the normal waking "I" or ego awareness. Its function becomes obvious to us when a person is sleepwalking.

F. Overview on Psychedelic Substances

From the earliest recorded time, man, being aware of his limitations with reference to the universe—due to his sense and brain organization—has tried to transcend those confines with the help of mushrooms, herbs, techniques, and chemicals.

The writer-and-scientist Robert Von Ranke Graves thought that the Greek word "myces" and "mystery" were related. However, the words are only homonyms and may have for that reason been related by him. "Myces" means fungus. "Mystery" means something secret. Graves demonstrated that nectar and ambrosia, food of the gods of the Greeks, contained in a code the word "mushroom." Dr. Puharich mentions (in his book *The Sacred Mushroom*) a discovery he made that the old Egyptians in their mysteries used a mushroom (fly agaric-amanita muscaria).[1] Up to the present time, certain tribes of Indians in Mexico are still using another mushroom (psilocybe) for their religious rites (6). The North American Church of Indians is using the flower of a cactus by the name of Peyote (Anhalonium Lewinii) in their religious rites. The effective substance extracted and now synthesized has been known to the West for over 70 years under the name Mescaline. In recent times, Dr. Hofmann at the Sandoz Pharmaceutical Works at Basle, Switzerland, discovered a substance named Lysergic Acid Diethylamide (LSD-25), a derivative or ergot, which in extremely small quantities produces similar effects to those of mescaline, peyote, and the mushroom in the olden days.

G. Physiological, Psychological Effects

What does happen to a person taking any of those psychedelic substances? Physiologists claim to have found in animals which took those substances, in

[1] The knowledge of the mysteries was lost during the Middle Ages. It is possible that some awareness of those substances continued in certain circles of the population in a somewhat distorted form. Some of the abilities of a psychic or parapsychological nature (e.g., fortune telling, clairvoyance, and telepathy, as well as astral traveling) ascribed to witches and sorcerers burned at the stake during the Middle Ages, and which were always related to some witches brew, seem to indicate a secret knowledge of the effects of those psychedelic substances which give secret powers. Furthermore, mythology and fairy tales, as well as alchemy, tell us of a secret love potion, of an elixir giving eternal life, or of a philosopher's stone which transmutes lead into gold and which also leads to transcendent wisdom and eternal life.

particular LSD-25, that on dissection most of the substance was in the liver (2, 3, 5). Another physiologist (4) discovered that the drug (LSD-25) is out of the system within about one hour and twenty minutes. Therefore, those substances, and in particular LSD-25, cannot be considered as medications in the usual sense. They seem to be simply trigger substances which initiate a change in the perceptive system of the subject, and this change can last anywhere up to 12 hours and more. It has also been observed that similar changes of the perceptive system can be achieved by a few extraordinary individuals without the use of any trigger substance. There is reason to believe that the hallucinations reported in connection with experiments on sense deprivation belong to the same kind of phenomena.

The ingestion of various amounts of LSD-25, dependent on how much is given to the individual, may trigger the aforementioned change in perception, which may be an acute change in color perception (such as colors becoming brighter or patterns becoming more clearly defined), and colors of a nature not ordinarily seen may be perceived. Also, things perceived do seem to move in the beginning. These changes may occur within two hours after ingestion, and they become more marked during the following two to three hours. The same may happen with the hearing of a person, where sound becomes more acute and more meaningful. Sometimes smell and taste are also enhanced. At the same time, the patient may have a marked increase in his emotional ability, to the point where he starts to laugh and to cry without always being fully aware of what causes him to do so. In general, one has to keep in mind that not all the changes taking place, including a flow of past events into the perceptive system of the person, reach full awareness. The fact whether full awareness is reached or not varies from individual to individual. The more the patient is able to express his increased feelings, the more he seems to be able to gain out of the experience. It is the task of the treating psychiatrist or psychologist, partly in his selection of the music (which should always be played when the patient starts to experience), to enhance the ability of the patient to express his feelings. If, however, the patient is unable to express his feelings, he very often starts to experience fairly strong psychosomatic pain, which may have nearly any location in his system according to his previous behavior pattern. In general, it can be stated that the ability of the patient to regain fully his emotional expressive capacity, negatively and especially positively, is one of the great therapeutic agents of this treatment.

H. Depersonalization, Expanded Awareness

From the introduction, it can be seen that an individual's concept of reality or, in other words, the subjective reality of the patient, is intimately bound to his sense experiences in everyday life and to his brain functions. As a corollary, it may be stated that his self-concept—sometimes called his "ego" (not in the Freudian sense)—is tied as well to this subjective reality perception. This includes all those aspects of the ego which are named, in the Freudian sense, the subject's ego defenses. This changing of all sense perception, as well as a speedup or slowdown of brain functions, produces a changed perception of time and space, then, aside from the other changes. The individual's self-concept and his reality-ties are dissolved. A transformation takes place in which the individual personality as a functioning unit, in the psychological sense, ceases to exist.

In a haphazard setting, this depersonalization easily results in a complete confusion and fear reaction of the individual. That may have been the reason why LSD-25 in the beginning was classified as a substance producing a "model psychosis," and the phenomena experienced were classified as "hallucinations." However, if the process of depersonalization takes place under controlled conditions, an experience may or should happen in which the defense mechanisms (rationalization, repression, etc.) may be either eliminated or reduced. This psychotherapeutically structured condition can allow and help the patient to find significance, structure, and deeper reality in this most unusual experience. Once these unusual perceptions are integrated, the patient experiences a state of mind (variously described as expanded awareness, increased insight, or cosmic consciousness) that gives him abilities, within the newly ordered frame of reference (deeper reality), which he *ordinarily* is not aware that he possesses. It is the added ability which must be considered the most important therapeutic tool for the patient, because in this state of expanded awareness he may, under proper guidance of the psychotherapist, be able to *relive* his *past* and to discharge emotionally loaded events that go right back to birth. In addition, this expanded awareness makes it possible for him to split up into a Dr. Jekyll and Mr. Hyde personality as soon as he looks at himself in a mirror. Then he sees with the eyes of the expanded awareness his sullied and, most of the time, inflated *ego* (not in the Freudian sense) which he usually identifies with his body, and yet has at the same time the ability to discover the reasons behind this Hyde personality and then to draw the right conclusions from that finding!

I. Therapeutic Aspects

LSD-25, as described before, must therefore not be considered as a medication in the ordinary sense (1). In other words, a patient who gets LSD-25 as a medication may easily have an anxiety reaction with confusion. Some patients manage to fight this triggering effect and get no results from taking LSD-25. Other patients are known to have stopped this triggered change of perception at any time during their session. This seems to indicate a necessity on the part of the patient to be willing to cooperate to some degree.

It is the experience and not the drug which is therapeutic, and obviously the relationship between psychotherapist and patient, and an intensive and careful preparation before the session and the treatment situation as far as room and milieu in general are concerned, are the decisive conditions which make a success out of the treatment. This strange adventure of the patient has to be initiated in such a way as to make the patient able to understand it and to benefit from it emotionally and intellectually.

The therapist has to be familiar with this experience himself before he will be able to guide the patient. This comprehension can be achieved only by the therapist's having undergone several LSD-25 experiences himself under proper guidance—and having done so successfully by being able to control such an experience. It can be easily seen from the foregoing remarks that the therapist ought to be a person of reasonable emotional stability and maturity, because this depersonalization might otherwise project him into a state of model psychosis, or he might even stop the action of the drug. Whereas the patient is sensitized while under this experience to an extreme degree and possesses expanded awareness, he also becomes to a much greater degree aware of the personality of the treating psychotherapist. This in itself precludes as a therapist a person who is not willing to give all his attention to the patient during treatment, or who is unable to relate to the patient to a very high degree. This situation is enhanced by a thoroughgoing preparation of the patient done in a spirit of friendliness and trust by the therapist over not less than one to three months of time, with at least a one-hour session per week individually or in a group. During this preparation period, any possible doubts and fears or persecutory or otherwise mistrustful thoughts and feelings of the patient have to be dispelled.

While the therapist guides a patient during the experience, the therapist must know that even if the patient is fully aware of this field of the subconscious by means of his expanded awareness while in treatment, he nevertheless is excessively subject (as under hypnosis) to *suggestions*. For this

reason the psychotherapist has to be very careful not to project his own solutions of the patient's problem upon the patient. That is where the *mirror* as an aid is invaluable and where pictures of the family, as well as Thematic Apperception Test pictures, can be very useful if handled carefully.

The treatment room should have a friendly and soothing atmosphere. This can be achieved by adding flowers, pictures and some universal symbols as decoration. It was found that these universal symbols may make the patient aware of those archetypal or universal meanings which seem to underlie all human feelings and thinking. Such symbols, in addition to a carefully selected program of classic and semiclassic music (including spiritual music), may provide the points of reference creating a bridge between the old self-concept and concept of reality and the newly-to-be-developed concept based on self-understanding, self-acceptance, and an understanding of a greater reality. This can be called integrative therapy, but the analytical aspect should not be overlooked, and therefore one could call it analytical integrative therapy with the aid of LSD-25 as a major tool.

When the patient develops his new self-concept, his need for inadequate (and damaging) habitual defense mechanisms is reduced, and in consequence he now develops the ability to relate to other persons more directly and with less of a defensive screen or shell than before. The patient realizes that once he accepts himself, he also becomes increasingly able to accept his fellow man. In consequence, he tends to lose his anxiety which, in the ultimate analysis, is nothing but a lack of self-confidence. He starts to understand that his past difficulties have in large measure been the result of ignorance and egocentricity rather than of bad intention. He starts to understand within the framework of his expanded awareness that there is a basic unity underlying all life and that, therefore, one can never do good to oneself in doing harm to somebody else, but that the only way to do good to oneself is to do likewise to one's fellow man. His greater ability to relate gives him opportunity to develop his positive emotionality.

A thorough follow-up therapy under the guidance of the psychotherapist is absolutely necessary, and so is the willingness of the patient to apply to everyday life his discoveries made while under LSD treatment. To that end the patient is required to describe his experiences immediately after the treatment, and careful protocol is kept of each session. It may be pointed out that a lot of nonsense has been written about the substances which produce this altered state of awareness, mostly from the point of view of sensationalism and usually including some aspects of a possible model psychosis. In the experience of the author, no such model psychosis should happen if a positive relationship

is established with the patient in the first place, and if psychotic and incipient-psychotic patients have been carefully screened out from treatment.

Some patients have reported experiences of a parapsychological nature while in the field of expanded awareness. However, these phenomena cannot be predicted—nor are they encouraged by the therapist, as they have little or no therapeutic value for the patient. It may be added that the writer has checked up on some of the statements in connection with telepathic phenomena made by patients while under treatment. The statements proved to be correct.

J. Conclusions

In the experience of the therapist, anywhere from one to ten sessions with LSD-25 are necessary to help a patient who is emotionally disturbed, dependent on the patient's will to surrender and his basic motivation. Alcoholics and other addicts seem particularly suitable (2, 5). In general, the more discontent the patient is with his present condition, the more willing he will be to allow depersonalization to happen. *Vice versa,* if the patient is looking for a magic pill to change him overnight, he may be disappointed and may not experience anything.

Whether the patient goes through a positive (euphoric) experience or through a negative (disphoric) experience cannot be predicted. However, both experiences, if properly guided, seem to be of equal benefit to the sincere patient willing to apply his findings to his daily life. Added energy to carry through and peace of mind are the result of all successful LSD sessions.

The field of expanded awareness experienced through the trigger effect of LSD-25 can most definitely be reached without LSD-25 by any person willing to sacrifice enough time and effort in daily concentration and meditation practices. Some people call it a self-induced trance state. It is so new and is revealing so many facets (heretofore only suspected) related to the field of ESP, as well as to the field of what mystics have called the spirit, that it tends to upset our cherished materialistic notions by which where we are inclined to divorce mind (awareness) and matter and to put matter before awareness, not realizing that matter too is only *such* by an awareness already *existing,* whether it be awareness on the low level of a fly, on the level of a horse, or on the level of man. And last but not least, our latest atomic science shows us that all *there is* is nothing but *energy in motion* or *vibration* from which awareness on different levels of existence (e.g., fly or horse or man) creates realities of different orders, but only real as to their respective perceptive systems. Even this vibratory energy is *known* to us only by virtue of our minds, and subsequent experimental techniques seem—through repeatedly demonstrated atomic

explosions which create heat, radiation, and motion—to prove the correctness of this reference to our perceptive system.

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