*DIGITALIS*

*PROJECT*

"anything of lasting value will, once digitized and spread on the world wide web, exist and be available to all until the end of the Technological Era."

THE DIGITALIS PROJECT: DIGITALIZING THE 20TH CENTURY
LIST OF CONTENTS

Preface .......................................................... 9
Acknowledgments ................................................ 13
1. History of LSD Therapy ...................................... 17
The Discovery of LSD and its Psychiatric Effects .......... 17
Early Laboratory and Clinical LSD Research .......... 20
Therapeutic Experimentation With LSD .......... 23
Studies of Chemotherapeutic Properties of LSD .......... 24
LSD-Assisted Psychotherapy .................................. 26
The Need for a Comprehensive Theory of LSD Therapy .......... 42
2. Critical Variables in LSD Therapy ....................... 47
Pharmacological Effects of LSD ....................... 47
Personality of the Subject ......................... 52
Personality of the Therapist or Guide ......... 89
Set and Setting of the Sessions .................... 108
3. Psychiatric and Psychobiological Therapies with LSD: Towards an Integration of Approaches .......... 119
The Search for an Effective Technique of LSD Psychotherapy .......... 119
Advantages and Drawbacks of the Psychodonic Approach .......... 123
Pros and Cons of Psychodonic Therapy .......... 126
4. Principles of LSD Psychotherapy ....................... 131
The Preparation Period ......................... 131
Psychodonic Sessions ......................... 146
Integration of the Drug Experiences .......... 159
Physical and Emotional Contraindications .......... 163
Critical Situations in LSD Sessions .......... 166

Characteristic patterns of the early stage in a psychedelic session .......... 33
Two representations of illness transformation under the influence of LSD .......... 34
The 'psychic breakthrough' in a perinatal experience .......... 67
The transition from BPM III to BPM IV .......... 69
The final phase of the death-rebirth process .......... 70
Nausea and sensory deprivation in a perinatal experience .......... 103
Transformation of the maternal genitals during the birth process .......... 105
Death and rebirth in a perinatal session .......... 106
An encounter with the devil ......................... 139
Overshooting threat and revolution .......... 139
Snake symbolism in the death-rebirth process .......... 141
An ecstatic experience of the divine epiphany following the ego death .......... 142
'The Flagellant': final stages of the death-rebirth process (BPM III) .......... 175
The purifying fire associated with volcanic ecstasy (BPM III) .......... 176
The last seconds before biological and spiritual birth .......... 177
Identification with the universe .......... 178
Identification with the crucified Christ .......... 211
'Paga', a theme on the psychodynamic, perinatal and transpersonal levels .......... 212
Final stages of the perinatal unfolding (BPM III) .......... 214
Experiencing elements of the collective unconscious .......... 247
Erebonial, tissue and cellular consciousness .......... 247
Archetypal demonic entities .......... 250
'Through Suffering to the Black Sun': manifestation of the divine Self .......... 283
The Black Sun as the ultimate source of creative energy .......... 284
The process of creation and the individual and universal Selves .......... 285
Cosmic creation through volcanic activity .......... 286
Motifs related to the North American tradition .......... 287
Egyptian motifs and the concepts of Kundalini .......... 320
<table>
<thead>
<tr>
<th>LIST OF CONTENTS (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverse Aftereffects of LSD Psychotherapy .......... 185</td>
</tr>
<tr>
<td>Prevention and Management of Complications in LSD Psychotherapy .......... 195</td>
</tr>
<tr>
<td>6. THE COURSE OF LSD PSYCHOTHERAPY .......... 201</td>
</tr>
<tr>
<td>Changes in the Context of Psychodermic Sessions .......... 203</td>
</tr>
<tr>
<td>Emotional and Psychosomatic Changes in the Post-Session Interval .......... 218</td>
</tr>
<tr>
<td>Long-Term Changes in the Personality Structure, World-View, and Hierarchy of Basic Values .......... 227</td>
</tr>
<tr>
<td>7. INDICATIONS FOR LSD PSYCHOTHERAPY, THERAPEUTIC POTENTIAL, AND CLINICAL RESULTS .......... 233</td>
</tr>
<tr>
<td>Problems in the Evaluation of Clinical Results .......... 233</td>
</tr>
<tr>
<td>Depression, Neurones and Psychosomatic Symptoms .......... 237</td>
</tr>
<tr>
<td>Alcoholism, Drug Addiction, Character Disorders and Sexual Deviations .......... 240</td>
</tr>
<tr>
<td>Borderline Psychotic States and Endogenous Psychoses .......... 244</td>
</tr>
<tr>
<td>Emotional Distress and Physical Pain of Dying Individuals .......... 252</td>
</tr>
<tr>
<td>8. NON-THERAPEUTIC USES OF LSD .......... 257</td>
</tr>
<tr>
<td>Training Sessions of Mental Health Professionals .......... 257</td>
</tr>
<tr>
<td>Administration of LSD to Creative Individuals .......... 259</td>
</tr>
<tr>
<td>Drug-Induced Religious and Mystical Experiences .......... 262</td>
</tr>
<tr>
<td>Role of LSD in Personal Growth and Self-Actualization .......... 268</td>
</tr>
<tr>
<td>Use of LSD in the Development of Paranormal Abilities .......... 269</td>
</tr>
<tr>
<td>9. EFFECTIVE THERAPEUTIC MECHANISMS OF LSD THERAPY .......... 275</td>
</tr>
<tr>
<td>Intensification of Conventional Therapeutic Mechanisms .......... 276</td>
</tr>
<tr>
<td>Changes in the Dynamics of Governing Systems .......... 277</td>
</tr>
<tr>
<td>Therapeutic Potential of the Death-Reality Process .......... 279</td>
</tr>
<tr>
<td>Therapeutic Mechanisms on the Transpersonal Level .......... 287</td>
</tr>
<tr>
<td>EPILOGUE: THE FUTURE OF LSD PSYCHOTHERAPY .......... 297</td>
</tr>
<tr>
<td>BIBLIOGRAPHY .......... 300</td>
</tr>
<tr>
<td>Appendix I Crisis Intervention in Situations Related to Unsupervised Use of Psychedelics .......... 306</td>
</tr>
<tr>
<td>Appendix II The Effects of LSD on Chromosomes, Genetic Mutation, Fetal Development and Malignancy .......... 318</td>
</tr>
<tr>
<td>References .......... 341</td>
</tr>
<tr>
<td>INDEX .......... 348</td>
</tr>
</tbody>
</table>

PREFACE

A book on LSD psychotherapy that is being published at a time when psychedelic research is virtually non-existent requires a few words of introduction and justification. There are many practical and theoretical reasons for sharing this material, accumulated over more than twenty-four years. The repressive legislation in regard to psychedelic drugs has succeeded in terminating almost all legitimate scientific research, but has been quite ineffective in curbing unsupervised self-experimentation. It is nearly impossible for the average professional to get a license for psychiatric work and a supply of pharmaceutically pure substances, but black market samples, frequently of problematic quality, are readily available to the teenage generation. Hundreds of thousands... and according to some estimates millions----of young people in the United States alone have experimented with psychedelics on their own.

The information in scientific books and journals is not easily available and most of it does not have direct practical relevance, while the literature that has had a direct influence on the public has been strongly biased, dichotomized and contradictory. One part of it, coming from uncritical proponents, tended to oversimplify the advantages of psychedelic drug use and fail to mention the dangers. The rest was a product of official anti-drug propaganda and was for the most part so distorted and negative that the younger generation did not take it seriously. Since a similar campaign had been raised in the past against the relatively innocent marijuana, it was easy to "throw the baby out with the bathwater," and ignore not only the demagogic statements, but accurate and realistic warnings as well.

Honest and balanced information about the immediate and long-term effects of LSD is of great importance, not only to those who are involved in self-experimentation, but for the relatives, friends and other persons who may have to deal with various manifestations or consequences of such an undertaking. An understanding of the psychedelic process is particularly relevant for the parents of these individuals, teachers, and lawyers who handle cases involving ingestion of the drug. Moreover, unbiased information is of critical importance for mental health professionals who are asked for expert help in cases related to psychedelic drug use. The current practices for handling LSD emergencies and its long-term
adverse effects reflect ignorance of the processes involved, and do more damage than good. Although the material in this book describes the supervised clinical use of LSD, the information given is directly applicable to crisis intervention and the problems related to unsupervised LSD use are specifically discussed in an appendix because of the extreme importance of this issue. Some people, who are not directly or indirectly involved in psychedelic experimentation but had LSD experiences in the past, may find this book a useful source of information which could throw new retrospective light on aspects of their sessions which left them bewildered or confused.

The failure of the legal and administrative measures of the past to curb LSD use seems to reflect a lack of awareness of the nature and depth of the problems involved. A deeper understanding of the effects of LSD and the transferential processes that it facilitates might provide some interesting and important clues to legislators. Certain aspects of the material presented in this volume also have direct relevance to the efforts to establish an experiments conducted by military experts and government agencies in various countries in the past and recently publicized.

I hope I will be able to communicate in this book my deep regret that, because of a complicated set of circumstances, psychology and psychiatry have lost a very unique research tool and a powerful therapeutic agent. I believe that it is important to clarify the controversies and confusions, whether it is done with regard to the possible continuation of LSD research in the future or as a closure of a fascinating chapter in the history of psychiatry. The efficacy and safety of psychedelic substances has been tested over centuries and even millenia. Many cultures throughout human history have used them successfully in the context of shamanic practices, healing ceremonies, and religious rituals. There is a possibility that we will return to research in this area in the future enriched by the lessons from the past. However, even if that does not happen, the material that has already been accumulated is of great theoretical relevance and heuristic value.

Many observations from psychedelic research are of such fundamental importance and are so revolutionary in nature that they should not be ignored by any serious scientist interested in the human mind. They indicate an urgent need for drastic revision of some of our theoretical concepts and even the basic scientific paradigms. Some of the new discoveries and insights concern an expanded model of the psyche, powerful mechanisms of therapeutic change and personality transformation, strategies and goals of psychotherapy, and the role of spirituality in human life. The value of this new knowledge is independent of the future of LSD therapy. It is directly applicable to the experiential psychotherapies which use various non-drug techniques to reach deep levels of the psyche, such as gestalt practice, bioenergetics and other neo-Fechtian approaches, primal therapy, or different methods of rebirthing. All these move in essentially the same direction as psychedelic therapy, but a full utilization of their potential and their further development is blocked by the straitjacket of the old conceptual frameworks. The new data are also of great relevance in other areas in which unusual states of mind are produced by non-chemical means. Creative use of hypnosis, the "mind games" developed by Robert Masters and Joan Houston, (197) the new laboratory techniques for altering consciousness such as biofeedback, sensory isolation and overload, and the use of kinesthetic devices can be mentioned here as important examples. In this context it should also be emphasized that the new cartography of the mind that has emerged from psychedelic research includes and integrates certain essential elements from various spiritual traditions. This is an important step in bridging the colossal gap that has existed in the past between the religious systems and various schools of psychology, with the exception of the Jungian orientation and Abraham's psychosynthesis.

The theoretical importance of the data from psychedelic research extends far beyond the realms of psychiatry and psychology. It is also of immediate or potential relevance for a broad spectrum of other disciplines, including anthropolog-
y, sociology, politics, general medicine, obstetrics, thanatology, religion, philos-
phy, mythology and art.

By far the most surprising and exciting connections seem to exist between the psychedelic material and modern physics. Some of the challenging observations from LSD sessions that cannot be accommodated and integrated into the Carle-
atstein-Newtonian model seem to be perfectly compatible with the world-view emerging from quantum-relativistic physics. In view of the recent rapid convergence between mysticism, physics and consciousness, the LSD data could contribute significantly to our understanding of the nature of reality.

Stanimir Greff
Big Sur, California
April, 1979

*Numbers refer to Bibliography on page 300
Notes referred to in the text by superior numbers are located at the end of each chapter.
ACKNOWLEDGMENTS

Having completed the work on this book, I would like to recognize with deep gratitude some friends who have given me important help at various stages of this project. Dr. George Rutkowski, former Associate Professor of the Department of Psychiatry at Charle University School of Medicine, was my first preceptor and guide for my first LSD session in 1956. This experience was the beginning of my profound interest in and lifelong commitment to the study of altered states of consciousness. Dr. Mildred Vogel and the head of an interdisciplinary team with which I started my research of psychedelic drugs. He introduced me to several new psychedelic substances and gave me basic training in scientific research and its methodology.

Much of the work that was of crucial significance for the development of the ideas presented in this book had been conducted at the Psychiatric Research Institute in Prague, Czechoslovakia. Its director, Dr. Libor Koudelka, through all the years of my clinical research with LSD, showed unusual understanding and support for this unconventional scientific venture. I also feel deep appreciation for the help of my colleagues at the institute and for the dedication and enthusiasm of the nursing team.

My initial work in the United States was made possible by a generous grant from the Foundations Fund for Research in Psychiatry from New Haven, Connecticut. Dr. Joel Elkes, Professor of the Department of Psychiatry and Behavioral Sciences at Johns Hopkins University School of Medicine in Baltimore, invited me to the Henry Phipps Clinic, first as a clinical and research fellow and later as Assistant Professor. He gave me invaluable help and guidance during the years of my stay there.

The period between 1967 and 1973 that I spent at the Maryland Psychiatric Research Center in Catonsville, Maryland, was a time of exciting team cooperation with a group of enthusiastic and congenial researchers. I would like to thank Dr. A. A. Kurland, former director of the center and Assistant Commissioner for Research of the Maryland State Department of Mental Hygiene, as well as my colleagues and friends from Spring Grove, for their contributions to my work and enhancement of my personal life.

The Esalen Institute in Big Sur, California, played a very important role. 
in my life. Since my first visit in 1965, it has offered me many opportunities to conduct seminars and workshops and share my material with open-minded and sympathetic audiences. In the last five years it has become my home base and a unique emotional and intellectual resource. In this extraordinary natural labora-
tory of the human potential movement I met many creative people pioneering in experiential psychotherapies and had the opportunity to relate their work to my own. This made it possible for me to integrate the observations from LSD research into a broader theoretical context. Of particular value have been the experiences from a series of experimental educational programs for professionals, which my wife Christina and I have been conducting at Esalen. These events, which organically combine didactic input, intrapsychic exploration and group work, and have a guest faculty ranging from Mexican and North-American shamans to theoretical psychologists, have become an invaluable source of inspiration. I would like to express my deep gratitude to Michael and Dulce Murphy, Richard and Chris Price, Julian Silverman, Janet Lederman, Beverly Silverman, Gregory and Lois Bateson, and all our other friends at Esalen, for all their support and understanding. Of these, Bick Tarnas has been extremely helpful during the preliminary work on the manuscript and Kathleen O'Shaughnessy in the typing of the final version.

Other friends whose interest and support I would like to gratefully acknowl-
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My deepest appreciation is reserved for hundreds of patients and LSD sub-
jects who participated in my psychedelic research over the years. Without their trust, dedication and courage, this book could not have been written.

Stanislav Grof
Big Sur, California
April, 1979
HISTORY OF LSD THERAPY

The Discovery of LSD and its Psychodelic Effects
Early Laboratory and Clinical LSD Research
Therapeutic Experimentation With LSD
Studies of Chemotherapeutic Properties of LSD
LSD-Assisted Psychotherapy
The Need for a Comprehensive Theory
of LSD Therapy

THE DISCOVERY OF LSD AND ITS PSYCHEDELIC EFFECTS

LSD-25 (or diethylamide of d-lysergic acid) was first synthesized in 1938 by Albert Hofmann in the Sandoz chemical-pharmaceutical laboratories in Basle, Switzerland. As its name indicates, it was the twenty-fifth compound developed in a systematic study of amides of lysergic acid. LSD is a semisynthetic chemical product: its natural component is lysergic acid, which is the basis of all major ergot alkaloids, and the diethylamide group is added in the laboratory. According to Stoll, Hofmann and Trödel (88), it has the following chemical formula:

\[
\begin{align*}
\text{H} & \quad \text{CON} & \quad \text{C}_{2}\text{H}_{5} \\
\text{CH} & \quad \text{CON} & \quad \text{C}_{2}\text{H}_{5} \\
\text{HC} & \quad \text{NCH}_{2} \\
\text{HC} & \quad \text{NCH}_{2} \\
\text{HC} & \quad \text{NCH}_{2} \\
\text{HC} & \quad \text{NCH}_{2} \\
\text{CH} & \quad \text{CH} \\
\text{CH} & \quad \text{CH} \\
\text{NH} & \quad \text{NH}
\end{align*}
\]
Various ergot alkaloids have important uses in medicine, primarily as drugs that can induce uterine contractions, stop gynaecological bleeding, and relieve migraine headache. The objective of the Sandoxic study of ergot derivatives was to obtain compounds with the best therapeutic properties and least side-effects. After LSD had been synthesised, it was subjected to pharmacological testing by Professor ErnstBohlin. (88) It showed a marked uterogenic effect and caused excitation in some of the animals; at the time these effects were not considered of sufficient interest to be further explored.

The unique properties of the substance were brought to the attention of the laboratories by a series of events involving a fortuitous accident. In 1943 Albert Hofmann was reviewing the results of early pharmacological tests on LSD and decided to investigate the stimulating effects on the central nervous system indicated in animal experiments. Because of its structural similarity with the excitatory stimulant nikethamide, LSD seemed promising as an analeptic substance. Feeling that it would be worth while to carry out more profound studies with this compound, Albert Hofmann decided to synthesise a new sample. However, even the most sophisticated experiments in animals would not have detected the psychotropic effects of LSD, since the drug is metabolised in the human system. In 1943, while working on the synthesis of a new sample of LSD, he accidently intoxicatated himself during the purification of the condensation products. The following is Albert Hofmann's own description of the perceptive and emotional changes that he experienced as a result. (38)

Last Friday, April 16, 1943, I was forced to stop my work in the laboratory, in the middle of the afternoon and to go home, as I was seized by a peculiar restlessness associated with a sensation of cold dizziness. On arriving home, I lay down and sank into a kind of doze, which was not unpleasant and which was characterized by extreme activity of the imagination. As I lay in a dazed condition with my eyes closed, (I experienced day-light as disagreeable height) there surged upon me an uninterrupted stream of fantastic images of extraordinary plasticity and vividness, accompanied by intense kaleidoscope-like play of colors. This condition gradually passed off after two hours."

After he had returned to his usual state of consciousness, Hofmann was able to make the hypothetical link between his extraordinary experiences and the possibility of accidental intoxication by the drug he was working with. However, he could not understand how the LSD had found its way into his body in a sufficient quantity to produce such phenomena. He was also puzzled by the nature of the effects, which were quite different from those associated with ergot poisoning. Three days later he intentionally ingested a known quantity of LSD, to put his suspicions to a solid scientific test. Being a very conservative and cautious person, he decided to take only 250 micrograms, which he considered to be a relatively low dose judging by the usual dosage level of other related ergot alkaloids. At that time he had no way of knowing this was experiencing one of the most powerful psychotomimetic drug known to man. The dose he chose and ingested without any special preparation, or any knowledge about psychotomimetic states, would at present be considered a high dose and has been referred to in the LSD literature as a "single overwhelming dose." If used in clinical practice it is preceded by many hours of preparatory psychotherapy and requires a trained and experienced guide to handle all the complications that might occur.

About forty minutes after the ingestion, Hofmann started experiencing dizziness and momentary loss of balance; he had difficulty in concentrating, disturbances of visual perception, and a strong unarticulated desire to laugh. He found it impossible to keep a written record about his experience as originally planned. The following is an excerpt from his subsequent report written for Prof. Stoll. (38)

"At this point, the laboratory notes are discontinued; the last word was written only with great difficulty. I asked my laboratory assistant to accompany me home, as I believed that I should have a repetition of the disturbance of the previous Friday. While we were cycling home, however, it became clear that the symptoms were much stronger than the first time. I had great difficulty in speaking coherently, my field of vision swayed before me, and objects appeared distorted like images in curved mirrors. I had the impression of being unable to move from the spot, although my assistant told me afterwards that we had cycled at a good pace. Once I was at home, the physician was called.

"By the time the doctor arrived, the peak of the crisis had already passed. As far as I remember, the following were the most outstanding symptoms: vertigo; visual disturbances; the faces of those around me appeared grotesque, colored shadows; marked motoric unrest; alternation with paralysis; an intermittent heavy feeling in the head, limbs, and entire body, as if they were filled with lead, dry, constricted sensation in the throat; feeling of choking; clear recognition of my condition, in which state I sometimes observed, in the mannef of an indifferent, neutral observer, that I doubted half-intensely or babbling incoherent words. Occasionally, I felt as if I were out of my body.

"The doctor found a rather weak pulse, but an otherwise normal circulation. The hours after ingestion of the LSD, my condition had already improved considerably. Only the visual disturbances were still pronounced. Everything seemed to sway and the proportions were distorted like reflections in the surface of moving water. Moreover, all the objects appeared unpleasant, constantly changing colors, the predominant shades being sickly green and brown. When I closed my eyes, an endless series of colorful, very realistic and fantastic images surged in upon me. A remarkable feature was the manner in which all acoustic perceptions, (e.g. the noise of a passing car), were transformed into optical effects; one sound evolving a corresponding colored hallucination constantly changing in shape and color like pictures in a kaleidoscope. At about one o'clock, I fell asleep and woke the next morning feeling perfectly well."

This was the first planned experiment with LSD, and it proved to be dramatic and convincing way Hofmann's hypothesis about the mind-altering effects of
LSD. Subsequent experiments with volunteers from the Sandoz Research Laboratories confirmed the extraordinary influence of this drug on the human mind. The most important figure in the history of LSD was Walter Stoll, son of Hofmann's supervisor and psychiatrist at the Psychiatric Clinic in Zürich. He found the new psychoactive substance of great interest and conducted the first scientific study of LSD in non-patient subjects. His observations, published in scientific journals, showed that the effects of LSD in these two categories of subjects were published in 1947. (97)

This report became a sensation in the scientific world and stimulated an unusual amount of laboratory and clinical research in many countries.

**EARLY LABORATORY AND CLINICAL LSD RESEARCH**

Much of the early LSD research was inspired and strongly influenced by the so-called "model psychosis" approach. The idea that infinitesimally small quantities could profoundly alter mental functioning of otherwise healthy volunteers gave a new impetus to speculations about the basic biochemical and physiological mechanisms underlying schizophrenia. However, this was insufficiently supported by microscopic doses of LSD, in the range of 25 to 100 micrograms, were sufficient to produce changes in perception, emotions, ideation, and behavior that resembled those in schizophrenic patients. The observation became increasingly obvious that the LSD-induced state had many specific characteristics clearly distinguishing it from schizophrenia. In addition, none of the biochemical mechanisms postulated for schizophrenia was unequivocally supported by clinical and laboratory data. Although the "model psychosis" approach did not resolve the problem of the etiology of schizophrenia or provide a noticeable "test tube" cure for this mysterious disease, it served as a powerful inspiration for many researchers and contributed to a decisive step toward the neurophysiological and psychopharmacological revolution of the 1950s and early 60s.

Another area in which the extraordinary effects of LSD proved extremely helpful was self-experimentation by mental health professionals. In the early years of LSD research, didactic LSD experiences were recommended as an unvaluable tool for the training of psychiatrists, psychologists, medical students, and psychiatric nurses. The LSD sessions were advertised as a short, safe and reversible journey into the world of the schizophrenic. It was repeatedly reported in various books and articles on LSD that a single psychiatric experience could considerably increase the subject's ability to understand psychotic patients, approach them with sensitivity, and treat them effectively. Even though the concept of the LSD experience as "model schizophrenia" was later discarded by a majority of scientists, it remains an unquestionable fact that experiencing the profound psychological changes induced by LSD is a unique and valuable learning experience for all elicitarians and theoreticians studying abnormal mental states.

The early experimentation with LSD also brought important new insights into the nature of the creative process and contributed to a deeper understanding of the psychology and psychopathology of art. For many experimental subjects, professional artists as well as laymen, the LSD session represented a profound aesthetic experience that gave them a new understanding of modern art movements and art in general. Painters, sculptors and musicians became favorite LSD subjects because they tended to produce most unusual, unconventional and interesting pieces of art under the influence of the drug. Some of them were able to express and convey in their creations the nature and flavor of the psychedelic experience, which defies any adequate verbal description. The day of the LSD experience often became a dramatic and easily discernable landmark in the development of individual artists.
Evaluating deep was the influence of LSD research on the psychology and psychopathology of religion. Even under the complex and often difficult circumstances of early LSD experimentation, some objects had profound religious and mystical experiences, a striking similarity to these described in sacred texts and in the writings of mystics, sages, religious teachers and prophets of all ages. The possibility of inducing such experiences by chemical means startled and appalled religious leaders about the authenticity and value of this new mysticism. Despite the fact that many leading scientists, theologians and spiritual teachers have discussed this, the controversy about "chemical" versus "spontaneous" mysticism remains unresolved until this day.

Any discussion of the various areas of LSD research and experimentation would remain incomplete without mentioning certain systematic explorations of its negative potential. For obvious reasons, the results of this research, conducted by the secret police and armed forces of many countries of the world, have not been systematically reported and most of the information is considered classified. Some of the areas that have been explored in this context are eliciting strong, gaining of access to withheld secrets and information, brainwashing, disabling of foreign diplomats, and "non-violent warfare." In working with individuals, the destructive techniques try to exploit the chemically induced breakdown of resistance and defense mechanisms, increase suggestibility and sensitivity to teratogenic approaches, and intensification of the transference process. In the more aggressive phases of chemical warfare, the important variables are the disorganizing effect of LSD on goal-oriented activity, and its uncanny power.

The techniques of dispensation suggested for this warfare have been various kind of agents and contamination of water supplies. For everyone who is even remotely familiar with the effects of LSD, this kind of chemical warfare is much more diabolical than any of the conventional approaches. Calling it non-violent or humane is a gross misrepresentation.

THEРАЕТЕРИЧЕСКИЕ ЭКСПЕРИМЕНТЫ С ИСПОЛЬЗОВАНИЕМ LSD

From the point of view of our discussion, the most important area of LSD research has been clinical therapeutic treatment with this substance. Often violent and dramatic and profound effects of remote quantities of LSD on the mental processes of experimental subjects let quite naturally to the conclusion that it might be fruitful to explore the therapeutic potential of this unusual compound.

The possibility of therapeutic use of LSD was first suggested by Condron (11) in 1949, only two years after Stoll had published the first scientific study of LSD in Switzerland. In the early fifteen years, several researchers independently recommended LSD as an adjunct to psychotherapy, and those who could deepen and intensify the therapeutic process. The pioneer of this approach was Bens and Johnson (17) and Abramson (12) in the United States; Sandstrom, Spener and Wulff (91) in England, and Frederking (88) in West Germany.

These reports attracted considerable attention among psychiatrists, and stimulated clinicians in various countries of the world to start therapeutic experimentation with LSD in their own practice and research. Many of the reports published in the following fifteen years confirmed the initial claims that LSD could expeditate the psychotherapeutic process and shorten the time necessary for the treatment of various emotional disorders, which made it a potentially valuable tool in the psychiatric armamentarium. In addition, there appeared an increasing number of studies indicating that LSD-assisted psychotherapy could reach certain categories of psychiatric patients usually considered poor candidates for psychoanalysis or any other type of psychotherapy. Many individual researchers and therapeutic teams reported various degrees of clinical success with alcohols, narcotic drug addicts, sexopath, criminal psychopaths, and subjects with various character disorders and sexual deviations. In the early years a new and exciting area was discovered for LSD psychotherapy: the care of patients dying of cancer and other incurable diseases. Studies with dying individuals indicated that LSD psychotherapy could not only alleviate an alleviation of emotional suffering and relief of the physical pain associated with chronic diseases, it could also dramatically change the concept of death and attitude toward dying.

Since the appearance of the early clinical reports on LSD much time and energy has been invested in research of its therapeutic potential, and hundreds of papers have been published on various types of LSD therapy. Many psychological, biological, psychiatric, and psychotherapeutic meetings had special sessions on LSD treatment. In Europe, the initially isolated efforts of individual LSD researchers resulted in an effort to create a homogeneous organizational structure. LSD therapists from a number of European countries formed the European Medical Society for Psychiatric Therapy, and members held regular meetings dealing with the use of psychedelic drugs in psychotherapy. This organization also formulated the specifications and criteria for selection and training of future LSD therapists. The counterpart of this organization in the United States and Canada was the Association for Psychiatric Therapy. During the decade of most intense interest in LSD research several international conferences were organized for the exchange of experiences, observations and theoretical concepts in this field (Princeton, 1959; Cottigenhos, 1960; London, 1961; Amityville, 1965; Amsterdam, 1967; and Bad Nauheim, 1968).

The efforts to use LSD in the therapy of mental disorders now span a period of almost three decades. It would be beyond the scope of this presentation to describe the specific contributions to the unique chapter of the history of psychiatric treatment, as well as give the attention to all the individual scientists who participated in this avenue of research. The history of LSD therapy has been a series of trials and errors. Many different techniques of therapeutic use of LSD have been developed and explored during the past thirty years. Approaches that did not have the expected effect or were not supported by later research were abandoned: those that seemed promising were assimilated by other therapists, or developed further and modified. Instead of following this complicated process through all its phases, I will try to outline certain basic trends and the most important therapeutic ideas and concepts. Three decades of LSD therapy is sufficiently long period for accumulating clinical observations and verifying research data. We can, therefore, attempt a critical review of the clinical experience in this area, summarize the current knowledge about the value of LSD as a therapeutic tool in psychiatry, and describe the safest and most effective techniques for its use.

Various suggestions concerning the therapeutic use of LSD were based on the specific aspects of its action. The frequent occurrence of euphoria in LSD sessions
with normal volunteers seemed to suggest the possibility that this drug could be useful in the treatment of depressive disorders. The profound and often shuttering effect of LSD on psychological as well as physiological functions, accompanied by an emotional or vegetative shock, seemed to indicate that it could have a therapeutic potential similar to electroshock, insulin treatment, or other forms of convulsive therapy. This concept was supported by observations of striking and dramatic changes in the clinical symptomatology and personality structure of some subjects after administration of single doses of LSD. Another aspect of the LSD effect which seemed to be of importance from the therapeutic point of view was the ability of this drug to facilitate intensive emotional abrasions. The therapeutic success of active techniques such as hypnosis and narcoanalysis in the treatment of severe neurotic states encouraged exploration of this property of LSD. One additional interesting possibility of therapeutic use was based on the activating or "prrovocational" effect of LSD. The drug can mobilize and intensify pre-existing, chronic and stationary clinical conditions that are characterized by just a few torpid and refractory symptoms, and it was hypoth- esized that such chemically induced activation might make these so-called oligo-symptomatic states more amenable to conventional methods of treatment. As for the most important use of LSD was found in its combination with individual and group psychotherapy of different orientations. Its effectiveness is based on the understanding of various aspects of its action. LSD psychotherapy seems to interfere with all the mechanisms operating in drug-free psychotherapies and involves, in addition, some new and powerful mechanisms of psychological change as yet unknown and unexplained by mainstream psychiatry.

In the following sections, I will describe the most important uses of thera- peutic experimentation with LSD, give actual treatment techniques and concepts, and discuss their empirical or theoretical bases. Special attention will be paid to an evaluation of how successfully individual approaches have withstood the test of time.

STUDIES OF CHEMOTHERAPEUTIC PROPERTIES OF LSD

The approach that will be discussed in this section are based on different clinical observation and different theoretical premises; the common denominator is an exclusive emphasis on LSD as a chemotherapeutic agent that has certain beneficial effects just by virtue of its pharmacological action. The authors of these techniques were either unaware of the psychotomimetic factors or did not specifically utilize them. It psychotherapy was used with these approaches at all, it was only supportive and of the most superficial kind, without any organic link to the LSD experience.

EXPLORATION OF EUPHORIANT AND ANTEPRESSANT EFFECTS OF LSD

When Condon (31) proposed the use of LSD for depression on the basis of its euphoriant effect on some subjects, he followed the model of opium treatment. He administered small and progressively increasing daily doses of LSD to depressive patients and expected alleviation of depression and positive changes in mood. Ac- cording to Condon's statement, the results were not convincing and the observed changes did not exceed the limits of the usual spontaneous variations. He also noticed that LSD medication usually resulted in deepening of the pre-existing mood rather than consistent euphorization.

Similar results were reported by other authors who used either Condon's model of daily medication with LSD in depressive patients or isolated administra- tions of medium doses of LSD with the intention to displace depression. Negative or inconclusive clinical experiences have been reported by Becker, (8) Anderson and Bacon, (30) Rosek and Sargent, (89) and others.

By and large, the results of this approach to LSD therapy did not justify continuation of research in this direction. Clinical studies clearly indicated that LSD does not per se have any consistent pharmacological effects on depression that could be therapeutically exploited, and this approach has been abandoned.

SHOCK-INDUCING PROPERTIES OF LSD AND ITS EFFECT ON PERSONALITY STRUCTURE

In the early period of LSD research, several authors suggested that the profound and shuttering experience induced by LSD could have a positive effect on some patients comparable to the effect of various methods of convulsive treatment such as electroshock, insulin coma therapy, or cardiazole and acetylecholine shocks. Occasionally, unexpected and dramatic clinical improvements were reported in psychiatric patients after a single LSD session. Observations of this kind have been described in papers by Stoll, (27) Becker, (8) Benedetti, (19) Belsanti, (9) and Giberti, Gregoriotti and Boeri. (30)

In addition, an increasing number of reports seems to suggest that some- times a single administration of LSD could have a deep influence on the per- sonality structure of the subject, his or her hierarchy of values, basic attitudes, and entire lifestyle. The changes were so dramatic that they were compared with psychological conversions. Many LSD researchers made similar observations and became aware of the potential therapeutic value of these transformative expe- riences. The major obstacle to their systematic utilization for therapeutic purposes was the fact that they tended to occur in an eccentrical, without a recog- nizable pattern, and frequently to the surprise of both the patient and the ther- apist. Since the variables determining such reactions were not understood, therapeu- tic transformations of this kind were not readily replicable. However, it was this category of observations and systematic efforts to induce similar experiences in a more predictable and controlled way that finally resulted in the development of an important treatment modality, the so-called psychodynamic therapy. The basic principles of this therapeutic approach will be discussed later.

In summary, LSD can undoubtedly produce a profound emotional and vegetative shock in a patient or an experimental subject. The shock effect, however, has been more disorganizing and disruptive than therapeutic, unless it occurs within a special framework, in a situation of couple psychological sup- port, and after a period of preparation. The conversion mechanism is too unprecis- able, elemental and capricious to be relied upon as a therapeutic mechanism per se.
THERAPEUTIC USE OF THE AFFECTIVE EFFECT OF LSD

Many observations from early LSD research clearly indicated that the drug can facilitate reliving of various emotionally relevant episodes from infancy, childhood, or later life. In the case of traumatic memories, this process was preceded and accompanied by powerful emotional abreaction and catharsis. It seemed, therefore, only logical to explore the value of LSD as an agent for abreactive therapy in a way similar to the earlier use of other, short-acting barbiturates, or amphetamine, the same indication.

From the historical and theoretical point of view, this mechanism can be traced back to the early concepts of Freud and Breuer. (29) According to them, insufficient emotional and motor reactions by a patient to an original traumatic event results in "jamming" of the effect: the uncontrolled emotions ("abgelenkte Affekten") later provide energy for symptomatic treatments. Therapy then consists in releasing the traumatic memory under circumstances that elicits a related redirection of this emotional energy to the periphery and its discharge through perceptual, emotional, and motor channels. From the practical point of view, the abreactive method performed in the treatment of traumatic emotional neurasthenic and became popular during the Second World War as a quick and effective remedy for hysterical conversions occurring in various battle situations. There is hardly a single LSD therapists who would have doubts about the unique abreactive properties of LSD. It would be, however, a great overemphaticism to appreciate only as abreactive therapy. This was clearly demonstrated in a controlled study by Robinson. (40) Present opinion is that abreaction is an important component of LSD psychotherapy, but it represents just one out of many therapeutic mechanisms resulting from the complex action of this drug.

USE OF THE ACTIVATING EFFECT OF LSD ON CHRONIC AND FIXED SYMPTOMS

This approach was inspired by the clinical experience that LSD has an intensifying and mobilizing effect on manifest and latent psychopathological material. The principle of activation or "provocation" therapy with LSD was theoretically developed and employed in practice by the Austrian researcher Jost. (41) This concept was based on clinical observations of an interesting relationship between the nature and course of the psychopathic process and progress of the disease. It has been a well-known clinical fact that acute schizophrenic episodes with vitreous, rich and colorful symptoms have a very good prognosis. They frequently result in spontaneous remission, and therapy of these conditions is usually very successful. Conversely, schizophrenic states with an inapprarent and insidious course, a slow stagnating and torpid symptoms, and a static course have a poorer prognosis and are very responsive to conventional treatments.

After analyzing a great number of trajectories of psychotic episodes, Jost came to the conclusion that it is possible to find a certain culmination point in the natural course of psychosis beyond which the disease shows a tendency towards spontaneous remission. In schizophrenia, these culminating points are usually characterized by hallucinatory experiences of death or destruction, disintegration of the body, regression and transmission. These negative symptoms are then followed by familiar or experiences of rebirth.

The assumption of such a culmination point in the spontaneous course of the illness could explain, according to Jost, some puzzling observations made during electroshock therapy. As JCT seems to accelerate the spontaneous development of the disease along the intrinsic trajectory, it makes a great deal of difference as which point it is applied. If the electroshock is administered before the psychosis reaches the culmination point, it produces dramatic manifestations and intensifies the clinical picture. If it is given after the culmination point has been reached, this results in a rapid retardation of the patient and remission of the symptoms.

In their practical approach, Jost and Vici (42) intended to accelerate the spontaneous development of the disease by a combination of chemical and electro-physiological means to mobilize the autonomous healing forces and processes within the organism. They administered LSD and when the clinical conditions were activated by its effect, they applied electroconvulsive therapy. The authors described substantial shortening of the schizophrenic episode, reduction in the number of electroshocks required to reach clinical improvement, and often a deeper remission.

Sandison and Whitaker, (92) two British researchers and pioneers in LSD research, used a similar principle of applying a conventional treatment technique in patients whose clinical condition was activated by LSD. However, instead of administering electroshock, they used the tranquilizing effect of chlorpromazine (Thorazine). In their study, psychotic patients from various diagnostic groups were given LSD and two hours later intramuscular injection of the tranquilizer. Although the results seemed promising, the authors themselves later discarded the idea that the administration of chlorpromazine played a positive role in this procedure.

In general, the idea of provocative therapy with LSD has not been found a broadly accepted in clinical practice and has remained limited to the attempts described above. However, Jost's theoretical speculations contain several interesting ideas that can prove very fruitful if used in a more dynamic and creative way. The basic principle of activating fixed symptoms by LSD can be used in the context of intensive psychotherapy; a single LSD session can often help overcome stagnation in a long-term psychotherapeutic process. Also, Jost's concepts of an intrinsic trajectory of the psychic process and the value of its acceleration are in basic agreement with certain modern approaches to schizophrenia discussed in the writings of B. D. Leing, (52) John Perry, (88) Julian Silverman, (94, 95) and Maurice Béthouart. (84) Similarly, the observations regarding Jost's concept of the culmination moment of the schizophrenic process and the specific experiences associated with the breaking point made new sense if they are viewed in the context of dynamic matrices in the unconscious rather than from the point of view of Jost's mechanical model. We will discuss this issue in detail in connection with the personal matrices and the therapeutic significance of the ego death and rebirth experiences.
LSD-ASSISTED PSYCHOTHERAPY

As indicated in the above survey of therapeutic experimentation with LSD, the efforts to exploit purely pharmacological properties of this drug have failed to bring positive results. The concept of LSD as simply a drug without therapeutic value has been abandoned by all recent research in the field. The use of LSD as an arrestor or a neutralizing substance, in Jastrow’s sense, has not found its way into clinical practice, at least not in its original mechanical form. The abreactive action of LSD is valued highly, but it is usually considered to be only one of many effect-producing mechanisms operating in LSD therapy. The shock effect of LSD cannot in itself be considered therapeutic; unless it occurs in a specifically structured situation, it can have detrimental rather than beneficial consequences. The influence of the personality structure in the sense of a conversion is well-established clinical fact; however, the occurrence of this phenomenon during unstructured administrations of LSD is rare, unpredictable and capricious. Special preparation, a trusting therapeutic relationship, psychological support, and a specifically structured set and setting are necessary to make therapeutic use of this aspect of the LSD effect.

There seems to be general agreement among LSD therapists that the therapeutic outcome of LSD sessions depends critically on factors of a non-pharmacological nature (extrapharmacological variables). The drug itself is seen as a catalyst that activates the unconscious processes in a rather unspecified way. Whether the emergence of the unconscious material will be therapeutic or destruc-
tive is not determined simply by the biochemical and physiological activity of LSD. It is a function of a number of non-drug variables, such as the personality structure of the subject, the relationship he or she has with the guide, sitter or person present in the session, the nature and degree of specific psychological help, and the set and setting of the psychedelic experience. For these reasons all the approaches try to utilize LSD simply as another chemotherapeutic agent, by and large, bound to fail. This does not mean that it is not possible to benefit from an LSD experience if the drug is taken in a structured situation. However, extra-
pharmacological factors have such a profound influence on the LSD session and its final outcome that one cannot expect a manageable degree and consistency of therapeutic success unless the non-drug variables are sufficiently understood and controlled. Thus the optimal use of LSD for therapeutic purposes should always involve administration of the drug within the framework of a comprehensive therapeutic program; this approach offers the most therapeutic possibilities. In this respect, the potential of LSD seems to be quite extraordinary and unique. The ability of LSD to deepen, intensify and accelerate the psychotherapeutic process is incomparably greater than that of any other drug used as an adjunct to psychotherapy, with the exception perhaps of some other members of the psychodisc group, such as mescaline, isometheoline, MDA, (methylene-
ethoxyamphetamine), or DPT (dipropytyramine).

In the professional literature, the correlation of LSD with various forms of psychotherapy has been related to b many different names: psychedelics (Sandl-
ion), psychedelic therapy (Osmund), symbiodyon (van Rijn), hebreevyzyon (Abramson), lyceogalaxy (Gilbert and Cronquist), isocentraural (Delay), LSD analysis (Martin and McClure), transintegrative therapy (MacLean), hypodeps-
treatment (Levine and Ludvig), and psychosynthesis (Boyatzis). Individual thera-
ists using LSD psychotherapy have differed considerably in regard to the dosage used, frequency and total number of psychedelic sessions, the intensity and type of the psychotherapeutic work, and certain specificities of set and setting.

In view of all these differences and variations, any comprehensive theorization of the history of LSD psychotherapy would involve giving separate descriptions of all the individual therapists and therapeutic teams. Yet, it is possible with a degree of over-simplification, to distinguish certain basic ways of using LSD in psycho-
therapy. These modalities fall into two major categories, which differ in the degree of significance attributed to the role of the drug. The first category involves approaches in which the emphasis is on systematic psychotherapeutic work; LSD is used to enhance the therapeutic process or to overcome resistances, blocks and periods of stagnation. The approaches in the second category are characterized by a much greater emphasis on the specific aspects of the drug experience and the
psychotherapy is used to prepare the subjects for the drug sessions, give them sup-
pport during the experiences, and to help them integrate the material.

FACILITATION OF THE PSYCHOTHERAPEUTIC PROCESS BY LSD ADMINISTRATION

During the years of therapeutic experimentation, there have been several systema-
tic attempts to use small doses of LSD to enhance the dynamics of individual or group psychotherapy. In general, the disadvantages of this approach seem to out-
tweigh its potential benefits. The use of small doses does not save much time, since it does not shorten the duration of the drug action much as decrease its depth and intensity. Similarly, the risks involved in the use of low doses in psychotic patients are not necessarily lower than those related to high-dose ses-
sions. It is of greater advantage to interpret the occasional LSD sessions using medium to high doses in the course of systematic long-term psychotherapy at times when there is little therapeutic progress. In the following text we will briefly describe each of the above approaches.

Use of Small Doses of LSD in Intensified Psychotherapy

In this treatment modality the patients participate in a systematic course of long-
term psychotherapy, and in all the sessions they are under the influence of small
doses of LSD in the range of 5 to 50 micrograms. The emphasis is clearly on
psychotherapy and LSD is used to intensify and deepen the usual psychodynamic processes involved. Under these circumstances, the defense mechanisms are wea-
kened, the psychological resistances tend to decrease, and the recall of repressed
memories is greatly enhanced. LSD is typically intensifies the transference rela-
tionship in all its aspects and makes it easy for the therapist as well as the patient
to understand clearly the nature of the processes involved. Under the influence of
the drug, patients are usually more ready to face expressed material and accept the existence of deep intrapsychic tensions and conflicts within themselves. All the situations in these LSD sessions are approached with appropriate modifications of techniques of dynamic psychotherapy. The content of the drug experience itself is interpreted and used in much the same way as the nominal content of dreams in regular two-drug psychotherapy. In the past this approach has mostly used
in combination with psychoanalytically oriented psychotherapy, although it is theoretically and practically compatible with many other techniques, such as Jungian analysis, bioenergetics, and other nonego-centric therapies, and Gestalt practice.

Use of Small Doses of LSD in Group Psychotherapy

In this treatment modality all the participants are in a session of group psychotherapy, with the exception of the therapist, who is under the influence of small doses of LSD. The basic idea is that the activation of individual defensive processes will result in a deeper and more effective group dynamic. The results of this approach have not been very reproducible. Coordinated willed integrated group work is usually possible only with small doses of LSD which do not have a very profound psychological impact on the group members. If the dosages are increased, the group dynamic tends to disintegrate and it becomes increasingly difficult to get the group members organized and coordinated well. Each participant experiences the session in his or her unique way, and most of them find it difficult to sacrifice their individual processes for the demands of group cohesion.

An alternative approach to the psychoanalytic group experience which may be very productive is its ritual use, as practiced by certain aboriginal groups: the private sessions of the native American Huichol Indians, yage ceremonies of the Amazonian or Jivaro Indians in South America, ingestion of sacred mushrooms (Psilocybe mexicana) by the Mazatec for healing and sacramental purposes, or the ibogaine trips of some tribes in Gabon and adjacent parts of the Congo. Here verbal interaction and the cognitive level are transcended and group cohesion is achieved by non-verbal means, such as collective chanting, drumming, dancing, or drumming.

After a few initial attempts to conduct traditional group psychotherapy with all the members intoxicated by LSD, this technique was abandoned. However, exposure to a group or contact with co-patients during the termination period of an individual LSD session can be a very useful and productive experience. The assistance of an organized group of drug-free peers can be particularly helpful in working through some residual problems from the drug session. A combination of the new experimental techniques developed for use in experimental groups also can be of great value in this context. Another useful technique is the combination of individually experienced LSD sessions with subsequent analysis and discussion of the material in drug-free group sessions involving all the subjects participating in the LSD program.

Occasional Use of LSD Sessions in Intensive Psychotherapy

This approach involves regular, systematic, long-term psychotherapy, with occasional interludes of an LSD session. The dosage administered in this context are in the medium or high range, usually between 100 and 300 micrograms. The intensification of the experience of the activity of the therapist, elements of assistance and attendance (for example, in case of vomiting, hyperventilation, hyperventilation, hyperventilation of phlegm, coughing, or urination), are better tolerated than in a single LSD session. A single LSD session administered at a critical time can contribute considerably to a deeper understanding of the client's symptoms, the dynamics of his or her personality, and the nature of the transference problems. The revealing confrontation with one's unconscious mind, recall and release of repressed biographical events, manifestation of important symbolic material, and intensification of the therapeutic relationship that results from a single LSD session can frequently provide powerful incentives for further psychotherapy.

TECHNIQUES OF LSD THERAPY

Although psychotherapy is a very important component of the approach in this category, the primary emphasis is on the specificity of the drug experience. The psychoanalytic techniques in-use are modified and adjusted to the nature of the LSD state to form an integral and organic unit with the psychosedelic process. Psychodynamic Therapy With LSD

The term psychodynamic was coined by the British researcher and pioneer in LSD therapy, Ronald A. Shulgin. His root, lytic (from the Greek λύτικος - dissolution) refers to the process of releasing tensions, dissolving conflicts in the mind. It should not be confused with the term psychoanalytic (analyzing the psyche). This treatment method represents in theory as well as in clinical practice an extension and modification of psychoanalytically oriented psychotherapy. It involves administration of LSD at one-to-two week intervals, usually in the dosage range of from 75 to 300 micrograms. The number of drug sessions in a psychodynamic varies depending on the nature of the clinical problem and the therapeutic goal: it oscillates between fifteen and one hundred, the average probably being somewhere around forty. Although there are regular drug-free intervals in the intervals between the sessions, there is a definite emphasis on the events in the LSD sessions. The drug sessions take place in a darkened, quiet and tastefully furnished room that suggests a homelike atmosphere. The therapist is usually present for several hours at the time when the session culminates, giving support and specific interpretations when necessary. During the remaining hours the patients are alone, but they may ask for the therapist or nurse if they feel the need. Some LSD programs use one or more co-patients as sitters for the termination period of the sessions, or allow the patient to socialize with the staff and other clients.

All the phenomena that occur in LSD sessions or in connection with LSD therapy are approached and interpreted using the basic principles and techniques of dynamic psychotherapy. Certain specific characteristics of the LSD reaction however, require some modifications of the usual techniques. These include a greater activity on the part of the therapist, elements of assistance and attendance (for example, in case of vomiting, hyperventilation, hyperventilation, hyperventilation of phlegm, coughing, or urination), a more direct approach, occasional physical contact and support, psycathomantic involvement in the patient's experience, and higher tolerance for acting-out behavior. This makes psychodynamic procedure similar to the modified psychoanalytic techniques used for psychotherapy with schizophrenic patients. It is necessary to abandon the orthodox analytic situation where the patient reclines on the couch and is expected to share his or her free associations while the detached analyst sits in an armchair and occasionally offers interpretations. In psychodynamic therapy, patients are also asked to stay in the reclining position with their eyes closed. However, LSD subjects may on occasion remain silent
for long periods of time or, conversely, scream and produce inarticulate sounds; they might turn and turn, sit up, kneel, put their head in one's lap, pace around the room, or even fall on the floor. Much more personal and intimate involvement is necessary, and this frequently requires genuine human support.

In psychodynamic therapy, all the usual therapeutic mechanisms are intensified to a much greater degree than in single LSD sessions. A new and specific element is the successively subjecting of automatic reliving of traumatic experiences from childhood, which is associated with emotional aberration, rational integration, and a valuable experience of the unconscious, usually greatly frightening, and analysis of the transference phenomena becomes an essential part of the treatment process.

The fact that psychodynamic therapy has had to pay for its theoretical rooting in Freudian psychoanalysis has been confusing and conflict about the spiritual and mystical discussions of LSD therapy. These psychodynamic therapists who firmly adhere to the Freudian conceptual framework tend to distort their patients from entering the realm of transcendent experiences, either by interpreting them as an escape from relevant psychodynamic material or by referring to them as amphetamines. Others have taken the psychanalytic framework as a complete and restricting and become more open to an expanded model of the human mind. The conflict concerning the interpretation of transcendental experiences in LSD therapy and the attitude toward them is not only a matter of academic interest. Major therapeutic changes occur in connection with transpersonal states, and so facilitation or obstruction of these experiences can have very concrete practical consequences.

Typical representatives of the psychodynamic approach have been Sandison, Spencer, and Whitehead, Buckman, Ling, and Blair in England; Aurosen-Hein and van Rhein in Holland; Johner in Norway; and Hauser, Tausman, Burch and Sohler in Czechoslovakia. This approach was developed in Europe and is more characteristic of European LSD therapists. The only therapist using psychodynamic therapy in the United States at this time is Kenneth Godfrey of the Veteran Administration Hospital in Towson, Kansas. In the past it was practiced by Ettner and Cohen, Chandler and Hartsou, Dahlberg and others.

Psychodynamic Therapy with LSD

This therapeutic approach differs from the preceding one in many important aspects. It was developed on the basis of dramatic clinical improvements and profound personality changes observed in LSD subjects whose sessions had a very definite religious or mythical emphasis. Historically, it is related to the development of a similar LSD treatment program for alcoholics conducted in the early forties by Riker and Osmund in Saskatchewan, Canada. These authors were inspired by the alleged similarity between the LSD state and delirium tremens, reported by Diment and Whitehead (23) in the United States. Riker and Osmund combined this knowledge with the clinical experience that many chronic alcoholics go up drinking after the shuttering experience of delirium tremens. In their program, they initially gave LSD to alcoholic patients with the intention of deterring them from further drinking by means of a simulated delirium tremens. Paradoxically, however, it seemed to be the profound positive experiences in LSD sessions that were correlated with good therapeutic results. On the basis of this unexpected observation Hoffer and Osmond, in cooperation with Hubbard, laid the foundations of the psychodynamic LSD therapy technique.

The main objective of psychodynamic therapy is to create optimal conditions for the patient to experience the ego death and the subsequent transcendence into the so-called psychodynamic peak experience. It is an ecstatic state, characterised by the loss of boundaries between the subject and the objective world, with emerging feelings of oneness with people, nature, the entire Universe, and God. In most instances this experience is contentless and is accompanied by visions of brilliant colors or golden light, rainbow spectra or elaborate designs resembling peacock tailfeathers. It can, however, be associated with archetypal figurative visions of deities or divine personages from various cultural frameworks. LSD subjects give various descriptions of this condition, based on their educational background and intellectual orientation. They speak about cosmic unity, auto-suggestion, mysterium tremendum, somatic consciousness, union with God, Atman-Brahman union, Samadhi, satori, mudra, or the harmony of the spheres.

Various modifications of psychodynamic therapy use different combinations of elements to increase the probability of psychodynamic peak experiences occurring in LSD sessions. Before the actual session there is typically a period of drug-free preparation conducted with the aim of facilitating the peak experience. During this time, the therapist explores the patient's life history, helps them to understand their symptoms, and specifically focuses on personality factors that could represent serious obstacles to achieving the psychodynamic peak experience. An important part of the preparation is the therapist's explicit and implicit explication of the growth potential of the patients, and an encouragement to reach the positive resources of their personalities. Unlike conventional psychotherapy, which usually goes into a detailed exploration of psychopathology, psychodynamic therapy tries to discourage the patient's preoccupation with pathological phenomena, be they clinical symptoms or maladjustive interpersonal patterns. In general, there is much more concern about transcending psychopathology, thus interest in its analysis.

Occasionally, patients even receive direct advice and guidance as to how they could function more effectively. This approach is very different from the unstructured and random solving in life situations against which psychocynologically-oriented therapists are so emphatically warned. It does not involve specific suggestions for solving important problems of everyday life, such as marriage or divorce, extramarital affairs, induced abortions, having or not having children, and taking or leaving a job. Psychodynamic counseling operates on the very general level of a basic strategy of existence, life philosophy, and hierarchy of values. Some of these issues might be discussed in this context are, for example, the relative significance of the past, present, and future; the wisdom of drawing one's satisfactions from ordinary things that are always available in life; or the absurdity of exaggerated ambitions and needs to prove something to oneself or to others. From the practical point of view, the general directions in psychodynamic counseling are based on observations of specific changes in individuals who have been successfully treated with LSD psychotherapy. They involve an orientation and approach toward life that seems to be associated with the absence of clinical symptoms and with a general feeling of well-being, joy and affirmation of the life process. Although the psychodynamic philosophy and life strategy were developed quite independently from the work of Abraham Maslow, (64) some of the principles of this approach are closely related to his description of a self-actualizing person and his
neurons, major therapeutic changes usually cannot be achieved without systematically working through various levels of problems in serial LSD sessions.

Anamnestic Therapy With LSD (LSD Analyses) The term anamnestic (from the Greek anaamnestes—to lean upon) refers to various erotic infantile needs and tendencies directed toward a pregrenatal love-object. The method was developed by two London psychoanalysts, Joyce Martin (92) and Pauline McCririck. (68) It is based on clinical observations of deep age regression occurring in LSD sessions of patients during these periods that reveal episodes of early infantile frustration and emotional deprivation. This is typically associated with aggressive cravings for love, physical contact, and other instinctual primary level.

The technique of LSD therapy practiced by Martin and McCririck was based on psychoanalytic understanding and interpretation of all the situations and experiences occurring in LSD sessions and in such a way as to be very close to psychoanalytic approaches. The critical difference distinguishing this therapy from any other was the element of direct satisfaction of anamnestic needs of the patients. In contrast to the traditional detached attitude of psychoanalysts and psychotherapists to treatment, Martin and McCririck assumed an active mothering role and entered into close personal contact with their patients to help them to satisfy primitive infantile needs reactivated by the drug.

More superficial aspects of this approach involve holding the patients and feeding them warm milk from a bottle, caressing and offering reassuring touches, holding their hands in one's lap, or hugging and rocking. The extreme of psychoanalytic involvement of the therapist is the so-called "fused technique," which consists of full body contact with the client. The patient lies on the couch covered with a blanket and the therapist lies beside him or her body, in close embrace, usually simulating the gentle comforting movements of a mother caressing her baby.

The subjective reports of patients about these periods of "fused" therapy are quite remarkable. They describe authentic feelings of symbiotic union with the nourishing mother image, experienced simultaneously on the level of the "good breast" and "good womb." In this state, patients can experience themselves as infants receiving love and nourishment at the breast of the nursing mother and at the same time feel totally identified with a fetus in the oceanic paradise of the womb. This state can simultaneously involve archetypal elements of emergence and the changes of mystical rapture, and the above situations be experienced as contact with the Great Mother or Mother Nature. It is not uncommon that the deepest form of this experience involves feelings of oneness with the entire cosmos and the ultimate creative principle, or God.

The fusion technique seeks to provide an important channel between the psychodynamic, biographical level of the LSD experience and the transcendental states of consciousness. Patients in anamnestic therapy relate that during their nourishing exchange with the mother image, the milk seemed to be "coming directly from the Milky Way." In the imaginary re-enactment of the placental circulations, the life-giving blood can be experienced as sacramental communion, not only with the material organism, but with the divine source. Repeatedly, the situations of "fusion" have been described in all their psychological and spiritual ramifications as fulfillment of the deepest needs of human nature, and as extremely healing experiences. Some patients described this technique as offering the possibility of a retroactive intervention in their deprived childhood. When the original traumatic situations from childhood become reenacted in all their relevance and complexity with the help of the "psychodelic time-machine," the therapist's affective and loving care can fill the vacuum caused by deprivation and frustration.

The dosages used in this treatment technique ranged between 100 and 200 micrograms of LSD, sometimes with the addition of Ritalin in later hours of the sessions. Martin and McCririck described good and relatively rapidly achieved results in patients with deep depressions or borderline psychotic disorders who had experienced severe emotional deprivation in childhood. Their papers, presentations at scientific meetings, and a film documenting the anamnestic technique stirred up an enormous amount of interest among LSD therapists and generated a great deal of fierce controversy. The reactions of colleagues to this treatment module ranged from admiration and enthusiasm to total condemnation. Since most of the criticism from the psychoanalytically oriented therapists revolved around the violation of the psychoanalytic taboo against touching and the possible detrimental consequences of the fusion technique for transference-countertransference problems, it is interesting to describe the authors' response to this serious objection.

Both Martin and McCririck seemed to consider that they had experienced much more difficulty with transference relationships before they started using the fusion technique. According to them, it is the lack of fulfillment in the conventional therapeutic relationship that fosters and perpetuates transference. The original traumatic situations are continuously reenacted in the therapeutic relationship and the patient essentially experiences repetitions of the old painful rejections. When the anamnestic needs are satisfied in the state of deep regression induced by the drug, the patients are capable of detaching themselves emotionally from the therapist and look for more appropriate objects in their real life.

This situation has a parallel in the early developmental history of the individual. Those children whose infantile emotional needs were adequately met and satisfied by their parents find it relatively easy to give up the affective ties to their family and develop independent existence. By comparison, those individuals who experienced emotional deprivation and frustration in childhood tend to get trapped during their adult life in symbiotic patterns of interaction, destructive and self-destructive clinging behavior, and life-long problems with dependence-independence. According to Martin and McCririck, the critical issue in anamnestic therapy is to use the fusion technique only during periods of deep regression, and keep the experience strictly on the pregrenatal level. It should not be used in the termination periods of the sessions when the anamnestic elements could get easily confused with adult sexual patterns.

The anamnestic technique never achieved wide acceptance; its use seemed to be closely related to unique personality characteristics in its authors. Most other therapists, particularly males, found it emotionally difficult and uncomfortable to enter into the intimate situation of fusion with their clients. However, the importance of physical contact in LSD psychotherapy is unquestionable and many therapists have routinely used various less-intensive forms of body contact.
Aggressive LSD Psychotherapy
In this form of LSD therapy en masse, patients experience their LSD sessions, usually with medium or high dosages, in the company of several co-patients participating in the same psychotherapeutic treatment program. The basic difference between this therapeutic approach and the LSD-assisted group psychotherapy described earlier is the absence of any effort at coordinated work with the group as a whole during the time of the drug action. The most important reason for giving the drug simultaneously to a large number of individuals is to save time for the therapeutic team. Despite the fact that they share the same room, patients essentially experience their sessions individually with only occasional, unstructured encounters and interactions of an elemental nature. A standard program of stereotyped music is usually offered to the entire group, or several alternative channels might be made available on different headphones circuits. Sometimes the projection of slides is emotionally relevant and provocative material or visually stimulating pictures and mandalas can form an integral part of the program for the session day. The therapist and his helpers provide collective supervision; individual attention is given only if absolutely necessary. On the day following the drug session or later on, the individual experiences of the participants are usually shared with other group members.

This approach has its advantages and disadvantages. The possibility of treating a number of patients simultaneously is an important factor from the economic point of view, and could in the future represent the answer to the unfavorable ratio between hospital health professionals and psychiatric patients. On the other hand, the lack of intensive individualized support might make this treatment less effective and less conducive to working through some especially difficult and demanding aspects of personal problems. There is also, in such a collective situation, a danger of psychological contagion; paralyzing reactions, aggressive behavior and loud abrasion of individual patients can negatively influence the experiences of the others. If the group approach is sensitively combined with individual work when necessary, however, its advantages can outweigh its drawbacks.

The best-known treatment program of this kind was a multidimensional approach to pre-hospital psychotherapy developed by Salvador Borghes. (67) A Mexican psychiatrist and founder of the Albert Schweitzer Association in Mexico City. Although his therapeutic program utilized other psychoactive drugs and substances of plant origin in addition to LSD, it deserves more detailed discussion in this context. Borghes combined his training as a psychoanalyst with his knowledge of the indigenous healing practices and ceremonies of various Mexican Indian groups and created a new approach to therapy with psychoactive drugs that he called psychosynthesis. This should not be confused with the therapy and practice of the original psychotherapeutic system also called psychosynthesis developed in Italy by Roberto Assagioli. The larger approach is strictly a non-drug procedure, although it shares with psychological therapy a strong transpersonal orientation. In Borghes’ approach, therapy was conducted with groups of ten to twenty-eight patients of differing ages and sexes. The members of each group were carefully selected to make the group as heterogeneous as possible with respect to age, sex, clinical problems, the psychoactive drug received, and length of time already spent in treatment. Each group included men and women just beginning therapeutic work, individuals who were in the main course of treatment, and patients about to terminate therapy. An important goal of the selection process was to offer a broad spectrum of suitable figures for projections and imaginary roles. Various members of such a heterogeneous group could then represent authority figures, maternal and paternal images, sibling substitutes, or objects of sexual interest.

Following the example of Indian rituals, the drug session took place at night. All the participants met in a large room for a leaders group discussion that lasted about two hours. These meetings allowed the patients to meet new...
members and discuss their fears, hopes and expectations; they also gave the par-
ticipants ample opportunity for projections and transfers that had an impor-
tant catalyzing influence on their drug sessions and frequently provided valuable learning experiences. The treatment room was large and decorated with paintings and posters with evocative themes. A wide spectrum of psychedelic substances were administered in these meetings, including LSD, psilocybe, a variety of psilocybin-containing mushrooms, morning glory seeds, Datura stramonium, and ketamine.

The patients spent most of the time in a reclining position on mattresses arranged along the walls, though they were allowed to move around freely if wanted. Two stereo systems were used and a wide variety of music and sounds was available to influence the depth and intensity of the group’s reactions. An im-
portant part of the psychedelic sessions was a sensory overload show using slides,
movie, stereo effects, and intermittent flashes of colored floodlights. Several
themes considered to be of crucial relevance were interwoven in the otherwise
erotic and confounding barrage of unrelated images and sounds: these were
birth, death, violence, sexuality, religion, and childhood. The sensory overload
portion of the drug sessions lasted about six hours and was followed by a reflective
phase that lasted until sunrise. Following this, the therapists and all participants
rested for an hour.

The integrative session involved group discussions and sharing of experi-
ences. The main objective of this phase was to facilitate integration of the material
uncovered in the drug session and to apply the insights to the problems of everyday
living. Depending on the nature of the interactions this took from four to
twelve hours. The course of therapy consisted of ten to twenty drug sessions,
depending on the nature and seriousness of the clinical problems involved.
The patient population consisted mostly of neurotic out-patients, although Roquet also
described various degrees of success with some antisocial personalities and selected
schizophrenics.

THE NEED FOR A COMPREHENSIVE THEORY
OF LSD THERAPY

Therapeutic experimentation with LSD, and psychedelic research in general, has
been very negatively influenced by the existence of the black market, unsupervised
self-experimentation, and accidental legislative measures. Despite the fact that LSD
now has been known for almost three decades, the literature describing its effects and therapeutic potential is controversial and
inconclusive. Further developments in this field would require that independent
teams in different countries interact and cooperate in collecting experimental data
and exchanging information. However, the number of places studying LSD has
been cut down considerably and continues to decrease. Although the present pros-
tections for extensive psychedelic research are rather grim, there are indications that
systematic exploration will be resumed after the general confusion has been clari-
fied and rationality reintroduced into the study of the problems involved.

Whatever becomes of LSD research in the future, there are good reasons to
analyze the observations and results of past psychedelic experimentation and pre-

sent the most important insights and findings in a simple and comprehensive form.
Such an effort seems justified whether this study becomes an epitaph to the LSD
era or a manifesto for future psychedelic researchers. If we are witnessing the
“waning song” of psychedelic research, it would be interesting in retrospect to be
able to throw more light on the controversies and lack of theoretical under-
standing concerning the nature of the LSD effect. If LSD research continues into
the future, clarification of the present confusion and disagreements would be of
great practical importance. Additional controlled studies on a large scale are
needed to assess the efficacy of LSD as an adjunct to psychotherapy with a satis-
factory degree of scientific accuracy. However, unless the critical reasons for past
controversies can be clearly identified and taken into consideration in future
research, the new studies will probably perpetuate old errors and yield cor-
respondingly inconclusive results.

As indicated above, individual authors and research teams used LSD start-
ing from very different premises. They followed different therapeutic objectives,
adhired to different theoretical systems, employed differing technical approaches,
and administered the drug in the most disparate frameworks and settings. It is my
belief that the main reason for the controversies about LSD therapy is a lack of
understanding regarding the nature of the LSD effect, and the absence of a plausi-
ble and generally acceptable conceptual framework that would reduce the vast
amounts of observed data to certain common denominators. Such a theoretical
system would have to provide understanding of the content and course of separate
sessions as well as of repeated exposures to LSD in a therapeutic series. And it
should be able to explain the paramount importance of extrapharmacological fac-
tors—the personalities of the subject and the guide, their mutual relationship,
and the elements of the set and setting—in the development of LSD sessions.

Other important problems that should be accounted for within a compre-
hensive theoretical framework are the occasional prolonged reactions and even
psychotic breakdowns that occur after some of the sessions, or the later recur-
rences of the LSD-like states (“flashbacks”). The general understanding of these
phenomena is at present very incomplete and unsatisfactory, a situation that has
serious practical consequences. One result of it is that the approach of mental
health professionals to complications of the non-medical use of psychedelics is
generally ineffective and often harmful.

A comprehensive theory of LSD psychotherapy should also be able to bridge
the gap at present existing between psychodynamic and psychiatric theories, the two
most relevant and vital approaches to LSD treatment, and some other therapeutic
modifications such as anamorphic and hypnotherapeutic. It should be possible to
find important common denominators and explanatory principles for these various
approaches and understand their indications and contraindications, as well as suc-
cesses and failures. A conceptual framework correctly reflecting the most impor-
tant aspects of the LSD effect should be able to provide practical directives con-
cerning the optimal conditions for the use of this substance in psychotherapy. This
would involve general treatment strategy, as well as details concerning dosages,
effective approaches to various special situations, use of auxiliary techniques, and
the specific elements of set and setting. Finally, a useful, comprehensive theory
should provide a number of partial working hypotheses of a practical and
theoretical nature that could be tested with the use of scientific methodology.
In view of the complex and multidisciplined nature of the problems involved, it is extremely difficult to formulate at present a conceptual framework that would fully satisfy all the above criteria. For the time being, even a tentative and approximate theoretical structure, organizing most of the important data and providing guidelines for therapeutic practice, would represent distinct progress. In the following chapters an attempt will be made to present a tentative framework for the theory and practice of psychedelic psychiatry. It is my belief that a conceptual system could account for at least the major observations of LSD therapy requires not just a new understanding of the effects of LSD, but a new and expanded model of the human mind and the nature of human beings. The researches on which my speculations are based were a series of exploratory clinical studies, each of which represented an exciting venture into new territories of the mind as yet uncharted by Western science. It would be unrealistic to expect that they would be more than first sketchy maps for future explorers. I am well aware of the fact that, following the example of old geographers, many areas of my cartography would deserve to be described by the famous inscription: hic sunt leones.

The proposed theoretical and practical framework should be considered as an attempt to organize new and puzzling observations from several thousand LSD sessions and present them in a logical and comprehensible way. Even in its present rough form, this conceptual framework has proved useful in understanding the events in psychedelic sessions run in a clinical setting, as well as LSD states experienced in the context of non-medical experimentation; following its basic principles has made it possible to conduct LSD therapy with maximum benefit and minimum risk. I believe that it also offers important guidelines for more effective crisis intervention related to psychedelic drug use and more successful treatment of various complications following unsupervised self-experimentation.

NOTES

1. One microgram or gamma is one millionth of a gram, about thirty-five billionths of an ounce.

2. Conversions are sluggish, very dramatic personality changes occurring unexpectedly in psychologically predisposed individuals in certain specific situations. The direction of these profound transformations is usually contrary to the subject's previous beliefs, emotional reactions, life values, attitudes and behavior patterns. According to the area which they primarily influence, we can distinguish religious, political, moral, sexual, and other conversions. Religious conversion of atheists to true believers or even religious fanatics have been observed in gatherings of ecstatic sects and during sessions of famous charismatic preachers, such as John Wesley. Maya Dores gave in her Divine Horsesmen (22) a unique description of her conversion to Haitian voodoo, which occurred during her study of aboriginal dance. Victor Hugo's example of the moral conversion of Jean Valjean in Les Misérables (39) found its way into psychiatric handbooks and gave its name to a special kind of corrective emo-
tional experience. The most spectacular illustration of political conversion and later reversion was described by Arthur Koestler in his Arrow to the Blue (47) and The God That Failed. (48) Biblical examples of moral and sexual conversions of religious nature are the stories of Barabbas and Mary Magdalene.

2. The significance of traumatic memories from childhood for the dynamics of psychedelic therapy has been amply illustrated and described by Hansel Lerner. (57) See also the discussion of psychodynamic experiences in the first volume of this series, Matakay Kodl, Realms of the Human Unconscious: Observations from LSD Research. (32) Subsequent references to this book will be indicated by a shortened title, thus: Realms of the Human Unconscious.

4. Walter Pahnke (56) summarized the basic characteristics of spontaneous and psychotic peak experiences in his nine-mystical categories. According to him, the essential features of these states are: (1) feelings of unity, (2) transcendence of time and space, (3) strong positive affect, (4) sense of reality and objectivity of the experience, (5) sensuousness, (6) ineffability, (7) paradoxuality, (8) trajectory, and (9) subsequent positive changes in attitudes and behavior. The Psychadelic Experience Questionnaire (PEQ) developed by Pahnke and Richards makes it possible to assess whether or not the psychedelic peak experience occurred in an LSD session, and allows for its gross quantification.

5. The sant leones literally mean "Here are lions": this expression was used by early geographers in the old charts to denote insufficiently explored territories, possibly abounding in savages, wild animals, and other dangers.
CRITICAL VARIABLES IN LSD THERAPY

Pharmacological Effects of LSD
Personality of the Subject
Personality of the Therapist or Guide
Set and Setting of the Sessions

A deep understanding of the nature and course of the LSD experience and the dynamics of LSD psychotherapy is impossible without full awareness of all the factors involved in the LSD reaction. The early simplistic and reductionistic models of the LSD experience as being either "model schizophrenia" or a "toxic psychosis"—basically a result of the drug's interference with the normal physiological and biochemical processes in the brain—have been abandoned a long time ago by all serious researchers. The LSD literature abounds in observations indicating the utmost importance of non-drug factors as determinants of psychedelic experiences and the critical role they play in the therapeutic process. In order to understand the nature of the LSD reaction in all its complexity, we have to discuss not only the actual pharmacological effect of the drug, but also the most important extrapharmacological factors—the role of the personality of the subject, his or her emotional condition and current life situation, the personality of the guide or therapist, the nature of the relationship between the subject and the guide, and an entire complex of additional factors usually referred to as set and setting.

PHARMACOLOGICAL EFFECTS OF LSD

Since administration of LSD is the condition sine qua non, or the absolutely necessary condition for the LSD reaction, it would seem only logical to consider the drug itself as the factor of fundamental importance. Careful analysis of clinical observations from LSD psychotherapy, however, shows this issue to be much more complicated. The phenomena that can occur in the course of LSD sessions cover a very wide range; there are hardly any perceptual, emotional, or psychosomatic manifestations that have not been observed and described as part
of the LSD spectrum. If different subjects take the same dosage of the drug under relatively standard circumstances, each will have a distinctly different experience. The extreme multifactorial and interindividual variability of the LSD state is complemented by its equally striking intraindividual variability. If the same person takes LSD repeatedly, each successive session is usually quite different from the others as to its general character, specific content, and course. This variability has consequences to the concept that the LSD reaction has simple biochemical and physiological determinants.

The question whether there exist invariant, repeatable and standard effects of LSD that are purely pharmacological in nature is very interesting and important from both the theoretical and practical point of view. Such effects would have to be unrelated to the personality structure and independent of external circumstances, they would have to occur without exception in every subject who took a sufficient dose of LSD. Conversely, the question of the extent to which various extra-pharmacological factors participate in the LSD experience, and the nature and mechanism of their effect, are equally interesting and theoretically as well as practically relevant. The search for typical and mandatory pharmacological effects of LSD was an important aspect of my analytical work on the LSD data. The result of this quest was rather surprising. After analyzing almost five thousand seconds from LSD sessions, I did not find a single symptom that was an absolutely constant component in all of them and could thus be considered truly invariant.

Changes in optical perception are usually described as typical manifestations of the LSD state and are thus serious candidates for being pharmacological invariants. Although reports of various abnormal visual phenomena occurred frequently in my records, I have observed a number of high-dose sessions where there were no alterations in optical perception. Some of these LSD reactions where visual changes were absent had the form of intense sexual experiences, others were characterized by massive somatization with feelings of general malaise and physical illness, or experiences of excruciating pain in various parts of the body. Specific examples of sessions without optical perceptual changes were observed in advanced stages of psychotic treatment and in some psychotic sessions. They involved either a brutal and primitive experiential complex described by various subjects as reliving of their own birth, or transcendental experiences of cosmic unity and the Supraconic Void which had the pseudoreality of being "contentless yet all-containing."

Physical manifestations of the LSD state deserve special notice in this context since, in the early reports, they were seen as simple pharmacological effects of the drug and attributed to direct chemical stimulation of the vegetative centers in the brain. Careful observation of a large number of sessions and analysis of the trends does not support this explanation. The physical concomitants of the LSD reaction vary considerably from session to session. The spectrum of so-called "vegetative symptoms" is very broad and includes that of any other drug known, with the exception of some other psychedelics. Strongly enough, these symptoms include both sympathetic and parasympathetic phenomena, and they appear in clusters involving various combinations thereof. They occur with the same frequency and intensity in low- and high-dose sessions and there is no demonstrable dose-effect relationship. In many high-dose LSD sessions, physical manifestations

An experience of nausea, one of the most frequent physical symptoms in LSD sessions.
are entirely absent, or they occur intermittently in close connection with difficulty and strongly defended unconscious material. Conversely, some low-dose sessions are characterized by vast vegetative symptoms during the entire course of the drug reaction. It is not uncommon that after administration of an additional dose of LSD a subject suffering from severe physical symptoms surrenders to the experience, works through the underlying problem, and gets rid of the somatic distress. Aesthetic aspect of these symptoms that is particularly relevant to our discussion is their unusual sensitivity to various psychological factors; they can often be modified or even terminated by specific external influences and psychotherapeutic interventions. The fact that these "vegetative" and other physical manifestations in LSD sessions range from relevant intonations or arrival of a specific person to the use of physical contact and various bionomic exercises.

One of the physical manifestations of the LSD reaction that deserves special mention is the dilation of the pupils (mydriasis). It is so common that its presence has been used by therapists as a relatively reliable indication that a person is still under the influence of the drug. For a long time, mydriasis seemed to be a serious candidate in my investigations for being the invariant manifestation of the LSD effect. Later, I observed several LSD sessions in which some of them very dramatic, in which the pupils of the subjects appeared constricted or in which they oscillated rapidly between extreme dilation and constriction.

A similar situation exists in the area of gross physical manifestations such as psychomotor excitement or inhibition, muscular tension, tremors, twitches, seizure-like activities, and various twisting movements. None of these symptoms is standard and predictable enough to be considered a specific pharmacological effect of LSD. This does not mean that LSD does not have any specific physiological effects per se; these can be clearly demonstrated in animal experiments using incomparably higher dosages. However, my experience indicates that within the dosage range commonly used in human experiments or in psychotherapeutic practice, physical manifestations do not result from direct pharmacological stimulation of the nervous system. They seem to reflect more the activation of dynamic matrices in the unconscious and have a structure similar to hysterical conversions, organ-neurotic phenomena, or symptoms of psychosomatic disorders.

As unpredictable as the content of the LSD reaction is its intensity, and individual responses to the same dosage level vary considerably. The degree of sensitivity or resistance to LSD seems to depend on complicated psychological factors rather than on variables of a constitutional, biological, or metabolic nature. Subjects who in everyday life manifest a strong need to maintain full self-control, and have difficulties in relaxing and "letting go," can sometimes resist relatively high dosages of LSD (300-500 micrograms) and show no detectable change. Occasionally, individuals can resist considerable doses of LSD if they have set this as a personal task for themselves. They may do it to defy the therapist and cooperate with him or her, to prove or demonstrate their psychological "strength," to endure more than their fellow patients, to impress their friends, or for many other reasons. However, it is obvious that deeper and more relevant unconscious motives should be looked for behind such superficial rationalizations. Additional causes of high resistance to the effect of the drug may be insufficient preparation, instruction and reassurance of the subjects, lack of their full agreement and cooperation, or absence of basic trust in the therapeutic relationship. In this case, the LSD reaction sometimes does not take its full course until the motives for resistance are analyzed and understood. Similar factors seem to be responsible for the inability of many persons to surrender to the effect of the drug under the circumstances of supervised self-experimentation in the presence of strangers and in unfamiliar environments. Such sessions are conducive to incomplete resolution and integration, adverse after-effects, and later reurrences ("flashbacks"). Instant sobering, which can occur at any period of the session and on any dosage level, typically indicates a sudden mobilization of defenses against the impending emergence of unpleasant traumatic material.

Among psychiatric patients, severe obsessive-compulsive neuroses are particularly resistant to the effect of LSD. It has been a common observation in my research that such patients can frequently resist dosages of more than 500 micrograms of LSD and show only slight signs of physical or psychological disorder. In extreme cases it can take several doses of high-dose LSD sessions before the psychoanalytical resistance of these individuals are reduced to a level where they start having epiphanies of regression to childhood and become aware of the unconscious material that has to be worked through. After observing several situations in which even a drastic increase of dosage—in one instance to 15000 micrograms given intramuscularly—did not result in a fully developed LSD experience, it became obvious that high psychologic resistance to LSD cannot be overcome by just an increase in dosage; it has to be psychologically reduced in a series of sessions. There seems to be a saturation point of LSD somewhere between 400 and 500 micrograms; if the subject does not respond adequately to this dosage, additional LSD will not change anything in the situation.

There is some evidence, of an anecdotal rather than experimental nature, suggesting that a lower dosage of LSD can occur in spiritually highly-developed individuals who have extensive experience of unusual states of mind or live in such a state most of the time. The most famous example of this is Rowan's account, according to which his Indian guru did not respond to two occasions of extremely high dosages of LSD (900 and 1200 micrograms respectively). (83) This would indicate the possibility that lack of reaction to the drug can be associated paradoxically with two opposite conditions, namely excessive rigidity and a strong psychological defense system or extreme openness and a lack of separating barriers.

Having reviewed various kinds of evidence suggesting the absence of any clear, specific and invariant pharmacological effects of LSD at the dosage level commonly used in experimental and clinical work with human subjects, we can try to outline what the effects of LSD actually are. According to my experience, they are very unspecific and can be described only in the most general terms. In a great majority of sessions there is an overall tendency toward perceptual changes in various sensory areas. Consciousness is usually qualitatively changed and has a dream-like character. The access to unconscious material is typically facilitated and psychological defenses are lowered. Emotional reactivity is almost always greatly enhanced and affective factors play an important role as determinants of the LSD reaction. A rather striking aspect of the LSD effect is a marked intensification of mental processes and neural processes in general; this involves phenomena of differing nature and origin.
Pre-existing and recent psychogenic symptoms, as well as those the individual had suffered from in childhood or at some later period of life, may be amplified and extraverted. While experiencing them in exaggerated forms, the individual frequently develops insights into the network of unconscious processes that underlie them, discovering their specific psychodynamic, personal and transpersonal roots. Treatment with LSD, and often with strong emotional change are activated, brought forth from the unconscious, and relived, and the content of various dynamic matrices from different levels of the individual and collective unconscious may emerge into consciousness and be experienced in a complex way. Occasionally, phenomena of a neologistic nature can be amplified and manifested in the sessions; this is true of pain associated with arthritis, dysphoria of vertebrobasilar, inflammatory processes, or post-operative and post-traumatic changes. Feeling sensations related to past injuries and operations is particularly common. What is interesting from a theoretical point of view is that LSD subjects even seem to be able to relive pains and other sensations related to past operations conducted under deep general anesthesia. The propensities of LSD and other psychedelics to activate and amplify various neurological processes is so striking that it has been used by several Czech neurologists as a diagnostic tool for the extermination of latent paralyses and other subtle organic damage of the central nervous system. (24) The negative side of this interesting property of LSD is the fact that it can activate neuropathic pain in patients suffering from manifest epiphlebitis, those who have a latent disposition to this disease. A rapid emergence of myelopathic seizures that might be difficult to control, the so-called status epilepticus, represents one of the serious physical risks of therapy.

As large and, I have not been able to discover during my analyses of the data any distinct pharmacological effects that are constant and invariant and can therefore be considered drug-specific. It appears to me that LSD as a powerful unspecific amplifier or catalyst of the biochemical and neurophysiological processes in the brain. It seems to create a situation of general non-differentiated activation that facilitates the emergence of unconscious material from various levels of the personality. The richness, as well as the unusual inter- and intra-individual variability, can be explained by the participation and determining influence of extra-pharmacological factors.

In the following sections we will discuss in detail all the major non-drug variables that seem to have a decisive influence on the process of LSD psychotherapy. They include the personality situation of the subject, the personality of the guide, the nature of their mutual relationship, and the set and setting of the sessions.

PERSONALITY OF THE SUBJECT

When we discuss the significance of the subject's personality for the nature, content and course of the LSD experience, it is necessary to distinguish between the role of personality factors in individual sessions using low and medium dosage of the one hand, and in consecutive sessions of a therapeutic series or high-dose psychedelic sessions on the other. We will first cover the more superficial per-
Another problem related to the negative attitude toward LSD therapy and unwillingness to have a drug session is associated with a lack of trust in oneself, other people, humanity, society, and the world in general. If these feelings are within the neurotic range it is necessary for the patient to develop a sufficient degree of trust before administration of the drug. Openly paranoid attitudes about the procedure, especially when the patient tends to include the therapist among the administered patients, are considered a contraindication for LSD therapy.

An enthusiastic approach to LSD treatment, vivid interest in the drug, and an eagerness to have psychedelic sessions has been observed in certain types of intellectuals who are disassociated with the dullness and monotony of their everyday life and are looking for new experiences. In this context, LSD sessions can be seen as an opportunity for exploring hidden aspects of the mind that is frequently seen as a unique learning opportunity, and adds to the special appeal of the experience. Patients with a strong associative component in the transference relationship sometimes see the major attraction of the psychedelic session as the prospect of being able to explore in a full and undivided attention of the therapist for an entire day. Some of the patients, unquestionably, or with deep fears, may face the famous "bad trip" of the drug session as an opportunity to experience, express, and act out some of their otherwise unacceptable tendencies.

Another, potentially dangerous and strong motivation to have a psychedelic session is observed in certain patients with few alternatives left in life. They find themselves in a subjectively unbearable situation of inner conflict associated with great emotional distress and tension. Typical characteristics include serious questioning of the meaning of life, toying with suicidal fantasies, and a careless and silly approach to various life-situations in general. Unable to tolerate the intensity of the conflicting psychological forces, and tired of enduring painful consequences, they experience an acute moment of crisis or a crisis state. In their fantasy LSD becomes the magical tool that will give them instant relief, either by medicating a suicidal urge or by precipitating self-destructiveness. If the psychedelic sessions with these individuals do not result in elements of ego death and transcendence, they can activate the existing self-destructive tendencies. It is quite important to detect such attitudes in advance, analyze the underlying motives, and encourage the patient to reevaluate the administration of the drug.

All the factors discussed above are of primary importance before the first LSD session. When the drug has been repeatedly administered in the context of a therapeutic rather than a research relation so that psychedelic experiences can offer in terms of deep self-exploration, finding the roots of one's emotional symptoms, and solving life problems. Even those patients who were initially concerned about loss of control usually discover its therapeutic value. Their previous concept of control, that once lost it cannot be regained, is replaced by the insight that suspension of defenses is a liberating experience. They discover a new way of being in the world, without any effort, because the urgent forces that required constant anxiety attention have been discharged.

By and large, all patients treated with serial LSD sessions tend to develop a positive attitude toward the treatment. Although after particularly difficult sessions some individuals might show fear and a reluctance to continue, they usually do not lose trust in the value of the process. The major exception to this rule are patients with severe obsessive-compulsive neuroses, who can maintain a generally pessimistic attitude all through the procedure. Their pessimism is frequently reinforced and confirmed by unwanted sessions and an apparent lack of therapeutic benefit.

Special mention should be made of subjects with superior intelligences and strong intellectual interests in human culture, psychology, art, philosophy, and religion. Such subjects tend to discover very quickly that the process of serial LSD sessions transforms the framework of traditional depth-psychological analysis and offers unique possibilities for a serious philosophical and spiritual quest. As a result of this insight, they pursue psychedelic self-exploration with great interest and personal involvement. In this context, LSD sessions can be seen as an opportunity to confront the mysteries of the universe and the riddle of human existence. They thus assume a function comparable to the spiritual practices of ancient and oriental cultures, or to rites of passage, temple mysteries, and various ecstatic procedures of the mystical tradition.

We have also observed interesting connections between the clinical diagnosis or symptomatology of these patients and the nature of their LSD sessions. These are spent striking in the case of persons suffering from severe obsessive-compulsive neuroses. These patients usually belong to the group of those who are afraid of the drug session before they have experienced it; they tend to voice a number of concerns and questions, and typically delay the start of treatment. Their resistance to the effect of LSD is extremely high and even sessions with excessive dosages are frequently uneventful. The phenomenology of their LSD sessions is usually limited to a determined fight against the effects of the drug and an extreme effort to maintain reality-testing and full self-control. There are practically no disturbances of optical perception and the only manifestation of the LSD effect are extremely massive somatic reactions. If they experience any unusual feelings at all, these patients usually present multiple complaints about unpleasant physical symptoms, such as headaches, weakness, fatigue, general malaise, a tendency to collapse or swoon, nausea, profuse sweating, chills and hot flashes. They might be alarmed by their sense of losing touch with reality, concerned about intensification of their sexual and aggressive drives, or preoccupied with conflicts regarding self-esteem and ethical issues. Their sessions are characterized by intense inner struggle and are usually followed by excessive feelings of fatigue. For patients with obsessive-compulsive neuroses of extreme intensity, it can take a considerable number of LSD sessions before they are able to reach a stage where the self and the sessions start having more concrete content.

Individuals with a hysterical personality structure and symptomatology, the culture, context and course of the LSD sessions is usually substantially different; as a matter of fact, they seem to be at the opposite end of the spectrum from the obsessive-compulsive. Excite, and intense curiosity about the procedure is quite typical for these patients and their attitude toward the drug experience is generally much more positive. They are extremely sensitive to the effects of LSD and frequently display a rather dramatic reaction after a relatively small dose. In this group, the various perceptual changes are extraordinarily rich, with a definite predominance of visual elements and intense body sensations. In agreement with observations from classical psychoanalysis, perception of an eerie
nature and rich sexual symbolism seem to dominate the experiential world of these patients. Their images tend to have a flowing scenic character; they are usually dramatic, vivid and overloaded with descriptive elaboration and other wishful elements of fantasy life. This smooth scenic course can be disturbed when patients approach traumatic and pathogenic memory constellations. Like everyone else, hysterical patients are not immune to difficult and painful experiences in psychotic sessions. However, they seem to have high tolerance of suffering and can appreciate periods of inhuman horror and torture as much as episodes of ecstatic auditory psychotherapy, as in systematic drug free therapy, these patients might present special challenges and problems in regard to transference and countertransference.

Observations from psychotherapy seem to confirm Freud’s findings of a close relationship between homosexuality and paranoid behavior. It was repeatedly observed that patients with serious latent or manifest problems concerning homosexuality had a disposition toward panic reactions, paranoid perception, use of projection in regard to their LSD experiences, and delusional interpretation of the situation and the session in general. These difficulties usually occurred or were particularly accentuated when a preoccupation with their homosexual problems was the central focus of their experience.

We have not been able to detect any fixed and specific correlations between symptoms of clinical depressions and the nature of the psychotic experiences. Although deepening of pre-existing depression and intensification of suicidal ideation can often be observed in LSD sessions, the clinical condition of depressed persons frequently appears quite different and prone to dramatic change and break-throughs. In neurotic depressions, heightened affective lability sometimes results in a peculiar condition in which depressive affect and crying occur simultaneously with euphoria and forced laughter, or alternates with them in a rapid succession. In general, it is not uncommon that a depressed patient experiences most of the session in a thoroughly euphoric or even excitatory way and that a marked and sometimes lasting improvement can be noted after the session. On the other hand, accidental observations have suggested that a single LSD session can cause a complete remission of a serious pre-existing depression with a very stubborn pattern without, of course, changing the personality structure or preventing recurrence of future depressions at the usual time periods.

Repeated observations of LSD sessions in depressed patients suggest that the drug can be useful in patients with a diagnosis of schizophrenia, paranoia, or endogenous depressions. Patients whose depression is basically of exogenous origin usually deal in their sessions with rich biographical material which is thematically and dynamically related to their disease. In patients with endogenous depression, the content of the session is usually much more limited and frequently consists of accentuation of the deep and primordial feelings constituting the depression. In these patients there is a high risk that their clinical symptoms might be temporarily intensified after some LSD sessions. This observation is in agreement with the experiences of Arndt-Hinik (5), a Dutch psychiatrist and pioneer in LSD psychotherapy.

In general, it can be concluded that the relationship between the diagnostic group and the nature of the LSD experience is not sufficiently distinct and constant to be of great clinical value, except in the few extreme cases mentioned above. In this sense, LSD certainly cannot contribute much to the clinical diagnosis established by psychiatric interviews and conventional diagnostic techniques. The relationship between the original diagnostic category of the patient and his or her psychotic experiences becomes even looser and less predictable in serial LSD sessions. As we will discuss later, repeated exposure to the drug are associated with major dynamic shifts in the personality structure and frequent changes of symptoms.

The limited value of LSD as an auxiliary to conventional clinical diagnostic contrasts sharply with its potential for dynamic diagnosis. It is an untapped tool for the exploration of the forces constituting the basic personality, and for study of the deep dynamic structures underlying clinical symptoms. In sessions with lower and medium dosages of LSD, and in the termination periods of high-dose sessions, one can often observe a marked intensification of pre-existing personality characteristics and behavior patterns. This is typically accompanied by accentuation of current clinical symptoms or occurrence of emotional and psychosomatic effects that the patient suffered from at some point in the past. Sometimes this reappearance involves relatively recent history, at other times very early periods of childhood or even infancy. Occasionally, completely new symptoms may emerge during a session which the patient does not remember ever having experienced before. This offers a unique opportunity for the researcher to study the psychogenesis and physisognosy of clinical depressions and the nature of the psychotic experiences. The general dynamic structure of these newly formed symptoms seem to be identical with that of the usual neurotic manifestations; it represents a compulsion formation between powerful unconscious drives or tendencies and the mechanism of defense. Phenomena of this kind seem to be reflected in activation and exteriorization of latent matrices of the unconscious which exist in the dynamic structure of the personality. The reason why they have not manifested earlier in life is that they have not been activated by biochemical or psychosocial forces to a sufficient degree to influence the patient’s ego. The so-called “vegetative” symptoms frequently seem to fall into this category.

The individual characteristics that are amplified in the low-dose range represent more superficial but practically important aspects of the personality. In everyday life some of these elements are so inapparent that they are not readily detected and identified, or the subjects use various techniques to counteract and hide them. LSD can enhance these subtle features to such a degree that they reach the point of a caricature. Under the magnifying effect of the drug they become so obvious that they cannot possibly escape the attention of either the therapist or the subject. The broad spectrum of phenomena belonging to this group can be divided into several typical categories.

The first category includes manifestations reflecting emotional reactivity and general feeling tone. The subjects can get deeply touch with their present emotional condition and explore the experiential dimensions and characteristics of the various affective states that it entails. Probably the most valuable insights available in this context are into positive and negative feelings towards certain persons and situations, especially in the frame of ambivalence and conflicting attitudes. Similarly, many patients may fully experience and express their anxieties and various specific fears, depression and despair, states of aggressive tension, irritability and impulsivity, or emotional liability with alternating depressive and euphoric moods. An experiences that characteristically occur in neurotic patients.
is an agonizing feeling of loneliness and isolation with a sense of worthlessness. The feeling of being superfluous in the world and the inability to see the meaning of one’s existence are frequently associated with the need to be needed and sought after. Individually, when depression and rejection in childhood frequently show at this point an intense need for love. Such cravings usually have strong taboo-like features and involve irrational elements. On occasion, experiences in this kind can lose the benefits of healthy, childlike nature of various dependency needs, and lead to an understanding of how this condition creates conflicts in everyday life.

The second category involves problems of self-image and self-esteem. The most frequent phenomena in this area are agonizing inferiority feelings experienced in regard to different dimensions of one’s existence. That patients don’t often express dissatisfaction, unhappiness, or even despair about their physical appearance. They complain about being ugly, misshapen or repulsive, point to imagined or insignificant physical defects, and greatly exaggerate the relevance of some existing handicaps. This frustration related to intellectual abilities. Subjects describe themselves as stupid, dull, unimaginative, incapable, primitive and undisciplined, often directly contradicting their real qualities and social achievements. It is typical of the neuropathic process to compare their own abilities unfavorably with those of significant others, such as parents, siblings, peers, and co-patients. This is frequently projected onto the therapist, who is highly idealized in every respect. As a result, patients may spend much time and energy rethinking and re-evaluating essentially that they do not deserve the attention being offered to them, and that some other persons could make better use of the therapist’s time.

An especially striking manifestation in a great number of subjects is immoral self-evaluation and conflicts between internal impulses and ethical or aesthetic principles. They feel that they are bad, disgusting, and unworthy human beings and see their lives as utterly immoral or sinful. It suddenly appears to them that by their actions in everyday life they are exploiting other people, betraying them, offending or being offensive, imposing upon them, or hurting them. This can reach such proportions that some subjects talk about sending duty, converted, instead, or even criminal elements into their own personality. In most instances these observations and activities that are trivial, or representigham and common human characteristics. Another variation of low self-esteem is the feeling of emotional instability. Some patients complain that while they are warm and friendly, they are unable to reciprocate these emotions. They feel incapable of experiencing genuine affection and bittersweet concern toward their children, marital partners, lovers, parents, or siblings. Other common manifestations in this area are agonizing guilt feelings, qualms of conscience, and self-acusation.

Less frequently, one may see an activation of self-aggrandizing tendencies, such as unsuitable boasting and hearing, condescending and pseudo-authoritative attitudes, exaggerated demonstrations of power, indulgence to constrictive attacks and hypercritical comments, or a tendency to cynicism and ridicule. The amplified narcissistic-like quality of these manifestations makes it easy to recognize the compensatory maneuvers covering up underlying feelings of basic inferiority and inadequacy. These dynamics quite regularly reflect important pre-existing problems in the subject.

The third important category of phenomena related to personality characteristics involves accentuation of typical patterns in the subject’s social reactivity. Some individuals show a marked enhancement of sociability, with incessant search for human contact, non-stop talking, and a tendency towards chitchat, joking, and entertaining others. Sometimes there is an enormous need for attention and imagined or actual neglect is experienced as very painful. This may be associated with various attention-getting maneuvers, typically those also used to some degree in everyday life. They can range from noisy and theatrical performances to affective behavior and seeking gentle physical contact. Sometimes the reactive component can come to the foreground; this results in overactivity, seductiveness, inton sexual aggression, or verbalizations of sexual indications or covert obscenities.

Conversely, one may observe a marked accentuation of withdrawn mechanisms which the subject uses habitually in everyday psychology. Psychological withdrawal and an unwillingness to interact with people in an LSD session can be an expression of a lack of interest in socialization and performance for aesthetically or intellectually more attractive introspection. However, in some instances it can be a manifestation of complicated interpersonal problems and inertia conflicts. Avoidance of human contact may reflect the patient’s fear of people and his or her low self-esteem. Sometimes this comes from an underlying feeling of being unimportant, uninteresting, unpleasant, or disgusting; in others, it may be associated with a strong fear of rejection. Tendencies to withdraw are also related to conflicts and problems related to aggression: the presence of other people, the expressions and behavior are experienced as irritating and trigger hostile impulses which are unacceptable and frightening. In this way, withdrawal is used in the service of self-control. A typical problem that an LSD session can amplify is the conflict between the need for the company of others and the tendency to be alone. The patient is afraid to be alone but at the same time cannot start the company of others; he or she has an intense craving for human contact but it also afraid of it.

Another frequent occurrence is intensification of social and interpersonal patterns related to dominance and submission. This is often accompanied by tendencies to manipulate, control, criticize, or dominate others. The subject may make other efforts to create situations involving competition and testing of powers, or the derogation, humiliation, and ridicule of others. Similarly, subliminal manifestations and deferral behavioral patterns can be accentuated to the point of caricature. Some subjects keep apologizing for whatever trivial or imaginary things and require reassurance that they are not interfering with anything or anyone. Others keep asking if they are offending or hurting anybody, or want to make sure that nobody is angry with them. Isolation, extensive clinging and passive-dependent maneuvers may also reach extreme dimensions and border on anesthetic behavior. A remarkable and frequently observed manifestation is the desperate and determined flight for maintenance of full self-control. As already described above, this typically occurs in subjects who have various problems with self-control even in their everyday life. Conversely, individuals with a rich inner world to which they can turn as a protective shell against traumatizing reality often complain in an LSD session about their inability to relate fully to the external world or their inner experience.

While lower dosage of LSD activate and accentuate superficial layers of the
Various aspects of the personality structure discussed above—the superficial facade, the deep dynamic forces that underlie it, and the interplay between the two—can be expressed in LSD sessions in many different ways. These elements may be experienced in the form of emotional feelings, physical sensations, specific thought processes, and behavior patterns. However, they are more typically associated with a variety of perceptual changes in all the sensory areas. This can result in systematic distortions of the body image, intricate automatisms, transformation, and experiences of complex symbolic scenes, in which not only self-perception but the perception of the human and even the physical environment is drastically changed.

Instead of attempting to describe the entire spectrum of phenomena that can occur in this context, we will briefly review the salient symbolism that is particularly frequent. During characteristic self-exploration, many LSD subjects identify experimentally with various animals that traditionally represent certain human personalities, attitudes and behaviors. Thus an anthropomorphic experiential identification into a posture such as a tiger, lion, jaguar or black panther can be used as an expression of the subject's intense aggressive feelings. Identification with a monkey can reflect polymorphously prevented tendencies and unattained infantile genital as well as pregenital pleasures. A strong sexual drive can be represented by a transformation into a stallion or a bull; if it has a strong compo-nent of lust and indiscriminate promiscuity it might be symbolized by a dirty wild beast. A streak of masculine vanity and sexually tainted exhibitionism can be ridiculed by an anthropomorphic representation of the subject as a noisy cock on a dunghill. A dog-wray or an ox may symbolize stupidity, a horse usually represents self-neglect, sloppiness, and moral flaws.

In sessions when the subject's eyes are open, the intrapsychic events can get projected onto other persons or even on the physical environment. Therapists, nurses, co-patients, friends or relatives can be silently transformed into repre-sentatives of the subject's insatiable tendencies. They can be perceived as sadists, lechers, perverts, criminals, murderers, or demonic characters. Conversely, they can represent embodiments of the critical attitudes of the therapist and be seen as parental figures, judges, members of a jury, policemen, jailers, or executioners. In the extreme, the entire human and physical situation may be systematically transformed into a complex scene of a horridly harem, sexual orgy, medieval dungeon, concentration camp, courtroom, or death row.

Detailed analysis of the form and content of all these phenomena, using the method of free association or free association to all his elements, can become the source of additional specific and relevant information about the personality of the subject. If LSD therapy is combined with non-drug experiential approaches, any of these images can be used later for further therapeutic work; for instance, the complex scenes mentioned above are particularly suitable for the gestalt tech-niques developed by Fritz Perls for dream analysis. (79) Thus it is clearly demonstrated that LSD experiences are highly specific for the personality of the subject: they represent in a condensed and symbolic way his or her most important emotional problems, and are closely related to various relevant situations from past history and the present life situation. A detailed study of the individual ele-ments of the LSD experience on this level, using Freudian technique or the new experiential approaches, reveals far-reaching similarities between their dynamic
structure and the structure of dreams. Freud once called dreams the “via regia” or “royal road” to the unconscious, and this is even more applicable to LSD experiences. Association to all the elements of the experiential content of an LSD session that appear on the psychodynamic level lends very directly to important emotional problems of the subjects.

The tendency of LSD to selectively activate unconscious material that has the strongest emotional charge makes this drug a unique tool for psychodynamic diagnostics. Even one LSD exposure can frequently identify the areas of most significant conflict, reveal the deep dynamic structure of clinical symptoms, and help differentiate between relevant and irrelevant problems. All LSD experiences of a psychodynamic nature are generally multiply overdetermined, and express in the cryptic slothhand of their symbolic language the key problems of the personality.1

Symbols of a patient’s general feelings about his life. The ship of his existence is precariously balanced on the top of a dangerous wave while a shark-like monster waits in the depths ready to devour the ship-wrecked victim.

The significance of personality factors for the nature, content, and course of the LSD experience becomes even more evident when the drug is administered repeatedly in the framework of an entire therapeutic series. Under these circumstances the subject is usually able to trace various emotional and psychosomatic symptoms, interpersonal attitudes and behavior patterns to their deep sources in the unconscious. This occurs quite spontaneously in most instances, without the use of free association or much interpretive help from the therapist. Sequential LSD sessions can be understood as a process of progressive activation and unfolding of the content of dynamic matrices in the unconscious.

The nature of the LSD experience depends on the level of the unconscious that gets activated and becomes the focus of conscious awareness. Although the nature of the unconscious, and thus the nature of LSD phenomena, is holographic, multileveled and multidimensional, it is useful for theoretical and
practical purposes to distinguish certain major experiential realms. Each of them has a distinct content, is governed by specific dynamic systems, and has a characteristic significance for mental functioning. The following three categories of LSD phenomena seem to be sufficiently distinct and well-defined to be described in separate types:

a. Psychodynamic experiences

b. Perinatal experiences
c. Transpersonal experiences

We will omit in this context the abstract or aesthetic level of the LSD experience which seems to reflect chimerical stimulation of sensory organs and is not relevant from the point of view of a deeper understanding of the personality structure.6

PSYCHODYNAMIC EXPERIENCES

The experiences belonging to this category are associated with and derived from biographical material from the subject’s life, particularly from emotionally highly-relevant events, situations, and circumstances. They are related to important memories, problems, and unresolved conflicts from various periods of the individual’s life since early childhood. Psychodynamic experiences originate in areas of the human personality that are generally accessible in normal states of consciousness, or in the individual unconscious which contains repressed biographical material. The least complicated psychodynamic phenomena have the form of actually reliving events from the past and vivid reenactments of traumatic or unusually pleasant memories from infancy, childhood or later periods of life.

More complicated experiences involve creative combinations of various memory elements, pictorial concretizations of fantasies, dramatizations of wishful daydreams, screen memories, and other complex mixtures of fantasy and reality. In addition, the psychodynamic level involves a variety of experiences that contain important unconscious material in the form of symbolic disguises, cryptic defensive distortions, and metaphorical allusions.

The experiences in psychodynamic LSD sessions can be understood to a great extent in terms of basic psychoanalytic concepts. If psychodynamic episodes were the only type of LSD experience, the observations from LSD psychotherapy could be considered laboratory proof of the Freudian theoretical framework. Psychosexual dynamics and the basic conflicts described by Freud are manifested with unusual clarity and vividness even in the sessions of naive subjects. Under the influence of LSD, such personal experience regression to childhood and early infancy, relive various psychosexual traumas and confront conflicts related to activities in different libidoal zones. They have to face and work through some of the basic psychological problems described by psychoanalysis, such as the Oedipus and Electra complex, early cannibalistic feelings, conflicts about toilet training, castration anxiety, and penis envy.

However, for a more complete understanding of these sessions and of the consequences that they have for the clinical condition of psychiatric patients and their personality structure, a new principle has to be introduced into psychoanalytic thinking. Many LSD phenomena on this level can be comprehended and some of them even predicted if one thinks in terms of specific memory constellations, for which I use the name COEX systems (systems of condensed experience).
This concept emerged from my analysis of the phenomenology of therapeutic LSD sessions conducted in the early phase of my psychadelic research in Prague. It has proved unusually helpful for understanding the dynamics of the initial stages of psychodelic therapy with psychiatric patients.

A COEX system can be defined as a specific constellation of memories (and associated fantasies) from an early period in an individual's life. The memories belonging to a particular COEX system have a similar basic theme or contain similar elements, and are accompanied by a strong emotional charge of the same quality. The phenomenon is manifested by vivid and powerful memories of experiences from the period of infancy and early childhood. More superficial layers involve memories from a later time, leading up to the present life situation. The COEX system that is reached to COEX system that is reached by the patient is indicated by the powerful abreaction often accompanying the unfolding of these systems in LSD sessions seems to represent a summation of the emotions belonging to all the constituent memories of a particular kind.

Individual COEX systems involve specific defense mechanisms, and are connected with specific clinical symptoms. The detailed interrelationships between connotative parts of the COEX systems in basic agreement with Freudian thinking, the new element from the theoretical point of view is the concept of the organizing dynamic system. The personality structure of psychiatric patients usually involves several major COEX systems. Their specific forms, total number, extentivity and intensity vary considerably from one individual to another. The psychodynamic level of the unconscious, and thus the role of COEX systems, is much less significant in individuals whose childhood was not particularly traumatic.

According to the basic quality of the emotional charge we can differentiate negative COEX systems (condensing unpleasant emotional experiences) from positive COEX systems (condensing pleasant emotional experiences and positive aspects of the individual's past). Although there are certain interdependencies and overlaps, individual COEX systems function relatively autonomously. In a complicated interaction with the environment they can selectively influence the subject's perception of himself or herself and of the world, his or her feelings and thoughts, and even somatic processes.

The phenomena observed in LSD sessions that are predominantly psychodynamic in nature can be understood in terms of the successive exteriorization, abstraction, and integration of various levels of negative COEX systems in the subject, and an opening of pathways for the influence of positive ones. When a negative COEX system approaches the experiential field, a specific change takes place in the content and course of the LSD sessions. The system assumes a governing influence on all the aspects of the psychodelic experience. It determines the direction in which the physical and interpersonal environment is Blusively transformed, dictates the way the subject sees and experiences himself or herself, and dominates the emotional reactions, thought-processes, and certain physical manifestations. In general, the COEX system plays this governing role until the oldest memory, or core experience, of the system is completely relaxed and integrated. After this happens, another system takes over and dominates the experiential field. Frequently, several COEX systems alternate in the leading role during a particular session or sequence of sessions, undergoing a parallel process of abstraction and integration.

A very interesting interdependence and interplay can be demonstrated between the dynamics of COEX systems and events in the external world. It has already been mentioned that an activated COEX system determines the subject's perception of the environment and his or her reaction to it. Conversely, certain elements of the setting or specific events during the session can activate a COEX system which has associated features; we will discuss this mechanism again in connection with the significance of the set and setting of LSD sessions. The governing function of an activated COEX system may not be limited to the period of pharmacological action of LSD; it can continue for days, weeks, or months following the session. The principles of COEX dynamics described above are thus important for understanding the therapeutic effect of psychodelic LSD sessions, as well as their complications. (See chapters 5 and 6 on Complications of LSD Psychotherapy and the Course of LSD Psychotherapy.)

Before concluding this discussion of the psychodynamic and biographical aspects of LSD sessions, it is important to mention a category of experiences that represent a transitional form between the psychodynamic area and the following perinatal level, which focuses on the phenomena of birth and death, or death and rebirth. This transitional group involves the relating of traumatic memories from the life of an individual that are of a physical rather than a purely psychological nature. Such memories typically deal with situations from the past that represented a threat to survival or body integrity. They cover a wide range, from serious operations, painful and dangerous injuries, severe diseases and instances of near drowning to episodes of cruel psychological and physical abuse. Memories of incarceration in concentration camps, exposure to the brain-washing and interrogation techniques of Nazis or Communists, and maltreatment in childhood could be mentioned as special examples of the latter group.

These memories are clearly biographical in nature, yet thematically they are closely related to perinatal experiences. Not infrequently, the reliving of various physical traumas from one's life occurs simultaneously with the experience of the birth agony as a more superficial apposition. Memories of somatic traumatization are a frequent source of very painful and frightening experiences in LSD sessions. They also seem to play a significant role in the psychogenesis of various emotional disorders that is at yet unrecognized and unacknowledged by the schools of dynamic psychotherapy. This is particularly true in the case of depressions, suicidal behavior, somnambulism, hypochondrias, and psychosomatic disorders.

PERINATAL EXPERIENCES

The most important common denominator and focus of the experiences originating in this area of the unconscious is a group of problems related to biological birth, physical pain and agony, disease, aging, decrepitude, dying and death. It is important to emphasize that the encounter with these critical aspects of human life typically takes the form of a profound first-hand experience, rather than just symbolic confrontation. Specific etiological ideas, and visions of wars, revolutions, concentration camps, accidents, dying cadavers, coffins,
cathedrals and funeral corteses occur at characteristic illustrations and con- 
comitants of perinatal experiences. However, their very essence is an extremely 
realistic and authentic sense of the ultimate biological crisis which subjects fre- 
quently confuse with real dying. It is not uncommon for patients in this situation 
to lose critical insight and develop a delusional conviction that actual physical 
death is imminent.

The shattering confrontation with these alarming aspects of existence and 
death are the voices of the infant and its permanent and impermanent qualities as biological 
creatures. The two situations usually cause the overestimation of the 
meaning of existence and their values in life. They come to realize through these 
experiences not only the inadequacy of their cellular level, but no matter 
what they do, they cannot escape the inevitability. They will have to leave 
the world, bereft of everything that they have achieved and accumulated. This pro- 
cess of ontological crisis usually occurs with the cognitive crystalization of basic 
values. Worldly ambitions, competitive drives, and cravings for status, power, 
fame, prestige, and possessions tend to fade away when viewed against the back- 
ground of the main dramas ending in biological annihilation.

The other important consequence of this shocking encounter with the phi-
nomenon of death is the opening of areas of religious and spiritual experience that 
some seem to be an intrinsic part of the human personality and are independent of the 
individual's cultural and religious background and programming. The way only 
to resolve the existential dilemma described above is through transcendence. The individual has to go past the narrow boundaries of his or her perishable physical self and the limitations of the individual life 
space. It would appear that everybody who experiences these levels develops con- 
vincing insights into the utmost relevance of the spiritual dimension in the universa-
lar scheme of things. Even psychotically oriented scientists, hard-core 
materialists, sceptics and cynics, uncomprising atheists and antireligious crusaders such as Marxist philosophers and politicians, suddenly become interested in the 
spiritual quest after they confront these levels in themselves.

The sequences of dying and being born (or reform) that are characteristic of 
the process of perinatal unfolding are frequently very dramatic and have 
many biological consimulants, apparent even to the outside observer. Subjects may 
sleep hours in audibly crying, with facial contortions, gasping for breath and dis-
charging enormous amounts of moisture in tears, twitching, and shaking and 
coupled with movements. The face may turn dark purple or dead pale, 
and the pulse show considerable acceleration. The body temperature usually 
decreases in a widespread manner, and nausea with projectile 
 vomiting is a frequent occurrence.

It is not quite clear at the present stage of research how the above experi- 
ences are related to the circumstances of the individual's actual biological 
traumas. Some LSD subjects refer to them as reliving of their birth trauma, others do 
not make this explicit link and conceptualize their encounter with death and rebirth in 
ways that are symbolic, philosophical, and spiritual. However, even in this large 
group perinatal experiences are quite regularly accompanied by the complex of 
physical symptoms that can best be interpreted as a derivative of biological birth.

In addition to the seizure-like motor discharges and other conditions described 
above, there may be cardiac distress and irregularities, and hypersecretion of 
mucus and salvia. Such subjects also assume various fetal postures and move in sequences that bear a similarity to those of a child during the stages of bi-
ological delivery. In addition, they frequently report visions of or identification 
with fetuses and newborn children. Equally common are several authentic neo-
natal feelings, postures and behaviors, as well as visions of female genitals and 
breasts.

Most of the rich and complex core of the LSD sessions reflecting this level 
of the unconscious seems to fall into four typical clusters or experiential patterns. 
Searching for a simple, logical and natural conceptualization of this observation, I 
was struck by the astonishing parallels between these patterns and the clinical 
sequences of delivery. It provided very useful for didactic purposes, theoretical 
considerations, and the practice of LSD psychotherapy, to relate these four categories 
of phenomena to the four consecutive stages of the biological birth process and to 
the experiences of the child in the perinatal period. For the sake of brevity I refer 
to the functional structures in the unconscious which manifest in these four major 
proverential stages as Basic Perinatal Matrices (BPM I-IV). I see these as hypo-
thetical dynamic governing systems that have a similar function on the perinatal 
level of the unconscious as the COEX systems have on the psychodynamic level.

Basic perinatal matrices have specific content of their own: concrete, 
realistic and authentic experiences related to individual stages of the biological 
birth process and their symbolic and spiritual counterparts (encapsulated by the 
elements of cosmic unity, universal engulfment, no-exit, death-rebirth struggle, 
and death-rebirth experience). In addition to manifesting specific content, basic 
perinatal matrices also function as organizing principles for the material from 
other levels of the unconscious. Perinatal experiences can thus occur in psychodemic 
sessions in association with specific psychodynamic material related to various 
COEX systems, and also in association with certain types of transpersonal ex-
periences. Particularly frequent concomitants of the birth experience are 
memories of diseases, operations and accidents from the individual's life, archet-
typal pheromoma (especially images of the Terrible Mother and the Great 
Mother), elements of group consciousness, ancestral and phyllogenetic experiences, 
and past-incarnation memories.

Individual perinatal matrices also have fixed associations with activities in 
the Freudian erogenous zones and with specific categories of psychiatric disorders. 
All these complex interrelations are shown in the synoptic paradigm on pages 75-78. They provide clues to the understanding of many otherwise puzzling 
aspects of LSD experiences, and also have far-reaching implications for psychiatric 
theory. This paradigm demonstrates, among other things, the close 
paralles between the stages of biological delivery and the pattern of sexual 
orgasm. The similarity between these two biological patterns is a fact of funda-
mental theoretical importance. It makes it possible to shift the etiological 
emphasis in the psychogenesis of emotional disorders from sexual dynamics to perin-
atal matrices, without denying or ignoring the significance and validity of the 
basic Freudian principles for understanding the psychodynamic phenomena and 
their mutual interactions.
In the following text, the Basic Perinatal Matrix will be discussed in the sequence in which the corresponding phases of biological delivery follow during childbirth. In serial LSD sessions this chronological order is not maintained, and elements of individual matrices can occur in most variegated sequential patterns. The death-rebirth process does not consist of one single experience of dying and being reborn, no matter how profound and complete this experience might feel. As a rule it takes a great number of death-rebirth sequences and an entire series of high-dose LSD sessions to work through the material on the perinatal level, with all its biological, emotional, philosophical and spiritual manifestations.

In this process the individual has to face the deepest roots of existential despair, metaphysical anxiety and loneliness, murderous aggression, abysmal guilt and inferiority feelings, as well as excruciating physical discomfort and the agony of total annihilation. These experiences open up access to the opposite end of the spectrum—orgiastic feelings of cosmic proportions, spiritual liberation and enlightenment, a sense of ecstatic connection with all of creation, and mystical union with the creative principle in the universe. Psychedelic therapy involving experiences on the perinatal level thus seems to represent a twentieth-century version of a process that has been practiced through millennia in various temple mysteries, rites of passage, secret initiations, and religious meetings of ecstatic sects.

Personality of the Subject

RM 1

Related Psychopathological Syndromes
schizophrenic psychoses (paranoid symptomatology, feelings of mystical union, encounter with metaphysical evil forces, karmic experiences); hypochondrias (based on strange and bizarre physical sensations); hysterical hallucinations and confusing daydreams with reality

Corresponding Activities in Freudian Erotogenic Zones
libidinal satisfaction in all erogenous zones; libidinal feelings during rocking and bathing; partial approximation to this condition after oral, anal, urethral, or genital satisfaction and after delivery of a child

Associated Memories from Perinatal Life
situations from later life where important needs are satisfied, such as happy moments from infancy and childhood (good mothering, play with pets, harmonious periods in the family, etc.), fulfilling love, romances; trips or vacations in beautiful natural settings; exposure to artistic creations of high aesthetic value; swimming in the ocean and clear lakes, etc.

Phenomenology in LSD Sessions
undisturbed intrauterine life: realistic recollections of “good womb” experiences; “oceanic” type of ecstasy; experience of cosmic unity; visions of Paradise; disturbances of intrauterine life: realistic recollections of “bad womb experiences” (fetal crises, diseases and emotional upheavals of the mother, twin situation, attempted abotions), cosmic engulfment; paranoid ideation; unpleasant physical sensations (“hangover,” chills and fine auras, unpleasant tastes, disgust, feelings of being poisoned); association with various transpersonal experiences (archetypical elements, racial and evolutionary memories, encounter with metaphysical forces, past-incarnation experiences, etc.)
BPM II

Related Psychopathological Syndromes

schizophrenic psychoses (schizophrenic and schizoaffective disorders), automatism, delusions, and hallucinations; agitated depression, sexual deviations, sadomasochism, male homosexuality, drinking of urine, eating of feces; obsessive-compulsive neuroses; psychogenic asthma, tics, stammering; conversion and anxiety hysteria; fear and impotence; neurasthenia; traumatic neurones; organ repressions; migraine headache; enuresis and encopresis; pororrhea; peptic ulcer

Corresponding Activities in Freudian Erogotic Zones

dental caries, scabies, toothache, mastitis, renal colic, appendicitis.

Associated Memories from Postnatal Life

situations endangering survival and bodily integrity (war experiences, accidents, injuries, operations, painful diseases, near-drowning, episodes of suffocation, imprisonment, brainwashing and illegal interrogations, physical abuse, etc.); severe psychological traumatizations (emotional deprivation, rejection, threatening situations, oppressing family atmosphere, ridicule and humiliation, etc.)

Phenomenology in LSD Sessions

immense physical and psychological suffering; unbearable and inescapable situation that will never end; various images of hell; feelings of entrapment and engulfment (no exit); agonizing guilt and inferiority feelings; apocalyptic view of the world (mountains of wars and concentration camps, terror of the Inquisition, danger of epidemics, disease, decrepitude and death, etc.); meaninglessness and absurdity of human existence; "cardboard world" or the atmosphere of artificiality and gedginess; ominous dark colors and unpleasant physical symptoms (feelings of oppression and compression, cardiac distress, flushes and chills, sweating, difficult breathing;
BPM IV

Related Psychopathological Syndromes

schizophrenic psychoses (death-rebirth experiences, messianic delusions, elements of destruction and recreation of the world, salvation and redemption, identification with Christ; manic-symphymptomatology; female homosexuality; exhibitionism)

Corresponding Activities in Freudian Erogenic Zones

satiation of thirst and hunger; pleasure of sucking; libidinal feelings after defecation, urination, sexual orgasm, or delivery of a child

Associated Memories from Postnatal Life

fortuitous escape from dangerous situations (end of war or revolution, survival of an accident or operation); overcoming of severe obstacles by active effort; episodes of strain and hard struggle resulting in a marked success; natural scenes (beginning of spring, end of an ocean storm, sunrise, etc.)

Phenomenology in LSD Sessions

enormous decompensation, expansion of space, visions of gigantic halls; radiant light and beautiful colors (heavenly blue, golden, rainbow, peacock feathers); feelings of rebirth and redemption; appreciation of simple way of life; sensory enhancement; broodishly feeling; humanitarian and charitable tendencies; occasional manic activity and grandiose feeling; transition to elements of BPM I; pleasant feelings may be interrupted by symbiotic crisis: sharp pain in the navel; loss of breath, fear of death and exaltation, shifts in the body, but no external pressures

Perinatal Matrix I (Prenatal Union With Mother)
The first perinatal matrix (BPM I) is related to primal union with the mother, to the original state of intrauterine existence during which the maternal organism and the child form a symbiotic unity. When no serious stimuli intercede, the conditions for the fetus are close to being ideal, involving protection, security and continuous satisfaction of all needs. However, a variety of adverse circumstances can interfere with this condition. These involve diseases and difficult emotional states of the mother as well as disturbing influences from the outside world, such as toxic factors, loud noises, and mechanical concussion or vibrations. The first perinatal matrix has therefore its positive and negative aspects: subjects frequently refer to them as the "good womb" and the "bad womb" experience.

The elements of undisturbed intraterine existence can be experienced in LSD sessions in a concrete biological form or in the form of its spiritual counterpart, the experience of cosmic unity. Although the "cosmic feelings" of the unibernational state are not identical with the experience of cosmic unity, there appears to be a deep association and overlap between these two conditions. The experience of cosmic unity is characterized by transcendence of the usual subject-object dichotomy. The individual in this state becomes deeply aware of his or her unity with other people, nature, and the entire universe, and with the ultimate creative principle, or God. This is accompanied by an overwhelming positive affect that can range from peace, serenity and bliss to an ecstatic elevation. In this state the categories of space and time are transcended and subjects can perceive themselves as existing outside of the usual space-time continuum. In the extreme, they may experience eternity and infinity within a period lasting seconds or minutes of actual clock time. Other typical characteristics of this state are a sense of sacredness and of ultimate insight into the true and real nature of existence. Accounts or descriptions of this revelatory experience are usually full of paradoxes and appear to violate the basic laws of Aristotelian logic. This state of mind is referred to as "contingent yet all-containing," "formless but pregnant with form," one of "cosmic grandeur yet utmost humility," or as characterized by loss of ego while at the same time the ego has expanded and become the whole universe. Different subjects experience and describe this event within different symbolic frameworks. Most frequent references are to Paradise, The Garden of Eden, Heaven, Elysian Fields, unio mystica, the Tao, Attar-Brahman union, or Tat tvam asi (Thou art That).

With the eyes closed, the phenomenon of cosmic unity is experienced as an independent complex experiential pattern of oceanic oniory. With the eyes open, it results in an experience of merging with the environment and a sense of union with perceived objects. It is basically this experience that is defined by Wallace Pahokee's (76) mystical categories and that Abraham Maslow (63) calls a "peak experience." In LSD sessions, feelings of cosmic unity seem to be closely related to "good womb" experiences, "good breast" experiences, and happy childhood memories. They also appear to represent an important gateway to a variety of transpersonal experiences, such as ancestral memories, elements of the racial and collective unconscious,kasnic phenomena, evolutionary memories, and various archetypal constellations. The disturbances of intraterine existence can likewise be experienced in concrete biological form or symbolically as encounters with various demonic appariances, metaphysical evil forces, or malefic astrological influences.
As far as the relation to memory mechanisms is concerned, the positive aspects of BPM I are related to positive COEX systems. The positive facet of BPM I seems to represent the basis for the recording of all later life situations in which the individual is relaxed, relatively free from needs, and not disturbed by unpleasant stimuli. Negative aspects of BPM I have similar links to certain negative COEX systems.

In regard to the Freudian erotogenic zones, the positive aspects of BPM I coincide with the biological and psychological condition in which there are no tensions in any of these zones and all the partial drives are satisfied. Conversely, satisfaction of needs in these zones (satiation of hunger, relief of tension due to elimination, defecation, sexual orgasm, or delivery of a child) results in a superficial and partial approximation to the tension-free ecstatic experience described above.

Perinatal Matrix II (Antagonistic With Mother)

LSD subjects confronted with this experiential pattern frequently relate it to the very onset of the biological delivery and to its first clinical stage. In this situation the original equilibrium of the intrauterine existence is disturbed, first by alarming chemical signals and later by muscular spasms. Later, the fetus is periodically convulsed by uterine contractions; the cervix is closed and the way out is not yet open.

As in the previous matrix, the corresponding biological situations can be related to a rather realistic way. The symbolic concomitant of the onset of delivery is the experience of cosmic engulfment. It involves overwhelming feelings of increasing anxiety and awareness of an imminent vital threat. The source of this approaching danger cannot be clearly identified and the subject has a tendency to interpret his or her immediate environment or the entire world in paranoid terms. Not infrequently do individuals in this state report experiences of evil influences coming from members of secret organizations, inhabitants of other planets, malevolent hypnotists, black magicians, or demonic gadgets emanatingnoxious radiation or toxic gases. Further intensification of anxiety typically results in an experience involving a monstrosity, gigantic whirlwind, a Maochistic seeking the subject and his or her world relentlessly toward its center. A frequent variation of this universal engulfment is an experience of being swallowed by a terrifying monster, such as a giant dragon, octopus, python, crocodile, whale, or spider. A less dramatic form seems to be the theme of descent into the underwater world and encounter with various dangerous creatures and entities.

The symbolic counterpart of a fully developed first clinical stage of delivery is the experience of no exit. An important characteristic of this experiential pattern is the darkness of the visual field and the ominous and sinister colors of all the images that accompany it. Subjects feel encased or trapped in a monuments bluesphic situation and experience incredible psychological and physical tortures. The situation is typically absolutely unbearable and appears to be endless and hopeless. While under the influence of this matrix the individual cannot use the possibility of any end to his or her torment nor any form of escape from them. Death-wishes and suicidal craving can be combined with feelings of futility and with a conviction that not even physical death would terminate this hellish state and bring relief.

This experiential pattern can be manifested on several levels, which may be experienced separately, simultaneously, or in an alternating fashion. The deepest level is related to various concepts of hell—a situation of unbearable suffering that will never end—as it has been depicted by many religions of the world. In a more superficial version of the same experiential pattern, the subject is confronted with images of our planet and sees the whole world as an apocalyptic place full of bloody terror, senseless suffering, generational wars, racial hatred, dangerous epidemics, and natural catastrophes. Existence in this world appears to be completely meaningless, noncosmical and absurd, and the search for any meaning in human life futile. While under the influence of this matrix the individual perceives the world and human existence as if through a negatively biased lens, he or she appears to be blinded to any positive aspects of life. In the most superficial form of the experiences, the subject sees his or her own concrete life situation in terms of circular patterns and as completely desperate, unbearable, and full of insoluble problems. Agonizing feelings of metaphysical loneliness, alienation, helplessness, hopelessness, inferiority and guilt are a standard part of this matrix.

The symbolism that most frequently accompanies this experiential pattern involves various images of hell, Christ's humiliation and suffering, and the theme of eternal damnation as exemplified by Abazenum, the Flying Dutchman, Sisyphus, Ixion, Tantalus or Prometheus. The most important characteristic that differentiates this pattern from the following one is the unique emphasis on the role of the victim and the fact that the situation is unbearable, insurmountable and eternal—there appears to be no way out either in space or in time.

BPM II seems to represent the basis for recording all extremely unpleasant future situations, in which the passive and helpless individual is victimized and endangered by an overwhelming and destructive external force. In regard to Freudian erotogenic zones, this matrix seems to be related to a condition of unpleasant tension in all of them. On the oral level, it is hunger, thirst, nausea, and painful stimuli; on the anal level, retention of feces; and on the urethral level, retention of urine. The corresponding phenomena on the genital level are sexual frustration and excessive tension, as well as pains experienced by the delivering female in the first clinical stage of labor.

Perinatal Matrix III (Supplicant With Mother)

Many aspects of this complex experiential matrix can be understood from its association with the second clinical stage of biological delivery. In this stage, the uterine contractions continue, but the cervix stands wide open and makes possible gradual and difficult propulsion through the birth canal. There is an enormous struggle for survival, crushing mechanical pressures, and often a high degree of anxiety and suffocation. In the terminal phase of delivery the fetus may experience immediate contact with a variety of biological materials, such as blood, mucus, fetal liquid, urine and even feces.

From the experiential point of view, this pattern is rather ramified and complex; beside actual realistic reliving of various aspects of the struggle through the birth canal it almost always involves a variety of phenomena that can be arranged in typical sequences. In the most important facets are an atmosphere of titanic fight, nihilistic orgies, intense sexual sensations, erotomaniacal involvement, and the element of purifying fire (pyrocarpathia) occurring in various combinations. The above elements constitute the death-rebirth struggle.
The subject experiences in this state powerful currents of energy streaming through his or her entire body and increasing to a level of concentration and condensation that seems to transcend all imaginable limits. This is followed by episodes of explosive discharge and feelings of ecstatic release. Visions typically accompanying these experiences involve titanic battles of universal proportions, archetypal feats of super-heroes, explosions of atomic bombs, thermonuclear reactions, launchings of missiles and spaceships, power plants, hydroelectric stations, high-voltage power lines, dramatic scenes of destruction in modern wars, gigantic conflagrations, exploding volcanoes, earthquakes, tornados and other natural catastrophes. A mitigated form of this experiential pattern is associated with visions of medieval battles, bloody revolutions, dangerous hunts for wild animals, discoveries and conquests of new continents.

Another important aspect of this experiential matrix is excessive activation of sadomasochistic elements in the personality of the subject. Enormous amounts of aggressive energy are being discharged and consumed in destructive and self-destructive fantasies, images, and vivid experiences. The individual indulges in rapes, various sexual perversion involving pain, bestial murders, tortures and cruelties of all kinds, executions, mutilations, bloody sacrifices, and self-sacrifices. This can be accompanied by suicidal ideation, fantasies, or even tendencies involving brutal and mutilating self-destruction.

Sexual arousal can reach an unusually high degree and be expressed in complex scenes of unbridled orgies, pornographic sequences, visions of Middle Eastern harems, endless Oriental masques of the art of loving, lascivious carnivals, and rhythmic sexual dances. In this context, many LSD subjects discover a close experiential link between agony and sexual ecstasy; they realize that intense orgasmic arousal can border on suffering and mitigated agony can be experienced as sexual pleasure.

The ecstatic facet of the death-rebirth process can be very complete and have not only visual and tactile, but also olfactory and gustatory dimensions. The subject can experience himself or herself as swallowing in excrement, drowning in cesspools, crawling in offal or sewerage systems, eating feces, swallowing phlegm, drinking blood or urine, and sticking out purifying wounds. This is often followed by an experience of passing through a purifying and rejuvenating fire, its overpowering flames seem to destroy whatever is corrupted and rotten in the individual and prepare him or her for the experience of spiritual rebirth.

The religious and mythological symbolism of this matrix is most frequently derived from religions that glorify bloody sacrifice or use it as part of their ceremonies. Quite common are allusions to the Old Testament; images of Christ’s suffering and death on the cross; scenes of worshiping Molech, Asarte or Cailleach; and visions of rituals from various Pre-Columbian cultures using sacrifice and self-sacrifice, as they were practiced in the Aztec, Mutter, Olmec, and Maya religions. Another group of images is related to religious rituals and ceremonies involving sex and wild rhythmic dances: fertility rites, phallic worship, or various tribal religions of the aborigines. A frequent synecdoche associated with the purifying fire is the image of the legendary bird the Phoenix. A very appropriate synthesis of the ecstatic and ecstaticocentric character of the death-rebirth struggle is Hercules slaying the stables of King Augen, or the Aztec goddess Thlaocoltéuctli, Devourer of Fibrum, a deity of child-birth and eternal lust.

(Above) Insight into the connection between birth and condition—the crozeted fetus. (Below) The connection between intrauterine existence and transcendent feelings of peace—a fetus inside a pyramid.
mechanism of sexual organs, and the feelings of the delivering woman in the second stage of labor.

Perinatal Matrix IV (Separation From Mother)

This perinatal matrix seems to be meaningfully related to the third clinical stage of delivery. In this final phase, the agonizing process of the intense struggle culminates; the propulsion through the birth canal is completed and the extreme intensification of tension and suffering is followed by a sudden relief and relaxation. After the umbilical cord is cut, blood ceases to flow through its vessels, and the child has to develop its own system of respiration, digestion and elimination. The physical separation from the mother has been completed and the neonate starts its existence as an anatomically independent individual.

As in the case of the preceding matrices, some of the experiences belonging here seem to represent a realistic enactment of the actual biological events during this phase, as well as specific obstetric interventions. The symbolic counterpart of this final stage of delivery is the death-rebirth experience; it represents the termination and dissolution of the death-rebirth struggle. Physical and emotional agony culminates in a feeling of utter and total annihilation on all imaginable levels. It involves an absolute sense of physical destruction, emotional entrapment, intellectual defeat, ultimate moral failure, and absolute devastation of transcendent proportions. This experience is usually described as "ego death"; it seems to entail an instantaneous and merciless destruction of all the previous reference points in the life of the individual.

After the subject has experienced the limits of total annihilation and "hit the cosmic bottom," he or she is struck by visions of blinding white or golden light. The clausrophobic and compressed world of the birth struggle suddenly opens up and expands into infinity. The general atmosphere is one of liberation, salvation, redemption, love, and forgiveness. The subject feels unbound, cleansed and purged, and talks about having disposed of an incredible amount of personal "trash," guilt, aggression, and anxiety. This is typically associated with brotherly feelings for all fellowmen and appreciation of warm human relationships, friendship and love. Irrational and exaggerated ambitions, as well as cravings for money, status, fame, prestige and power, appear in this state as childish, irrelevant and absurd. There is often a strong tendency to share and engage in service and charitable activities. The universe is perceived as indescribably beautiful and radiant. All sensory pathways seem to be wide open and the subject is saturated with indescribable and unconditioned appreciation of external stimuli. The individual tuned into this experiential area usually discovers within himself or herself genuinely positive values, such as a sense of justice, appreciation of beauty, feelings of love, and self-respect as well as respect for others. These values, as well as the motivations to pursue them and live in accordance with them, appear on this level to be intrinsic to human nature. They cannot be satisfactorily explained in terms of compensation, reaction-formation, or sublimation of primitive instinctual drives. The individual experiences them as genuine and integral parts of the universal order.

The symbolism associated with the experience of death and rebirth can be drawn from many different cultural frameworks. The closure of ego death can be associated with visions of various destructive deities, such as Moksh, Shiva the Destroyer, Huitilopochitl, and the terrible goddesses Kali and Cailleach, or expe-
The above descriptions reflect only the most general characteristics of the personal matrices in their function as governing systems; the individual experiences that occur within this context represent manifestations of their specific content as described earlier (see paradigm on pages 75-78). Like the COEX systems, personal matrices show a complicated two-sided interaction with the elements of the environment. After a poorly resolved LSD session, the dynamic influence of the activated negative matrix can continue in the subject’s everyday life for indefinite periods of time. After a well-integrated session of a personal nature, the subject can be under the outsizing influence of the positive matrix that dominated the experimental field at the time when the effect of the drug was wearing off. Conversely, external influences involving elements characteristic of the individual personal matrices can facilitate specific corresponding experiences related to the death/rebirth process.

TRANSITIONAL EXPERIENCES

The common denominator of this otherwise rich and varied group of phenomena is the subject’s feeling that his or her consciousness has expanded beyond the usual ego boundaries and has transcended the limitations of time and space. In the “normal” or usual state of consciousness, we experience ourselves as existing within the boundaries of the physical body (the body image) and our perception of the environment is restricted by the physically determined range of extra- and inter-sensory. Both our internal perception (introspection) and the perception of the external world (extrospection) are confined by the usual spatial and temporal boundaries. Under ordinary circumstances we vividly experience only our present situation and our immediate environment; we recall past events and anticipate the future or fantasize about it.

In transitional experiences, as they occur in psychedelic sessions or in various non-drug frameworks, one or several of the above limitations appear to be transcended. Many experiences belonging to this category are interpreted by the subject as regressions in historical time and explorations of their biological or spiritual past. It is not unusual in psychedelic sessions to experience quite concrete and realistic epiphanies identified as fetal and embryonic memories. Many subjects report vivid sequences on the level of cellular consciousness which seem to reflect their existence in the form of a sperm or ovum at the moment of conception. Sometimes the sensation appears to go even further and the individual has a vividly remembered feeling of releasing innocence from the lives of his or her ancestors, or even drawing from the racial and collective unconscious. On occasion, LSD subjects report experiences in which they identify with various animal ancestors in the evolutionary pedigree or have a distant feeling of reliving episodes from their existence in a previous incarnation.

Some other transitional phenomena involve transcendence of spatial rather than temporal barriers. Here taking the experience of merging with another person into a state of dual unity or completely identifying with him or her, tending into the consciousness of an entire group of persons or expanding one’s...
Personality of the Therapist or Guide

Numerous observations made during clinical research with LSD strongly suggest that the personalities of the therapist, the co-therapist, the sitter, or any persons present are factors of paramount significance in structuring the content, course, and outcome of psychedelic sessions. Probably the single most important element determining the nature of an LSD experience is the feeling of safety and trust on the part of the experiencer. This is, of course, critically dependent on the presence or absence of the guide, his or her personal characteristics, and the nature of the relationship between the subject and this person. It is absolutely essential for the successful course and outcome of an LSD session that the subject feels safe or secure and believes that the therapist is a trusted friend. A person taking a psychedelic drug alone cannot really fully abandon control at the crucial moments of the experience, because a part of him or her has to continue playing the role of the reality-oriented judge and sitter. However, total surrender is absolutely essential for completing the experience of ego death, one of the crucial steps in the LSD process. Certain important problems that originated in interpersonal situations, such as difficulties with basic trust, can also not be thoroughly resolved and overcome without the human element providing a corrective emotional experience. I have repeatedly seen in the early stages of our therapeutic work with LSD, when the role of the sitter was not sufficiently understood, that patients were not able to overcome certain recurrent impasses in their LSD sessions until the therapist promised to stay with them through the entire experience and never leave the room.

If psychedelic sessions are conducted for therapeutic purposes, the emotional significance of the therapist for the patient has two distinct components. The first is based on the reality of the patient's actual life-situation at the time of therapy and reflects the fact that the therapist is a person who is supposed to provide help with crippling emotional symptoms and the difficulties of living. The
nitude of time and energy, as well as the financial commitment necessary for treatment, further accentuate the intensity of the patient's emotional involvement. The second component of the therapeutic relationship is the transference aspect. In LSD therapy this "patient" is generally much more powerful than in conventional psychotherapy, and tends to increase with the number of sessions the patient has had. It is based on the fact that the patient, in the course of long-term psychotherapeutic interaction in the sessions and outside of them, projects on the therapist a variety of strong emotional attitudes derived from significant figures of his past and present life, especially close family members. Although there exist techniques which can minimize the transference problems during or after treatment, this element plays an important role in the therapeutic process. It is not unusual for the patient to resist, or fight, against the transference dynamics to the point of withdrawal or even termination of therapy.

The importance of the therapeutic as a powerful determinant of the session increases if LSD is administered after a long period of systematic intensive psychotherapy or psychoanalysis. In a "psycholytic" series, in that case, it is the uncommon for the transference phenomena to play a dominant role in the outcome of an entire session. The degree of human and personal interest of the therapist, his or her clinical experience and therapeutic skill, personal security, freedom from anxiety, and current physical and emotional condition are very important factors in successful LSD therapy. It is absolutely essential that, prior to the administration of LSD, the therapist examine his or her own motivation and attitudes toward the subject, try to establish a good working relationship, and clarify the transference-countertransference situation for himself. The therapist should never attempt to use LSD in an "automatic" or "magical" manner to a patient who is stagnating in psychotherapy, just because he or she cannot tolerate the atmosphere of "failure," insecurity, or helplessness. Another objectionable approach is to administer drug to a patient who has not been exposed to the "real" drug for a long time because of personal or objective reasons, in order to compensate for these circumstances and create a feeling that something significant is going on. Perhaps most distressing of all, using LSD in order to demonstrate power and authority to a troublesome patient who is disturbing the therapist's sense of security. All these and similar problems, if not properly analyzed, can easily exacerbate the LSD session, especially if they happen to replicate the transference aspects of the relationship clearly.

Clarity in the relationship between the therapist and the subject is a necessary prerequisite for a successful course of therapy. As we mentioned earlier, LSD can best be described as an amplifier of neural processes. By activating the intrapsychic elements in the subject, it also amplifies the interpersonal situation between him or herself and other people present in the session. This makes it possible to see the transference aspects of the relationship clearly and thus view also the*

nature of the maladaptive interpersonal patterns of the patient. If the situation between the therapist and the patient is clear and open, this becomes a great opportunity for therapeutic progress. However, if there are overt or covert misunderstandings, conflicts and distortions in the therapeutic relationship before the session, they can be exaggerated by the drug-effect to such a degree that they become a serious impasse and eventually endanger the treatment process. It is important therefore that the guide be aware during the sessions of his or her own intrapsychic and interpersonal patterns, so that they do not interfere with the psychadelic process.

All the phenomena in LSD sessions that involve the subject, the sitter, and their mutual relationships, are the result of a complicated interaction between the specific personality characteristics of each of them. The proportion of the individual contribution varies from situation to situation and session to session. However, since the mental processes of LSD subjects are powerfully activated by the drug, they usually play a more important role in determining the content and nature of such interactions unless some very serious countereffects problems are involved on the part of the sitter.

The degree of the transference distortion seems to be related to the dosage and to the nature of the unconscious material that is emerging in the session. In periods in which the subject is under the influence of the drug but is not dealing with any difficult emotional material, he or she can show unusual depth and clarity of perception. The ability for intuitive and empathic understanding of others can be sharpened and directed to a startling degree. In such instances, LSD subjects can make amazingly accurate readings of the sitters even at a time when they are struggling with emotional problems of various kinds. This happens when the nature of the problems they are facing is similar to or identical with problematic areas in the sitter.

In these situations, the personaliters of the sitters, their thought processes, emotional reactions, attitudes and behavior patterns become especially important. We have repeatedly observed that LSD subjects can recognize feelings of the sitters with great accuracy. They were able to tell when the therapist was fully concentrated, dedicated to the session, and pleased with its course or, conversely, disturbed by other personal problems, bored, tired, or dissatisfied with the course of the session, or worried about its unfavorable development. This is quite understandable in those cases where the LSD subject can see the sitter's facial expressions. It is common for LSD subjects to recognize an individual to various minor or even subliminal clues to the point where these would provide adequate information and sufficient feedback for accurate reading. This could happen even in those cases where the phenomena involved were so subtle that under the conditions of conventional psychotherapy they would escape the patient's conscious attention. However, in some instances where this happened the subjects had their eyes closed or covered by eyeshades; in others, their eyes were open but they were not facing the therapist.

It is also important to add that the subject and the therapist's concepts of what constitutes a "good" and productive session do not necessarily coincide, especially at the time it is still underway. Therefore it is not possible for the LSD
subject to guess the therapist's feelings about the session automatically from his or her own evaluation. In some instances, the ability of the subject to "read" the therapist correctly was truly striking and seemed to border on genuine extrasensory perception. Some patients correctly guessed not only the therapist's emotional tones, but also the specific content of his thought-processes, or they felt connected with his unconscious system and accurately described certain concrete circumstances and recent or remote events from his life.

Elements of accurate perception are more common in low-dose sessions, in which the amount and intensity of emotional material is high. In high-dose sessions, one or two, at the beginning, the subject's experiential field is occupied by the emerging unconscious contents, or later, after the other aspects of the experience have been worked through and resolved. However, this is not an absolute rule and there exist significant exceptions: episodes of unusual clarity occasionally occur at one's dosage level and at any time during the session. They seem to be associated with the nature of the experience or a particular state of mind, rather than a specific time of the drug reaction or its intensity. When LSD subjects are deeply engaged in their problem areas, most of the time, thoughts, feelings and anticipations concerning the session, the patient have very little substantiation in reality; they are projections, reflecting the subject's inner experiences—in his or her own, emotive, intuitional tendencies, and superego functions.

In high-dose LSD sessions a good therapeutic relationship is an element of critical importance. It is necessary to emphasize that even as ideal interpersonal situation cannot compensate for the patient's significant distortions of the influence of the drug. However, if there is a clear and solid relationship between the experient and the subject outside of the session context, the drug-induced distortions become an important opportunity for learning, and for correction of the patient's emotional experiences, rather than a danger to the therapeutic process. A good therapeutic relationship helps to open up one of psychological defenses, stress, and to solve the difficult periods of session character.

As long as the guide does not significantly contribute to the interpersonal configuration on a reality basis, in terms of strong countertransference, the subject's LSD experience will not substantially differ from the emerging unconscious material. There exist many different forms and degrees of projective distortion in the therapeutic relationship. The most superficial and simple manifestation of visualizing this kind in the patient's perception is a distorted, emotional display, such as weeping, laughing and, occasionally, fear and violence. The therapist can be sad, angry, hostile and aggressive, or simulate compassion, understanding and love. His face may appear to betray uncertainty, concern, fear, or guilt feelings. The nature of fantasies and transformations of this kind reflects the

variety of feelings and attitudes that the subject transfers onto the therapist. Quite frequently, the projections take a much more elaborate and intricate form; in the extreme, this can result in complex illusory transformations of the therapist's face, body image, and attitude. Sometimes the symbolic meaning of such changes is immediately clear and obvious; at other times their full understanding requires systemic and focused analytical work.

There are several typical categories of problems reflected in these symbolic transformations. The most common are those images that represent projections of the subject's instinctual tendencies of an aggressive or sexual nature. Thus, the therapist can be illusively transformed into various figures representing violence, cruelty and sadism. Here belong, for example, representations of the therapist's matriarch, mother, protector, or savior; or transformed into various figures like Genghis Khan, Caesar Nero, Vodoo Dracula, Hitler, or Stalin; and an entire galaxy of murderers, hated gods, saviors, SS and Gestapo members, red commissars, hooded hunting savages, and others. Famous characters from horror movies also occur frequently in this context, exemplified by Frankenstein, The Creature from the Black Lagoon, Dracula, King Kong, and Godzilla. Another manifestation of the subject's aggression is the symbolic transmutation of the therapist into a bloodthirsty predator—e.g., lion, tiger, black panther, jaguar, shark, or tyranosaurus. A similar meaning can be associated with the therapist changing into one of the traditional adversaries of such animals—a gladiator, hunter, or tamer of wild beasts. Archetypal images symbolizing aggression are equally common; they range from evil magicians, malicious witches, and vampires, to devils, demons, and devouring deities. A subject tuned into aggressive themes in his or her own unconscious may see the therapist transformed into one of the beasts or demons, an evil spirit or a monster, a corruptive person in the therapist's hand, such as a pencil, fountain pen, or a piece of paper, change into demons, hatred, axes, guns,laus, and other murderous tools.

In the same way, sexual tendencies can be manifested in the form of symbolic projections. The therapist is perceived as an Oriental harem owner, a lewd lecher, prostitute, suburban pimp, metropolitan swinger, or a frivolous and promiscuous looker. Whenever sexual symbolism appears, it often represents the patient's attitude toward the therapist's physical appearance or to the therapist's attitude toward the patient's outer appearance or to the patient's attitude toward the therapist's physical appearance or to the therapist's attitude toward the patient's outer appearance or to the patient's attitude toward the therapist's outer appearance. In the earliest LSD sessions defined personifications of the male and female principles such as the Apollo-Aphrodite or Shiva-Shakti, and so forth, occur frequently, and images of priests or priests in various religious cults, fertility rites, phallic worship, or religious rituals involving sexuality are also quite common. On several occasions, transformation of the therapist's visage into the "lemon face" of a boy or the deformed face of a hypnotist could be deciphered as a reflection of usual wishes combined with the threat of punishment.

Another typical category of illusory transformations involves projections of the subject's Superego. The therapist is frequently perceived as various specific personalities who evaluate, judge, or criticize the experience. These can be parental figures, teachers and other critical authorities from the subject's life, priests, judges and jury members, various archetypal personifications of justice, and even
These representations of illness transformation of the therapist. He appears as an Arabian merchant dealing with dangerous intoxicating drug (above left), a wild and primitive African native (left), and as an Indian sage radiating perennial wisdom (above right). Each image reflected the nature and content of the patient's psychedelic experience at that particular time.

Illness transformation of the therapist. Here he becomes a satanic monster who enjoys inflicting suffering on the patient. The angelic figure on the left represents the patient's awareness that the tortures will ultimately lead to a spiritual opening. The figure on the right reflects his vague awareness of a medieval scene of torture which he felt as a cosmic memory. The experience occurred during a session characterized by the transition from BPM III to BPM IV.
God or the Devil. Some other visions seem to reflect the part of the subject's
Superego that represents the ego ideal. The therapist is then perceived as being an
absolutely perfect human, a person endowed with all imaginable virtues, possess-
ing and having achieved all that the patient always wanted—physical beauty,
moral integrity, superior intelligence, emotional stability, and a balanced life
situation.

A typical category of transformations reflects the subject's strong need for
unconditional love and unqualified attention, as well as irritation at not having ex-
clusive possession and control of the therapist. This is most characteristic of
psychodyamic sessions that involve deep repression to early infantile and infan-
tiacneal needs. Many patients find it difficult to accept the fact that they have to
share the therapist with other patients, that the therapist has a private life of his or
her own, or that the therapeutic framework sets certain clear limits to intimacy.
Whether the objective reality justifies it or not, many patients feel they are being
treated with professional coolness and scientific objectivity, or as experimental
guinea pigs. Even if physical contact is used in the sessions, a client sensitive in this
area may experience it as a therapeutic technique or a professional play rather
than a genuine expression of human affection.

The therapist's curiosity concerning the patient's history or the dynamics of
his or her problems can in this context be ridiculed by an illusory change of the
Therapist into Sherlock Holmes, Hercule Poirot, Leon Clifton, or just a caricature
of a detective with a large pipe, spectacles, and a magnifying glass. His profes-
sional, objective, and "scientific" approach to the patient can be caricatured in an
illusory transformation into a funny-looking, learned owl, sitting on a pile of
unshred-covered volumes. The irritating lack of adequate emotional empathy and
professional "coolness" can be reflected in a visual illusion showing him in the
thick protective suit of a medieval armored knight, astronaut, fireman, or scuba-
diver. The recording of the sessions may irritate the patient, even if he or she is not
only agreed to it before the session, but specifically requested it. It can be ridic-
uled by a satirical vision of the therapist as a full-time fireman, ambulances and
diligent schoolboy, or provincial clerk. The white coat, a common symbol of the
physician, can play an important part in this context; the medical role of the
therapist can be attacked by changing him into representatives of other professions,
who also use white coats, such as grocers, barbers, or butchers. Transformations
of the therapist into Doctor Faust, observed in the past, were decried as illu-
sions to his sophisticated title, the unconventional nature of his scientific
quest, and the magical properties of the drug he uses, in some instances they also
reflected the wish that he follow Faust's example and exchange science for mon-
dane pleasure.

A very interesting, cartoon-like illustration of some of these problems
occurred in one of the early sessions of Agnes, who was undergoing psychola-
ytic treatment for a severe chronic neurasthenia. In the phase of therapy when
she desperately wanted the therapist for herself and was jealous of all the
other patients, she experienced in her LSD session symbolic sequences from a
chicken hatchery, which represented a satire on her LSD treatment. The
hatchery symbolized the Psychiatric Research Institute where she was in
therapy; and her co-patients appeared as eggs with various flaws and defects
that were in different stages of hatching. Since the experience of birth is an
important therapeutic step in LSD therapy, hatchling symbolized in this
context the successful end of treatment and the core of neurons. The
patient-eggs were competing with each other, trying to expedite the hatch-
ing process, but also to win the affection of the therapist. The latter was
represented by a system of electric bolts providing scientifically measured
amounts of light and warmth. The patient herself was a dissatisfied little
chicken embryo who passionately competed for the artificial heat, since that
was all that was available. In reality, she wanted to be the single offspring of a real mother hen and could not put up with the electric surrogate.

As indicated by this example, the transformation of the therapist does not have to occur as an isolated phenomenon, but can be accompanied by simultaneous autosymbolic transformation of the patient and/or illusive change of the entire environment. Like most LSD phenomena, the illusive transformation of the guide and the environment usually has a multi-level and overdetermined structure. Although one specific seeing or connection may be in the center of awareness, one can usually find a number of additional functions for the same image. As in the case of dreams, there frequently exist several interpretations for the same phenomenon. They involve material from different levels of the unconscious and, quite typically, opposing tendencies and emotions can find joint representation in a single condensed symbolic image. Although we have thus far been discussing visual manifestations, which are the most striking, projective distortions can involve other senses, such as hearing, smell, taste, and touch.

The concrete content of the illusive transformation reflects the type of the LSD experience and the level of the unconscious that is activated. The most superficial changes are of an abstract nature and do not seem to have any deeper symbolic significance. The therapist's face can appear undulating, distorted, or in changing colors. On occasion, his or her skin is covered with moles and intricate geometrical designs that look like tattoos or aboriginal decorations. These changes resemble the disruptions on the screen of a television set that is out of tune and seem to reflect chemical stimulation of the sensory apparatus.

On the psychodynamic level, the illusive transformations reflect the basic themes of individual COEX systems erected by the specific content of the layer that is at that time in the center of the experiential field. The therapist can be perceived as a parental figure, sibling, same-sex, neighbor, or any significant person who was instrumental in important childhood experiences. Doctors and nurses who conducted painful medical interventions, acquaintances who played roles of surrogate parents, adults who physically or sexually abused the subject, and protagonists in various frightening episodes are typical representatives of this theme. Occasionally, the therapist may assume the form of favorite animals, such as the family dog, pet rabbit or ham, or even an emotionally important children's toy which was the subject's surrogate companion.

Sometimes the projective transformation does not directly reflect the biographical events recorded in a COEX system, but variations on its central theme. The following example from an LSD session of Benata, a patient who suffered from severe cancerophobia, shows how even a seemingly insignificant partial transformation of the therapist can condense relevant material into different levels.

When Benata looked at the therapist, the light reflection in his eye took the form of a large Sphinx moth. Free associations which Benata volunteered the next day brought out the following material.

The Sphinx is a night moth that visits flowers with intoxicating fragrance and sucks the nectar from them. It has a distinct mark of a human skull on its back and is usually associated in folklore with death. This reflects a theme which was very important for Benata and formed the basis of her cancerophobia. As a result of certain childhood experiences, particularly sexual abuse by her stepfather at the age of eight, sex and death were intimately connected in her unconscious. Summer nights and heavy sweet fragrances suggest the atmosphere of romance and love-making, the Sphinx flying around is a portent of death.

Some additional associations showed the complicated, overdetermined, and logistic structure underlying this transformation. Benata read somewhere that the Sphinx caterpillar lives on Atropa Belladonna or the deadly nightshade, which is known for its psychoactive properties and was used in medieval potions and ointments for the Witches' Sabbath. Small doses of Belladonna are hallucinogenic and larger doses extremely toxic. The hallucinogenic properties of Belladonna represent a link to the LSD process. Its relation to the origins of the Witches' Sabbath alludes to dangerous aspects of sex. Its connection with death, besides reminding the closeness between sex and death, also points back to the LSD process which has the death experience as an important element. Benata also remembered reading somewhere that the Sphinx caterpillars sleep in an erect position. She found a direct link from here to the tragi-comic situation of seduction by her stepfather during which she was confronted with his penis. On the deepest level the name of the Sphinx moth pointed to the Egyptian Sphinx. This image of the destructive female—a creature with a human
head and animal body, which strangles its victims—occurs frequently in LSD sessions dealing with the agony of birth and transcendence. It was on the perinatal level, in the process of biological birth, that Benita found the deepest unconscious roots of the fusion and confusion in her between sex and death.

The transformations of the therapist in sessions with strong perinatal emphases have a very different quality. The general direction of the projective change depends on the stage of the death-rebirth process, or the basic perinatal matrix which is activated at that time.

The basic elements and attributes associated with each of the matrices are characteristic and quite distinct. For BPM I it is transcendental beauty, unconditional love, merging of boundaries, an atmosphere of numinosity, and a sense of nourishment and protection. The very beginning of BPM II involves deep metaphysical fear, feelings of threat and paranoia, and a sense of losing autonomy. A fully developed BPM II is characterized by an atmosphere of irreversibility, helplessness, victimization, experience of endless, diabolical tortures and loss of one’s soul. BPM III imparts the elements of a titanic and bloody fight with saurians, serpents, and scatological features. Absurdist, comic, and satirical. BPM IV is experienced as an overwhelming pressure to surrender completely and unconditionally, abysmal fear of annihilation, and expectations of catastrophe. BPM V then has the unmistakable quality of spiritual liberation, deliverance from darkness, salvation, and illumination.

If the subject is under the influence of one of the negative perinatal matrices, the therapist can appear as a representative of elements and movements that threaten not only individuals but the entire world: the chief of a dangerous underground organization, a representative of an extraterrestrial civilization trying to enslave mankind, an important Nazi or Communist leader, a religious fanatic, a mad genius, a devil, or the devil himself. Confronted with these images, the subject can lose the critical insight that he or she is involved in a symbolic process and experience a full-blown paranoid reaction. In more superficial and less convincing experiences, a number of specific elements of perinatal symbolism can be projected onto the therapist; he can change into a monstrous monster, a frightening character, the Great Inquisitor, the all-powerful leader of a concentration camp, or a demonic sadist. He or she can change into various historical figures known for their cruelty, sexual perversions, expediencies, inhumanity, or other attributes. When subjects project images of their own mother, they can transform her into a dominating figure, often characterized by an obsessive worshipping of a table idol, a Columbian priest, carnival figure, or crucified Christ. The specific form of these transformations depends on the stage of the death-rebirth process, the level on which it is experienced, and the passive or active role of the subject.

When the positive matrices dominate the LSD session, the transformations have a very different quality. If it is BPM I, the therapist can be perceived as a triumphant military leader celebrating victory over a vicious enemy, the Saving the embodiment of cosmic wisdom, a teacher of the deepest secrets of life and nature, a manifestation of the divine principle, or essentially God. The activation of BPM I has many elements of BPM IV, such as the radiance, success, and humor; however, these have a timeless quality instead of occurring as a stage in the process of transition from death to rebirth. The subject can experience loss of boundaries and a feeling of fundamental oneness with the therapist, associated with a sense of absolute safety and total nourishment.

Quite frequently during the death-rebirth process, the therapist assumes for the subject the role of the delivering mother and may actually be experienced as such; this can occur with both male and female sitter without regard to the actual sex identity. Under these circumstances the transference relationship can assume a symbolic quality; it is characterized by a deep biologically rooted ambivalence, and its relevance is so basic that it appears to be a matter of life and death. The therapist can become for the patient a magical and powerful figure of cosmic proportions. The patient can have either a sense of participating in this power or of being in a totally passive, dependent and vulnerable position. A critical factor in this situation seems to be the patient’s ability to trust the world and human beings, which essentially reflects his or her early history. The nature of the childhood experience determines whether a totally dependent role can be enjoyed or whether it becomes a source of vital threat and paranoid ideation.

Frequently the patient has to go through a profound crisis of basic trust to be able to reconnect with the nourishing aspects of the mother-child relationship. When the early symbiotic attachment of the perinatal period is projected on the therapist, LSD patients often lose the ability to differentiate clearly between the therapist and themselves. Their perceptions, emotions, and thoughts seem to merge with those of the therapist. This can result in a feeling of being magically influenced or controlled by suggestion, hypnosis, telepathy, or even psychokinesis. The therapist appears to read their minds and know all their thoughts; the opposite is also common, namely, the sense of having access to the therapist’s mind and slurring his feelings or thought-processes. Under these circumstances patients frequently find it unnecessary to communicate their experiences verbally. They feel either that the therapist automatically shares and knows the experience in all its details, or that he has prearranged it and controls it, so that everything is happening according to his plan. In critical stages of the death-rebirth process the therapist can become the murderous or life giving womb, and can also be experienced as the delivering obstetrician or midwife. This is especially frequent if the treatment technique involves actual physical contact and support.

The problems in the transference relationship on the perinatal level culminate when the patient is approaching the moment of ego death, which coincides with reliving the moment of biological birth. This involves totally letting go of all defenses, all effective control, and all reference points, and is typically associated with a profound crisis of basic trust. In this state of ultimate vulnerability the patient questions the character and motives of the therapist in an attempt to assess the degree of danger in total surrender. Important negative aspects of the patient’s history emerge in an amplified form and are projected onto the therapist in various symbolic manifestations. In addition, the real flaws of the therapist’s personality, attitudes and motives, and the problems and conflicts in the therapeutic relationship, are seen as if through a magnifying glass. The patient’s perception of the therapist can be a reflection of his or her experience in the murderous birth canal, and the LSD process can appear at this point as a diabolic scheme to destroy the patient, brainwash them, enslave them for eternity, or steal their souls.

After the crisis of trust has been worked through and the bond of confidence
re-established, the transference phenomena tend to swing to the other extreme. A subject influenced by BPM I or IV can see the therapist as the ultimate source of love, security, and nourishment. He or she can experience the therapist as being the good breast and the good womb at the same time. There do not seem to be more individual boundaries, only a continuous, free flow of thoughts, emotions, and good energy. The patient experiences this as the ultimate process of nursing, in which the milk seems to be coming from a spiritual source and has miraculous healing properties. The same experience also occurs to have embryonal qualities; the circulation seems to flow through all kinds of spiritual emotions and energies seem to be strong elements of the placental exchange between the mother and child. Once this biological, emotional and spiritual link is established, the therapist can be perceived not only as one's own mother, but as the good mother in general or God. In LSD sessions of a transpersonal nature, the transference relationship has a completely different quality. The illusory transformations of the therapist can no longer be interpreted in the same way as those on the psychodynamic level—as complicated symbolic formulations with a multilevel and overdetermined structure, as projections reflecting various layers of the COEX systems. These illusory transformations also differ from the perinatal transference phenomena, which can be understood as repetitions of the nourishing and destructive aspects of the symbiotic relationship with the mother. Transpersonal projections are phenomena that set a genetic drive further psychological analysis.

In general, almost all of the many types of transpersonal experiences can find specific reflections in the therapeutic relationship. Thus, the therapist can assume the forms of powerful archetypal images, such as sacerdotal representatives of various roles, or deities and demons. The transformations into the Cosmic Man, the Wise Man, the Great Hermaphrodite, the Anima or Animus, Siva, Vishnu, Ganeshu, Zeus, Venus, Apollo, Satan, Isis, Cybele, or Coalsce, would be examples in this category. Equally frequent are transformations of the therapist into a great religious teacher—Jesus, Moses, Mahatmas, Buddha, Sri Ramana Maharishi, and others. When the patient is experiencing elements of the racial and collective unconscious, the therapist may be transformed into a representative of another culture and a person existing in a different century. Such an experience can also have a "post-incarnation experiential quality." In that case, the patient feels convinced that they are reliving memories from their past lives and that the present situation is a replica or variation of an event that occurred in another remote past. It is quite common for clients to feel that they have met the therapist in many of their previous incarnations. Occasionally, this can involve very complex situations from different cultures and centuries which may be visualized in considerable detail.

Inclusion of the therapist into an ancestral or phylegmonic memories occurs quite frequently. In the case the therapist appears transformed into a specific human or animal ancestor of the same or opposite sex. In general, the projective transformations of the therapist to the transpersonal level are quite different from those of a basically psychodynamic, Freudian nature. The former is genuine, authentic and convincing; they frequently contain valid and objectively verifiable information that seems to go far beyond the subject's educational background and level of information. Unlike the projective transformations on the psychodynamic level, they cannot be deciphered and interpreted as symbolic representations of certain aspects of the patient's present existence. Even those patients who enthusiastically help to analyze various projective phenomena on the psychodynamic level refuse the Freudian approach to the transpersonal realm as superficial, inadequate, and inappropriate.

The enormous significance of the therapist as a seat during the LSD sessions has its consequences for psychotherapeutic practice. On the one hand, the role frequently presents serious problems for the therapist, who may come under emotional pressures of various kinds and has to guard against all the intricate pitfalls of the transference and countertransference situation. On the other hand, the intensification of the therapeutic relationship goes far beyond the limits of conventional psychotherapy, frequently reaching the point of caricature. This makes it easier for the patient and therapist to recognize and understand the transference nature of the problems involved. To an experienced therapist, the distinctions of the therapeutic relationship reached in psychological sessions offer a unique opportunity to mediate powerful corrective emotional experiences on very deep levels that are not easy to reach by conventional psychotherapy.

To be able to face all the challenges of a psychodynamic therapy, the therapist has to have special training that involves personal experiences with the drug. Because of the extraordinary nature of the LSD states and the limitations of our language in describing them, it is impossible for the future LSD therapist to acquire deeper understanding of the process without firsthand experience. Reading about psychodynamic experiences, attending seminars and lectures, or even witnessing sessions of other people can only convey a superficial and inadequate knowledge. Personal sessions have another important function; they offer an opportunity to work through one's own areas of conflict and problems on various levels. Some of the crucial issues that a future LSD therapist will confront remain essentially untouched in most forms of conventional therapy. Fear of death, total loss of control, and the specter of insanity can be mentioned here as salient examples. Unless the therapist deals successfully with these issues, the manifestations of the deep unconscious of the patient will tend to activate his or her own problem areas and trigger difficult emotional and psychosomatic responses. This can be conducive to serious transference-countertransference problems and places increased demands on the defense system and self-control. LSD sessions in which the therapist has to struggle with his or her unresolved problems can become a real hurdle; they are usually experienced as mutually draining and result in excessive fatigue.

Other important qualities and abilities of a good LSD therapist come from long clinical experience. With the increase in the number of sessions that he or she has witnessed, the therapist becomes more comfortable with and less threatened by various unusual phenomena that are quite common in psychodynamic therapy. In everyday practice he or she observes a great number of people suffering through phantasmatic experiences of dying, going crazy and feeling possessed by evil spirits, or claiming that they went beyond the point of no return. Witnessing positive resolutions of such states and seeing the same subjects only a few hours later radiant and jocular, the therapist gradually develops empathy, confidence and tolerance in regard to the entire spectrum of psychodynamic phenomena. This attitude is transferred onto the patients and makes it possible for them to allow themselves to experience whatever is emerging in the LSD sessions in order to find the roots of their emotional problems.
SET AND SETTING OF THE SESSIONS

In addition to the factors associated with the personalities of the subject and the therapist or sitter, these exist a broad complex of non-pharmacological parameters usually referred to as "set and setting." Any understanding of the LSD reaction and its therapeutic use is superficial and incomplete if it does not take into consideration all the determining elements belonging to this category.

The term set includes the expectations, motivations and intentions of the subject in regard to the session; the therapist's or guide's concept of the nature of the LSD experience; the mutually agreed-upon goal of the psychedelic process; the preparation and programming for the session; and the specific technique of guidance used during the drug experience.

The term setting refers to the actual environment, both physical and interpersonal, and to the concrete circumstances under which the drug is administered.

THE IMPORTANCE OF SET

Since LSD is not a non-specific amplifier of mental processes, the LSD phenomena cover an extremely broad range, extending potentially to all aspects of human experience and behavior. For this reason there can be many different sets for the LSD sessions. The fierce controversies surrounding LSD and the LSD sessions has been the so-called "model" approach. It dominated LSD experimentation in the years immediately following the discovery of the drug. The LSD experiences were viewed in a clearly psychopathological connection and labeled "experimental psychoses" or "chemically induced schizophrenia." In this stage, the drug was administered to volunteers for research purposes, with the aim of exploring the biochemical basis of endogenous psychoses, or to mental health professionals for didactic and training purposes—to send them on a reversible journey into the world of the schizophrenic.

A completely different set for LSD sessions emerged when it became obvious that the drug experiences could enhance creative potential in certain individuals. The drug became popular among artists as a source of inspiration and many hundreds of painters, sculptors, musicians, architects, and writers volunteered for LSD experiments. Somewhat later, scientists, philosophers and other highly creative individuals became favorite subjects for LSD sessions. This was based on the observation that the unusual state of consciousness induced by LSD can generate important insights, facilitate problem-solving, and lead to valid intuitions or unexpected syntheses of accumulated data.

Another important set for LSD sessions was developed after experimenters had repeatedly observed that the drug experience could take the form of a profound religious or mystical experience. Some researchers interested in exploring this "instant" or "chemical mysticism" tried to create frameworks and circumstances facilitating the incidence of these spiritual phenomena.

Many different sets have been used in sessions exploring the therapeutic potential of LSD for psychiatric patients and the terminally ill. Various methods of LSD therapy have been described in an earlier chapter and will be only briefly reviewed here. In some of these studies LSD was administered routinely, as any other pharmacological agent, without regard to its specific psychedelic properties. This strictly medical model was applied in approaching using LSD as an anti-depressive, anti-stress, or activating agent. In others, LSD was seen as a catalyst of mental processes and an adjunct to psychotherapy; psychodynamic, analytic, and hypnotherapeutic approaches are examples of this approach. Certain therapeutic orientations such as psychodynamic therapy or Salvador Bion's psychodrama have a clearly religious emphasis and stress the "mysticomimetic" effects of LSD.

The drug can be administered in the context of individual or group psychotherapy and its use may be in theory and practice on various therapeutic systems — Freudian psychoanalysis, Jung's analytical psychology, Moreno's psychodrama, Perls' Gestalt practice, existential psychotherapy. The analytic approach puts a great emphasis on personal experience and the therapist's behavior. The psychotherapy can be used for a wide range of individual particular aspects of the problem and the patient's family situation, the use of universal symbols, or readings of specific phenomena from sacred books.

Almost infinite variations of sets are associated with non-medical use and unstructured self-experimentation. In this stage, the subject is usually conscious of the environment and the drug experience. Some individuals have a sitter for their sessions while others take LSD on their own or participate in group experiences. The set for these experiences covers a wide range, from private apartments, beautiful natural locations, or rock concerts to streets with busy traffic and cars on the highway.

The quality of the street samples of LSD is questionable, and possible impurities include substances such as amphetamines, phencyclidine, STP, and even strychnine. The quantity of the active substance is usually unpredictable. The unreliability of the drugs, absence of a support system, and illegal framework of such self-experiments are conducive to paranoia and panic reactions. For this reason the incidence of serious psychological complications under these circumstances cannot be considered an indication that the use of LSD is intrinsically dangerous.
LSD and some other psychedelics have been listed as narcotics. This is incorrect and has no scientific justification. No genuine physiological addiction to LSD or related substances has been demonstrated. The reasons for their use and abuse are extremely complex and can have very deep psychological roots. Any legislation that overlooks or ignores this fact is necessarily doomed to fail. The individuals involved in non-commercial experimentation with psychedelics belong to different categories and have very different motivations. Some of them are immature and irresponsible youngsters who lack or ignore serious information about the nature of the LSD effect and take the drug for kicks, rebellion, or group origins. Others are pleasure seekers trying to enhance their sensory experience for aesthetic, recreational and hedonistic reasons. Some couples use joint psychedelic experiences to work through emotional problems within the dyad, improving the quality of their relationship, open new channels of communication, and explore various levels and dimensions of their sexual interaction. A not insignificant group of self-experimenters seem to be people with serious emotional problems for which traditional psychotherapy is inaccessible, or who are disapproved by its inefficacy. They are desperately looking for therapeutic alternatives, and since responsible and professional LSD treatment is not available, they make attempts at self-medication. There also exists a large group of responsible and sophisticated intellectuals who see repeated psychedelic sessions as a unique opportunity for philosophical and spiritual search, comparable to the way offered by other practices such as Tibetan Vajrayana, Zen Buddhism, Taoism, Sufism, or other systems of yoga.

Thus the motivations for psychedelic experimentation can be extremely serious and reflect the most fundamental needs of human beings—cravings for emotional well-being, spiritual fulfillment and a sense of meaning in life. However, there is no doubt that, whatever the motivations and intentions of the subjects may be, the LSD sessions should be conducted in a safe situation and in the context of a trust relationship with an experienced and responsible sitter. If these requirements are not met, the dangers and risks of such an undertaking far outweigh the potential benefits.

The last area of LSD experimentation that will be mentioned in this context is characterized by what can be referred to as destructive sets. Here belong "experiments" which explore the potential of LSD for the psychological liquidation of certain individuals, eliciting of confessions, brain washing, and chemical warfare. We could include here situations in which an individual ingests LSD without knowing it and frequently without any previous knowledge of its effects. The danger of this situation cannot be sufficiently stressed; not only the sanity, but the life of the subject may be at stake under their circumstances. Sometimes such damage can happen by accident when LSD is mistaken for other pills, or sugar cubes containing LSD for plain sugar. However, secret police, intelligence agencies and military experts have used past systematically exploitative and unscrupulous subjects to the effects of the drug to test its destructive potential. In several instances this even has been done by psychiatric researchers; the objective of these experiments was to test whether in untrained and surprised subjects the LSD reactions would resemble schizophrenia more closely than when the drug is administered with informed consent.

It has also happened quite frequently in the past that irresponsible individual added LSD secretly into the food or drink of relatives, friends or strangers, as an "initiation," "psychedelic deloration," entertainment, or just a mischievous and vengeful act. Sometimes this has been combined with other activities that further accentuate the hazards of this situation. I can refer here to an encounter with a group of youngsters several years ago in Washington Square in New York City. When they heard that I had been doing research with LSD, they proudly shared with me their own "experiments," in which strangers were given LSD without knowing it. After ingestion of the drug, these involuntary guinea pigs were taken into a private apartment. Here the "experimenters" performed a wild dance around their victim clad in hazy aboriginal masks and costumes, swinging daggers and spears. The objective of this "research" was to see the reactions of various subjects to this unusual situation. It is obvious that under these circumstances, LSD can have a profoundly disorganizing effect and precipitate acute, uncontrollable panic and even psychotic disintegration. If LSD is given to another person covertly, without his or her informed consent, I would not hesitate to use the term criminal set for such a situation.

During the last twenty years I have had the opportunity to conduct, observe and personally experience psychedelic sessions in several different sets. I started working with LSD at the time of the "model psychosis" approach, and I also ran didactic sessions with my professional colleagues during this period. Occasionally, artists, philosophers and scientists came to our facility and had LSD sessions for inspiration and insight. Later, I started using LSD as an adjunct to systematic dynamic psychotherapy and conducted an exploratory study of its diagnostic and therapeutic potential within the framework of a specially structured patient community. During this work, I developed a therapeutic technique using repeated administrations of LSD. Although it was originally conceived as drug-assisted psychoanalysis leaning in theory and practice on Freudian concepts, it gradually became a treatment modality on its own. In addition to working through traumatic material from childhood, as practiced in psychoanalysis and psychodynamic therapy, this approach puts great emphasis on the importance of the death-rebirth process and transpersonal experiences.

After many years of clinical experimentation with LSD in Prague, I was able to spend some time in London and to acquire first-hand experience of anacritic therapy as it was practiced by Joyce Martin and Pauline McCririck in 1967, I moved to the United States and joined the research team at Spring Grove Institute in Baltimore, where I learnt and practiced the psychedelic treatment technique. During this time I was occasionally called in as a consultant on cases of non-medical experimentation with LSD which involved various complications and I became quite familiar with the counterculture's use of psychedelics. All these experiences have been a rich source of important observations, and they clearly indicate the paramount significance of set as a determinant of the LSD reaction.

Certain aspects of set are quite obvious and explicit. It is not difficult to see that specific programming during the preparation period, certain techniques of conducting the sessions, or props and paraphernalia to which the subject is exposed can influence the LSD experience. However, some other important factors have been overlooked in the past, or were not appreciated sufficiently because they are much more subtle and not easily identifiable. One of them is the presence or absence of verbal communication between the subject and the sitter. Talk that
goes beyond a certain necessary minimum during psychedelic sessions tends to make the experience more superficial and is generally counterproductive in terms of effective self-exploration. However, in those situations where there is a continuing dialogue between the subject and the sitter, the nature of their verbal exchange becomes a factor of considerable importance. This is particularly true in regard to the choice and intensity of questions that are asked. In addressing the subject, the sitter continuously reinforces and redefines the set that has been established in the preparatory period of the session. A specific wording of the questions can attract to certain aspects of the multidimensional and multifaceted content of the LSD experience. In the extreme, it can significantly determine the direction in which the experience moves, modify its content and intensity.

In the descriptive approach to an LSD session, which tends to capture the phenomenology of the drug reaction, the subject is encouraged to focus on some formal and relatively superficial aspects of her experience. The elements that are of interest in this context are the presence or absence of physical symptoms, direction of emotional changes, quality of perceptual distortions, and the degree of psychosomatic involvement the experimenter wants to know. If the subject's vision is sharp or blurred, if objects are perceived as steady or undulating, if the vision is of a geometrical or figurative nature, if hearing is more or less acute than usual, etc. Under these circumstances, the subject usually experiences all the LSD phenomena in a rather impersonal way, as a spectator watching an interesting movie. Whatever is happening in the session is seen as a drug and the subject's brain; the experience is used as an observer and reporter of these changes. Even if relatively strong emotions are involved, they are attributed to the physical effect of the drug rather than to a manifestation of the subject's personality; they are simply noticed and reported. In the sessions focusing on psycho-pathological description, relevant dynamic material is seldom recognized and neglected. As a result, the psychedelic session is continuously defined by the experimental framework and work are sentences such as: "Are you sweating?"; "Are your hands trembling?"; "Do you feel dizzy?"; "Are the colors different from usual?"; "Do you have any strange feelings in your body?"; "What do you see?"; "Where is the LSD experiment?"; and the questioners used in this period about in question of this kind.

When LSD was administered in the context of the model psychiatric research, the sessions were conducted with the subject's consent and informed consent was given. They were explicitly referred to as "experimental psychoses" and psychedelic drugs as "hallucinogens," "psychotomimetics" or "psychoactive drugs." The subjects would both be expected and informed that these drugs were given. The associations with schizophrenia, paranoid delusions, panic attacks, dissociation between affect and thought, various perceptual distortions and distortions, delusions of projection, perception of symbology, ego fragments, and LSD sessions conducted by mental health professionals for training purposes, the psychopathological focus was particularly strong. The subject was identified and diagnosed with a variety of perceptual disturbances, abnormal thought processes, and unusual emotional qualities, assigning the appropriate clinical labels to them, and comparing them with those occurring in schizophrenic patients.

112

CRITICAL VARIABLES IN LSD THERAPY

The question characteristic of this approach would be: "Do you have any visual or auditory hallucinations?"; "Are your emotions inappropriate to the context of your thoughts and visions?"; "Do you have any strange sensations or bizarre changes of your body image?"; "How does your experience compare with schizophrenic?"; "Are you getting any insights into the psychoactive process?"; In sessions where the emphasis is on aesthetic experiences and artistic inspiration, LSD subjects are primarily interested in changed perception of forms, colors and sounds. They focus their attention on such phenomena as the intrinsic of geometrical patterns, dynamics of optical illusions, and richness of synesthesias. They frequently try to relate their experiences to various modern movements in art or the work of individual artists. Abstractionism, impressionism, cubism, surrealism, expressionism, and personal music seem to be particularly relevant from this point of view. Another typical feature of these sessions is preoccupation with technical problems and difficulties of expressing these unusual phenomena in artistic forms. The following question would be characteristic of this type of session: "How do your visions resemble the work of some famous artist?"; "What are the predominant colors you see?"; "Are your visions geometrical or figurative?"; "What material and what technique would be best to express what you see?"; "Is this a picture of a picture you had or an automatic drawing?"; "How is your coordination?"; "Is it difficult to concentrate on painting?"; "Does the music you are hallucinating remind you of any given piece?"; Under these circumstances, the subject usually experiences all the LSD phenomena in a rather impersonal way, as a spectator watching an interesting movie. Whatever is happening in the session is seen as a drug and the subject's brain; the experience is used as an observer and reporter of these changes. Even if relatively strong emotions are involved, they are attributed to the physical effect of the drug rather than to a manifestation of the subject's personality; they are simply noticed and reported. In the sessions focusing on psycho-pathological description, relevant dynamic material is seldom recognized and neglected. As a result, the psychedelic session is continuously defined by the experimental framework and work are sentences such as: "Are you sweating?"; "Are your hands trembling?"; "Do you feel dizzy?"; "Are the colors different from usual?"; "Do you have any strange feelings in your body?"; "What do you see?"; "Where is the LSD experiment?"; and the questioners used in this period about in question of this kind.

In sessions where the main objective is to have a religious or mystical experience, there is a definite tendency to deemphasize or ignore descriptive aspects, psychopathological phenomena, and traumatic personal material. The religious elements are considered important, but the major focus is on the supraindividual, transpersonal, and transconscious. To a great extent, this is also characteristic of the psychedelic therapy. In sessions aimed at achieving a psychedelic peak experience, there is usually very little verbal interaction between the therapist and the patient. If it occurs, it tends to take the form of simple directive statements rather than a question. Some typical examples would be the following: "Don't be afraid to die... this is not really dying. The moment you can accept death, you will experience a renewal..."; "It is not really annihilation and disintegration—it is dissolving, dissolving in the universe..."; "Try to use the music—let the music carry you, be in
it and stay with it, try to become the music" . . . "Do not fight it; let it happen, let go, try to surrender completely to the experience" . . . "We can think and talk later, for now just try to experience whatever is happening, be yourself, simply be!"

THE IMPORTANCE OF SETTING
During my clinical work with LSD, I have made numerous observations indicating clearly that the setting in which the subject participates in the administration of LSD is found to influence the nature of the LSD reaction. Most situations in which external stimuli have a strong influence on the subject and modify his or her LSD experience can be understood in terms of the interaction of the individual elements of the setting. These elements, which govern the subject's perception of the environment and his subjective reaction to it, can be classified into different categories, depending on the nature of the setting.

The setting is made up of physical objects, auditory stimuli, and visual stimuli, all of which are perceived by the subject and can influence his reaction to the LSD experience. The setting can be divided into two main categories: the environment and the psychological setting.

The environment includes the physical setting, such as the room, the furniture, the lighting, and the temperature. These elements can influence the subject's perception of the environment and can affect his reaction to the LSD experience. For example, a dark, quiet room can create a sense of relaxation and calmness, while a noisy, crowded room can create a sense of anxiety and stress.

The psychological setting includes the expectations and beliefs of the subject, the attitudes of the staff, and the overall atmosphere of the setting. These elements can influence the subject's reaction to the LSD experience by providing a context for the experience. For example, a staff member who is supportive and encouraging can create a positive and nurturing environment, while a staff member who is critical and dismissive can create a negative and threatening environment.

In conclusion, the setting is a crucial factor in the LSD experience. The environment and the psychological setting can both influence the subject's reaction to the LSD experience. It is important to create a setting that is conducive to the LSD experience, and that provides a supportive and nurturing environment for the subject.

It has already been mentioned that certain physical stimuli from the environment can change the subject's perception of the LSD experience. For example, a brightly lit room can create a sense of anxiety and stress, while a dimly lit room can create a sense of relaxation and calmness. The setting is made up of physical objects, auditory stimuli, and visual stimuli, all of which are perceived by the subject and can influence his reaction to the LSD experience. The setting can be divided into two main categories: the environment and the psychological setting.

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crises in terms of the personal history of the subject and his or her interaction with a particular nurse. In some instances the nurse seemed to be physically resemblance of the nurse to a relevant figure in the subject’s past; in others, similarity of behavior patterns, habits, or approach to the subject. Sometimes the patients’ reactions could be explained by the fact that they put the nurse into an intensely personal category toward which they had either a particularly good or a conflict-laden attitude, for example, a possible sexual partner, dangerous seductress, erotic rival, competitor, maternal woman, understanding person, domineering type, authority figure, or personified super ego.

Successful therapy with LSD requires intimate understanding of the significance of setting and setting, so that these factors become powerful tools in the therapeutic process instead of operating in an elemental fashion and presenting unpredictable problems and complications.

NOTES
1. The interested reader will find more information on the multilevel over-determination of LSD experiences in the first volume of this series, Stanislav Grof: Realms of the Human Unconscious. (32)
2. It is interesting to compare this psychedelic cartography with the four levels and stages described by R. E. L. Masters and Jean Houston in their pioneering book The Varieties of Psychotic Experience. (65) The authors distinguish (1) the sensory level (orietic images and other perceptual changes, altered body image, temporal and spatial distortions), (2) the reflectively-affective level (reliving of important emotional experiences from the past, confronting personal problems, conflicts in relationships, life goals), (3) the symbolic level (historical, legendary, mythological, ritualistic, and archetypal images), and (4) the integral level (religious enlightenment, mystical union, illumination, psychological integration). The first two levels of both cartographies show essential correspondence with each other. The Masters-Houston map does not specifically mention the level of the death-rebirth process which plays an important part in my conceptual model. Their symbolic and integral levels are combined in the cartography presented here and appear in the category of transpersonal experiences.
3. In this context, the significance of COEX systems for the dynamics of LSD sessions can only be briefly outlined. The interested reader will find a detailed discussion of this theme with several clinical examples in my first book, Realms of the Human Unconscious. (32) Another source of information about this topic is Hanns U. Leuner’s book, Die experimentelle Psychose (Experimental Psychosis) (57). His concept of “transphenomenal dynamic systems” is closely related to, but not identical with, that of COEX systems. C. G. Jung’s (43) definition of a “complex” represents yet another approach to the same problem area.
4. It is interesting to point in this context to the striking parallels between this observation from psychedelic therapy and Abraham Maslow’s (64) concept of metavalues and metamotivations derived from the study of spontaneous peak experiences occurring outside the drug contest.
5. The therapeutic philosophy of those early days can be exemplified by the
PSYCHOLYTIC AND PSYCHEDELIC THERAPIES WITH LSD: TOWARDS AN INTEGRATION OF APPROACHES

The Search for an Effective Technique of LSD Psychotherapy
Advantages and Drawbacks of the Psycholytic Approach
Pros and Cons of Psychodelic Therapy

THE SEARCH FOR AN EFFECTIVE TECHNIQUE OF LSD PSYCHOTHERAPY

It would be very difficult to describe in a systematic and comprehensive way the therapeutic procedure used in my clinical research with LSD psychotherapy in Prague. When this study began, very little was known about LSD and its therapeutic potential. The purpose of the research was to investigate whether LSD might be a useful tool for personality diagnosis and the therapy of emotional disorders. Since the project was a pilot study designed to collect new observations, in its initial phase it combined therapeutic efforts based on conventional understanding of the psychotherapeutic process with first orientations in an entirely new world of clinical phenomena. As a result, the treatment technique was being developed and constantly modified as the research proceeded. The changes of the therapeutic approach reflected my increasing clinical experiences, deeper understanding of the effects of LSD, and immediate inspirations from various accidental observations. In the following text I will briefly outline the major trends and stages of development of the new therapeutic technique.

When I started conducting therapeutic LSD sessions with psychiatric patients, as an enthusiastic and experienced psychoanalyst I automatically chose the classical Freudian arrangement. I had no doubts about the conceptual framework of psychoanalysis and the validity of its therapeutic technique. My intention was to explore the possibility of intensifying and accelerating the psychoanalytic process, which I found intellectually fascinating in theory but painfully ineffective in practice. I hoped that the use of LSD as an adjunct to the therapy would yield more impressive results than classical analysis, which requires years of intensive
work and offers relatively worse returns on an enormous investment of time and energy. However, in the course of my LSD research I was led by everyday clinical observations to drastic departures not only from the Freudian therapeutic task, but also from its conceptual framework and basic philosophy.

In the first therapeutic LSD session I conducted I asked the patient to lie on a couch, and I sat in a chair situated near the head of the couch so that I could easily see her. I wanted to get as clear a picture as possible of their LSD experiences and occasionally after their sessions. It soon became obvious that the equipment was not suitable for therapy and that I was not going to be able to maintain it for more than a few sessions. The nature of the experience and of the process seemed to be incompatible with the Freudian techniques and required a more human approach. I felt genuine support, and personal involvement. I felt that I needed to sit in the chair near the couch, and later let her have more and more frequently sit on the couch, entering into direct physical contact with the patient. This was not so simple. I was then teaching my doctor in the training of students, and the course of the treatment was a bit difficult. In the course of the treatment process occurred, and it was not without hesitation and conflict. It appeared quite appropriate to offer this degree of support to subjects who were suffering through extraordinary emotional ordeals and frequently showed signs of quite grotesque expression to early periods of infancy. However, the description of this process has to be considered in its historical context; it might appear almost comical in the age of growth, center, encounter groups, sensitivity training, the Reichian therapies, and so forth. Yet I made the first steps to violate the Freudian taboo of touch while attending seminars in which my teachers seriously discussed whether shaking hands with patients presented dangers to the transference-countertransference process. Another modification in the treatment technique was a shift from extensive verbal interaction and occasional eye contact to interrelated sessions with minimal exchange of words and use of touch, headpats, headlocks, and stereotypic movements.

Even more drastic than the modification of the therapeutic technique were the changes in the conceptual framework and basic paradigms underlying LSD psychotherapy. Everyday observations from psychiatric sessions put me in a position where I was asked to re-examine the most fundamental assumptions about the nature of the therapeutic process and going beyond the therapist's role. This would be a serious blow to the future of LSD as a therapeutic tool.

The above changes in the treatment of the LSD patient might offer an indication of its clinical possibilities. It would be difficult, however, to describe an LSD psychotherapy which would be identical with the treatment procedures of current psychiatric practice. In a broader context, the future of LSD as a therapeutic tool would seem to be limited.

At this point it seems appropriate to briefly discuss the major existing techniques and implications for the therapeutic use of LSD, and indicate their advantages and drawbacks. This discussion should provide a basis for understanding the rationale of the present treatment procedure which will be described later in detail. In an earlier section of this book, I described the techniques and underlying concepts of what I consider to be the four viable approaches to LSD psychotherapy, the psychotic, psychodynamic, anamnestic, and hypnagogic methods. The use of LSD in a hypnagogic context seems to be the least useful of these. It is a specialized procedure, discussion of which would require a comprehensive study into the theory and practice of hypnosis. It has been used by only a few explorers in the past and will probably not be widely used in the future. Similarly, anamnestic therapy in its extreme form—the fantasize technique—was practiced only exceptionally, although a mitigated version has been associated by many LSD therapists. For practical purposes we can focus on the two most important approaches, psychotic and psychodynamic therapy, with occasional reference to specific implications.

At first sight, psychotic and psychodynamic therapists seemed to differ both in theory and in practice to such an extent that most LSD therapists found them incompatible. They felt the gap between them and between their underlying philosophical postulates to be so fundamental that they could not accept or combine it; as a result, they commented that they are not suitable for the therapeutic process. Only a few therapists were able to feel comfortable with both approaches and use them separately. This dichotomy is quite surprising in view of the fact that both approaches use the same chemical compound, deal with emotionally disturbed human beings, and have the same goal—therapeutic help for the patient. Although psychoanalytical factors, such as the personality of the therapist or the set and setting, play a very important role in the LSD experience, it seems...
reasonable to assume that psycholytic and psychedelic therapists deal with phenomena that occur on the same continuum and are closely related, if not identical. The differences seem to lie, not in the nature of the experiences themselves, but in the quantitative incidence of certain elements within the session, and the therapists' emphasis on certain phenomena and tendency to discourage others.

It is well known that psycholytic therapists frequently see transpersonal phenomena in their clinical practice. However, they tend to discuss them, either as an escape from important traumatic childhood material, or as undesirable "psychoanalytic" esclosures in the LSD procedure. Within the psychoanalytic framework, transpersonal phenomena are not acknowledged and their therapeutic value is not recognized. Patients are thus implicitly or explicitly discouraged from entering transcendentental states; moreover, the low and medium dosages used in psycholytic therapy are generally less conducive to personal and transpersonal experiences than the high dosages employed by psychedelic therapists.

The frequent occurrence of transpersonal states in psycholytic treatment has its counterpart in the fact that many patients in psychedelic therapy relive traumatic childhood memories and are confronted with other material of a clearly biographical nature. Many psycholytic therapists, with their one-sided emphasis on transference and the mystical and religious experiences, have very little appreciation of or even tolerance for psychodynamic issues. The implicit or explicit message in psychedelic therapy usually is that a session spent in this way is inferior to one that involves transference. Under these circumstances, patients who have predominantly biographical sessions in the course of psychedelic therapy tend to develop a feeling of personal failure. Not infrequently, the sense of "a lost opportunity" is shared by the average psycholytic therapist, no matter how important the biographical material uncovered and worked through in such a session.

As mentioned earlier, my own development was such that I had first-hand experiences of psycholytic, psychedelic, and analactic therapies. Being an orthodox psychoanalyst, I started my LSD work in Prague following the principles of psycholytic therapy. When numerous observations in my everyday clinical practice made this orientation untenable, I moved far beyond the narrow psychoanalytic framework to full recognition of the practical and theoretical significance of the death-rebirth process and transpersonal phenomena. During several years in London in 1964, I participated in the work of Joyce Martin and Pauline McCririck, and acquired intimate insights into the nature of analactic therapy as both experience and observation. Since then, in the United States in March 1967, I have practiced psychoanalytic therapy for a number of years in the Maryland Psychiatric Research Center in Baltimore, working with alcoholics, heroin addicts, neurotics, mental health professionals, and individuals dying of cancer.

In addition, I have met most of the therapists practicing in the psycholytic and psychedelic orientations during various LSD conferences and during my visits to therapeutic facilities in Europe, the United States and Canada. The discussions during these encounters, study of LSD literature, and my own clinical experiences have gradually convinced me that the differences between these two treatment techniques are not as irreconcilable as is usually assumed. I came to the conclusion that it is possible to reduce the phenomena involved in both approaches to certain common denominators and to formulate a comprehensive general theory of LSD psychotherapy. The practical implication of this new understanding of the mechanism operating in LSD sessions is the development of an integrated treat- ment procedure combining the advantages of psycholytic and psychedelic therapies, and minimizing their shortcomings.

ADVANTAGES AND DRAWBACKS OF THE PSYCHOLYTIC APPROACH

An unquestionable advantage of psychedelic therapy is its heuristic value. The slowly progressing unfolding of various levels of the unconscious has been com- pared by some patients to chemonovacation, the careful archaeological work that sequentially explores layer after layer and studies their mutual interrelation. Other subjects refer to this process as "peeling the onion" of the unconscious mind. The richness of the material obtained in repeated sessions using medium dosages of LSD provides unrivaled insights not only into the nature of the LSD reaction, but also into the dynamics of emotional disorders and the functioning of the human mind in general.

This aspect can be important not only for the therapist, but also for many scientifically, artistically, or philosophically oriented subjects. In addition to therapeutic benefit, these individuals receive unique lessons about human nature, art, philosophy, history, and the natural sciences. Psychedelic therapy usually takes much longer than psycholytic therapy to achieve comparable results; however, it gives an individual a much better knowledge of the territories of the mind and the mechanisms through which the change was achieved, and it may be the preferred treatment for subjects with less serious and urgent problems who have deep intellectual interest in the nature of the process. As an open-ended situation, psycholytic therapy gives a better opportunity for the patient to work through and resolve important problems of his or her life than the hit-or-miss ap- proach of psychedelic therapy, which is limited to just one or a few high-dose LSD sessions.

At the present stage of development, psycholytic therapy is more understand- able and acceptable in conventional professional circles and to the "scientifically- minded," since it lays in theory and practice on widely accepted psychotherapy- oriented concepts. This seems to be true despite the fact that many observations from psychedelic research clearly and unequivocally demonstrate the limitations of the existing paradigms and the need for their revision and reformulation. However, the psycholytic emphasis makes it possible to ignore or disguise most of these challenging discoveries.

An obvious disadvantage of psycholytic therapy is that it is much more time- consuming. Although according to one of its foremost representatives, Hanscarl Leuner, psychedelic therapy can shorten the psychotherapeutic process to take ap- proximately one-third of the time required by psychoanalysis, it still requires an enormous amount of the therapist's time. The first statement is based on clinical impressions; no comparative study of psycholytic and psychedelic therapies has ever been conducted. Any attempt to compare the efficacy of these two ap- proaches on the basis of the existing literature runs into considerable difficulty. In addition to the general problems related to the evaluation of psychotherapeutic
results, which have been discussed in the literature over the last two decades, one counsels certain complications specific to LSD therapy.

Whereas psychedelic therapy has been used in the past primarily with alcoholics, drug addicts and terminal cancer patients, psychedelic treatment has focused on other categories of emotional disorders, such as psychoneuroses, character disorders, and psychomotoric diseases. It has been pointed out that the results of psychedelic treatment are more solid and permanent, because the underlying material gets thoroughly worked through, than the dynamic shift or transmutation that occurs in LSD. The results of the two methods could somehow be compared, the time aspect would be very much in favor of psychedelic therapy. My impression is that the use of higher dosages and intensification of the process, as practiced by psychotherapeutic, deeper forms of LSD and is much more productive therapeutically. However, I would still like to see an open-ended situation, which would allow for a series of such experiences if necessary, instead of the all-or-nothing method of the psychedelic approach. As mentioned above, a systematic and well-controlled comparative study, though highly desirable, does not exist at present.

For those who want to take a conservative stance, the number of exposures to LSD and the overall amount of the drug used in psychopharmacological therapy can represent an important issue. Although all of the suspicions about the biological dangers of LSD have been substantiated, it should still be considered an experimental substance whose long-term physiological effects have yet to be fully determined.

Another aspect of psychedelic therapy that should be discussed is the use of high and medium dosages of LSD as compared to the high or high dosages used in psychotherapy. Although this might be contrary to popular belief, high-dose sessions are generally much safer. There is no doubt that high-dose sessions present more real or potential problems at the time of the actual physiological effect of the drug. Under the circumstances of unexpected use, the collapse of psychological defenses, the massive emergence of deep unconscious material, the loss of effective control and the resultant lack of reality occurring in high-dose experiences present grave potential dangers. An experienced therapeutic team, however, can usually handle these quite easily. In the long run, the very aspect of high-doses exposures that make them a greater risk at the time of the drug action turn out to be their advantages. Lessened ability to fight the effect of the drug and more complete surrender are conducive to the resolution and integration of the experience. Low and medium dosages activate latent unconscious material very effectively and bring it closer to the surface, yet they also allow an unwilling subject to avoid having to face it fully and deal with it effectively. Sensation of this kind can result in feelings of excessive fatigue after the experience, a sense of rejection, various unpleasant emotional and psychosomatic aftereffects, and prolonged reaction or a precarious emotional balance conducive to later recurrences ("Flashbacks"). In the next chapter we will examine various principles and techniques of conducting a therapeutic session that lead to better resolution and reduce the incidence of prolonged reactions and flashbacks.

Psychotherapy involves series of medium-dose LSD sessions, (towards to

Advantages and Drawbacks of the Psychiatric Approach

eighty or more, depending on the nature of the clinical problem) and thus presents numerous opportunities for temporary activation and inefficient completion of unconscious gestalts. In the course of psychotherapeutics, the patient's clinical condition undergoes dramatic changes in both directions, and sometimes the therapist has to face a serious transitional worsening of the symptom or even decompensation, when the patient is approaching an area of deep and important effects. This intensification of symptoms sometimes occurs after earlier therapy had brought about a considerable improvement, and the therapist continues the sessions with an intent to "cause the result and prevent a relapse." Although psychotherapy does not eliminate the possibility of activation followed by an incomplete integration of unconscious material, it certainly considerably decreases the probability of such an occurrence.

A potentially negative aspect of psychedelic therapy is the enormous intensification of transference that almost inevitably develops in its course. This presents unique therapeutic opportunities, and also considerable dangers and difficulties. The issue of transference and its analysis is an important theoretical and practical problem in LSD psychotherapy and in psychotherapy in general. There is no doubt that the quality of the therapeutic relationship is one of the most important factors determining the course and outcome of LSD sessions. However, it is much less certain that the development of transference and its analysis is essential for therapeutic progress. This is something which is taken for granted in classical psychoanalysis and in psychodynamically oriented psychotherapy, but that does not exclude the possibility that there exist other effective mechanisms of transference change. Observations from LSD psychotherapy suggest very strongly that the intensity of transference is directly proportional to the resistance to facing the original traumatic material. In a certain sense, therefore, an LSD therapist who puts great emphasis on identification, and analysis of transference phenomena, instead of "knowing them" and directing the patient's attention beyond them, is cooperating with the defense mechanisms. It happens quite regularly in the course of LSD psychotherapy that various transference problems clear up automatically after the subject has been able to face and work through underlying unconscious material of a psychic, dynamic, perinatal or transpersonal nature.

A definite disadvantage of psychedelic therapy is its theoretical dependence on conventional dynamic psychotherapy. For this reason, it does not offer an adequate framework for many experiences that occur in the LSD sessions. Some of them have extraordinary therapeutic potential, such as the death-with process, past-incarnation memories, various archetypal phenomena and, especially, the experience of cosmic unity. The latter are closely related to, although not identical with, the oceanic feelings experienced by the infant at the breast and in the womb. They seem to have as a fundamental a significance for the success of LSD therapy as the natural experiences of symbolic unity with the mother have for the development of an emotionally healthy and stable personality. A tendency to discard and discard perinatal and transpersonal phenomena, or to interpret them in terms of mere superficial levels, limits the therapeutic potential of LSD psychotherapy and frequently confines the patient.
PROS AND CONS OF PSYCHEDELIC THERAPY

Some of the advantages of psychedelic therapy are practical, others are of a theoretical nature. In its broadest terms, psychedelic therapy works by producing a definite increase in its efficacy and safety. This approach seems to have fully appreciated the importance of positive experiences, which are usually undescribed in psychotherapy, the latter one-sided emphasis on pathology and traumatic material. Explicit focus on the positive potential in human beings is an important therapeutic factor, so it is the emphasis on positive structuring and for psychedelic sessions. External circumstances have a profound effect on the termination period of the session and thus on the final outcome of the psychedelic experience. The discovery of the critical importance of this phase represents a major contribution of the psychedelic therapists to the LSD procedure.

There seem to be several reasons for the greater efficacy and safety of psychedelic therapy. High dosages and internalization of the process lead to greater depth, intensity, and spontaneity of the experience; this results in more emotional turmoil, but also in a better chance for a positive breakthrough. A single psychedelic treatment session would inevitably have to be fast. Under these circumstances, there is certainly less risk of a worsened clinical condition, even with severely emotionally disturbed patients, than after individual psychodynamic sessions.

If we consider the other important advantages of psychedelic therapy, such as reduced time investment, less intense exposure to the drug, and fewer termination problems, it would seem that the procedure is clearly superior to the psychodynamic approach. It is therefore important to discuss some of the theoretical and practical disadvantages of psychedelic therapy, which should be taken into consideration in an empiric therapeutic approach. An important question that would have to be clarified is the nature of the changes observed in psychedelic therapy. The major objection raised against these sudden clinical improvements is that they represent only temporary shifts rather than deep changes of dynamic structures. From this point of view, psychodynamic therapy, dealing slowly and patiently with various levels of unconscious conflicts, would provide more lasting results. There are no comparative studies that would answer the fundamental question whether deep and lasting therapeutic changes are possible without working through early childhood material, reenacting the original traumatic relationships in the transference situation, and subjecting these anachronistic replicas to transference analysis. Although observations from LSD research strongly suggest that there exist important alternatives, there will have to remain on the level of clinical impression until they are systematically studied and validated.

A much more serious problem that psychedelic therapy—as presently practiced—has to face is the fact that in spite of the efforts at positive structuring of the LSD sessions, it is not possible to guarantee that all the subjects will have deep transformative experiences. In the Spring Grove program, where the therapeutic potential of psychedelic therapy utilizing just one session was systematically explored in various categories of subjects, the incidence of “psychodelic peak experiences” ranged between 55 and 78 per cent, depending on the population studied. It was the lowest in neurotic patients and highest for narcogetic drug addicts, with mental health professionals, individuals dying of cancer, and alcoholics falling in between.

The psychodelic peak experience is certainly an important factor mediating deep personality transformation; however, its occurrence is not a conditio sine qua non of successful therapy. Different degrees of improvement can be observed in many patients who have not reacted to the transcendental level of consciousness in their psychedelic sessions. Unfortunately, the candidates for a productive and successful psychedelic session cannot be selected in advance with a reasonable degree of certainty by any known criteria. Since the important variables determining the outcome of the session are insufficiently understood, the psychodelic approach, with its extreme “all-or-nothing” philosophy, still remains very much a “hit-or-miss” procedure.

The theoretical drawbacks of psychedelic therapy are probably more important than its practical shortcomings. This approach may produce very dramatic therapeutic changes with minimal understanding of the underlying mechanisms. The material from psychedelic sessions can offer new insights into some phenomena of a very general nature, such as the dynamics of positive and negative memory systems, the existence of new mechanisms of personality transformation, dimensions of human experience and the human mind, states of consciousness associated with dying, or the mystical nature of the universe. It contributes relatively little to our knowledge of the effects of LSD, cartography of the human mind, psychodynamics of mental illness, or mechanisms of therapeutic change.

This aspect of psychedelic therapy will be seen as a great disadvantage by those who judge the scientific returns of this procedure by Western standards. It will be highly rewarding for those who seek an alternative to linear, rational and logical formulations to knowledge. The insights emerging from high-dose psychodelic sessions are of a global, intuitive and holographic nature. The transcendental "ahh" experience of this kind cannot be dissected easily by the Western analytical mind, nor can it be exploited in a pragmatic sense. It is an illuminating insight into the very essence of existence. The experient does not gain rational understanding of the cosmic process, but reaches instant consciousness by losing himself or her separate identity and literally becoming the process.

This intuitive insight into the universal scheme of things is quite similar to
the process described in the Upnishad as "Knowing That, the knowledge of which gives the knowledge of everything." This does not involve a total and all-encompassing intellectual comprehension of the universe, in the sense of causal connections and pragmatic know-how concerning objects and events in the phenomenal world, but a transcendence of phenomena, space, time, and causality. It is necessary to add that this is frequently accompanied by the conviction that some of the questions that were previously considered important or even urgent are irrelevant in the context of the new system of reference. Instead of finding answers to specific questions, one reaches a state in which those questions do not exist or are not relevant, or when there is no need to ask them; both finding the answers and transcending them represent solutions to the problem, although on different levels and of differing kinds.

The fact that certain questions appear irrelevant to LSD subjects in the context of mystical consciousness will not relieve the frustration of a scientifically-minded researcher trying to draw some general conclusions from the observations of psychedelic therapy. The enormous interindividual variability precludes any valid generalization based on the material from single sessions with many different subjects. The definite spiritual emphasis of psychedelic therapy, its recognition of mystical states of consciousness, and the inclusion of what might appear to a superficial observer as elements of religious indoctrination, will certainly make this approach less appealing to skeptical and critical professional audiences. This will continue to be true until an adequate paradigm is developed that will make it possible to assimilate all the extraordinary new phenomena into the body of existing psychiatric knowledge and general scientific theory.

NOTES
1. Arthur Janov has a similar approach to the spiritual experiences occurring in some patients during primal therapy. His original emphasis was exclusively on early childhood material. Later, he was forced by clinical observations to incorporate the birth trauma, where significance he originally denied, into the theory of primal therapy. At present, he still lacks genuine recognition of the value of transpersonal experiences, and considers them a "cop-out from primal pain." The most serious dilemma of primal therapy is the fact that it uses a tool that has the power to elicit experiences for which the limited primal theory does not have an adequate conceptual framework.
2. Transpersonal psychology and the mystical world-view are frequently, and erroneously, referred to as unscientific. This reflects the fact that psychology and psychiatry (as well as the general public) still adhere to the old-model of the world, based on the Newtonian image of the universe and the Cartesian dichotomy between mind and matter. In actuality, the mystical world-view is surprisingly compatible with evolutionary discoveries in modern science, such as relativity theory and quantum physics. Both modern physics and the mystical world-view violate common sense and are inconsistent with what can be called "the pedestrian consciousness and world-view," which has not caught up with either. The interested reader will find an excellent discussion of the convergence of modern physics and mysticism in Fritjof Capra's book The Tao of Physics. (16)
PRINCIPLES OF LSD PSYCHOTHERAPY

The Preparation Period
Psychedelic Sessions
Integration of the Drug Experiences

Having discussed the most general problems related to LSD psychotherapy, I will describe the basic principles of an LSD procedure which, according to my past clinical experience, can bring the best therapeutic results in the shortest possible time and with the least risk of complications. The procedure is also in full agreement with clinical common sense and with present theoretical understanding of the mechanisms of the LSD reaction.

An ideal course of LSD psychotherapy involves an open-ended situation in which the number of sessions is not limited a priori. In general, the treatment process consists of three separate but mutually interrelated phases. The first of these is the preparation period; it involves a series of drug-free interactions during which the subject is prepared for the drug experience. For obvious reasons, the nature of the preparatory phase will be quite different for the first psychedelic session; when the sessions are repeated, certain generalities will be omitted and in-depth attention will be focused on certain specific problems suggested by earlier sessions. The second phase is the drug session itself; during the session the patient spends many hours in a special treatment suite assisted, ideally, by a male-female therapist: dyad. The third phase involves several non-drug interviews in the post-session period; the purpose of these is to help the subject integrate the content of the psychedelic experiences into his or her everyday life.

THE PREPARATION PERIOD

A sufficiently long period of drug-free interaction between the subject and the sitters should precede the first LSD session. The amount of time that is necessary to prepare a person adequately for a psychedelic session depends on the nature of the problems involved and on the circumstances; normally the range is somewhere
between five and twenty hours. It is understandable that it takes much less time to work with an emotionally relatively stable subject who volunteers for the LSD ses-
tion for the purpose of professional training, personal growth, or enhancement of
creativity, than to prepare a severely disturbed patient with serious neurotic, psy-
chotic or borderline psychopathology.
Since every situation is different and every client presents quite specific
problems, no concrete and detailed guidelines can be offered for the nature, con-
tent and duration of the preparatory period. However, it is possible to give some
general recommendations and outline certain basic principles and strategies for
preparatory work.
If the session is for therapeutic purposes the therapist should discuss in
considerable detail the subject's present life situation, emotional, interpersonal
and professional adjustment, and the dynamics of various psychopathological
symptoms. It is also important to get sufficiently acquainted with the subject's
biographical data from early childhood to recent past. This will be very useful for
a deeper understanding of various episodes of a psychodynamic nature that might
occur in the LSD session if it is familiar with the client's developmental history will be able to offer much effective support and guidance.
Knowledge of the subject's family dynamics, characteristic interpersonal patterns,
and idiosyncratic mechanisms of his or her life makes it much easier to recognize specific biographically determined distortions in the
therapeutic relationship and deal with them effectively. A particularly important
part of the preparatory work is to recognize persistent themes, repetitive
patterns, vicious circles, and self-perpetuating elements in the client's inter-
personal interaction, since these are likely to be reactivated in the transference
relationship.
During the exploration of the subject's life history, the therapist should share
any meaningful insights and observations that he has concerning the emerging
material. One important task is to develop an effective framework for organizing
the subject's understanding of the relationship between his or her past traumatic
and the existing problems and difficulties. Another area that deserves special at-
tention is the connection between psychophysiological factors and symptomatic and interpersonal
alterations. It is very important to depart at this point from the classical psychoanalytic approach, and conduct the interviews in the spirit of the basic
philosophy underlying psychic therapy. The psychoanalytic approach is primar-
ily concerned with psychopathology, and thus focuses selectively on the
negative aspects of the patient's personality. The Freudian image of man is in-
stinctively reactive and reactive conditions see humans behavior as
motivated by primitive impulses of sexual and aggressive nature, and interprets
even higher values as reactive formation or compromise with the repressive forces of society. Unhappiness as a reaction condition; the purpose of psycho-
therapy is to change the excessive suffering of the neurotic into normal human suffer-
ing. The psychoanalytic is basically non-directive; he or she avoids value
judgments and any active guidance of the patient. It is very rare that a psycho-
analyst trained in the classical tradition gives a clear answer to a specific question.
In the preparation for an LSD session, we also discuss symptoms and life
problems. However, the therapist tries to relate to whatever is available of the
healthy core of the patient's personality. The basic message is that there is a deep
positive potential in every human being that is hidden behind the symptoms, how-
ever overwhelming and crippling they might seem. The traumatic past is seen as a
couple of factors and situations that has alienated the patient from his real self.
The image of human nature on which this approach is based is close to
Kuhnian philosophy than to Freudian psychoanalysis. Behind the barrier of negative
instinctual forces associated with early biographical trauma and the hostile
realms-of-the-perineal matrixes there exist vast transpersonal realms of the super-
conscious mind, and a system of positive unitive values not dissimilar to
Abrahamic-Messianic's. In the psychedelic model the human mind is not
limited to biographically determined elements of the Freudian unconscious; it has
no boundaries or limits and its dimensions are commensurate with those of the
entire universe. From this point of view, it is more correct to see human nature as
divine than as social. Although the specificities of this philosophy are not com-
municated to the patient as part of the preparation for the session, this world-
view characterizes the approach of a psychedelic therapist.
In working with LSD patients, whether during the preparation or later on,
it is not necessary to avoid all value judgments and direct advice. The therapist
should not try to give the patient specific guidance on concrete life situations, such
as whether or not to get married, file for a divorce, have children, get an abor-
tion, and leave or change a job. Here the psychoanalytic principles are relatively
justified. The situations involved are usually too complex and contain many un-
predictable factors; the therapist cannot evaluate them objectively enough to sugg-
est the optimal course from the point of view of the client's needs. Under these
circumstances, it is very likely that the advice would reflect the therapist's un-
conscious fears, wishes and needs, instead of representing an "objective profes-
sional judgment." However, a directive approach seems to be indicated and useful
in regard to a general philosophy of existence and life strategy. Here the LSD
therapist can base his or her guidance on a set of values that seems to be intrinsic
and universal. These values tend to emerge independently and quite consistently
during successful psychotherapy with various subjects and appear to be
associated with healthy functioning.
One of the basic needs of this existential strategy is the emphasis on life in
the here-and-now—the present moment, this hour, today—as compared to
ruminations from memories from several past decades and indulgence in fantasies or
plans for many years to come. At the same time, the awareness of the client is direc-
ted from grandiose schemes toward simple and ordinary situations in every-
day life, not only as a new and untrapped source of potential gratification but as
the only real basis of satisfaction in life. The client is not necessarily discouraged
from pursuing complicated and involved long-term projects. But it is led to an in-
sight that external achievements alone will not bring the expected satisfaction and peace of mind. A deep confrontation with death, which is an important part of the
psychedelic process, will inevitably make people realize that a good self-image and
positive feelings about oneself, the ability to enjoy the life process, and a deep
sense of meaning with regard to one's existence are not contingent on complicated
external conditions. They represent a primary, organic state and a way of being in
the world that is basically independent of the material conditions of life, with
the exception of some drastic extremes.
If this fundamental affirmation of existence is present, then even the com-
monest life conditions can be experienced as worthwhile. In some sense the simple
fact of participating in consciousness and in the ecstatic process, in whatever
way, appears to be very precious. Ordinary activities such as everyday work, physical exercise, eating, going for a walk, watching a sunset, or making love can become a joyful expression and celebration of life. When this basic appreciation of the fact of existence is missing then external success and achievement of any kind and any scope will not provide it. Under these circumstances, frantic pursuit of what appears to be self and life-validating goals will trap the individual into a net of vicious circles without bringing the expected satisfaction. The positive life feelings, if absent, have to be sought inside, through a process of deep self-exploration and inner transformation, not by manipulation of external circumstances alone.

The philosophy underlying psychedelic therapy thus definitely emphasizes orientation on the process, rather than on the outcome or goal. Hence and with the attitude one performs certain activities becomes very important in this context, not only what the specific choices are and what the final result of one's effort will be.

During the preparation systems of values can be explicitly and implicitly communicated to the client whenever there is a good opportunity. It seems appropriate to actively discourage excessive dwelling on the past for decision-making in the future involving money, power, status, or fame. This is particularly important if the schemes for the future are irrationally unrealistic, and exaggerated, or if the client is obviously wasting time in futile daydreaming and building "castles in the air."

It seems fully justified to emphasize the deep wisdom of the emotional and philosophical (though not necessarily pragmatic) orientation towards the present moment, and of a reliance on ordinary situations for basic life-satisfaction. We can also point to the intuitions and self-defeating nature of various attitudes and behaviors reflecting desperate needs to prove oneself, to please or convince one's parents, peers or unidentified "others," or to fight irrational authority. Since the above value system and life strategy was derived from the psychedelic perspective, there is a good possibility that the drug sessions will provide a powerful experiential validation of various issues conveyed during the preparation in a more or less intellectual way.

An important part of the initial work focuses on philosophical and religious issues. Although it has occasionally been done by psychedelic therapists, I would not recommend the use of a specific religious system as part of the framework for the sessions, whether it is Christianity, Judaism, Hinduism, or Tibetan Buddhism. This can frequently interfere with a symbolic framework that is emerging spontaneously from the subject's collective unconscious and is the most appropriate form for that person's spiritual experience. In addition, explicit introduction of the elements of a specific religion or church affiliation can be experienced as inappropriate and irritating not only by atheists and skeptics or followers of other religions, but also by those who have brought up in that same tradition and have developed serious conflicts about it. However, it seems useful to increase the client's awareness of the archetypal aspects of the world, his or her interest in the philosophical questions of life, and recognition of the spiritual dimension of existence in a non-specific way.

 Clarification is frequently required in regard to the subject's understanding of the term "religion," the role of spirituality in human life, the relationship be-
Through illusionary transformation, the rotating plastic wheel of a tape recorder becomes an ancient Egyptian ornamental motif showing the heads of three hierophants.

Through illusionary transformation, the rotating plastic wheel of a tape recorder becomes an ancient Egyptian ornamental motif showing the heads of three hierophants.

psychedelic therapy. In the most general sense it is of great relevance to the course of any LSD session; however, there are certain specific situations in which the element of basic trust plays a particularly crucial role. Any work on the roots of one's distrust of other people and the world at large is critically dependent on the quality of the relationship between the experient and the guides. Similarly, the ability to face the experiences of ego death in all its complexity and depth usually requires good external grounding in a dependable therapeutic situation. In view of the importance of the relationship between the guides and the client, the preparation for a session should not be just a one-sided flow of information but should give the subject a chance to get to know the future sitter. Ideally, instead of being a conventional exchange of clichés, the preparation period and the therapeutic process should represent a genuine human encounter.

When the therapist feels that the preparation has accomplished the objectives described above and the client is psychologically ready for the first drug experience, they schedule one last meeting before the session. This focuses ex-clusively on various technical aspects of the procedure and usually takes place on the day immediately preceding the drug session. The discussion concerns the nature of the psychedelic experience, the range of unusual states of consciousness that can be induced by LSD, and the most useful ways of dealing with the experience. At this point, unless it happened earlier in the process, the therapists should encourage the client to voice all the fears and doubts that he or she might have about the drug and the procedure. This is the last opportunity to answer general or specific questions and to clarify all the misconceptions and half-truths that the subject might have picked up from sensational publicity and even from the professional literature. Of these, the most important are concepts of the LSD state as “model schizophrenia” and of LSD as a substance that can cause or precipitate psychosis; the issue of prolonged reactions and “flashbacks”; the danger of organic brain damage; and the possible adverse influence of LSD on chromosomal structure and heredity.

The “model psychotics” concept was discussed earlier; it is outdated and was replaced by a new understanding of LSD as a catalyst or amplifier of mental processes. The occurrence of transitional psychotic states after some sessions represents one of the risks of LSD therapy even under supervised conditions. However, in supervised LSD work these occur very rarely, and only to people with severe emo-
tional problems and borderline personality pathology. They are not created by the drug but represent extermination of important, deep unconscious material. The activation and conscious manifestation of large quantities of such material can present a clinical problem; however, it is also an opportunity for therapeutic change, if approached and handled properly. In a later section we will discuss in detail the mechanisms of psv-related reactions, “flashbacks,” and psychic decompensation associated with the administration of LSD, as well as certain principles of conducting sessions that can minimize the occurrence of these phenomena.

The only serious and unpredictable somatic danger associated with psychedelic sessions is the stress on the cardiovascular system caused by the intensity of emotions and physical tensions typically triggered by the drug. Careful selection of the candidates and screening out of persons with a history of myocardial infarction, decompensated heart failure, malignant hypertension, severe arteriosclerosis, tendency to brain hemorrhage and similar conditions, eliminates this risk. A disposition to seizures may be a contraindication for a psychedelic ses-
tion unless a well-equipped pharmacy is readily available. In individuals with a history of epilepsy LSD can occasionally trigger a sequence of seizures, or status epilepticus, which can be extremely difficult to control outside of a medical setting.

There are no indications that pharmacologically pure LSD in the doses that have been used in psychotherapy (30–150 micrograms) causes organic brain damage. The allusion to this possibility that have occurred in professional literature were based on two observations. The first of these was the frequent occurrence of tremors, jerks and complex twisting movements in the subjects dur-
ing LSD sessions. These motor manifestations can be observed even in individuals without an epileptic disposition and they bear a certain similarity to symptoms seen in a variety of organic diseases of the central nervous system. According to clinical observations from LSD therapy, they represent release and discharge of deep, pent-up energies associated with emotional abrasion and actually have a great therapeutic potential. The most dramatic motor aberrations of this kind occur in connection with the death-rebirth process. They tend to diminish or disappear when the individual moves beyond the perinatal level, despite the fact that by then the total amount of the drug ingested is much higher than at the time when they first occurred. Also, the great individual variability and lack of a direct dose-effect relationship weigh strongly against there being an organic basis for the motor phenomena in LSD sessions. In general, testing of LSD subjects during various stages of the psychotropic series failed to detect any indications of brain damage, even in those cases where the total number of sessions was close to one
hundred. The techniques used in this context were basic neurological examination, electroencephalography, and psychological tests that are routinely used for establishing organic brain damage in clinical practice.

The second observation that some authors interpreted as indicative of brain damage was the incidence of certain personality changes observed in some LSD users. Among these were a loss of ambition, carelessness, long hair and a beard, wearing unusual clothes, a, lessened concern about personal hygiene, departure from a rational orientation, and preoccupation with philosophical and metaphysical themes. A careful analysis of the "hippie personality" clearly indicates that it cannot be attributed exclusively to the use of psychedelic substances. It is a complex phenomenon which involves important sociocultural factors and elements of juvenile revolt reflecting the deepening generation gap. It was clearly demonstrated in our patient population that profound personality changes, including philosophical and spiritual transformation, can occur within the external changes characterizing the hippie personality. To equate the personality changes of American LSD users with the deterioration observed in patients with organic brain diseases such as prefrontal tumors should raise some misgivings. Investigators involved in the LSD research conducted for therapeutic purposes, raised serious doubts whether the conclusions about LSD from observations made in connection with the non-medical use of so-called "street acid."

Unfortunately, the negative publicity concerning LSD and other psychedelic drugs not only influenced the attitudes of the general public, educators and legislators, but also the opinion of many professionals. The national hysteria of the sixties and sensational newspaper headlines had a greater influence on psychiatrists and psychologists than the results of clinical studies indicating the relative safety of LSD when used under responsible circumstances. As a result of this, many of the statements made about the drug by professionals reflected a strongly irrational emotional bias rather than solid scientific evidence. This is best illustrated by the fact that among the psychiatrists who raised serious objections to the use of LSD as a therapeutic tool, because they were concerned it may cause some subtle brain damage not yet detectable by our current methods, there were some individuals who did not hesitate to recommend patients for pre-frontal lobotomy.

The last area that should be mentioned in this context is the effect of LSD on the chromosomes. Sensationalizing has succeeded in programming the general public so thoroughly that this issue has almost become a foregone conclusion, coming up in the preparatory talks. The problem is of critical importance for psychedelic psychopharmacology and its future. One of the appendices to this book presents a critical review of over one hundred scientific papers on the subject. I will only briefly summarize my own opinion on this matter, based on twenty years of clinical experience and a thorough reading of the existing literature. There does not seem to be any indication that the administration of pharmaceutically pure LSD has any specifically deleterious effect on chromosomes or heredity. It should not be administered, however, because of an increased danger of abortion and possible interference with fetal development.

LSD thus appears to be a very safe substance biologically, if we screen out persons with serious cardiovascular problems and pregnant women, and proceed with caution when there is a predisposition to epileptic seizures. All other dangers seem to be of a psychological nature. To a great extent there are not inherent in the drug itself, but are determined by a complex of extrapharmacological factors, such as the personality of the subject, the set and setting, and the specific techniques used in the process. The most important aspects of this problem are discussed in detail in other parts of this book.

After all the fears, doubts and apprehensions have been dealt with, the clinician should convey his or her understanding of the effect of the drug and of the therapeutic potential of the experience. It is important to emphasize that LSD is a catalyst or amplifier of mental processes, a tool facilitating deep self-exploration. Inducing it does not send one into an alien world of "toxic psychosis" or "chemical phantasmasoria," but mediates an adventurous journey into the hidden recesses of one's own unconscious mind and through it into realms that can best be described as superconscious.

In the early years of LSD research, influenced by the "model schizophrenia" hypothesis, psychedelic sessions were routinely referred to as "experimental psychoses" even when they were conducted for therapeutic purposes. It is important to avoid terminology and metaphors of this kind, since they are not only scientifically incorrect, but involve a danger of heavy negative programming for the session. In such a context, episodes of anxiety, aggression, mistrust and other difficult emotions will be interpreted by the subject as indications of the "psychotherapeutic" effect of the drug, instead of being seen as unique opportunities for confronting and working through certain problematic areas in one's own mind. In addition, the allusion to schizophrenia or psychosis has a frightening connotation of irreversible and permanent loss of sanity. More appropriate and useful metaphors are those using the imagery of an "interpsychic movie," a "vivid fantasy," or a "waking dream." It is particularly helpful to remind the future candidate for psychedelic therapy that in our deep we all have episodes of unusual states of consciousness during which we can vividly see, hear, smell, taste, and feel things that do not exist in the phenomenal world. This reference to dreams is a useful emphasis of the fact that all phenomena which deviate from the common experience of reality and the usual logic of things do not necessarily imply insanity.

Another important part of the preparation is to inform the client briefly of the range of experiences that can occur during the session, such as perceptual changes in various sensory areas, reliving of emotionally relevant experiences from childhood, sensations related to diseases and operations, elements of the death-rebirth process, and various transpersonal phenomena. Since many of these are beyond the conventional frameworks, it is useful to encourage the client to give up intellectual analysis during the session and focus on the experience itself. Otherwise, reason can become a powerful obstacle to exploring new areas of experience. The intensity of psychedelic states also deserves notice: it is important to prepare the client for the fact that the dimensions of the experience will probably be beyond anything that he or she has ever faced before or could even imagine in the usual state of consciousness. Although no words can adequately communicate the intensity of a high-dose LSD experience, such a warning can save the candidate from shock and panic during the session.
It is essential to discuss in advance several situations that are the most frequent issues of difficulty in LSD sessions. The first of these is the experience of dying, which may be so dramatic, realistic, and convincing that the subject can easily mistake it for a real physiological emergency. This is particularly true for the confrontation with death that occurs on the perinatal level; it may be associated with many acute biological signs that can disarm not only the subject but also an inexperienced sitter. The drastic changes of color, seizure-like motor activity, projectile vomiting, profuse sweating, and fast, shallow, rapid breathing can cause the company of the experience of dying can be very convincing as indications of a genuine crisis, and may contribute to the failure to recognize its symbolic nature. Therefore, it is not necessary to confront the subject with death as an observable reality, but rather to discuss the subject's inner awareness of the subject's inner experience in the context of the perinatal crisis and how that awareness can be integrated with other experiences and the subject's understanding of the experience of dying. It is important to convey that the perinatal experience of dying occurs in the context of the death-rebirth process and that total surrender to the experience is always followed by feelings of liberation, whereas struggle against it prolongs the suffering.

The second frequent problem in LSD sessions is the feeling that the experience will never end or that permanent insanity is imminent. A special interest in this state is the no-exit experience described earlier. It is of critical importance for the subject to understand that the way out of this condition is to accept the content of the experience. In many cases, the outcome of the session may be that it is still in progress and should be considered valid assessments or predictions; they should be treated as part of the experience. Thus, paradoxically, accepting that one will stay in the altered state for an extended period can be a healthy solution and surrender to permanent insanity results in a move to a higher reality. As in the case of the death experience, which frequently accompanies the fear of psychosis, fighting the specter of impending doom and insanity prolongs the unpleasant state and keeps the subject in the sphere of its influence.

The third most common source of panic is the fear of becoming homosexual. It is usually initiated by feelings of a very intense attraction or an identity of the opposite sex. A male subject can experience not only an androgenic female body image, but also a sexual attraction to another male. The境 is not equivalent in the female usually does not involve a sense of having a masculinity body, but male psychological characteristics. It is necessary to reassure the subject that this is not a situation unique to his experience to the essential world of the opposite sex. It will ultimately strengthen the sense of one's own sexual identity rather than cause a homosexual transformation. Another source of homosexual fears can be uncontrolled feelings of physical attraction to the same sex. These can usually be dissolved at transference of early sexual feelings toward the parent of the same sex. The deepest source of homosexual panic is a male subject seems to be the emergence of frightening birth memories; in this condition the vagina appears to be a murderous organ and the individual cannot imagine ever approaching it again as a source of pleasure.

Various physical feelings that can occur in LSD sessions should be mentioned here. On occasion, they reach sufficient intensity to present real problems. It is important to make clear to the subject that LSD in the dosage commonly used in psychotherapy does not produce any severe symptoms but by virtue of its pharmacological effect. Nausea, vomiting, headaches, various muscular pains, suffocation, painful cramps of the uterus or the gastrointestinal tract, increased motor activity, and other physical manifestations in LSD sessions are always of a psychosomatic nature. They are associated with important psychological material and experiencing them fully is of great therapeutic value. Every preparation for a psychedelic session should involve a discussion about the possibility that the client might experience at some point a profound crisis of trust, no matter how good the therapeutic relationship seems to be before the crisis occurs. It is vital to prepare the client for this possibility and strongly suggest that he or she try to look outside themselves for possible sources of distress before focusing their attention on the external circumstance. It is obviously more reasonable to assume that one's perception was changed by the influence of a powerful psychotropic drug, than to suspect that within an hour a drastic and unexpected change occurred in the external situation or in the personality of the sitter. The very fact that the possibility of the crisis involving trust was discussed in advance usually helps to mitigate it when it occurs. A basic rule is that of critical importance in LSD psychotherapy is to keep the session internalized. Since the psychedelic experience represents a process of deep self-exploration, a journey into one's own mind, consistent introspective orientation is by far the most productive approach. LSD subjects are therefore encouraged to stay for most of the experience in a comfortable reclining position with their eyes closed; the top technical solution here is the use of soft eye pads. Exposure to complex stimuli from the external world, especially if combined with moving around, excessive talking and social interaction, is, in general, counterproductive. It tends to keep the experience on a superficial level and interferes with the process of self-discovery. On occasion, expressive dancing can be very useful in psychedelic sessions if the subject keeps his or her eyes closed and does not lose the introspective connection with the inner process.

I would not like to deny that there can be positive value in psychedelic experience in which the subject is oriented toward the external environment. The drug can open and unclutter the sensory channels to an extraordinary degree and make it possible for the subject to perceive the world in a totally new way. The ensuing aesthetic, emotional and spiritual participation in the environment can be a very profound and valuable experience, especially if the session takes place in a beautiful natural setting. An externalized psychedelic experience in the mountains or on the seashore, in the woods, or even in one's own garden can become a unique and unforgettable event. However, if one is taking LSD for this purpose, it is important to stay in the dosage range, below 100 micrograms. Higher dosages tend to activate important unconscious material that can surface and distort the perception of the environment. For a person who has taken LSD to a
complex physical and social setting, relevant psychological elements and external sensory stimuli fuse into an inextricable amalgam that obscures the emerging personal material. Under these circumstances, the LSD state tends to become an incompressible mixture of external perception and experiences of one's inner world; as a result of this, such situations are generally not very conducive to productive introspection. Since for the purpose of genuine growth, working through the emotional problems, and philosophical or mystical quest should therefore, be internalized.

An even more important reason for keeping the focus on the inner process is the element of safety. The ratio between the potential benefits and possible risks is much more favorable for internalized sessions conducted in a simplified and pre-emptive setting, that is, for the outward-oriented experiences practiced by non-people in the subculture. It is essential for a good outcome of the session that a balance be kept between the lowering of psychological defenses and effective working through of the emerging emotions. Whatever deep emotions have been released, the energy associated with them should be channelled to the periphery. Maximum awareness of the inner process and its full emotional, perceptual and physiological importance for a good outcome of the LSD experience. Situations in which the drug activates most of difficult emotional material and the individual tries to avoid facing them can lead to protracted reactions, unsatisfactory integration, subsequent residual emotional or psychosomatic problems, or a precarious mental balance that becomes the basis for later "flashbacks."

In view of the above observations, much emphasis is placed during the preparation period on explaining to the client how important it is to maintain a reclining position during the LSD session, to keep on the eyeshades and headphone, and to face, experience and express fully whatever is surfacing. Mostly, the technical problems in the sessions occur when the client, instead of treating the experience as an internal process, projects the emerging unconscious material onto the sitters and the treatment situation. This attitude functions as a powerful defense and represents a serious obstacle to therapeutic progress. Instead of facing the problem in the inner world where it can be identified and resolved, the client creates a facade, a pretense, by projecting and focusing attention on manipulation of the external world. Paying such counterproductive situations is one of the important tasks of the sitters and it begins in the preparation period with a detailed description and explanation of the basic rules.

One more important aspect of psychedelic therapy should be discussed with the patient in considerable detail. In medicine and conventional psychiatry, there is an implicit rule that the degree of improvement should be directly proportional to the number of therapeutic interventions or to the duration of treatment. In the psychedelic procedure, as in other forms of uncoercive therapy that focus on self-release, this is not necessarily true. Here it can happen that the symptoms are temporarily intensified after some of the sessions; this frequently occurs just before a major therapeutic breakthrough. It can be explicitly stated in the instructions that it is not a failure of LSD therapy if after certain sessions the client feels worse. It simply reflects the fact that important unconscious material was activated in the

The Preparation Period

preventing session and remaining unresolved. The concept of temporary worsening as an unfinished gestalt helps the patients to tolerate difficult post-session intervals, approach them constructively, and maintain optimism in regard to the final outcome of the treatment.

Before I start describing the actual technique of conducting the LSD sessions, I would like to mention briefly several observations from my European study of psycholytic therapy. They can be used as empirical and theoretical justification of some of the principles outlined later. During psycholytic therapy, the clinical condition of the patient in the free intervals between LSD sessions showed considerable oscillations in both directions. After some sessions, clinical symptoms were alleviated or even disappeared and patients felt "cured," free from conflicts and problems, and ready to start a totally new chapter in their lives. After other people in the subculture. It is essential for a good outcome of the session that a balance be kept between the lowering of psychological defenses and effective working through of the emerging emotions. Whatever deep emotions have been released, the energy associated with them should be channelled to the periphery. Maximum awareness of the inner process and its full emotional, perceptual and physiological importance for a good outcome of the LSD experience. Situations in which the drug activates most of difficult emotional material and the individual tries to avoid facing them can lead to protracted reactions, unsatisfactory integration, subsequent residual emotional or psychosomatic problems, or a precarious mental balance that becomes the basis for later "flashbacks."

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Observations from psychedelic therapy provide important clues to how this can be done more effectively. Spontaneous experiences of tension-free, oceanic ecstasy in psychedelic sessions are typically associated with visions of beautiful natural scenes such as clear lakes, calm oceans, tropical islands, lush forests, flourishing meadows, and blue or star-filled skies. Equally common in this context is experiential and/or visual awareness of the mysticism of nature and the creative forces of the Universe, although concrete archetypal symbols related to specific religious and mythologies of different cultures may be frequent. Some patients also report quite authentic experiences of the good Mohammad and good earth, as well as v-sounds involving ideal maternal care, love, and friendship.

Many of the above elements that occur spontaneously in the context of ecstatic episodes in LSD sessions have been routinely used by psychodetic and analytic therapists as tools facilitating positive experiences. Walks in nature and the use of various objects reflecting nature’s creativity, beautiful pieces of symbolic paintings of the sacred traditions, sculptures related to various spiritual disciplines, readings from religious texts, and the use of physical contact can be maintained here as salient examples. Although the positive influence of various factors was discovered empirically, their use can be theoretically justified and their unusual efficacy explained on the basis of a deep unconscious association between oceanic ecstasy and the experience of natural beauty, inspired artistic, spiritual feelings, and highly satisfactory human relationships. Some of these elements and principles should be integrated in a comprehensive program of LSD therapy; they facilitate the occurrence of positive experiences during psychedelic sessions, as well as in the termination periods. This makes psychedelic treatment more meaningful and effective and increases its therapeutic potential.

**PSYCHEDELIC SESSIONS**

In the following text, I will outline the most important characteristics of an ideal treatment setting as I see it on the basis of past clinical experience with psychedelic therapy. Of utmost importance are these specific demands. LSD sessions should be conducted in a specifically designated treatment unit or suite. This should be situated on the ground floor and insulated from the main facility, with a separate entrance. A small kitchenette and easily available lavatory would make it possible for the therapists to stay with the patient the entire day without undue interpsychological break or a snack. It is important that the patient be able to reach the bathroom in a short time without having to interact with the external world and to face complex social situations. In addition to these, the therapist should be made for situations so that the therapist and the patient do not feel constrained or restricted by external concerns and can followfully the dynamics of the process. If the unit is not in a small separate building but part of a larger complex, adequate acoustic insulation might be necessary.

The treatment room should be homely, comfortably furnished and tastefully decorated. Soft padding and cushions are preferable to sharp edges and hard metallic surfaces. This not only gives the patient a sense of comfort and protection, but can become an important safety factor in more animated episodes in sessions that involve physical movement or psychodramatically enacted struggle. Frothy cut or potted flowers, a bowl of assorted foods and dried fruit and nuts, a collection of inspiring pictures and art books, and various natural objects of great beauty such as shells and stones, have become over the years a standard and integral part of our treatment setting. Music is an essential part of psychedelic therapy, and a high fidelity stereo record player and tape deck, several sets of headphones, and an extensive collection of tapes and records of good quality should always be available.

If possible, the treatment facility should be situated in a beautiful natural setting. Although this is of little relevance in the first few to five hours which the patient spends with the eyeshades and headphones on, it becomes important during the termination period of the session. The psychodetic experience tends to bring the subject into intimate contact with nature and dramatically enhances his or her sensory perception of the world, and an encounter with nature at its best can become an aesthetic and spiritual experience of lasting value. It not only contributes considerably to a good integration of the session, but connects the positive energies and emotions to elements of the everyday world. Water deserves special mention during the session it assumes almost magical significance for many LSD subjects and has extraordinary capacity to facilitate a positive outcome of the session. A swim to the ocean, a clear lake, or a stream can work wonders in the termination period of LSD sessions. Under more modest circumstances, the use of a swimming pool or bathtubs, or a good shower will serve a similar purpose.

It is preferable to start LSD sessions in the morning; if the drug is taken in the afternoon, the experience can continue until late in the evening and the subject might find it difficult to sleep that night. The optimal dosage of LSD seems to be somewhere between 200 and 400 micrograms for most patients. It is determined primarily by the nature of the psychological problems involved, the personality structure of the subject, and certain physical concerns such as age and general health. Body weight seems to play a relatively minor role. The sensitivity or resistance toward the drug appears to be primarily a function of the system of psychological defenses. We mentioned earlier that patients with severe obsessive-compulsive neuroses seem to represent an extreme of resistance, whereas patients with a hysterical personality structure or symptomatology are at the other end of the spectrum. There seems to be a saturation point for LSD somewhere around four or five hundred micrograms; increase of the dose beyond this point does not seem to produce much additional effect. It is generally more useful to identify the specific mechanisms of resistance and try to influence them psychologically than to use heroic dosages in an effort to "break down the defenses.”

LSD is fully effective in most individuals and administration by injection is of little practical value. The slight shortening of the latency period that this gives is usually not worth the inconvenience of the injection technique and the introduction of a powerful element of the traditional medical model into the setting. Intramuscular administration is occasionally useful for patients whose clinical
problems involve a predisposition to nausea and vomiting. In the case of vomiting early in the session, an uncertainty might arise as to the actual amount of LSD that was received. For similar reasons, LSD was administered by injection to some cancer patients in order to determine the degree of reception because the gastrointestinal system was afflicted by the disease.

In general, fasting for a day or two before the LSD session seems to have some advantages. It tends to preclude gastrointestinal symptoms and make the subject more comfortable. It reduces symptoms to unusual states of consciousness, and reduce the incidence of unpleasant gastro-intestinal symptoms in the session, particularly nausea and vomiting. A compo- nent solution should be used almost routinely if the subject has not fasted. This usually required a light dinner on the immediately preceding day and only liquids (milk, fruit juice, or tea) for breakfast. This tends to shorten the reception time and decrease the incidence of nausea.

The subject should have light, casual and comfortable clothes; any restrict- ing garments or potentially dangerous personal belongings should be removed from the body. If this is not done before the session the subject might as well be in the room later in the experience, or it may become necessary in view of certain special situa- tions. It is thus easier to eliminate beforehand bars, belts, tight pants, watches, pieces of jewelry, artificial dentures, glasses, contact lenses, keys, pocket knives, and similar objects.

LSD should be administered without much delay after a brief focusing on the "here-and-now." Many patients show a high level of excitement, apprehen- sion, or anxiety, and as a result lose a few hours of sleep before the session. This is quite common before the first psychedelic experience, but it is not exceptional even for experienced LSD subjects. It is useful to discuss briefly the physical and emotional conditions and give time for last-minute questions that might be the product of a sleepless night. However, much delay tends to increase the anxiety instead of reducing it. Facing the drug takes time when it is used in an easier than dealing with all the fantasies as to what the experience will be like.

After the administration of LSD there is a latency period of about twenty to forty minutes before the drug takes effect. Its duration depends on the route of administration, the amount of food in the stomach if the drug is ingested, and the level of psychological defense. The time before onset of the drug effect can be spent in meditation, listening to quiet music, looking at pictures, or in quiet discussions. Sometimes it is interesting to leaf through the family album or look at pictures of close family members if one wants to use the experience for a deeper insight into and with one's relatives.

As the patient begins to feel the effect of the drug, he or she is encouraged to lie down on the couch and put on eyeshades. This helps the individual to focus on the inner world that prevents distraction and prevents physical distraction from the experience from the outside. From then on the reclining position is generally encour- aged for the next four or five hours, and the experience is almost fully inter- nalized. The subject's responses and listening to music are to be selected music; the objective is to let go and surrender to the experience. The task of the sitter is to give support and protection to the subjects, take care of their various psychological and physiological needs, facilitate the full unfolding of the experience, and deal with various forms of resistance as they occur during the session.

In general, excessive talking should be discouraged during the period of intense drug effect; this is particularly true for the compulsive, incessant talking and intellectual analyzing that is usually a manifestation of resistance and interfer- ence with the experience. Long explanations and interpretations offered by the therapist, or involved discussions, are also usually counterproductive. The psychedelic experiences in high-dose sessions usually have many levels and facets; their rapid unfolding and change make competitive reporting impossible. In addition, the ability to articulate and communicate verbally is frequently impaired by the influence of the drug.

Verbal exchange between the therapists and the client, although very useful during the preparation, in the termination period of the sessions, and on the following days, should be kept at an absolute minimum during the enominating hours of the drug session. The subject is occasionally asked to state a brief report limited to a few sentences to provide clues for the sitter. An experienced sitter can usually get a sufficient understanding of the nature of the subject's psychedelic state on the basis of external behavior and sporadic verbal communications. This is particularly true if the sitter can draw on his or her own experiences of a similar kind. Thus, general tension, an aggressive facial expression, clawing or clutching of the hands, and occasional primitive sounds, together with statements like: "All this incredible hatchery" or "I have been in all the wars since the beginning of the world" give sufficient information to the sitter. Similarly, a statement such as "I cannot differentiate boundaries anymore; all seems to be coming together, flowing into One" from a relaxed, ecstatic subject does not require any further explanation. Sensual movements of the body with an intense involvement of the pelvic area and occasional utterances about love-making, sex, or orgies convey enough content. Any further narratives and descriptions serve the needs of the sitters rather than the experient.

Memories of the session are usually quite adequate and discussions and analyses can be postponed to a later time. The only exception is a situation of strong resistance where the sitter needs to have exact information to help the experient through the impasse.

If the client is not giving any feedback, the therapist should interrupt briefly every half-hour or so; the purpose of this "checking-in" is to re-establish contact, obtain some clues about the process, and give reassurance if necessary. One of the reasons the sitters should know the nature of the subject's experience is that music for the session should be chosen with sensitivity to match the psychological state of the experient. Apart from this, mostly non-specific support should be given through not non-verbal channels. This can involve hand-holding, reassuring touches, or various forms of psychodramatic involvement in the experience. It might prove helpful at times to provide resistance for a client who needs to strug- gle or push, to emphasize certain physical feelings by pressure or massage, or to use some other maneuvers of a similar kind. This becomes more common as the session is approaching the termination period. Early in the experience physical interventions require great sensitivity and good rapport. It is important to main- tain a trusting relationship, a sense of cooperation, and a general framework of a play. However, the "as if" atmosphere of symphatic play can be easily lost in the intensity of the experience and the therapist might risk being perceived as an at- tacker rather than as a helper. Unless the sitters have intuitive certainty about the quality of the relationship, these maneuvers should not be used in the early stages.
of the session. Another important aspect of the therapeutic interaction is sensitive response to the client's needs—offering a blanket when he or she appears to be cold, wiping the sweat off the brow, cleansing moist or saliva from the face, wetting the lips when they are dry, or bringing a glass of water.

All that has been said above applies to psychodynamic sessions which have an uncomplicated and straightforward session, the client is able to maintain the reclining position, stays with the eye-eads and headphones on, keeps the experience internalized, and is capable of handling the emerging unconscious material adequately. In the kind of session discussed here, the therapist is far too active for the sitter to do; they listen to music, meditate, and try to tune empathically into the client's experience. A very different situation occurs when the subject is not able to tolerate the experience and refuses to "go there." Minor examples of this are various evasive maneuvers, such as a tendency to take off the headphones and sit up, have a cup of coffee at a cigarette, chat about trivial things, pace around, or go for a walk. A more dramatic manifestation of resistance is the projection of the emerging material onto the sitter and the treatment situation. The client wants to look at the sitter, get involved in intellectual arguments, discuss their life situation or their problems, or criticize the role or circumstances of the session. Extreme complications involve a total loss of awareness of the symbolic nature of the experience and confounding it with reality. Thus, usually, an experience of dying, fear of instability, or hallucinogenic panic. The patient may "experience acute resistence and want to escape the situation and the room, confining the internal danger with the external situation."

When the client cannot maintain the recommended position, starts peering and interpreting the situation in a grossly distorted way, or shows a tendency for cutting off behavior, the sitter must remain from their part-stance to active intervention. A less urgent indication for therapeutic action is a situation in which the patient stays at the headphones and headphones but tends to project his or her feelings on the sitter rather than taking them back to their origin. The role of strategy and techniques for dealing with various different situations in psychodynamic sessions will be discussed later in a special section. (pp. 196-85)

An atmosphere of respect and commitment is absolutely necessary for a successful psychodynamic session. Sitters who answer telephone calls during the sessions, permit people to knock on the door, or leave the treatment room to carry out various parallel activities can hardly expect smooth, productive, and successful sessions. A single major distraction or unpredictable withdrawal of support at a critical time in the session can become a long-term obstacle in the treatment. The patient's emotional and content of the therapist and never again dare to abandon control and lose certain beneficial aspects of his or her unconscious.

Ideally, the sitter should be attended during the entire time of the drug action by two sitters, a male, female therapeutic dyad, who never leave the treatment unit. The sitters should know each other well, get along with each other, and be used to working together. There are several reasons for having two therapists: both sexes in the sessions. There are certain activities which are much more natural for men than for women, and vice versa. By and large, women seem to be more appropriate for comforting, cradling, and physical support, whereas the nature of the experience calls specifically for a male figure. This is true for situations in which the subject is dealing with the psychological impact of the absence of his or her father in childhood, or feels a need to express affection in relation to a father-figure.

Conversely, psychodynamic encouragement of struggle might require physical strength and be better suited to a male therapist, unless the context of the experience calls specifically for a female. It is also quite common that various problems related to the Oedipal triangle in the client's childhood first become manifest as peremptory distortions of the relationship with the therapeutic dyad. There are also certain transpersonal experiences, such as archetypal constellations and personalization memories, for which the presence of both sexes is important or facilitating. Thus representation of both the male and the female element is useful not only in terms of division of tasks, but also as specific facilitation of certain experiences and for evocative projection actions. Although deep involvement in projection is generally counterproductive and should be discouraged, the projection distortions can become an extremely powerful source of insight if approached by the subject in a constructive way.

Since music is such an important and integral part of LSD psychotherapy, we will briefly discuss its role, the basic principles of selecting appropriate pieces, and the specific way in which they are used in the session. Music seems to serve several important functions in the context of psychodynamic therapy. It tends to evoke a variety of powerful emotional states and facilitates deeper involvement in the psychodynamic process. It provides a meaningful structure for the experience and creates a continuous carrier wave that helps patients to overcome difficult parts of the sessions and move through impasses. LSD subjects frequently report that the flow of music helps them to let go of their psychological defenses and surrender fully to the experience. Another function of music is to provide a sense of certainty and connection to the core of various unusual states of consciousness. It is quite common that clients have difficulties with the periods when the music stops and the records or tapes are being changed; they complain that they feel suspended in midair, and sense a painful gap in the experience. An additional function of the music deals more specifically with its content; it is often possible to facilitate the emergence of a certain emotional quality such as aggression, sexual feelings, "psychodynamic breakthrough," or a transpersonal experience, by a specific choice of music. The significance of music for the positive structuring of the twenty-year period has already been described.

As far as the choice of music is concerned, I will outline only the general principles and give a few suggestions based on my own experiences. Each therapeutic team develops after a certain time, a list of its favorite pieces for various phases of LSD sessions and for certain specific situations. The basic rule is to respond sensitively to the phase, intensity and content of the experience, rather than to try to impose a specific pattern on it. Preference should be given to music of high artistic quality, but little concrete content. One should avoid playing songs and other vocal pieces in which the verbal content suggests a specific theme. Wherever used, vocal compositions should involve a language unknown to the experimenter so that the human voice becomes an unspecified stimulus. For the same reason, it is preferable to avoid pieces with which clients have specific intellectual associations. Thus, the beginning of Beethoven's Fifth Symphony in C minor is
usually associated with the inimiveness of a fateful event (Symphony of Destiny); the use of the wedding marches from Wagner's Lohengrin or Mendelssohn's A Midsummer Night's Dream suggest a mephitic atmosphere; and Bizet's Carmen would evoke through a similar mechanism the theme of a bull-fight. In such subjects, Liszt's Les Préludes tends to bring memories of the war, because it was used by Nazi propaganda as an introduction to the daily news broadcasted on street loudspeakers.

The major objection to the use of music in psychodrama sessions is that even if we avoid the gross programming illustrated by the above examples, we will exert a strong structuring effect on the experience by our choice of music. This will be in sharp contrast with the tendency to internalize the sessions and eliminate specific optical stimuli. A subject who over-identifies with a certain element of truth in this ideal. The solution seems to be to play a tape of "white noise"—a sequence of random acoustic patterns produced by a sound generator. Listening to it while wearing headphones, LSD subjects usually create their own inner music which seems to fit the nature and content of the experience perfectly, since it is coming from the same source. Thus, only non-specific acoustic stimulation is present in the situation, the subject being transformed by the subject into music. Monotonous sounds, coming from various electric appliances, or recordings of the ocean tide can play a similar role.

However, the danger of programming associated with specific music is not as serious as it might seem. The potential for manipulating and controlling the experience is rather limited. If the subject is in an extremely difficult emotional place, any music, no matter how inspired and etheeral, will be distorted and may sound like a dirge. Conversely, during a deep positive experience just about any music will be enthusiastically accepted by the subject, who will find it fitting and interesting from some point of view. Only in the medium range somewhere between these two extremes can music effectively shape the experience.

Even though a certain general atmosphere or emotional tone will be suggested from the outside, the subject will elaborate it very specifically. The resultant sequences will still be manifestations of the individual's own unconscious, reflect the content of his or her memory banks, and represent a meaningful self-revealing gestalt. Moreover, the external input does not seem to reduce the therapeutic significance of the psychodrama, but that it triggers or modifies. It is useful to discuss the subject's taste in music before the session and get an idea of his or her preferences, idiosyncrasy, and general level of musical sophistication. However, the actual selection usually reflects more the personal understanding of the process than the experient's choice. Only the late hours of the session, when no more therapeutic work has to be done, is an exception; this is a period of relaxation and the subject is given the opportunity to determine the nature of the entertainment. In general, the music chosen reflects the usual experiential trajectory of the psychodrama sessions. In the latency period, before the onset of the drug effect, quiet, flowing and calming music seems appropriate. As things change after the experience begins into music which has an opening-up and building-up quality. Within about an hour and a half, the patient is fully under the influence of the drug; this is the time for powerful and emotive, highly-evocative music. If we are choosing from the Occidental repertoire, good classical music, such as less well-known symphonies, concertos, or overtures of famous masters would be appropriate. Johannes Brahms, Robert Schumann, Sergei Rachmaninoff, Edvard Grieg, Ludwig van Beethoven, Hector Berlioz, Richard Strauss, Richard Wagner, Antonín Dvořák and especially Alexander Nikolayevich Scriabin are examples of composers whose music was frequently used by the Spring Grove therapists in this phase. In the fourth hour the LSD session tends to culminate, and in most instances seems to build up to a resolution. This is an opportunity for a major emotional or spiritual breakthrough, depending on the level on which the session is experienced. It seems appropriate at this point to introduce powerful, overwhelming music with a transcendental quality; oratorio, requiems, and masses, combining a full orchestra with a multitude of human voices, can be extremely evocative and effective. Sacred music of Wolfgang Amadeus Mozart, Johann Sebastian Bach, George Friedrich Handel, Hector Berlioz, Giuseppe Verdi, Charles Gounod, or Francis Poulenc would be typical examples of this category. The music of the American composer of Armenian-Scottish extraction, Alan Hovhaness, can be unusually powerful and effective in this context. It is extremely evocative and transcendental, yet not sufficiently well-known to produce standard associations. For the termination period of the session, quiet, relaxing, and flowing music with a timeless quality is chosen, such as the classical guitar, compositions for harp, and certain pieces by Johann Sebastian Bach or Antonio Vivaldi. Many records of contemporary composers such as George Deuter, Steve Halpern, Paul Horn and Paul Winter are also useful in this context. Oriental selections would include records of Ravi Shankar, music for Zen meditation, Japanese music for the bamboo flute, or Polynesian songs.

The above directives represent a very general outline; to practice the choice of music will depend on the LSD subject and on the circumstances. The sitter should respond very sensitively to the specific content of the sessions, providing Bengali, Middle Eastern, Indian, African, Chinese, or other music if the subject reports experiences in those cultural contexts. Specific pieces of music might also be selected to deepen an experience of aggression, sexuality, physical and emotional pain, or transcendental feelings.

Over the years I became particularly impressed by the profound impact of ethnic music, especially those sound performances from certain religions traditions which were specifically designed as technologies for altering consciousness. Some of these are so unusual for an average Westerner that they should be used only with sophisticated individuals familiar with these traditions. Among the most powerful recordings in this category are the multivocal chanting of the Taotici Buddhist tradition in Tibet; the Hindu kirtan; the monkey chant, or letjak, and other trance-inducing music from Bali; shamanic music from various parts of Asia, North America and South America; the howling of the Congolese Pygmies; trance music of the Kung Bushmen of the Kalahari desert; and chants from the Sufi ceremonies. Similarly, Creek stick dances, flute music from the Andes, recordings of the African asal, songs of the Baums of Bengal, Armenian liturgical chants, Spanish flamenco guitar music, and other interesting ethnic pieces are useful for psychodrama sessions.

If the subject can stay with the experience, the therapist's task is to change records with sensitivity to the process, give support, protection, and encourage, and take care of the patient's basic needs. The time when the pharmacological effect of the drug is wearing off—usually the sixth hour after ingestion—is
the most critical period of the session. This is the time for the sitters to move into an active mode and try to facilitate a good resolution and integration of the experience. The emotional and psychosomatic condition of the sitters at the time the session terminates is of crucial importance to the final outcome of the session and the longer lasting effects. Even if the LSD subjects had deep transcendental experiences earlier in the session, their active aftereffects if, during the reentry, they get "stuck" in some unresolved psychosomatic dynamic. Conversely, a very difficult session with paranoid states and lethal experiences can be extremely therapeutic as the resolution is in which the meaning of the experience with the convergence of the conscious experience and the emerging unconscious gestalt, to the point that they become identical and merge. In this way the unconscious theme is energetically released and ceases to exist as a symptom-producing dynamic structure; this is followed by sudden relief and a feeling of completion. Although it is not always possible to reach optimal resolution and a tension-free, "oceanic" state, the sitters should work toward this goal.

The above technique seems to be a most powerful way of reaching positive closure and good integration of an LSD session. As will be described later, it is fully compatible with other approaches of experiential psychotherapy and can be combined with them. An eclectic therapist can use techniques of gestalt practice, bioenergetic exercises, rolling, guided affirmative imagery, asanas from Hatha yoga, elements of primal scream, and many other methods to great advantage. If the sessions are conducted in the context of a therapeutic community, other group members can be introduced into the process during the termination period to assist the sitters in working through the residual problems. They can facilitate the experience by creating a stimulated group in the birthing canal, offering comforting physical support, working with the subject in a warm pool, or creating a transpersonal field by group chanting.

When it becomes obvious that the available pent-up energy has been released and further uncovering work would require maneuvers that were too forceful, the sitters offer positive inputs to facilitate integration. Physical contact, individually or in a group, can induce nourishing feelings of comfort and security. A walk in nature, with its variety of sensory experiences, seems to be conducive to positive or even ecstatic emotional states. Looking at flowers or trees, sitting in the grass, smelling hay, or watching the sunset can be powerful experiences long to be remembered. It was already mentioned that exposure to water in the form of a swim, bath, or shower seems to be of special significance. LSD subjects frequently experience contact with water at this stage as being not only physically cleansing, but also emotionally and spiritually purifying. It can bring them into touch with memories of infant bathing, prenatal existence, or early phyllogenetic stages, and can induce a state of blissful merging and undifferentiated unity.

When all major residual problems have been worked through, it is time for socializing. At this point the sitters invite into the treatment room, with the previous agreement of the patient, friends or relatives who have been waiting outside. Depending on the circumstances this may be just one person, such as the spouse, a sexual partner or good friend, or a group of family members and friends.

All participants in this "reunion" are asked to respond to the needs of the experient and respect his or her special state of mind. It is up to the subject whether this
meeting will take the form of a quiet meditation and wordlessly get-together, or a jovial social event. New channels of straight and honest communication can often be opened in this situation.

In our arrangement a special "psychodine dinner" was usually prepared by relatives or friends. It consisted of a variety of meals, snacks and fruits of interesting colors, taste, and textures. Mandarins, Indonesian, Indian and Japanese dishes because particularly well received. Fully well-organized professional experiences most subjects love to experiment with food, and discover that eating can be an adventure involving qualities and dimensions they had never imagined. However, it was important not to overdo or do not to lose interest in food. This is accepted with understanding and no pressure is put on him or her to participate in the preparatory meal. The instruction given to the participants in the "reception" is to space of the expectation. This approach is in essential congruence with the basic orientation of the entire session day. The subject should feel free to do what he or she wants to do or has to do, and see the sitter as relatively as helper or assistor.

"This is your day" is the implicit and explicit message given to the subject before the session and reinforced or repeated in various ways during the day. The issue of a session is an important one and should be approached with great sensitivity. It should not be done routinely, but always with respect to the specific circumstances. In some instances, it might be wiser and more appropriate not to involve the relatives, or even to cancel an unexpected or unforeseeable, if the general condition or special emotional state of the subject seems to indicate it.

On the night following the session the subject should stay in the special treatment suite. Unless the circumstances or the condition of the client do not allow it or make it inappropriate, the spouse, close relative or good friend should spend the night with the subject. A nurse and at least one of the sitter should be on call in case of any medical or psychiatric emergency. On occasion, especially after poorly resolved sessions, a belated upsurge of intense emotions might occur in the hypnopompic period, later at night, or in the morning during the hypnopompic state.

If the session started in the morning there are generally no problems with sleep: this is particularly true if the experience was well resolved and integrated and the termination period was positive. After sessions that had a late start, or where the subject felt not complete the emerging emotional and psychosomatic gestalt, sleep may not be easy. Generally, it is better to use hypnotics and tranquilizers at this time, since they also inhibit the process of natural integration of the unconscious material. A few hours of sleep, the presentation is usually cleaner and the long-term results better without these. If too much excitement interferes with a good night's sleep and this becomes a strong emotional issue for the subject, Librium, Valium, or a barbiturate might be appropriate.

The basic rule is that the subject should not be left alone for twenty-four hours after the ingestion of LSD. During the evening and the night it is recommended that he or she maintain a quiet meditative mood and not embark on solving heavy interpersonal problems. If the companion for the night is a sexual partner, the suggestion is to spend the time in quiet non-verbal communication. Talking and sexual interactions should not be endorsed by the partner and should reflect the inclinations of the subject.

INTEGRATION OF THE DRUG EXPERIENCES

The morning after the session the client should be able to sleep as long as is necessary. The general suggestion for the day is rest, relax and stay in a meditative state of mind. Quiet walks in nature, backing in the sun, or swimming are highly recommended. Listening to music, especially to the pieces that were played during the LSD experience can be particularly useful. Later that day the sitter should schedule a long interview with the client. This is an opportunity to share in detail the experiences of the preceding day and also to discuss any puzzling aspects of the psychedelic session; it also serves to facilitate the integration of the material and its application to everyday life. Special attention should be paid to transference phenomena that occurred during the session, and to their analysis. At the Maryland Psychiatric Research Center both treatment units were equipped with closed-circuit television. Those subjects who requested or agreed to have their LSD sessions videotaped usually watched the tape the following day. We found this procedure extremely useful; it provided a unique opportunity to complement the subjective dimension of the experience with a more objective point of view.

The subject should be encouraged to write a detailed account of his or her psychedelic experience. This process involves concentrated attention and seems to facilitate recall of otherwise forgotten episodes. Intensive emotions can emerge during this work, and the client might have an opportunity to complete an unfinished gestalt. In general, it seems that the work on the account greatly facilitates the integration of the session and later this write-up becomes a basis for a deeper and more detailed discussion of the psychedelic experience with the sitters. If the sessions are continued detailed records become essential, since old material can frequently assume new dimensions of meaning in view of later psychedelic experiences.

The clients should also be given ample opportunity to express their experiences in various artistic forms, such as paintings, mandala drawings, poems, written stories or plays, sculptures, dancing, or musical compositions. In addition to their aesthetic, cathartic, and documentary value, these creations often provide valuable material for a deeper understanding of the session. In several of our patients, impulsive drawing and painting became an important channel for coping with difficult unconscious material.

Sometimes the integration of the session takes days or weeks. It is important to encourage the client to keep the emotional channels open and continue the uncovering process, rather than try to shut them off prematurely by psychological means or with tranquilizers. Related completion of an unconscious gestalt is most likely to occur in the intermediate states between waking consciousness and deep sleep that characterize the hypnopompic and hypnopompic periods. Another important opportunity of this kind is the dream life. After a well-integrated session, the nights tend to become dreamless and sleep very deep and refreshing. Conversely, a session in which the subject did not reach emotional and psychosomatic closure is usually followed by extraordinarily rich and intense dream life. A powerful dream can often mediate completion and final integration of material that had been activated by the drug but remained unresolved.

When the spontaneous process does not have enough dynamic strength to
complete itself, the sitters should do intense activating work with the client, following the principles outlined earlier for the reentry period. An interesting alternative to the approach that encourages externalization and abreaction is the use of prolonged hyperventilation. This technique, based on the Indian science of breath, pranayama, was recently rediscovered by Leonard Orr (72) and adopted in his rebirthing programs. Intensive work for a period of thirty to forty-five minutes, tends to collect the tensions in the body into a stereotyped pattern of moving and eventually release them. This is associated with activation of the autonomic nervous system, and from the unconnected muscular tensions concentrate in the arm and legs (the so-called carpaloul programmer of a movement) and in several circular constrictions of the head and body corresponding with the two cakras in the Indian system. The Kundalini yoga. In this technique, volutional and conventional intervention is generally discouraged, and the subject is asked to continue breathing until all the tensions are released. A clear and transparent plateau in a very short time. The use of this technique requires certain background information and special instructions, and it will be discussed in greater detail in the following volume.

If neither of the above techniques brings a satisfactory psychological resolution, another psychedelic session should be scheduled as soon as possible. The general principle applied here might seem paradoxical to a conventional psychiatrist. Psychotherapy can be discontinued at any time after a satisfactory session that was well integrated. If it resulted in an intensification of clinical symptoms or a prolonged reaction, continuation of therapy is indicated. The basic idea is that this is not due to some unpredictable effect of LSD, but represents an unfiltered unconscious gestalt that should be completed.

The use of group therapy as part of a comprehensive LSD treatment program deserves special discussion. After several unsuccessful attempts at using LSD as an adjunct to group psychotherapy, we moved away from this model. However, it proved extremely useful to combine individual LSD treatment with drug-free group work in the context of a therapeutic community. The atmosphere of collective responsibility and support, opportunities for mutual help, and the specific power of the group process represent extraneous therapeutic potential. In the context of a large group experience, every participant can contribute to the sessions in the company of their co-participants. At this time they can have various interesting perceptions of other people and of their interaction; conversely, others make valuable observations of the person coming down from LSD sessions and their own reactions toward them. In the next meeting where the patient shares his or her psychedelic experiences, this material becomes an important addition to the group dynamics. The patient’s interaction with other members in the group helps to complete concretely to a deeper understanding of the material from the LSD session, and also provides new insights into the problems of other patients in the group. These group meetings typically have such evocative power that some patients, instead of communicating after these spans have developed this will paradoxically release the tension. Moreover, after several initial sessions exploring this the mechanism of the experience stops responding to intense breathing with the “hyperventilation syndrome.”

NOTES

1. Prefrontal lobotomy is a psychosurgical procedure developed by the Portuguese neurologist, Edgar Moniz, and awarded a Nobel Prize for Medicine in 1949. It was used for chronic psychoses, impulsive behavior and some severe obsessive-compulsive states. Its original form involved blind severing of connections between the frontal lobes and the rest of the brain. The damage was occasionally so extensive that most of the brain hemisphere turned into a large blood cyst.

2. The interested reader will find more information on the use of music in psychosomatic groups and drug experiences in a special article by Helen Bonny and Walter Pahnke, The Use of Music in Psychological (14) and in Helen Bonny and Louis Savary’s book Music and Your Mind (15).
COMPLICATIONS OF LSD PSYCHOTHERAPY:
OCURRENCE,
PREVENTION, AND
THERAPEUTIC MEASURES

Physical and Emotional Contraindications
Critical Situations in LSD Sessions
Adverse Aftereffects of LSD Psychotherapy
Prevention and Management of Complications in LSD Psychotherapy

While discussing the risks and dangers of LSD psychotherapy, we must distinguish between those that are intrinsic to the drug and to the psychedelic process and those that are critically dependent on extrapharmacological factors. The former are involved every time the drug is taken without regard to the specific circumstances; the latter are to a great extent conditional and their incidence, degree and relevance can be influenced by set, setting and the technique of conducting the sessions. The dangers of LSD psychotherapy can be reduced considerably if we screen out individuals who represent high risk, and if we conduct the sessions with an awareness of and respect for the specific dynamics of the LSD reaction.

PHYSICAL AND EMOTIONAL CONTRAINDICATIONS

All clinical and laboratory evidence accumulated during the last three decades indicates that from the biological point of view pharmaceutically pure LSD is a surprisingly safe substance. This statement should not be automatically applied to so-called "street acid." The quality of samples sold in the black market varies considerably and some of the impurities and admixtures are physiologically much more dangerous than LSD. Chemical analysis detected amphetamines, strychnine, STP, phencyclidine (PCP or "angel dust"), and other substances in several street samples of what was sold as LSD.

In clinical work with pure LSD, the major physiological danger is not the drug per se, but the intensity of emotion that it triggers. Only rarely is there a high-dose LSD session in which the client does not experience at some point extreme degrees of emotional and physical stress, the dimensions of which are
beyond anything encountered in everyday life. It is therefore essential to screen out in advance individuals for whom intense emotions can be dangerous or even fatal. It was mentioned earlier that this involves in the first place persons with serious cardiovascular disease, arteriosclerotic thrombosis with a danger of embolism, malignant hypertension, vascular aneurysm, a history of myocardial infarction, myocarditis, decompressed cardiac failure, and brain hemorrhage. When we consider that an LSD session should have a physical examination, including an electrocardiogram. In case of mild cardiovascular problems, one should be conservative with the dosage and proceed with caution. We have to bear in mind that we are not talking about direct injection effects of LSD on the heart or vessels, but the risks associated with intense emotions. Although dosage usually evokes more powerful affective responses, this relationship is very emotional or who have enormous amounts of unconscious material close to the surface, a relatively small dose of LSD can trigger a very strong reaction.

Pregnancy should be considered a contraindication. Although there is no evidence of any effect on the visceral organs of the fetus or any other organ, there is a danger of disturbing the biochemical balance between the fetus and the maternal organism. An even greater risk is the intense uterine contractions that occur in many high-dose sessions, especially involving perinatal material. As a result of a powerful LSD session female subjects may often start menstruating in the middle of their cycle, and adverse effects on the developing children's health is very much more than the consequences of such experiences. This is becoming increasingly common in the past and present, very few scientists believe that such dangers really exist. Because of their practical significance, these problems are discussed in a special appendix to this book. (pp. 318-47)

All other biological dangers are relevant. Many clinical observations suggest that special caution is indicated in persons with an epileptic disposition, especially those with a history of grand mal seizures. In these individuals, occasional, not only individual attacks but entire chains of seizures following each other in a rapid sequence. This so-called status epilepticus can be very difficult to control. However, certain forms of epilepsy and other adverse effects of LSD have been much more controversial in the past, and so this issue has been considered individually for each case. This observation seems to be particularly true for temporal lobe epilepsy, though there is no clear organic finding.

Sometimes the excessive muscular activity that frequently occurs in high-dose LSD sessions can be a specific danger for some of the patients. Extreme tension, tremors, cramps, jerks and complex twisting movements might lead to complications in individuals with pathological fragility of the bones, insufficiently healed fractures, or a disruption of the joints.

There are some indications that individuals with severe liver damage have a tendency to prolonged LSD reactions, because the liver plays an important role in detoxifying LSD and breaking it down into metabolites. Therefore, it is considered in the past to screen out persons with insufficient liver function associated with cirrhosis, a history of hepatitis, or other pathological conditions. Our experience with chronic alcoholic and cancer patients, as well as the patients with severe liver damage, indicated that this factor is negligible unless the dysfunction is of a critical degree.

If we follow the rules outlined above, LSD appears to be a drug with a wide range of biological safety. Dosages between 25 and 2000 micrograms have been used in clinical settings without any detectable adverse physiological effects. In our own research, we have administered LSD to persons up to the age of eighty-three and to a number of cancer patients in the terminal stages of their illness, without a single casualty. Our experience shows that the laboratory examinations routinely used in medical practice to detect diseases and dysfunctions, such as for example, an electrocardiography, electrocardiography, blood count, serendipity, urine analysis and liver tests do not show any pathological changes even after a series of eight to one hundred LSD sessions.

The situation is much more complicated in regard to emotional risks. Here the degree of safety is critically dependent on the pre-session emotional balance of the subject, and on the enface circumstances. We have never seen adverse after-effects of an LSD session in an individual who did not have considerable emotional problems prior to the session. In a person who is reasonably balanced and adjusted, the negative sequelae the day after a supervised psychedelic session seldom go beyond such complaints as feelings of fatigue, headache, or hangover. These negative consequences can be much more serious after experiences in complex and erratic social situations, where the drug was given to an unprepared or even unsuspecting individual, or where traumatic circumstances and pathological interaction complicated the course of the psychoactive reaction.

The risk of adverse effects increases considerably when the drug is administered to persons who have serious emotional problems, show severe interpersonal disorganization, or had psychiatric hospitalization in the past. Work with psychiatric patients, even when conducted by an experienced LSD therapist under the best circumstances, involves certain risks. Careful preparation of the patients, internalization of the experience, and active psychological work reduces the hazards, but does not eliminate them completely. There will always be a risk that the patient will occasionally trigger not only individual attacks but entire chains of seizures following each other in a rapid sequence. This so-called status epilepticus can be very difficult to control. However, certain forms of epilepsy and other adverse effects of LSD have been much more controversial in the past, and so this issue has been reconsidered individually for each case. This observation seems to be particularly true for temporal lobe epilepsy, though there is no clear organic finding.
psychotic problems and a psychotic disposition. An example of this was the situation at the Maryland Psychiatric Research Center. There the number of LSD sessions for all categories of subjects except cancer patients was limited by the research design to 15. The center had laboratories, but no bed facilities. In the case of a prolonged reaction or other complications, LSD patients had to be hospitalized at the Grove Spring State Hospital and, according to the routine local policies, this meant a stay in a locked ward and administrative file of psychotics. Despite these unfavorable conditions we worked with very severely disturbed patient populations, such as chronic alcoholics and heroin addicts who were prisoners inmates, and we were not overly anxious during the screening process. We had only two instances of prolonged reactions in our LSD subjects, both occurring in patients who had psychotic episodes in the past. They lasted only a few days, and could be handled easily by conventional means.

CRITICAL SITUATIONS IN LSD SESSIONS

While seriously adverse aftereffects of supervised LSD sessions tend to occur only in individuals who had considerable emotional problems prior to the drug experience, in the actual course of high-dose psychedelic sessions various emergencies can occur in anybody, without regard to his or her emotional stability. It is essential to inform a client during the preparation period that he or she may have difficult experiences during the sessions, and that these represent a meaningful and integral part of the procedure. One of the major problems in the non-supervised use of psychedelics was a false notion that the subject would experience only states of transcendental bliss and have a uniformly wonderful time. The occurrence of difficult emotional states was therefore perceived as an unexpected complication, and easily caused panic in the subject and his or her friends.

The most common problem in psychedelic sessions is resistance to the emerging emotional material and an unwillingness to "go with the experience." The form this resistance takes is usually indicative of the client's habitual mode of defense. The evasive maneuvers that the sitters have to deal with cover a very wide range. Sometimes, the subject accepts the eyeshades and headphones, but argues against the use of the eyeshades and insists on distinguishing constructive and appropriate objections from anxious efforts to fence-off the emerging emotions. Constant talking and intellectualizing which does not leave space for their experiences is another common escape. Some individuals try to focus in their mind's eye on the external environment and recall the surrounding reality in the minutest details. They try to remember the names of the co-patients, reconstruct the room plan of the facility, and visualize the form and color of furniture in the room. Sudden sobering-up in the middle of a high-dose session is another common form of psychological resistance against the psychedelic experience.

The next step involves unwillingness to keep the session internalized. Sometimes the subject asks for permission and offers a reason—taking a break, smoking a cigarette, drinking a glass of coffee, or going for a walk. Even in these cases their visits to the bathroom are a particularly common technique; sometimes they are physiologically justified, but often they have purely psychological motives. A more serious form of resistance involves removing the eyeshades and headphones and simply refusing to continue, without excuse or explanation. When this happens the sitters should use all their psychological skills to return the client into the original introspective mood. The only exception to this rule are situations where the subject wants to explore the external world and there is no doubt that the request is genuine and does not serve the purpose of avoiding the inner experiences. While negotiating with the client in these situations, the sitters can refer to the original contract made during the preparation period, when various forms of resistance were explicitly discussed with the subject and he or she accepted the importance of keeping the session internalized.

In an extreme case, the relationship between the sitters and the LSD subject can be disrupted to the point where the latter perceives it as being not cooperative but antagonistic, and tries to act on his or her own. This can culminate in the client attempting to leave the treatment situation altogether. These episodes are not very frequent, but they are extremely critical for LSD therapists. The basic rule here is to keep the subjects on the premises and guard against their hurting themselves or someone else. Various degrees of compromise have to be made between the need to restrain the subject, and to avoid an open confrontation and fight that would further impair the therapeutic relationship. In the most dramatic situations of this kind, the best one can do is to play for time and keep the subject safe until the reeding pharmacological effect makes him or her more amenable to active cooperation. Fortunately, such extreme situations are rather exceptional in therapeutic LSD sessions conducted by experienced sitters.

Before discussing the specific difficulties and complications that can occur during LSD sessions, we will mention some of the general principles. The most important factor in crisis-handling is the therapist's emotional reaction to the emergency situation. A calm, centered, and supportive attitude toward the various manifestations that occur in psychedelic sessions is much more important than anything the therapist says and does. The ability to remain unperturbed while facing dramatic instinctual outbursts, sexual acting-out, hostility and aggression, self-destructive tendencies, paranoid reactions, or extreme emotional and physical pain increases with clinical experience and the number of sessions one has conducted. Participating in a number of critical situations and witnessing their positive resolution is the best training for future emergencies. Working through one's own emotional difficulties in psychedelic sessions conducted for training purposes is equally, if not more important. Any serious unresolved problems in the sitters may easily be activated by participation in other people's sessions.

If the emergency situation evokes anxiety, aggression, guilt or some other inappropriate "countertransference" reaction in the therapist, this can result in a highly dangerous type of interaction with the patient. Since the sitters are the patient's only hold on reality, their reaction is his or her ultimate criterion of the seriousness of the situation. Thus, anxiety manifested by the therapist represents final proof to the patient that the situation is really dangerous. Not only are the sitters sober and supposedly in a state of adequate reality-testing, but in the eyes of the client they are experts in dealing with unusual states of consciousness. Their evaluation of the situation and their emotional reaction then reflects professional judgment. Whenever the therapists show strong negative reactions to emergency
situations in LSD sessions, destructive vicious circles are likely to develop between the clients and themselves. The therapist may be upset by certain behavior or experiences that the patient manifests, and he or her emotional reaction has a reinforcing effect on the patient. This intensification of the patient's difficulties causes in turn more emotional distress in the therapist. Because of this snowballing effect, such situations can reach critical proportions in a very short time. Similar problems have been described in psychodynamic literature as "diabolical circles" (cercle diabolique); although this term might seem slightly exaggerated when used for situations in everyday life, it is certainly appropriate and justified for the dramatic circumstances that might develop in LSD sessions.

Adapting the handling of critical situations is one of the crucial problems in LSD psychotherapy. Although all the professionals at the session are out of control and not only fruitless, but harmful; it creates frustration and disappointment in both the therapist and patient, undermines their mutual trust, and can shatter their feelings of personal security. For the therapist adequate experience and training, including his or her own LSD sessions, is therefore of paramount importance. At the time of my LSD research in Czechoslovakia, the training for future LSD therapists was based on the principles of the first LSD research I had made a minimum of five personal LSD sessions under the guidance of an experienced therapist, and thirty therapeutic sessions with psychiatric patients conducted under supervision. LSD training sessions were also found very useful if those psychiatric nurses functioned as female co-therapists or came into contact with patients under the influence of LSD.

The use of tranquillizers is an issue of considerable practical significance and deserves a special notice. In general, an experienced therapeutic dyad can handle all, or almost all, situations that occur in LSD sessions by psychological means alone. I have personally conducted more than three thousand sessions over the years, and only three were terminated by tranquilizers. All three occurred in the early years of my LSD research when my experience with drugs was very limited. Thorazine and other major tranquilizers are not specific neurobiological agents of the LSD effect. Used in high dosages, they have a general inhibiting effect that overrides and masks the psychodelic action of LSD. Detailed retrospective analysis of this situation usually shows that the patient experienced the action of both drugs simultaneously, and that the combined effect of the two is rather unpleasant.

The use of tranquilizers in the course of psychodelic sessions is potentially very noxious. The most dramatically negative reactions have a lengthy chronic bequitable for the subject in the long run. If tranquilizers are administered in the middle of a difficult psychodelic state they tend to prevent its natural resolution and positive integration. They "freeze" the subject in a negative psychological frame and thus contribute to the incidence of prolonged reactions, negative aftereffects, and 'ifthetbacks.' The routine administration of tranquilizers in the middle of negative psychodelic experiences is therefore a harmful practice that should be discontinued. This is even more true in the case in the context of LSD psychotherapy, which follows in general the strategy of an uncovering technique. Unpleasant experiences are caused by the entrance of highly charged emotionally traumatic unconscious material. Since this material is the source of the patient's difficulties in everyday life, negative episodes in LSD sessions, if properly approached and handled, represent great opportunities for therapeutic change.

In LSD psychotherapy, there is a continuity in the context of consecutive sessions. If we terminate an unpleasant experience by administering tranquillizers, the unresolved material will continue to surface in future sessions till the patient reaches the point where he or she is capable of confronting and resolving it. Therefore, the therapist should first exhaust all possibilities of a psychological intervention before considering tranquilizers. If a specific vicious interaction has developed between the sitter and the client, and the situation appears to be irresolvable, another therapist should be called to take over the session; provisions for such situations should always be made in advance.

If all psychological approaches fail and tranquilizers have to be used, it is much better to start with Librium (30-60 milligrams) or Valium (10-30 milligrams), which seem to alleviate painful emotions without interfering with the course of the session. As soon as possible, the patient should resume a reclining position with eye-glasses and headphones, to continue the introspective approach to the experience.

The situation that creates the most problems in psychodelic sessions is the experience of dying that occurs in the context of the death-rebirth process. This encounter with death is inebriating and convincing that it can easily be mistaken for a real, vital emergency, not only by the experiencer but also by external observers and inexperienced sitters who are in a normal state of consciousness. Because of this collusion between symbolic and biological dying, the resistance against the psychodelic process can be particularly powerful. Deep seated anxiety and activation of survival programs can make the subject fight the effects of the drug with the intensity and determination characteristic of an actual life-and-death struggle.

From the technical point of view this is a most critical and important situation. It is absolutely essential to the smooth course of the session and the positive outcome that subjects stay with the eye-glasses and headphones at this point, and keep the process internalized. If the psychological aspects of this experience are propped onto the therapeutic situation, this can result in dangerous acting-out behavior. Subjects may feel drawn to windows and doors, setting them as escape routes out of the unbearable psychological situation; they may physically fight the sitters, seeing them as the oppressive element; or be driven to violent self-destructive actions making them for the liberating ego death. The dangers of the externalization of this process extend beyond the framework of the drug session itself. Unresolved psychodelic experiences of this kind can result in very difficult emotional states in the post-session period, which may last for days or months unless properly treated.

If the client tries to tear off the eye-glasses, and create a projective pseudoreal situation of the above kind, this is the time for active intervention. Since the issue has been discussed during the preparation period, the sitters can make references to that conversation to connect the client's intellectual knowledge of the process with the actual experience. This in itself can be helpful, although there is usually a fundamental gap between the death experience and its verbal descripton. This process can be so elemental and of such unimaginable experiential dimensions that no words in the world are adequate to convey it. In any case, the critical factors in dealing with this situation are the non-verbal aspects of the sitter's approach; under these circumstances, communication is more effective than anything that is said or done.
metaphysical quality. A person who is in a no-exit state experience extreme distress of various kinds and is unable to see any end to this situation or any way out of it. Thinking seems to have a circular quality and objects frequently come up with their thought processes with closed loop running on a tape recorder. A more appropriate and accurate description of this state is to liken the peculiar circularity of ideas and emotions to a moving Möbius strip that turns into itself while also involving a paradox in regard to the initial spatial and temporal configurations.

The basic strategy in dealing with the no-exit situation should be to emphasize and clarify the distinction between psychological time and clock time. The feeling of eternal doom with no hope of escape is an essential experiential characteristic of the no-exit situation. In order to work through and integrate this experience one has to accept its full content, including the feeling that it will last forever and that there is no way out.1 Paradoxically, a person who desperately resists and fights what he or she feels would be an experience of endless suffering, prolongs his or her torture; conversely, if he or she capitulates and accepts facing it in hell forever, the very depth of the infernal matrix has been experienced, that particular gestalt is completed, and the process will move forward. A difficult situation in which more of the no-exit matrix involves repetitive verbal or motor behavior; in classical psychiatric terminology this is known as verbalization and perseveration. For a period of time that can last anywhere from minutes to hours the individual behaves like a robot whose mechanism has been broken. Subjects in this state keep repeating the same movements, sentences, or words. There is usually no meaningful contact with them, and no external intervention of any kind can break the automation-like behavior. In most cases, the only solution is to wait until the reaction spontaneously terminates and contact with the client can be re-established. This problem seems to occur when the drug activates unconscious material with excessive emotional charge. Less dramatic forms of this pattern can accompany the emergence various inhuman sounds, and hallucinations or loss of prestige. A very difficult and important experience that occurs in the context of the ego death is the expectation of a catastrophic of enormous dimensions. Subjects face agonizing tension, leading to fantastic proportions and develop a conviction that they will explode and the entire world will be destroyed. This fear of disintegration represents a difficult existential barrier; it is a species-specific sensation that not only their own fate, but the fate of the entire world depends on their ability to hold on. In this situation it is extremely important that therapists repeatedly emphasize the safety of this experience. No matter how catastrophic it might appear from the subjective point of view, this explosion is ultimately emotionally and spiritually liberating. What is destroyed in this process is the limiting concept of oneself and the corresponding restricting view of existence and of the universe. Once the process reaches this point, it is absolutely essential to complete the experiential gestalt. Unfinished and poorly integrated sessions in this area can result in serious destructive behavior and suicidal ideation.

Another situation that can become a source of considerable problems in LSD sessions is the experience of no exit. Although it occurs most frequently in the context of BPM II, there exist closed environments that can be observed in advanced sessions on the transpersonal level. The transpersonal versions lack the concrete content of mechanical imprisonment and the gross biological dimension, and have a purely

1
The artist Harriette Francis documented an LSD experience during a psychicistic program at Menlo Park, California. Much of it had typical perinatal features and she has expressed many of the cycloic sequences of the death-rebirth process. After the initial visions of geometric ornaments (1), the process gradually deepens (2,3) and the artist faces an engulfing whirlpool drawing her into the world of death (4). In the underworld she is subjected to piercing pains (5) and crushing pressures (6,7), experiences a strange combination of birth and death (8), meditates on mysterious symbols on a cruciform altar (9) and is offered resistance (10). In a sequence strongly resembling shamanic initiation she faces reduction to a skeleton and annihilation (11), followed by renewal, ascent and return to life (12). After what appears to be symbolic crucifixion (13) and reminiscence of some surgical intervention (14), she experiences rebirth, which is associated with visions of a peacock (15). The next drawing, of the oceanic womb, suggests that the experience of birth opened the way to the antithetic state of prenatal consciousness (16). She returns from her journey with a sense of reparation and revitalization (17).

(From LSD Journal of an Artist’s Trip. Drawings by Harriette Francis. Courtesy of the International Foundation for Advanced Study, Menlo Park, California.)
resistance to deeper issues. A typical example would be a male patient who feels the need for comforting contact on the infantile level and, fearing the dependency and helplessness that this entails, attempts to approach a female therapist in an adult sexual way. In situations like this the sitter should always direct the client to a deeper experiential level and discourage acting-out. This can be done in a constructive way and does not have to involve rejection. Reference to the explicit rule agreed upon before the session can make this situation easier for the sitter.

Adolescent sexual activities in LSD sessions can be very tricky; no matter what the external circumstances are, they are experienced by the client on many visceral levels since the ability for narrow and accurate reality-testing is impaired by the drug. Frequent involvement of the infantile levels can result in a specific vulnerability, particularly fears associated with the incest taboo. There it danger that such experiences will be traumatic and have lasting negative consequences for the client and the relationship with the sitter. I have seen several deteriorating examples of this kind outside of the medical context, especially in communities where young people were sharing psychedelic experiences involving free sexual exchange. The result, in some instances, was a breakdown of everyday interpersonal relationships by deep unresolved transference problems and sexual confusion. In general, there should be no limits to what the client can experience on the fantasy level. However, the sitter should be very careful about these own attitudes and motives, and approach the subject with integrity and sensitivity. In any experience, there is no need or justification for adult sexual activities in psychedelic therapy, and whenever a sitter considers it serious, he or she should examine his or her own motives. The only place for adult sexual activities during a psychedelic experience should be between partners who have an emotional and sexual commitment to each other in everyday life. Such an approach can add interesting dimensions to sexual interaction, but is not without dangers and pitfalls even under these circumstances; it should occur only between mature partners with deep knowledge of the nature of the psychedelic process.

It is clear that the question of sexual boundaries is much more problematic in sessions that involve physical intimacy, than in those where the sitter maintains a detached attitude toward the clients. Since the use of close physical contact is extremely useful in psychedelic therapy, this issue will be briefly discussed here. Deep regression in LSD sessions is frequently accompanied by intense anletic feelings and tendencies, especially in patients who experienced serious emotional deprivation in early childhood. They might want to hold, fondle, or suck the sitter’s hand, put their head in someone’s lap, or cuddle up and be cradled and caressed. Sometimes the regressive quality of these phenomena is beyond doubt and the patients show convincing signs of deep regression. At other times these activities can present technical problems because they may not be easy to distinguish whether a certain behavior is an authentic regressive phenomenon, an inadvertent occurrence, or a sexual overture on a more or less adult level. This is particularly true in later stages of the sessions when the drug effect has subsided. Sometimes both levels seem to be involved simultaneously, and the client can oscillate from one to the other.

In the early years of my therapeutic work with LSD I used to discourage or refuse such manifestations, in accord with my strict Freudian background. Later,
it became clear to me that periods of deep regression with strong anachistic needs are of crucial importance from the therapeutic point of view. I realized that the therapist's approach to such situations can represent a deep corrective emotional experience or, conversely, perpetuate and reinforce old, pathological patterns of deprivation and rejection. Even at a time when I was already using physical contact almost routinely, I tended to withdraw it when the client crossed the sexual boundaries. At the present time, I do not see this as an either/or situation. The boundaries can be defined and negotiated in very subtle verbal and non-verbal ways. If the situation moves into problematic areas, it is possible to restore acceptable limits without withdrawing close contact altogether. The key here seems to be the therapist's clarity about his or her own motives and the ability to communicate clearly with the client, verbally and non-verbally. It is the therapist's ambiguities and conflicting messages that allow or breed problems. This is a complex and sensitive area and it is difficult to establish any firm rules. The therapist has to rely on intuition and clinical experience in every individual case. The nature and specific characteristics of the therapeutic relationship and the degree of trust in it will remain the most important factors in charting the course.

One of the most important areas for psychedelic therapists to deal with is the various forms of hostility and aggression. If the sessions are conducted in the framework of a good working relationship, real technical problems with aggressive manifestations are extremely infrequent, even in sessions in which destructive tendencies are predominant. In most instances it is possible to maintain a synergistic relationship even in the context of intense psychodramatic struggle. Most of the technical problems occur when the sitters get physically involved with LSD subjects in a phallic flight which involves pressing, pushing, restricting, and sometimes inflicting pain. Under these circumstances, it is absolutely essential to redefine the "as if" framework and prevent the situation becoming absolutely real and serious for the subject. A skilled combination of verbal communication and nonverbal communication can keep the play in that territory of experimental ambiguity which seems to be optimal for therapeutic work. On the one hand, the situation has to be sufficiently real for the subject to allow him or her full involvement and release of emotions; on the other hand, it must not be so real as to be mistaken for a dangerous or traumatic situation. Maintaining a trusting relationship has to be the primary consideration.

In contrast to the frequency, intensity and scope of experiences involving aggression, elemental and uncontrolled acting-out of destructive tendencies is extremely rare in supervised LSD sessions. When a situation of this kind seems to be impending, the best approach is to encourage external expression in a cooperative framework, as described above. Another effective technique is to relate to the deeper level of anxiety, hurt, and helplessness usually underlying aggressive phenomena. Thus, comfort and reassurance can sometimes have an almost magical influence on a patient who is aggressive and to threaten the sitters with an ostentatious display of power. Most effective approaches to aggression entail identification of the specific problem involved in the case, and finding the appropriate solution. As in other kinds of emergencies, the factor of critical importance is the sitter's own reaction and aggression in the sitter, they can get locked into a
vicious circle of interaction that tends to reinforce the pathological reactions. The following example from our early work in Prague can be used to illustrate some of the above points.

One day when I was conducting an LSD session with a neurotic patient, I was interrupted by loud knocking. Surprised into this interference, which was against the rules, I went to answer the door. An alarmed nurse told me that my presence was urgently needed in the other treatment room where Henry, another LSD patient, had gone "berserk." I left the nurse an attendance and hurried to the place of the emergency. I found the tratamiento room in a catastrophic condition; the patient had broken a mirror against the wall, kicked over all the furniture, and tore several books and journals to shreds. He was standing in the middle of the room screaming and growling; his appearance was reminiscent of an angry ape. In the cor- 
er stood Julia, a young colleague who had recently joined our team. She had sat in on LSD sessions before, although this was the first one she had run independently. She was pale, obviously frightened, and her hands were shaking.

I came up to Henry and took him by the hand; this established contact and also reduced the chances for his attacking me. "It's alright, don't be afraid, nobody is going to hurt you," I told him in a reassuring tone of voice, and pointed to the couch. "Can we sit down? I would like to find out what you have been experiencing." We sat down and I started asking him questions, trying to find out what triggered his aggression. It soon became apparent that earlier in the session he had regressed into early childhood and experienced a need for closeness and affection. He was seeking physical contact with Julia and put his hand on her lap. She panicked, pushed him away, and admonished him for introducing sexual elements into therapy. This triggered a very painful memory of a childhood situation in which Henry was caught masturbating by his mother. She made a big scene and reported it to his father who punished him in a very cruel way. This se-
quence of events effectively blocked Henry's access to both the channel of childhood dependency and that of sexual feelings. In addition, the combina-
tion of sexuality with punitive feedback and anxiety made the perceptual framework of his unconscious experientially available. At this point, Henry "closed" that channel of behavior.

During this discussion, Julia recovered from the shock of her psych-
delic baptism. With my psychological support, she allowed Henry to put his head on her lap and held his hand. Henry's tremendously difficult test was now at an end. About an hour and a half later, Henry, by that time back in the ex-
perience with his eyes closed, started playing with his penis. While doing this he occasionally checked our reaction. When he expected feedback was not forthcoming, he gradually untied his pants and started to masturbate by pulling his foreskin back and forth. His ejaculation was a slow release of Henry's physical and emotional ten-
sion; its psychological impact went far beyond that of the physiological release. Henry felt that being able to masturbate in the presence of surrogate

Critical Situations in LSD Sessions

parental figures without being rejected had helped him to overcome a sexual trauma from his childhood and brought about a lasting liberation of his sexual life.

This session was also quite important for Julia's development. In retrospect, she appreciated this difficult experience as a great learning opportunity. It helped increase her tolerance of various unconventional manifestations in LSD sessions and, subsequently, she became a better and more effective therapist.

To complete the list of difficult situations that can occur in LSD sessions, we should discuss various physical manifestations that are common concomitants of psychedelic experiences. In their milder form, they usually do not present a par-
ticularly serious technical challenge, but their extreme forms can be quite alarm-
ing. As I mentioned earlier, none of them is simple pharmacochemical effects of LSD; they represent complex psychosomatic manifestations. The general strategy toward somatic aspects in LSD sessions should be to experience them as fully as possible; clinical experiences have repeatedly confirmed the therapeutic value of this approach.

Probably the most common physical manifestations in LSD sessions are various motor phenomena, such as generalized muscular tension, complex postures and twisting movements, and a wide variety of tics, jerks, twitches, and seizure-like episodes. The subject should be encouraged to let these happen; they represent extremely valuable channels for effective discharge of deep, pres-
ten, aggressive impulses. It is important that theitten watch for any attempts on the part of the sub-
ject to control such phenomena, for aesthetic or other reasons. They should consistently encourage uninhibited discharge of energy, even if it full manifestation takes the form of a violent temper tantrum or an epileptic seizure. If the drug effect is not strong enough to bring about a spontaneous release of tension, this can be induced by the subject forcefully tugging the areas involved, and holding sculpture-like postures for long periods. Intense external pressures and deep massage are also quite useful for this purpose.

Breathing difficulties are very common in psychedelic sessions. On occasion, they can take the form of genuine asthmatic attacks; these usually occur in persons who have had problems of this kind in the past. In the context of LSD sessions it is important to encourage full experience of the unpleasant feeling of suffocation, at the same time reassuring the subject that there is no real danger, since the breathing difficulties are only subjective and respiration is adequate. It is essential that the therapist give the explicit honest and objective feedback on this issue. Fre-
quently gasping, coughing, or sneezing, if it forms an integral part of the ex-
perience, can bring dramatic release. It should be encouraged if the process moves in that direction, but not mechanically suggested as a specific remedy.

Physical pain is an important and integral part of the psychedelic process and should also be experienced fully if it starts emerging in the session. It usually occurs in the context of reliving actual physical traumatizations such as diseases, accidents and operations, or the birth trauma, although it can also have various symbolic connotations. Intense physical pain may sometimes be associated with various transpersonal phenomena such as post-incarnation memories and ancestral
or phylogenetic experiences. In later stages of the sessions, when the pharmacological effect of the drug is not strong enough, it is useful to increase the sensations by pressure or deep massage in the places indicated by the patient. In working with patients (collaborators), or show the classical Freudian characteristics of a behavioral pattern, such as intense ambition, concerns about prestige, a disposition to shame, and fear of failure. If the LSD subject had problems with emotions (setting the test dose) and took part, one should expect the problems in this area to be rectified sooner or later in the session. This is also true for women who suffer from an organic insufficiency or frigidity that is associated with fear of the bladder and the vulva. Further, although we have deeper roots on the level of the biochemical processes; there exist specific associations between psychological dysfunction and certain aspects of perinatal matrix. Thus, a block of emotions in the context of BPM III, a painful urge to void and conflicts about it is an almost standard component of BPM III, and loss of bladder control characterizes the transition from BPM III to BPM IV.

In the early years of my LSD work, patients with the above problems often delayed confrontation with the urinary material for weeks or months by interpreting the experience and leaving for the bathroom. Some of them made fifteen to twenty visits to the toilet in a single session, most of them unnecessarily. When I noticed how this was a very powerful form of resistance, I made the necessary provisions for involuntary urination in the form of a rubber sheet and discouraged the adult approach to urethral urges. Patients who had strong objections to this arrangement and an insurmountable resistance to it were advised to use surgical rubber pads. With this approach, severe urethral conflicts and blockages could be resolved in a few sessions, whether or not involuntary urination actually occurred. When a patient loses control of the bladder during an LSD experience, it is usually associated with relieving traumatic incidents from childhood which involved ridiculing by peers or parents for urethral accidents. This release opens the way to the libidinal pleasure originally related to unrestricted urination, removes the psychological block, and facilitates letting go. On a deeper level, it frequently connects the patient with the moment of birth, when a fundamental relief after hours of agony can sometimes be associated with reflex urination. Problems related to defecation follow a similar pattern. They typically occur in obsessive-compulsive patients of both sexes, in males with latent or manifest homosexual tendencies, and in anal personalities. On the psychological level they are usually associated with conflicts around toilet training, gastrointestinal disorders in childhood, and a history of enemas. Deeper perinatal roots of anal retention are in BPM II, an urge to defecate and conflicts about it characterize BPM III, and explosive bowel release or loss of anal control is psychologically associated with the ego ideal and the amount of birth. Although anal problems of various kinds are very common in LSD sessions, actual uncontrolled defecation and manipulation of feces has been extremely rare; I have encountered it only about ten times in over five thousand LSD sessions I have studied. This may be an artifact of cultural programming and therapeutic technique rather than clinical reality. Our taboo against feces is much stronger than that against urine, and the common unwillingness of the experient and the sitter to deal with the aftermath of anal letting-go is also a factor that should not be underestimated. I realize retrospectively that for many years we discussed with LSD candidates the possibility of loss of bladder control and tried to alleviate their concerns about it; at the same time, however, similar reassurance was never offered in regard to defecation. In 1972, I saw a dramatic improvement in a patient with severe obsessive-compulsive neurosis which had resisted classical psychoanalysis for eighteen years; it occurred in an LSD session in which he lost control of his bowels and in a deeply regressed state played for several hours with his feces. That made clear to me some of the factors that might have been responsible for our chronic therapeutic failure with patients with severe obsessive-compulsive neuroses. If problems of an anal nature keep occurring in LSD therapy, the patient should be encouraged to give up adult concerns and be willing to abandon control if it becomes necessary during the experience. As is the case of urination, surgical pants can be a great psychological help, for the patient as well as the sitters.

ADVERSE AFTERRIGHT EFFECTS OF LSD PSYCHOTHERAPY

LSD psychotherapy involves activation of deep unconscious material, its exteriorization, and conscious integration. Although the LSD sessions represent the most
dramatic aspect of this treatment modality and ideally form a relatively com-
pleted psychological gestalt, psychedelic therapy is a continuous uncovering pro-
cress which involves the dynamics of the free intervals between sessions. Within
the framework of an LSD session, it is generally desired to have the patient
experience both the pre- and post-session experiences and have the patient
experience the event as a whole, either in a single session or in a series of ses-
tions. The dynamic unfolding of the various experiences in an LSD session can
be thought of as a series of overlapping dreams that are experienced in a
sequence that is only loosely structured. The dreams are generally not
remembered in detail, but rather form a coherent whole that is experienced
as a single entity. The dream experiences are then discussed during the
post-session, where the patient is encouraged to reflect on the nature of the
experience and to interpret its meaning.

An important aspect of LSD therapy is the use of art therapy, which
involves the creation of visual art, such as drawings or paintings, to
express the experiences of the patient. This can be particularly helpful
in cases where the patient may have difficulty verbalizing their feelings
or experiences.

In conclusion, LSD therapy can be a powerful tool for the treatment
of various psychological disorders, but it requires careful attention to
the dynamics of the treatment process and the needs of the individual
patient. The use of art therapy can be particularly helpful in this
context. It is important for the therapist to be sensitive to
the patient's needs and to create a safe and supportive
environment for exploration and self-discovery.
Thus irrational feelings of anxiety and a sense of threat originating in the unconscious can result in maneuvers aimed at provoking hostility in the therapist, spouse, or employer. When these maneuvers succeed, previously incomprehensible feelings of anxiety assume the form of concrete and familiar fear of losing the therapist’s support and endangering the continuation of treatment, worries about the disintegration of the marriage, or unsubstantiated concerns about losing one’s position or job. In more intense forms of such fear that border on a vital threat, the patient might actually seek out dangerous situations in activities such as hazardous car driving, parachuting, walks in bad neighborhoods, or visits to bars and night clubs of questionable reputation. Similarly, an LSD patient turned into a traditional guilt feeling may behave in an utterly inappropriate way, break the basic rules of therapy, and try to offend, irritate, or verbally attack the therapist. He or she can also do things in everyday life that are highly objectionable and provocating. As a result of this, the preexisting guilt feelings can be rationalized, since they become attached to actual external events and appear to be congruent with the objective situation. The above are just a few concrete examples of common mechanisms that can present considerable difficulties in the therapeutic situation, as well as in the patient’s everyday life. It is absolutely essential for a successful course of psychotherapy that the therapist is familiar with this phenomenon and capable of handling it appropriately.

The changes caused by activation of different levels of COEX systems are usually not very dramatic and stay within the range of various neurosis or psychosomatic manifestations, unless the activated layer is from very early childhood and/or its emotional charge is excessive. When an important COEX system is activated and remains unresolved, the subject experiences in the postsession period an intensification of the clinical symptoms related to this system and perceives the environment with specific distortions reflecting its content. In addition, he or she may manifest a tendency to externalize the general therapeutic setting of the system, or specific characteristics of one of its layers, in the treatment situation and in various aspects of everyday life. He or she may show peculiar idiosyncrasies or react to certain circumstances. The behavior of the therapist under these conditions can involve complicated psychological maneuvers that tend to provoke specific reciprocal attitudes in the partners of their various interpersonal relationships. The external situations that result from such interactions may present approximate replicas of the original traumatic events that remained unresolved in previous sessions. Since this section focuses on complications of LSD therapy, we are naturally discussing activation of negative COEX systems. However, it is important to emphasize in this context that activation of a positive COEX system can have powerful positive consequences of a very similar kind.

When the adverse aftereffects of an LSD session result from an incomplete resolution of a COEX system, their general nature and specific content can be understood once the unconscious material becomes fully available. The basic characteristics of the emotional and interpersonal problems involved will reflect the general theme of the system; specific details will then make sense in terms of the individual layer of the COEX constellation that was activated. The therapist will therefore not be able to understand the dynamics of the problem when it occurs and he or she might have to wait until the time when the underlying unconscious material surfaced and the gestalt is completed. However, an experienced LSD therapist is not always dependent on retrospective understanding. In many instances the nature of the material to be experienced can be anticipated, at least in a general form, from the specific characteristics of the adverse reaction. Many of the elements discussed above are illustrated by the following clinical example:

Tom, a 26-year-old dropped-out student, was accepted into the program of LSD therapy for a severe impulsive neuropsychosis with periodic running away from home, vagabondism, and excessive abuse of alcohol and various drugs (pentazocine, diazepam and totramadon). His behavior during these episodes involved many distinctly antisocial elements. He usually did not pay in restaurants and inns; he either escaped without settling the bill or left some personal belongings as a guarantee for later payment. Occasionally, he stole money or various objects from relatives, friends or strangers to cover his expenses. He slept in forests, public parks, and railway stations, and grossly neglected his personal hygiene. Tom was referred to the LSD program after two years of unsuccessful therapy by various conventional methods. Some of his previous psychiatrists had diagnosed his case as schizophrenia, and the history of his treatment included a series of insulinic comas.

His first twenty-six LSD sessions followed an unusually monotonous course. He experienced anxiety, occasionally mounting to panic, and showed great agitation associated with massive muscular jerks and tremors. This was accompanied by recurrent visions of a pale, grimacing female face. In later sessions, another element was added to the content of his experiences. Every time he heard the sound of water running in a nearby bathroom, he was overcome by anger and had great difficulty in controlling his aggression. He also could not tolerate the presence of a female therapist or nurse, even briefly, and responded to them with irritation and rude verbal attacks. The visions of the pale female face were somewhat supplemented by images related to water. In this context, various dangerous situations associated with seas, lakes and rivers alternated with courageous sailors and aquatic animals of prowess, symbolizing mastery over the water element. At this time, Tom’s problems in the free intervals between LSD sessions bordered on psychosis. He experienced bouts of unprovoked panic anxiety and felt intense hatred towards women. His idiosyncrasy in regard to running water continued and he almost physically attacked everyone who turned on the water tap. Tom’s behavior resulted in numerous conflicts with the patients and nurses since he tended to provoke hostility by his intolerance, recklessness, and aggression. He appeared agitated and manifested a variety of involuntary motor phenomena, particularly massive jerks. Several sessions later, new elements appeared in the visions accompanying Tom’s LSD experiences. At first, their content was quite puzzling and incomprehensible. He saw rapid sequences of various trivial objects related to bathing, such as shower nozzles, water taps, soap bars, tile patterns, sponges, bath brushes, and bath toys. The innocent nature of these visions seemed quite incongruent with the intensity of anxiety and the powerful motor discharges that accompanied them. Tom was very dissatisfied with these sessions and found them confusing; he referred to his experiences as “a crazy sell-out,” “mish-mash,” or “chaos.” All these disconnected experiences suddenly made sense when Tom related in a complex way certain
traumatic memories from his early childhood. When he was two and three years old, he had an emotionally disturbed nurse who finally turned out to be psychotic. She used to maltreat him and frighten him in a very subtle way, particularly during bathing. The authenticity of Tom’s recollections was later verified by his stepmother; she fired the nurse after having discovered how much she had abused the child. After full and complex retesting of these traumatic memories, most of the elements described above disappeared from Tom’s sessions. However, the anxiety and muscular jerks persisted, despite the fact that they originally seemed to belong to the traumatic memory involving the nanny. At this point, the anxiety in Tom’s LSD sessions became much more prototypic and elemental; the twitch now appeared to be associated with very unpleasant tastes and oral sensations. This gradually developed into reliving of early childhood experiences that involved the application of various disinfectant solutions to the mucous membranes of his mouth when he suffered from a fungal disease. The muscular jerks were particularly emphasized around Tom’s head and neck and he identified them as escape reactions associated with these medical interventions. In the intervals between these sessions, Tom showed a strong negative attitude toward hospitals and medicine; he criticized and ridiculed the medical aspects of our treatment procedures and revolted against them.

Following this phase, intense hunger and thirst, feelings of cold and emotional starvation were added to his anxiety. In his LSD sessions, he was now reliving traumatic experiences from a nursery where he was kept for the first seven months of his life. At this stage, he expressed the presence of a physical contact with women, and asked for the female therapist and nurses — persons whom he previously could not stand — to be present. In this context, they seemed to compensate for the frustration and emotional deprivation which he had experienced in the nursery, where the superficial professional attitudes of the personnel had failed to satisfy his infantile needs. In the few intervals between these sessions, Tom was haunted by the desire to find the ideal woman; his depression was accentuated and he felt an irresistible urge to consume great quantities of alcohol and various drugs.

When Tom’s mother was brought in to relive his difficult birth, during which his mother had died and he himself had barely survived, he recognized that many of his symptoms were actually rooted on the prenatal level. His panic anxiety, agoraphobia, guilt, and claustrophobia are seen as derivatives of the birth trauma. He now saw his massive muscular jerks and twitching as belated discharges of pent-up energies related to the “hydraulic” aspects of the delivery. Tom’s behavior around the birth sessions was impulsive, ruthless, and erratic; it was characterized by acting out of strange antithetic tendencies and conflicts between dependence and independence. Much of this was expressed in the context of the transference relationship; by conventional standards, Tom’s behavior during this period would be labeled psychotic.

In his sixth-fifth psychodrama session, Tom seemed to have completed the birth process and had his first deep transcendental experience, followed by a dramatic but not lasting improvement. It took six more sessions and several months of untreatable clinic condition before he reached a new equilibrium.

In the years following his LSD therapy Tom has not needed hospitalization and did not have to rely on psychiatric help. He married and was able to maintain a job and take care of his two children.

Sometimes seemingly bizarre sensations, emotions, and thoughts occurring in the context of an adverse LSD reaction can be explained naturally and logically when one uncovers and identifies the underlying unconscious material. The case of a male patient that his penis is shrinking can thus be traced to an emotional fixation on a body image corresponding to the age of an unfinished childhood memory. In a similar way, a female patient who is psychologically tuned into an activated memory from the preadolescent period can lose the awareness of her breasts from the body image, or can develop a conviction that she is losing her hair when she connects emotionally to early infantile memories. Naive and childlike perception of the environment, inappropriate fears, increased dependency needs, or doubts about bladder or bowel control are some other examples in this category. Of particular interest for psychosomatic and internal medicine are those instances in which, following an LSD session, an apparently somatic problem turns out to be an integral part of a traumatic memory from childhood. Because of the special clinical importance of this phenomenon, I will illustrate it with several examples.

Renata, a patient suffering from severe cancerophobia, relived in one of her sessions a sexual episode that supposedly happened when she was four years old. In this scene, her stepfather was lying in bed and she crawled under the blanket with him expecting to be fondled and caressed. During their play, however, he very carefully directed her to his genital area and abused the situation for his sexual gratification. The discovery of his erect penis was a particularly exciting and frightening aspect of this situation. While reliving a part of this episode, in which her forearm was the most important area of contact with her step-father’s body, she suddenly developed a massive exudation and infiltration and reddening of the skin in front of my eyes and within a matter of minutes this area reached the consistency of shoe-leather; it became thick, hard and covered with protruding skin eruptions. This condition, which was diagnosed at eczema by a consultant dermatologist, persisted for ten days until the next LSD session. After the traumatic memory had been fully relived and integrated, it disappeared over several hours.

In another of her sessions, Renata relived a childhood scene in which she had fallen on ice while figure-skating and badly hurt her head and knee. During the following week she experienced intense pain in the “injured” parts of her body. She could not turn her head, was limping considerably, and maintained a typical protective posture of her right leg. All these phenomena disappeared after the incident was fully relived.

Another interesting example of a similar kind was observed during the LSD therapy of Dana, a patient with complicated neurotic problems. In one of her sessions, she started reliving a traumatic episode which had occurred at a time when she suffered from severe bronchitis. In this context,
she suddenly began manifesting all the typical symptoms of a brochial in-
fection. These symptoms persisted even after the actual pharmaceutical ef-
fects of LSD had worn off; during the following week, she continued to cough excessively and complained about severe chest pain. The internist who saw her as a consultant diagnosed bronchitis on the basis of elevated temperature, increased characteristically rapid breathing during the chest examination, coughing, and production of thick phlegm. The only signs that distinguished this condition from genuine bronchitis were its sudden onset at the time when the traumatic memory started to emerge and its equally abrupt ter-
mination when the psychological gestalt was completed.

The governing influence of activated basic perinatal matrices on the post-
session intervals is usually much more dramatic, and is of great practical and
theoretical importance. If the subject is under a strong influence from one of these
matrices at the time that the pharmacological action of the drug is wearing off, he
or she can experience its influence in a mitigated form for days, weeks or even
months. If a deep level of a negative matrix is activated, the individual difficulties
following the session can reach psychotic proportions. The consequences are quite
distinct and characteristic for each of the perinatal matrices.

When the termination period of an LSD session is governed by BPM II and
the subject stabilizes under its influence, the post-session interval is characterized
by deep depression. Under these circumstances, individuals are vexed by various
highly unpleasant feelings, thoughts, and physical sensations. They have access
to only unpleasant memories and cannot see any positive elements in their
past life history. Guilt, inferiority, and shame seem to dominate their thinking about
the past. Their present life appears to be unbearable and fraught with problems
that have no solution, they do not have any perspective on anything, and the
future looks equally hopeless. Life is devoid of any meaning, and there is an ab-
solute inability to enjoy anything. The world is perceived as threatening, ominous,
oppressive and without colors. Suicidal ideation is not uncommon in this situation.
It typically has the form of a wish to fall asleep or be forgotten, forget every-
thing, and never wake up again. Persons in this state of mind have fantasies about
taking an overdose of sleeping pills or narcotics, drinking themselves to death,
haling domestic gas, drowning in deep water, or walking into snow and freezing.

(suicide) Typical physical symptoms accompanying this condition are headaches,
oppression of the chest, breathing difficulties, various cardiac complaints, bluish
ears, severe constipation, loss of appetite, and a total lack of interest in sex.
Feelings of exhaustion and fatigue, drowsiness and somnolence, and a tendency to
spend the entire day in bed or in a darkened room are also common.

Stabilization of an LSD session under the dominance of BPM III results in
feelings of intense aggressive tension, frequently associated with strong but vague
apprehension and anticipation of a catastrophe. Subjects in this state view
themselves to "time bombs" ready to explode at any minute. They oscillate be-
tween destructive and self-destructive impulses and are afraid of hurting other
people or themselves. An extremely high degree of irritability and a strong tendency
to provoke violent conflicts is typical. The world is perceived as a dangerous and unpre-
dectable place, where one has to be constantly on guard and prepared to fight
and struggle for survival. Painful awareness of one's real or imagined handicaps and

Adverse Aftereffects of LSD Psychotherapy

limitations is combined with exaggerated ambitions and efforts to prove oneself.
In contrast to the induced and terrible depression related to BPM II, the clinical
picture here can take the form of an agitated depression accompanied by emo-
tional inconstancy and psychomotor excitement. Suicidal thoughts, fantasies and
tendencies are quite frequent, and follow a pattern distinctly different from that
described for BPM II. Individuals in this state contemplate bloody and violent
suicides, such as throwing themselves under trains, jumping from a window or
chill, hara-kiri, or shooting themselves. (outside II) The only suicidal fantasies
observed in this context that do not involve blood are related to strangulation and
hanging. This seems to reflect the fact that high degrees of suffocation are fre-
quently experienced in the final stages of birth. Typical physical symptoms
associated with this syndrome include intense molar tension, frequently result-
ing in tremors, witches, and jerks, pressure headaches, pains in various other
parts of the body, nausea with occasional vomiting, intensification of intestinal ac-
tivity and diarrhoea, frequent urination or urethral tension, and profuse sweating.
A characteristic manifestation in the sexual area is excessive augmentation of the
libidinal drive, for which even repeated orgasms do not bring satisfactory relief.
In male subjects, this intensification of sexual tension is sometimes associated with
impotence and premature ejaculation; in females, with an inability to achieve
sexual orgasm, premontosexual emotional turbulence, dysmenorrhea, and painful
genital cramps during intercourse (vaginismus).

Subjects whose LSD session terminates under the influence of BPM IV pre-
vent a very different picture. The most remarkable aspect of this state is a
philosophical alleviation or even disappearance of previous psychopathological symp-
toms, and a decrease of emotional problems of all kinds. Individuals feel that they
have left the past behind and are now capable of starting an entirely new chapter
in their lives. Exalting feelings of freedom from anxiety, depression and guilt are
associated with deep physical relaxation and a sense of perfect functioning of all
physiological processes. Life appears simple and exciting, and the individual has
the feeling of unusual memory richness and intense joy.

As far as BPM I is concerned, the individual can stabilize under the in-
fluence of its positive or negative aspects. In the former case, the postsession inter-
val resembles the one described for BPM IV. However, all the feelings involved
are much deeper and are experienced in a religious or mystical framework.
Subjects see new dimensions in the world and in the universe, have strong feelings of
being an integral part of creation, and tend to regard ordinary things and ac-
tivities in everyday life—such as eating, walking in nature, playing with children, or
sexual intercourse—as manifestations of the divine. The experience of cosmic unity
has an unusual therapeutic potential and can have lasting beneficial consequences for
the individual.

If the subject remains after an LSD session under the influence of the nega-
tive aspects of BPM I or negative transmembrane matrices, he or she experiences
various forms and degrees of emotional and physical distress associated with con-
ceptual confusion. These difficulties are typically interpreted in a metaphysical
framework—in spiritual, occult, mystical, or religious terms. These unpleasant
conditions are attributed to the adverse forces of destiny, "bad karma," malefic
astrological or cosmobiological influence, or various evil spiritual entities. In ex-
treme cases this condition can reach psychotic proportions. After the individual

works through and integrates the experience, he or she assumes a more tentative and metaphorical approach to such extreme interpretations.

The four major complications of LSD sessions that are of great practical relevance and should be specifically discussed are 

Activation of preexisting symptoms,

prolonged reactions,

psychotic decompensation,

and 'flashbacks.' They can all be reduced to a common denominator, namely, the weakening of the defense system and incomplete resolution of the unconscious material that was then made experientially available. The weakening of resistance is most apparent in those situations where the patient is symptomatic that the subject originally had attenuated and intensified after a particular LSD session. In this case, no major change has occurred; the underlying matrix remains the same but its dynamic influence is experienced more strongly than before. In the case of a prolonged reaction or a specific defense system collapse but the material behind it is not worked through. The experience then continues to be a continuation of the persisting pharmacological action of the LSD, but as a result of the emotional charge of the unconscious material. The emerging unconscious theme is now too energetically charged and too close to consciousness to be repressed and covered up again, but a subject unfamiliar with the psychodynamics of this process usually tries to prevent it from emerging fully and completing itself.

A temporary psychotic decompensation after an LSD session can be seen as a special example of this: when the unconscious material that became activated and remained unresolved is a theme of fundamental relevance and carries excessive emotional charge. It may occasionally be a major trauma from very early infancy; however, in most instances such an episode involves perinatal material or some powerful negative transpersonal matrix. I have never seen an incident of this kind after supervised LSD sessions with persons who showed a reasonable degree of emotional, interpersonal and social adjustment prior to the experience. In individuals who have serious psychiatric problems that border on psychosis, or have had schizophrenic episodes in the past, occurrence of transient complications of LSD sessions is relatively common. The recurrences of LSD-like states days, weeks, or even months after the actual administration of the drug has stirred much publicity and deserves special attention in this context. Careful study of the psychodynamics of the LSD session over many years has convinced me that these episodes, popularly known as "flashbacks," have a very similar basis to the prolonged reactions and psychotic breaks immediately following the sessions. The difference is that in this case the defense mechanisms are strong enough to cover up the activated and unresolved material in the termination period. The experience appears to be completed, but this is true only on the surface; the result is a very precarious dynamic balance between unconscious forces and the psychological resistance against them. At time passes, any number of circumstances can disturb this problematic equilibrium, and the individual starts consciously experiencing the unfinished gestalt. Since it is a continuation of a process that started during the LSD experience, the uninformed subject will usually see it as an indulged, belated attack of the drug, rather than as a manifestation of his or her unconscious. Less urgent episodes of this kind occur under circumstances which psychologically involve weakening of defenses, such as the period between waking and sleep (the hypnagogic and hypnopompic states), physical fatigue, or drug deprivation. More dramatic instances are simply associated with the use of drugs such as alcohol, caffeine, and psychoactive stimulants, or

Prevention and Management of Complications in LSD Psychotherapy

Occasional activation of the unconscious material associated with various kinds and degrees of emotional and psychotic discomfit is part of every uncovering process. Instances of this have been observed occasionally even in the course of conservative and traditional psychosynthetic treatment, and it is a common occurrence in various experimental psychotherapies—neo-Freudian work, primal

virus diseases and other somatic processes. On occasion, later psychotherapeutic sessions, especially those that involve techniques using hyperventilation, can facilitate what the subject considers to be an LSD "flashback." Meditation and various other spiritual practices or the individual and group exercises used in growth centers can have similar effects.

In addition to the above factors which have a general catalyzing influence, the mechanism of "flashbacks" frequently involves an element of very specific psychological stress. This mechanism is of such importance that it deserves special emphasis. Powerful triggers for the recurrence of the LSD state are situations of everyday life that involve elements similar or identical to the unconscious matrix or themes that remained unresolved. An example of this would be a subject whose last LSD session, spent mainly under the influence of BDM II, did not end with a satisfactory resolution. Under these circumstances a crowded, overheated, poorly ventilated, and noisy subway can provide an experience which is extremely close to the basic characteristics of the "no exit" situation. Driving a car in the rush-hour on a busy highway or use of a crowded elevator can have a similar impact. All these situations can thus function as powerful facilitators of the content of the second perinatal matrix.

In a similar way, a subject psychologically tuned into BDM III could have a "flashback" as a result of watching a movie or TV show involving rape, suicide, and prolonged reactions when the unconscious material that became activated and remained unresolved is a theme of fundamental relevance and carries excessive emotional charge. It may occasionally be a major trauma from very early infancy; however, in most instances such an episode involves perinatal material or some powerful negative transpersonal matrix. I have never seen an incident of this kind after supervised LSD sessions with persons who showed a reasonable degree of emotional, interpersonal and social adjustment prior to the experience. In individuals who have serious psychiatric problems that border on psychosis, or have had schizophrenic episodes in the past, occurrence of transient complications of LSD sessions is relatively common. The recurrences of LSD-like states days, weeks, or even months after the actual administration of the drug has stirred much publicity and deserves special attention in this context. Careful study of the psychodynamics of the LSD session over many years has convinced me that these episodes, popularly known as "flashbacks," have a very similar basis to the prolonged reactions and psychotic breaks immediately following the sessions. The difference is that in this case the defense mechanisms are strong enough to cover up the activated and unresolved material in the termination period. The experience appears to be completed, but this is true only on the surface; the result is a very precarious dynamic balance between unconscious forces and the psychological resistance against them. At time passes, any number of circumstances can disturb this problematic equilibrium, and the individual starts consciously experiencing the unfinished gestalt. Since it is a continuation of a process that started during the LSD experience, the uninformed subject will usually see it as an indulged, belated attack of the drug, rather than as a manifestation of his or her unconscious. Less urgent episodes of this kind occur under circumstances which psychologically involve weakening of defenses, such as the period between waking and sleep (the hypnagogic and hypnopompic states), physical fatigue, or drug deprivation. More dramatic instances are simply associated with the use of drugs such as alcohol, caffeine, and psychoactive stimulants, or
in the unconscious; this opens the way to emotional liberation, although the actual mechanics of it may extend over a long period of time.

For patients who are properly instructed and guided, these reactions usually do not represent serious problems. They are trained in dealing with unusual states of consciousness and see them as windows into their unconscious and opportunities for self-exploration, rather than as threats to their sanity. Since the emotional material usually tends to surface in the hypnagogic and hypnopompic periods, it is not difficult to take some time and approach such episodes as "micro-sessions." A short period of hyperventilation can help to activate the underlying problem and facilitate its resolution through fuller experience and energy discharge. This approach is far preferable to the usual effort to suppress and control the emerging material, which prevents lasting solution and blocks much of the patient's energy. Frequently, difficult emotions and physical symptoms can disappear after half an hour of introspective work.

This situation is more complicated if the material is so close to the surface and its affective charge so strong that it tends to emerge unpredictably under the circumstances of everyday life. In that case, the patient should be instructed to arrange for situations where it is possible to face and express whatever is emerging. If this is not available, regular therapeutic sessions should be scheduled and systematic uncovering work done on the unresolved issues with the assistance of the sitter. The techniques used in this work are essentially the same as those that were described for the termination period of the LSD sessions. After a short period of hyperventilation that tends to specifically activate the underlying emotional structure, the sitter assists the patient by accentuating the physical sensations and states that he or she is already experiencing. Depending on the nature of the problem, they can use a combination of bioenergetic exercises or other neo-Behian approaches, Gestalt technique, psychodrama, guided affective imagery, and deep massage to mobilize and work through the unfinished matrixes. Stereotomichic, especially the pieces that were played in the session, can be of great help during this work.

If LSD therapy is being conducted in the atmosphere of a therapeutic community, it can be very useful to engage a group of co-patients in uncovering work. For example, the group can enact in a very convincing way the experience of the encroaching birth canal, the atmosphere of a life-and-death struggle, or the comforting and nourishing womb. On occasion, stimulating or comforting sounds produced by the group members during this work can be very effective. Indeed, some us also in this team may also volunteer or be chosen by the patient or therapist for specific psychodramatic roles—surrogate mother, father, sibling, spouse, child, or employee. This approach is not only very effective for dealing with unresolved gestalts, but can also have a very powerful catalyzing effect on the assisting persons. It is not infrequent that under these circumstances the intense experiences of the protagonist can trigger valuable emotional reactions in some of the helpers. The material and observations from such therapeutic events can become an important addition to later group sessions. The experience of the role helper also has an important function for the self-esteem of the group members and contributes to their sense of mastery. Collective efforts of this kind tend to create a sense of closeness, intimacy and togetherness which contribute to the social cohesion of the therapeutic community and its healing potential.

In the rare instances where the adverse aftereffects are very intense and the
patients are potentially dangerous to others or to themselves, it may be necessary to keep them in the therapeutic facility twenty-four hours a day until these reactions subside. Nurses and co-patients should be trained to assume collective responsibility in these situations, and provide continuous assistance and surveillance. If the non-drug work fails to bring desirable results it is advisable to shorten the free interval and run another LSD session as soon as possible, to complete the unfinished gestalt. An interval of less than five to seven days tends to destroy the gestalt intensity and the therapeutic efficacy of the next session, because of the biological tolerance incurred by the previous administration of LSD.

In particularly resistant cases the therapist may decide to resort to the use of other pharmacological substances. Major or minor tranquilizers should be avoided, since their effect is contrary to the basic strategy of any unmeriting approach and psychedelic therapy in particular. By inhibiting the process, blurring the experience, and obscuring the nature of the underlying problem, they prevent its resolution. In those instances where the unconscious material is close to the surface but is blocked by a barrier of intense psychological resistance, inhalation of Meduna's mixture (thirty percent of carbon dioxide and seventy percent of oxygen) can be very useful. A few inhalations of this mixture can cause a brief but powerful activation of the underlying unconscious matrix and facilitate a breakthrough. A session with psilocybine (40-100 milligrams) can occasionally help in the integration of material from the previous LSD session. Psychodebic drugs with a certain affinity for positive dynamic systems, such as tetrahydrocannabinol (THC) or methyl-2-aminomethylindol (MDA) can be used with advantage. A drug that holds great promise in this indication but has not been sufficiently explored, is ketamine (Ketalar). It is a drug approved for medical purposes, which has been used by surgeons for general anesthesia. This anesthesia is of a dissociative type, which is very different from the one induced by conventional anesthetics. Under the influence of ketamine consciousness is not obliterated but deeply changed and drastically refocused. An out-of-body state is induced to which the patient loses contact with and interest in objective reality and gets involved in various cosmic adventures, to a degree that makes surgical operations possible. Optimal denervations for psychic purposes are relatively small, 30 to 150 milligrams, which is about one-twentieth to one-sixth of the standard anesthetic dose. The psychoactive effect of this low dose range is so powerful that it catapults the patient back to the point of impasse from the previous LSD session, and can make it possible for him or her to reach a better level of integration. This approach should be explored with individuals who have developed long-term psychotic states as a result of unsupervised self-experimentation with LSD.

NOTES
1. Since the deepest level of BPM II involves experiences described by many religious as being in hell, a few references to spiritual systems seem appropriate at this point. Hell is cross-culturally defined as involving unendurable tortures without end; it is an experience of eternal suffering. The element of hope...
THE COURSE OF LSD PSYCHOTHERAPY

Changes in the Content of Psychedelic Sessions
Emotional and Psychosomatic Changes in the Post-Session Intervals
Long-Term Changes in the Personality Structure
World-View, and Hierarchy of Basic Values

The discussion of the course of LSD psychotherapy presented in this section is based to a great extent on the observations made during a study which was conducted at the Psychiatric Research Institute in Prague between the years 1960 and 1967. This was a clinical project exploring the potential of LSD for personality diagnosis and as an adjunct to psychotherapy. The orientation in the early phases of this study was psycholytic; however, in the course of clinical work with LSD, many of the principles characteristic of the psycholytic approach were discovered and assimilated into the treatment procedure. The most important of these were increased dosage, internalization of the process, use of music, and appreciation of the healing potential of perinatal and transpersonal experiences. The final outcome of this development was the therapeutic method of using LSD described in this book.

Most of the subjects in this study were psychiatric patients, although psychiatrists, psychologists, psychiatric nurses, scientists from various disciplines, and artists were occasionally given social LSD sessions outside of the therapeutic context for training, insight, and inspiration. In selecting the patients for this project we followed three basic criteria. We wanted to have all the major psychiatric diagnoses represented in the study, to assess indications and contraindications of this form of therapy and to explore whether the LSD process had specific characteristics related to clinical diagnosis and personality structure. There was a definite bias toward selecting patients who had severe chronic and fixed emotional disorders that had lasted many years and had not responded to conventional therapies. This emphasis seemed to provide ethical justification for subjecting patients to experimental treatment with a new, powerful and insufficiently known
expanded the model of the human unconscious. It also threw light on the basic characteristics of the transformative process facilitated by repeated administrations of the drug.

In the following text we will discuss in detail the processes unfolding during the course of LSD therapy, focusing on its three most important aspects:

a) changes in the content of psychedelic sessions
b) emotional and psychomotoric changes in the post-session intervals
c) long-term changes in the personality structure, world-view, and hierarchy of basic values.

CHANGES IN THE CONTENT OF PSYCHEDELIC SESSIONS

In an earlier section of this book, we discussed abstract, psychodynamic, perinatal and transpersonal phenomena as being the four major categories of experiences occurring in LSD sessions. The arrangements of the generative matrices of these experiential modalities and their interconnections are intricate and complex. They cannot be reduced to any linear model, and are best understood in holonomic terms. It is, therefore, not quite accurate to talk about the unconscious as stratified, and to refer to some of its manifestations as more superficial than others. Yet in everyday clinical work with LSD some of these phenomena seem to be generally more available than others, and in serial psychedelic sessions they tend to emerge in a certain characteristic sequence.

In the first few LSD sessions, especially if the dosage is kept within the range of 100-150 micrograms, there is usually a preponderance of abstract experiences of various kinds. With the eyes closed, most LSD subjects have incredibly colorful and dynamic visions of geometric design, architectural forms, kaleidoscopic displays, magic fountains, or fantastic fireworks. Sometimes, this can take the more complex forms of interiors of gigantic temples, caves of Gothic cathedrals, cupulas of monumental mosques, or decorations in Moorish palaces ("arabesques"). When the eyes are open, the environment appears to be in flux or in rhythmic undulating motion. Colors are unusually bright and explosive, color contrasts much stronger than usual, and the world can be perceived in a way characterized by various movements in modern art, such as impressionism, cubism, surrealism, or superrealism. Sometimes inanimate objects are described as coming to life; at other times the entire world can appear geometrized and ornamentated. Probably the most interesting perceptual phenomena in this group are optical illusions. Various ordinary elements of the environment may be seen transformed into fantastic animals, grotesque faces, or exotic scenery. Although the changes of perception are most striking in the optical field, they can also involve hearing, touch, smell, or taste. Characteristic occurrences at this stage are synaesthesias, where external stimuli produce responses in inappropriate sensory organs; thus LSD subjects can report such extraordinary phenomena as seeing music, hearing pain, or tasting color.

The above experiences, although fascinating from the aesthetic and artistic point of view, seem to have very little relevance from the point of view of therapy.
self-exploration, and personal growth. The most important aspects of these experiences can be explained in physiological terms as resulting from chemical stimulation of the sensory organs and reflecting their anatomical structure and functional characteristics. Many of them can be produced by drugs, hyperventilation, inhalation of carbon dioxide, or various physical means, such as mechanical pressure on the eyeball, electric stimulation of the optical system and exposure to strobe light or sounds of various frequencies. LSD subjects occasionally refer to this content to certain phenomena in everyday life that approximate or resemble these experiences. Thus the television screen of a set that is out of tune can produce a close replica of the visual distortion or geometrical transformation of an image. Similarly, the illusory acoustical changes produced by LSD can be simulated by a radio receiver that is registering the noises from intermediate bands between stations.

Visions of geometrical patterns are so common in the low-dose LSD sessions of beginners that they were originally considered a regular and typical reaction to the drug. However, they tend to disappear from the sessions when the dose is increased or the administration of LSD repeated. This is an observation that is not easy to explain. There is a possibility that they actually represent a replication of sensory phenomena induced by the lack of oxygen during delivery, and thus form the most superficial level of the memory of birth. Their affinity to the third perinatal matrix seems to point in this direction. To prevent misunderstanding it is important to emphasize that not all abstract and geometrical experiences in LSD sessions belong in this category. LSD subjects can have various visions of a geometrical nature in advanced transpersonal sessions. These two kinds of geometrical visions are quite different and can be easily distinguished from each other. The advanced geometrical images are related to specific forms of the micro- and macrocosm or represent elements of spiritual geometry. Typical visualizations from this category represent atomic and molecular structures, cellular and tissue elements, shells, honeycombs, flowers and blossoms, or various universal symbols and complex mandalas. The rich philosophical and spiritual content of these phenomena clearly distinguishes them from the abstract and aesthetic experiences described earlier.

Sometimes, the abstract sensory changes can assume a distinct emotional quality, and even a specific content. They can become sharp, dangerous, and aggressive, with a dark red color that suggests accident, operation, murder, or incest. Their colors might be very bright with accompanying feelings of disgust, or shame. Some other forms and colors of abstract visions can be perceived as lascivious and obscene, or very sensuous, sexually stimulating and seductive. Similarly, warm red, and soothing forms and colors can be suggested by the world of the satisfied infant. Such specific qualities in the imagery always reflect underlying emotionally-relevant biographical material. The same is true for perceptual changes in other areas, whether they occur spontaneously or are illusory transformations of some concrete sensory input. Experiences of this kind represent a transition from the abstract to the psychological level.

In the study of psychotic therapy in Prague most patients had, in the initial stages of their LSD treatment sessions, psychotic and abstract elements in various combinations and proportions. With the increasing number of sessions, the abstract phenomena progressively disappeared from the content of psychotic experiences and the process focused on complex biographical self-exploration. Changes in the Content of Psychotic Sessions, important events in the individuals' lives, from early childhood, later life or even the recent past. Most other experiences on this level could be identified, either immediately or at a later date, as various derivatives of biographical material. The deciphering of these more complex formations often occurred spontaneously in the course of LSD therapy when they could eventually be traced back to their original sources. However, since these psychodynamic phenomena have a structure similar to dreams, they can also be subjected to further analysis by various techniques used in dream interpretation.

The understanding of the content and dynamics of LSD sessions on this level is facilitated if we think in terms of the specific memory constellations, or COREX systems, which were described earlier. These help to explain the otherwise puzzling observation that in sequential LSD sessions the specific content tends to undergo constant change yet the overall structure of the experience, the quality of the emotions, and the accompanying psychosomatic symptoms can remain relatively stable for long periods of time. This reflects the fact that the collective COREX system has a general theme that characterizes it, but each of the historical layers represents a concrete and specific version of this theme linked with many biographical details. Once the entire COREX system is revealed, the sequential changes in the specific content of the sessions (and the corresponding illusory transformations of the thalamus and the setting) can be retrospectively understood as reflecting its various historical levels. With some clinical experience, it is also possible to use the knowledge of COREX systems for anticipating the approximate nature of the experiences in their deeper layers before these are actually manifested in the LSD process. As we discussed earlier, the concept of COREX constellations, and of governing dynamic systems in general, is particularly useful in understanding the complications of LSD administration, such as prolonged reactions or recurrences.

In our research in Prague, the content of psychodynamic sessions tended to proceed, by and large, from reliving traumaic memories of a psychological nature to memories of serious diseases, operations, and accidents. This should be understood in statistical terms, as a trend in a large number of patients: it does not mean that this development is absolutely linear or that it is mandatory for every single individual or every treatment situation. At a certain stage of their LSD treatment, many patients moved from conflicts, problems, and memories of emotionally relevant events to reliving situations that had endangered their survival or bodily integrity. Biologically threatening events and severe psychological traumas in early infancy seem to represent a thematic link between the biographical level and the perinatal level of the unconscious. Since there is usually considerable interpersonal overlap between these two realms, the transitions may be gradual and almost imperceptible. Thus, many LSD patients who were reliving episodes of near-drowning, diaphoria, whooping cough, childhood pneumonia, or tetanoclysm, suddenly recognized that some of the pain, fear, and suffocation that seemed to be related to these biographical events was actually part of the birth trauma. Similarly, other patients who were working through murderous rage seemingly related to early oral disturbances frequently recognized that some of the enmorous aggression which they had attributed to their infantile dissatisfaction with the conditions of nursing was on a deeper level associated with the struggle to
be born. In the perinatal context, the tension and locking of the jaws characterizing oral aggression appeared to be a natural situation in the final stage of birth, where the head is being pressed against the rearing walls of the birth canal. An experienced LSD therapist can thus frequently recognize emerging perinatal elements behind certain excessive emotional reactions and psychosomatic manifestations that the patient associates with various childhood memories.

When serial psychedelic sessions were continued, sooner or later every single LSD subject transcended the biographical stage and moved fully into the perinatal area. The number of sessions necessary for this development varied considerably from one individual to another. By and large, in the context of the psychodrama study conducted in Prague, subjects without serious emotional problems spent very little time dealing with biographical material and moved relatively quickly to problems of dying and being born, philosophical questioning of the meaning of human life, and discovery of the spiritual dimensions of existence. In contrast, psychiatric patients with severe neurotic and psychosomatic problems sometimes needed twenty to thirty sessions before they fully entered the realms of the death-rebirth process. Retrospectively, many of them realized that their dwelling on the psychosomatic level had been defensive in nature; they had been avoiding the much more frightening perinatal material. This attitude was, of course, supported and encouraged by the exclusive emphasis on biographical data implicit in the initial Freudian orientation of the therapists. The time needed for psychodynamic work can be considerably shortened if the sitters are familiar with the perinatal and transpersonal dimensions of the psychedelic experience and are comfortable with them.

Once patients are fully involved in the death-rebirth process, the main form in many consecutive LSD sessions is on the perinatal unfolding, with all its ramifications and issues. In the most general terms, this process consists of a large number of experiential sequences involving the symbolization of individual perinatal matrices. We have not been able to detect any universal pattern or regularity of the order in which these matrices are confronted. Some exceptional subjects have direct experiential access to elements of BPM I and transpersonal phenomena before they confront the elements of negative perinatal matrices. More typically, the access to BPM IV and BPM III of LSD subjects deal with the difficult aspects of BPM II. In general, the perinatal sequential pattern is very individual; the factors determining them are complex and at the present time only insufficiently understood. The nature and circumstances of the actual biological birth process, and specific features of the individual's history that reinforced and accentuated certain facets of the birth trauma seem to be of considerable importance in this sense.

In addition to elements built into the personality structure of the subject, a variety of external factors seem to be of potential or actual significance. These include the personality of the therapist, his or her general orientation and therapeutic approach, and the elements of set and setting in the broadest sense. Various unsystematic observations seem to suggest the potential relevance of seasonal influences and calendar events, such as birthdays, important anniversaries, Christmas, or Easter. Some interesting clues can occasionally be derived from the subject's astrological chart and from the data on planetary transits, and the most interesting area for future research may be that of possible cosmobiological determinants of psychedelic sessions in general and the perinatal process in particular.

A complex experience combining feelings of continuity with painful genital and umbilical sensations. It illustrates the origin of the castration complex and its roots in the birth trauma.
Particular. While the major experiential foci in the LSD procedure is on the perinatal level, several important episodes related to the individual matrices can be experienced in a single session. However, in each of these sequences the emphasis is on a different aspect, facet, or level of the main experiential pattern. In some sequences involving the negative matrices, the central focus is on the emotional quality, such as depression, anxiety, guilt, anger, aggression, or revulsion. In others the emphasis can be on one or several psychosomatic manifestations—a feeling of suffocation, pressures on the head and body, various physical pains, discharge of tension in tremors, nausea and vomiting, or cardiac difficulties. In addition, each of the stages of the perinatal process can be experienced on different levels, from various superficial symbolic allusions to sequences of a primordial and elemental nature that have nothing-world-shattering dimensions.

The richness of the experiential content is augmented by the fact that the process involves an endless variety of illustrative material from biology, zoology, anthropology, history, mythology, and religion. These elements also contribute to the context of positive perinatal matrices, whose emotional and physiological manifestations are much more uniform and simple than those of the negative ones. For these reasons, psychedelic sessions focusing on the death-rebirth process not only have great therapeutic potential, but are a source of invaluable scientific, sociopolitical, philosophical, and spiritual insights.

Although LSD subjects can have several sequences of death and rebirth in a single psychedelic experience, it usually takes many sessions before this process is finished and the perinatal material completely disappears from their context. This is in agreement with anthropological observations in various non-Western cultures where powerful sequences of death and rebirth are induced by drugs or various non-drug methods in the context of so-called rites of passage. There are indications that in the second half of life the episodes of unusual states of consciousness during such rituals become less dramatic and lack the perinatal elements. Kilman Stewart’s (96) description of the Semen culture can be cited as an important confirmation of this. As the perinatal process unfolds, the intensity of negative experiences tends to increase and the feelings of release and liberation thereafter become deeper and more complete.

Certain aspects of the perinatal process can be used as rough indicators of its progression. If the LSD subject spends large periods of several consecutive sessions in the role of the suffering victim—helpless, hopeless, and with “no-exit” feelings—it usually means that he or she is in the initial stages of the process. Increasing access to aggressive feelings and an active role in the experiential sequences are characteristic of more advanced stages of the death-rebirth process. It was mentioned earlier that, in the context of the third perinatal matrix, physical and emotional agony are intimately intertwined with intense sexual arousal. As a result of this connection, during LSD therapy using lower dosages some of the birth agony can be discharged and worked through in the form of orgasmic sequences of painful intensity. If high dosages are used in the LSD process, the increase of sexual content in the sessions is an important indicator that the perinatal process is moving into the final stage. The same is true for intimate encounters with biological material such as blood, phlegm, feces, urine, or various other foul-smelling substances. Another typical sign that the death-rebirth process is coming to an end is experiential predominance of the element of fire, in the form of concrete images of volcanoes, thermonuclear reactions, explosions and combustions, and especially
in the more abstract and transcendental form of the unifying and rejuvenating fire (pyrocaustic).

It is of critical importance for the practice of LSD psychotherapy to know the concomitants of the experiential transition from death to rebirth intimately. Some of the states the subject has to face in this context are so subconscious that he or she may not be able to do it without sufficient acquaintance with this territory on the part of, and constant encouragement and support from the actor. If this is not available, desperate avoidance of the frightening aspects of the critical turning-point can become a long-term impediment or even a permanent block to the completion of the perinatal process. The expectation of a catastrophic global explosion, excessive degrees of suffocation, feeling an impending loss of consciousness ("black-out"), a sense of bodily disintegration, and the collapse of all reference points are the most frequent final obstacles that subjects have to face in the death-rebirth process.

Perinatal experience have an interesting intermediate position between the biographically determined individual unconscious and the transpersonal realms of the collective unconscious. The relative degree of involvement of psychodynamic or transpersonal material in perinatal sessions is another indicator of progress. In early phases there is considerable biographical emphasis; while LSD subjects are dealing with traumatic childhood memories the experience occasionally deepens into a perinatal sequence. Later, the main focus shifts almost entirely to the content of perinatal matrices and the psychodynamic elements are usually reduced by an occasional reliving of diseases, operations, or accidents. At the same time, various transpersonal realms are increasingly represented in the session, either as illustrations and concomitants of the perinatal sequences or as independent episodes. Quite frequently, LSD subjects experiencing various aspects of the birth trauma report a simultaneous reliving of past incarnation memories which involve similar elements. Feelings of suffocation in the birth canal can thus be associated with what feels like a necessity of being drowned or hanged in another life-time. Sharp perinatal pains can take the form of being gored by a sword or a wild animal in a previous incarnation, and the no-exit feelings of BPM II can be paralleled by a scene of imprisonment in a medieval dungeon. In a similar way, experiences of the ego death can coincide with executions, murders, or ritual sacrifices.

Many other forms of transpersonal phenomena can make their first appearance in connection with perinatal sequences. Various archetypal images of deities and demons can accompany the birth experiences, as individual visions or in the context of entire mythological sequences. Versions of the Terrible or Great Mother, Satan, Moloch, Shiva the Destroyer, Osrhy, Dionysus and Jesus Christ seem to have specific association with individual perinatal matrices and various aspects of the birth process. In some instances, memories from the individual’s human ancestors, or experiences of various phylogenetic crises can occur in the same function as described above for karmic elements. An identification with persons of different races, professions, social groups, and predilections, such as soldiers in wars, ambitious military leaders, revolutionaries, dictators, prisoners in concentration camps, inmates of insane asylums, adventurers, explorers, martyrs, saints, and sages is quite characteristic. Similar identification may be experienced in regard to entire groups of people, and be accompanied by various relevant insights into the dynamics of important religious, historical, and socio-
Three manifestations of the same theme on the psychodynamic, perinatal and transpersonal levels. Above: 'Pipa', an important faceted childhood companion of the subject.

Upper right: Soldiers in ancient costumes are crushed between two gigantic cylinders. In this basically concentric symbol the soldiers represent elements of an underlying transpersonal experience which is depicted in the last drawing.

Lower right: A military expedition of an ancient (African?) army. The image of 'Pipa' now reappears as a motif on the standard.
political movements. In the extreme, the death-rebirth experience can seem to have transcended all boundaries and become a drama involving all of mankind.

The number of psychedelic sessions necessary for the completion of the perinatal process varies considerably from person to person and also depends critically on external factors such as dosage, therapist, set and setting. For this reason, any absolutely valid numerical estimate is impossible. In my experience, some individuals were able to work through and integrate the perinatal material in less than ten fully internalized high-dose LSD sessions. Others needed several scores of psychedelic experiences in the same framework before they were able to move fully into the transpersonal phase. I have also met a number of people who had taken LSD on their own, in an unsupervised externalized way and in a social context, and had not really even begun this process in spite of hundreds of exposures to the drug.

If high dosages of pure LSD are used and the sessions are approached as in- depth self-exploration, most individuals sooner or later complete the process of ego death and rebirth. Beyond this point, all their sessions are transpersonal in nature and represent a continuing philosophical and spiritual search. Whether the process was originally approached as therapy or for another reason, it becomes at this stage a cosmic adventure in consciousness aimed at solving the riddles of personal identity, human existence, and the universal scheme.

In the program of psycholytic therapy in Prague a typical psychotic patient with neurotic or psychosomatic problems moved successively from work on psychodynamic issues through the process of death and rebirth to the philosophical and spiritual exploration of the transpersonal phase. If we want to relate this development to existing schools of psychotherapy, we can refer to the first phase as Freudian, because much of the LSD process on the psychodynamic level can be understood in psychoanalytic terms. Since an important aspect of the perinatal process is the resolving of the birth trauma, we can refer to it as Fränkian. One of the essential characteristics of this phase is enormous release of pent-up energies through orgasmic-like discharges and the dissolving of the character armor, it thus also has an important Freudian dimension. The only psychiatrist who systematically explored and described many of the transpersonal phenomena was Carl Gustav Jung. Although his conceptual framework does not cover the entire range of transpersonal experiences, it is appropriate to call the third stage Jungian.

Much of the experiential cartography of the perinatal and transpersonal areas has also been covered by various religions and mystical systems and traditions.

The progression through the above stages and the corresponding changes of content can be illustrated in the series of LSD sessions of Erwin, a twenty-two-year-old patient with an extremely severe obsessive-compulsive neurosis. Although from the point of view of therapeutic outcome he was one of the few absolute treatment failures, his sessions were an interesting example of the change of symbolic content. They showed how the snake, a classical Freudian phallic symbol, took on different meanings depending on the level of the psychedelic process. During his LSD therapy, Erwin successively experienced various psychodynamic, perinatal, and transpersonal phenomena, but all of a negative nature. He was never able to experience the ecstatic unitive states that, according to our observations, have the greatest therapeutic potential.

Erwin was accepted into the LSD treatment program after four years.
of unsuccessful psychiatric therapy with various conventional methods. His most tormenting clinical problem was a strong compulsion to conceive in his mind a geometrical system with two coordinate axes, and find within this system the proper location for different persons, situations and problems in his life. When he resisted this urge, he became overwhelmed by intolerable fear and other highly unpleasant somatic and motor activity absorbed so much of his time and energy that it interfered with his everyday functioning and frequently totally paralyzed him. Sometimes he would use attempts to find the appropriate coordinates for a certain aspect of his life, but he was never able to complete the task to his satisfaction. Shortly before his admission, he developed an alarming feeling that the center of his imaginary system was undergoing transformation. This was accompanied by a sense of regress, sexual, depersonalization, and general insouciance. At that time he had also developed various psychosomatic symptoms and tended to interpret them in a hypochondriacal way. This was followed by a period of several psychosomatic hospitalizations and unsuccessful treatment with tranquilizers, antidepressants, and drug-free psychotherapy.

The beginning of the year was marked by extreme resistance toward LSD; at one point, he was able to fight with full success the impact of 1000 micrograms of Sanzur LSD administered intramuscularly. A long series of high-dose sessions was entirely uneventful; the content of most of them consisted in massive somatization and struggle for control. After this, he gradually started to gain access to some recent biographical material, such as certain memories from his youth. Gradually, in his thirty-eighth LSD session, he suddenly regressed into childhood in a very convincing and realistic manner. He felt small and helpless and had various strange sensations around his genital area. It seemed to him that his penis had shrunk and was as tiny as that of a child. This was associated with anxious concerns about losing control of his bowels, and embarrassing feelings of having his pants wet and soiled. His interview was intensified to an extreme degree and was to be intimately linked to visions of moving reptilian bodies and patterns of snake skin. The shifts of various elements within his imaginary system to be perfectly synchronized and at times even identical with the movements of the snakes. In these sessions, he was working through problems related to toilet training and rebellion against parental authority. The excretory functions had a strong ambivalent meaning for him, being simultaneously or alternately pleasurable and repulsive.

In this context, he evolved in a complex way and in full age-regression an event which occurred when he was two and half years old. His mother had taken him to a circus, and he was watching the show while sitting on her lap in the front row. Among the performers that involved a female belly dancer with a large box costume, her male partner carried the snake around the arena, exhibiting it to the audience. When he approached Erwin and his mother, the snake made an unexpected movement. In a sudden state of panic, Erwin wet and soiled his pants while sitting on his mother's lap. She was greatly embarrassed by the incident and left the circus immediately. The authenticity of this memory was later independently verified by Erwin's mother.
EMOTIONAL AND PSYCHOSOMATIC CHANGES IN THE POST-SESSION INTERVALS

The changes that occur in the content of LSD sessions during the course of psychedelic therapy have their counterparts in parallel changes in the subjects’ clinical condition following the drug experience. The specific dynamics of the post-session intervals and the therapeutic approach to complications have been discussed in an earlier section. Here we will describe certain general patterns of change associated with serial LSD sessions. We will focus our attention on the course of therapy in the psychedelic study in Prague, before we introduced the principle of some internalization of the sessions and active efforts at positive resolution and structuring of the termination period. The use of these two principles decreases the incidence of negative after-effects considerably, and thus reduces the oscillations of the clinical condition.

The discussion of the course of the LSD process under less-structured circumstances is important for two reasons: it provides a better understanding of the dynamics involved, and gives a rationale to future LSD therapists for active intervention in the reentry period. Although the LSD sessions were supervised, the lack of therapeutic intervention in the proceeding made the procedure more like non-medical self-experimentation. The observations made in this context are therefore also of great potential value for those professionals who practice crisis intervention and treatment of unsupervised LSD self-experimentation.

Even when no active therapeutic help is offered during the termination period, negative aftereffects of LSD sessions are minimal in individuals who show reasonable emotional stability. As mentioned earlier, I have never seen in this category aftereffects that had the form and intensity of clinical psychopathology. Occasionally, we observed feelings of sadness, irritability, fatigue, existential questioning, headaches, or “hangover” on the day following sessions; such manifestations, however, always remained within the normal range. Even at a time when these individuals were dealing with difficult perinatal material, the negative sequelae of their LSD sessions did not interfere with their everyday functioning. In fact, to focus one-sidedly on the negative consequences of LSD sessions in “normal” persons would be misleading. In most instances, one observed a distinct enhancement of ability, an increased sense of elation, unusual perceptual richness, and other distinctly positive changes for days or weeks following the psychedelic session.

The situation was quite different in psychotic patients with severe neurotic and psychosomatic disorders. At the time these patients were working in their LSD sessions on psychodynamic material, their clinical condition showed a considerable degree of variation. After some LSD sessions, there would manifest signs of very dramatic improvement; because our knowledge of the nature and dimensions of the LSD procedure was rather limited at that time, this occasionally created the illusion that the therapy was approaching a successful termination. However, other LSD sessions were quite unexpectedly followed by a dramatic accentuation of pre-existing symptoms. In the remaining cases, the positive or negative changes were negligible. In addition to these oscillations in terms of alleviation or worsening of clinical symptoms, we occasionally observed dramatic transformations of the symptoms.

Within a few hours of the LSD session, old psychopathological manifestations, which in some instances had persevered for many years, disappeared as if by magic and were replaced by different clinical symptoms that the patient had never had before. For a detailed discussion of the dynamics underlying these changes, see p. 272 ff. of this book. In some instances, these changes were so fundamental that the patient moved into a completely different clinical category. This phenomenon is so striking and of such theoretical and practical significance that it deserves to be illustrated by a short clinical example:

Richard was a twenty-six-year-old student who had suffered for more than four years from severe neurotic depression, and had made six serious suicidal attempts, one of them with rat poison. In addition, he had frequent attacks of free-floating anxiety, exercising headaches, agoraphobia, cardiac palpitations, and severe insomnia. Richard himself related most of these emotional problems to disturbances in his sexual life. Although he had many friendly relationships with women, he was not able to approach them sexually and had never had sexual intercourse with a female. He tried to reduce his sexual tension by occasional masturbation; however, this resulted in self-hatred and tormenting guilt feelings. At irregular intervals, he got involved in homosexual activities, always in the role of the passive partner. Although he could reach monetary satisfaction in these situations, the feelings of guilt associated with them reached self-destructive proportions. In the state of despair that followed his homosexual affairs, he made several attempts at suicide and once tried to strangle himself by taking a large dose of estrogen hormones.

In his eighteenth LSD session, Richard completed the reliving and integration of a powerful negative COEX system that was functionally related to BPM II. This was followed by an ecstatic experience of several hours’ duration. He felt self-assured, cured, whole and optimistic. However, during the reentry period he tuned experientially into a different memory constellation, one associated with the third perinatal matrix. It was an unpleasant surprise for him after what he believed to be the final resolution of his illness. Disappointed, and unwilling to face the new problems, he mobilized his defenses prematurely. He returned from his LSD session radiant, happy, and with a sense of physical well-being; however, to our surprise, the complex of his old symptoms was replaced by a classical hysterical paralysis of his right arm. It had all the typical features of a hysterical conversion reaction, including the “belle indifférence” — a surprisingly indifferent emotional attitude toward a seemingly serious and crippling symptom.

The continuation of psychiatric treatment brought about interesting results. In several subsequent sessions, Richard’s paralysis was lifted every time the LSD started taking effect. Two important areas of problems underlying his hysterical paralysis kept emerging and had to be worked through. The first was Richard’s relationship with his father, fraught with aggression and conflicts about paternal identity. His father was a brutal and despotic alcoholic who physically abused both Richard and his mother. On several occasions, his father had hurt him so seriously that Richard had to be
taken to a hospital. In puberty, Richard used to have violent fantasies and dreams about killing his father.

In the LSD sessions of this period, Richard repeatedly saw me as transformed into his father. As soon as his arm and hand moved under the influence of the drug, he would inevitably aim his fist toward my face. However, he never completed the act; his hand would stop several inches from my nose, withdraw, and strike again with new force. At times, his fist would oscillate in this way for several hours in front of my face, as if tossed around by contrary impulses. It was as if he were remembering the violent and supreme. As this was happening, Richard kept reliving various traumatic memories involving his father, and had a number of symbolic visions related to patricide.

The second patient's paralyzing problem involved perineal emotions. As he experienced strong conflict between his overwhelming desire to masturbate and his guilt and fear associated with it, his hand kept reaching toward the genital area and then pulling back into a position near his hip joint. While his hand was involuntarily oscillating back and forth, Richard had numerous experiences involving sex and punishment.

Finally, he relived with intense emotions a traumatic memory of being caught and severely punished by his father for masturbation.

Both areas of conflict described above had their deeper roots in the perinatal area and thus also reflected Richard's relationship with his mother. In these sessions, sequences of the death-rebirth struggle were closely interwoven with biographical material related to his relationship with his father. It took seven sessions to work through these two areas of conflict. When this was completed, Richard regained full control of his hand and arm. This time no new symptoms emerged and his old complaints did not return. Several weeks later, he had the first heterosexous intercourse of his life.

In spite of the oscillations in their clinical conditions, a general trend toward improvement was observed in most neurotic patients in our study. After a certain number of sessions, which varied greatly from person to person, many of them temporarily reached a point where their symptoms were considerably alleviated or even non-existent and there was a good level of adjustment. With a few exceptions, they could be discharged and continue LSD therapy on an outpatient basis.

This degree of improvement was probably comparable to the result of very successful psychoanalysis or some other type of systematic long-term psychotherapy. In retrospect, from a conventional point of view this would have been a good time to terminate therapy. However, with most of our patients this did not happen. For several reasons, it seemed appropriate at the time to continue LSD therapy beyond this point. My orthodox psychoanalytic training and background were very important factors in the decision to continue, which eventually opened up for me an entirely new avenue of research into the human mind.

Although at this stage these patients showed a satisfactory level of symptomatic improvement in the periods between LSD sessions, their psychoanalytic experiences still involved episodes of aggression, anxiety, guilt, and various psychosomatic symptoms. In a way these were actually becoming more primitive and emotional and psychotic.

Elemental. Much of the material that these patients were dealing with had a definite oral emphasis. This was for me an indication that their therapy was coming to an end, and I continued the LSD sessions in the belief that we just had to work through a few "residual problems," to prevent a relapse. According to psychoanalysis, we are born a "tabula rasa"—a blank tablet—and the psychological problems of our development start in the oral period; there is nothing from before birth and thus there was not much further to go. My expectation at that time was that the amount of biographical material would be limited and that we would eventually reach a point where we had resolved all our problems and were no longer being activated by LSD. Since the reliving of traumatic memories was frequently followed by ecstatic and contentless episodes, I expected eventual administration of LSD to ultimately result in a free and integrated mind with a great potential for healing and integration. This basic premise proved to be correct, but the way to such experiences was much longer and more complicated than I had expected.

The continuation of therapy was thus a result of ignorance of the nature and basic laws of the LSD process; it also reflected the use of an inadequate and limited theoretical model which underestimated the dimensions of the human personality. The toll paid for this was much unexpected emotional and psychotic suffering on the part of my patients, and much conceptual confusion and a real testing of therapeutic optimism and endurance on my part. Despite all these difficulties, this period became the most fascinating intellectual and spiritual adventure of my life. It revealed for me new and uncharted areas of the human unconscious, led to countless unexpected situations and events, and confronted me with hundreds of incomprehensible and puzzling observations. The final outcome of this process was a radical break with the old conceptual frameworks, a much broader understanding of the human mind, and even a drastic change in my concepts concerning the nature of reality.

As the LSD sessions proceeded into the perinatal realms, the emotional qualities and psychosomatic sensations that had to be confronted, broadcasted and deepened beyond all imaginable limits. Sooner or later, every single patient started to experience agues and ecstasies of cosmic proportions. At the patients dealt with various aspects of the death-rebirth process, a similar dichotomy also occurred in the intervals following psychoanalytic experiences. After some LSD sessions, the clinical condition of the patients would deteriorate drastically. On occasion, persons who were in treatment with severe neurotic symptoms and then at a certain point appeared almost cured, suddenly showed transferential psychotic symptoms. Not infrequently, temporary relabelization was necessary in patients who had already returned to their ordinary life situation and were continuing therapy on an outpatient basis. Less frequently, the LSD sessions of this stage terminated in deep ecstatic states and were followed by clinical improvement of an order qualitatively different from anything observed earlier on the psychodynamic level. These changes were characterized by not only a considerable reduction of symptoms, but also an actively joyful approach to existence with a distinctly spiritual undercurrent ("psychic allergic").

As LSD patients come closer to the moment of the final ego death, some of the free intervals becomes rather precarious. Deep depressions, aggressive tension,
self-destructive tendencies, and manic states are not uncommon at this stage. Although complications of this kind can be considerably decreased by active work in the reentry period, a special treatment facility with trained personnel should be available when individuals with severe emotional problems reach this critical phase of LSD psychotherapy.

At this time, some of the original clinical symptoms that had been alleviated or even eliminated may be partially, if not fully, reappeared. As the patient moves through the psychedelic process from the psycho-physiological realms to the perinatal area, various psychopathological syndromes may gradually lose their specific characteristics and be reduced to their fundamental roots. Psychiatric patients who started LSD therapy with the most varied clinical problems typically show a striking congruence, and ultimately manifest in the LSD session and during their symptomatic withdrawal. In the first stage of this process, there may be little difference between patients who started with symptoms of claustrophobia, alcoholism, or inhibited depression; they all manifest symptoms characteristic of an anxiety state. Similarly, in the second stage of this process, the patient's behavioral and cognitive symptoms can be stripped of their biographically determined specific differences and reduced to typical symptoms characteristic of anxiety states.

Obervations of this kind throw an entirely new light on the dynamic structure of various psychopathological syndromes and make it possible to construct a revolutionary model of mental illness and of psychotherapy. Theoretical implications of this kind will be discussed in the next volume.

After many sequences of agony, death, and rebirth, LSD patients in the psychotic milieu in Prague typically reached the final experience of ego death. This is an important turning point in LSD psychotherapy; beyond this point, elements characteristic of BPI II, III, and IV no longer appear in the sessions or as determinants of the free intervals. The first perinatal matrix and various combinations of transpersonal matrices take over and govern the psychedelic experience from then on. From the clinical point of view, this is usually associated with dramatic transformations over a broad spectrum of neurotic and psychosomatic disorders. However, full experiential shift from the perinatal into the transpersonal area does not mean that all negative experiences are permanently eliminated from the content of LSD sessions or from the post-session intervals. The content of purely transpersonal states is determined by the use of the same dichotomy as that of the perinatal matrix: how the everyday feelings, thoughts, behavior, entire world-view and life style can reflect elements of the ocultic plane of the intrauterine state or the all-encompassing horrors of fatal crises: omnipresent fears of amputation, detachment, death, and even worse, the nature of nourishing or destructive archetypal constellations.

The fact that the subject has transcended the biographical and perinatal levels does not mean that his or her LSD sessions have no personal significance or relevance. The biographical history is now freely available on the adult level without repression and emotional distortion. There is no more painful reliving of past traumatic experiences, nor is the subject given the opportunity to shape the dramas in the nuclear family and their impact on one's life. Similarly, the life-and-death struggles, the claustrophobic nightmares, scatological scenes, and sadomasochistic orgies of birth do not reappear in the sessions. However, no matter how grandiose and cosmic the scale of transpersonal experiences, they are always intimately connected with the everyday life of the individual. Working through negative transpersonal matrices and connecting with positive ones has a therapeutic influence on the subject's emotional, psychosomatic and interpersonal processes. It also provides new levels of understanding of one's own identity, the dimensions of being, human life, and existence in general.

Although there is no more specific "archaeological" work to be done on one's present life history, the interpretation of its meaning changes constantly as the conceptual frameworks are expanded to accommodate new experimental data.

One aspect of everyday existence that shows particularly intimate connections with the psychedelic process is the individual's dream life. In a course of psychotherapy involving serial LSD sessions, there is a clear continuity between the nature of drug-induced experiences and mental activity during sleep and the hypnagogic period. Dreams before the LSD session often anticipate the content of the psychedelic experience, and dream life in the post-session periods typically elaborates on various themes from the preceding drug session. This is particularly striking when important gestalts remain unresolved in the preceding session and much unconscious material with strong emotional charge becomes experientially available.

When the emphasis in the psychedelic process is on biographical issues, the dreams have the typical dynamic structure known from Freudian psychoanalysis. Much of their content seems to make sense in terms of the individual's emotional history, and can be easily deciphered by an interpreter who is familiar with the basic principles of dream work. When LSD patients experientially enter the perinatal area, the quality of their dreams changes and the Freudian approach to interpretation is no longer adequate. Although formal analysts usually produce some material from the individual's history that appears to be relevant and thematically associated with the content of such dreams, any purely biographical interpretation remains superficial and unconvincing. Dreams of this phase are very primitivist, elemental, and fraught with intense emotion. Their content is usually a more or less direct derivative of the typical themes associated with the individual perinatal matrices. Thus perinatal dreams related to BPI II involve powerful experiences of tortures in prisons, concentration camps, and gas chambers; frightening claustrophobic experiences in caves, underwater passages, or progressively narrowing corridors, tunnels and pipelines; and a world of unnatural earthbound figures, circus side-shows, and automatons or robots. More mitigated matrices. Thus the everyday feelings, thoughts, behavior, entire world-view and life style can reflect elements of the ocultic plane of the intrauterine state or the all-encompassing horrors of fatal crises: omnipresent fears of amputation, detachment, death, and even worse, the nature of nourishing or destructive archetypal constellations.

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clillation or reunion, and joyful celebration. Heavenly realms, paradoxic atmospheres, beautiful natural sceneries, and oceanic states in dreams reveal the involvement of the first personal matrix.

The following description is an excellent example of a dream whose content reflects perinatal dynamics. In this case, the subject himself recognized its relation to the birth process.

It was a Sunday afternoon and all my family was in the large living-room of a house situated on a cliff overlooking the Pacific. Everyone was enjoying themselves in our usual family holiday manner when I noticed that a storm appeared to be gathering force outside. Suddenly, the wind and rain acquired such power that it began to penetrate the windows; at this point my father said in a very significant tone, "It is the Fifth Wind." Then, in a moment that seems insignificant even in retrospect, the entire house began to rotate on its foundations and to fall off the cliff into the Pacific far below. During the few seconds between the time it began its descent and the moment of impact, I realized that all my family and myself were going to die in the cataclysm. At the very moment that I had accepted totally my own death and that of my loved ones, I awoke, just before the house hit the ocean.

Upon awakening, I was left with an extraordinary exalted feeling, and then I recognized the dream as bearing a deep resemblance to certain sensations I had had in recent LSD sessions. In these sessions I appeared to be re-living my birth, and the elements of accepting my death, the end of the world, tremendous elemental forces involved in a cataclysmic explosion, and finally the peculiar sensation that my head (perceived as much greater than usual), the room and building I was in, and indeed the entire universe seemed to be about to spin on its axis in the most inexplicable and awesome manner—all these elements had appeared in various parts of the sessions and were repeated in a beautiful fashion in the dream. Finally, I recalled how, in the birthing of my own life, the head seemed to rotate at the culmination of the birth process, and the entire picture seemed to fit together—this dream seemed to represent in a symbolic manner many of the essential aspects of the ego death.

Once the individual moves into the transpersonal stage of the LSD process, this has important consequences for the nature and content of his or her dreams. Many of the elements and sequences, or even the entire content of certain dreams can represent transpersonal phenomena in a more or less pure form. Such dreams cannot be adequately interpreted in Freudian terms and the results of such analysis are bound to be superficial and inaccurate. These dreams do not show the distortion and condensation characteristic of those that are biographically determined, and have the quality of past-incarnation memories, ancestral or phyleogenetic experiences, encounters with archetypal entities, various types of extra-sensory perception, or out-of-body travels. Recognition and acknowledgement of the symbolic nature of such dreams is essential for their correct understanding and interpretation. Because of the deep organic link between the dream life and psychedelic experiences, the work with dreams should be an integral part of every comprehensive program of psychedelic therapy.
Under these circumstances, one does not see the gradual unfolding of various levels of the unconscious from one session to another as described for the psycholytic approach. Instead, all the categories of psychedelic phenomena can be sequentially encountered in a single LSD session. At the beginning of a session the subject usually experiences a short period of an abstract nature when he or she sees colors and dynamic geometrical patterns. Then the focus shifts to the psychodynamic realm, and the individual might briefly come in touch with some biographical elements related to a particular COEX system. As the LSD session unfolds, he or she usually confronts deep levels of memory constellations dealing with survival and bodily integrity, or the material of the basic perinatal matrices. Memories of near-drowning, injuries, operations, and dangerous diseases, as well as profound encounters with death that go beyond concrete biographical events are quite common. After several sequences of death and rebirth, the session can stabilize on the level of BPM I, or the subject can enter the transpersonal realm and experience various mythological sequences, ancestral and phylogenetic memories, elements of the collective unconscious, or past-incarnation phenomena.

During reentry, when the effect of the drug is diminishing, episodes of a psychodynamic nature might be repeated. At this time, the insights acquired earlier in the session are frequently applied to the concrete conditions and circumstances of one's life. However, the fact that the subject has had experiential access to the transpersonal level does not mean that he or she has completed the death-rebirth process. It will still take a series of internalized high-dose LSD sessions of a kind similar to the one described above to work through and integrate all the perinatal material and the associated psychodynamic elements. However, if the principles of psychedelic therapy are applied, the overall time required to complete this process is much shorter than in psycholytic therapy. In addition, there are fewer difficulties and complications in the interval between the sessions, especially when the therapeutic approach involves intense experimental work in the termination period and the sitter makes an active effort at positive structuring of the reentries.

LONG-TERM CHANGES IN THE PERSONALITY STRUCTURE, WORLD-VIEW, AND HIERARCHY OF BASIC VALUES

Since we have been discussing the LSD procedure primarily in a therapeutic context, the question of its lasting influence on various personality characteristics is of particular interest. Under certain circumstances even a single psychedelic experience can have profound and lasting consequences. If the subject's personality structure has intrinsic potential for a fundamental positive or negative shift, the administration of LSD can catalyze and precipitate a sudden dramatic transformation. On occasion, one LSD experience has drastically changed an individual's world-view, life philosophy, and entire way of being. It has mediated a profound spiritual opening in atheists, skeptics, and materialistically oriented scientists, facilitated far-reaching emotional liberation, and caused radical changes in value systems and the basic life style.
At the other end of the spectrum, the least fortunate individuals have been deeply shattered by a single exposure to the drug and the psychedelic experience because for them the "last straw" that led to a psychosis episode. Serious emotional disengagements triggered by ingestion of the drug and lasting months or even years are not uncommon among persons who approach self-experimentation with LSD casually and expect nothing. This shouldn't happen in the context of supervised LSD work. Individuals with serious emotional problems that border on psychosis should be screened out in advance, unless the therapeutic team is willing and able to work with problems that might be activated by the administration of the drug, and bring the therapy to satisfactory completion. In this section, we will discuss changes that occur in the course of systematic and justified long-term LSD psychotherapy following the principles described in this book.

Although the process of psychedelic transformation shows many individual variations, it is possible to outline certain basic trends that are reasonably constant and predictable. In the freudian stage of LSD psychotherapy, which involves biographical self-exploration, subjects tend to discover that various aspects of their life are "transferred to the world, emotional reactions to persons and situations, and specific behavior patterns suddenly appear to be blind and mechanical automatons-like processes that reflect psychological fixations from childhood. As the process progresses, and the constant is confronted and altered throughout, LSD subjects free themselves from certain idiosyncratic perceptions, inappropriate emotional responses, rigid value systems, irrational attitudes, and maladaptive behavior patterns that are products of their early programming. This process can also lead to elimination or alleviation of some psychopathological symptoms and various life problems of less serious proportions. Since the life history varies greatly from one person to another, the changes on this level can take many different forms.

Perinatal experiences have a much more fundamental and uniform impact on the LSD subject. The profound confrontation with the extremes of human experience can drastically change one's perception of oneself and the world, and result in an entirely new strategy of existence. In this process, many individuals find that their life is now free from certain biographically determined partial distortions, such as a lack of confidence and poor self-image, chronic problems with authority figures, or difficulties with sexual partners. They suddenly see that their entire concept of existence is threatened, and, in their unpreparedness, are unable to adjust to the new world that is presented as a result of the drug contact. The process of unlearning and relearning the world is a significant component of the experience, which can lead to a feeling of being trapped or isolated. The subject may feel that their entire identity is being questioned, and they are forced to reevaluate their beliefs and assumptions. This process can be both painful and liberating, as the subject is forced to confront the limitations of their previous beliefs and to restructure their understanding of the world.

The old belief that "more and bigger" automatically means better, on both the individual and social scale, is rejected as a delusion and a dangerous fallacy. The Western life philosophy, which confuses conspicuous consumption with richness of life is replaced by a new emphasis on "maximum well-being with minimum consumption" and a definite shift toward "voluntary simplicity." The new holistic worldview is not one of material accumulations, but rather a need to live in basic harmony with the environment. This means that the need to control and manipulate people and nature is replaced by an increase in the awareness of negative perinatal matrices and the necessity of life and death struggle with the maternal organism. Conversely, the holistic and synergistic approach to the human and natural environment seems to be related to positive perinatal matrices and based on the memory of the human and natural environment. This approach is focused on creating a mutually satisfying and nourishing exchange with the maternal organism.

Another striking aspect of the psychedelic transformation is the development of intense interest in consciousness transformation. This interest is more than a spontaneous inclination toward mysticism, ancient and oriental spiritual disciplines, the practice of yoga and meditation, and a fascination with mythology and religion. It is particularly common in individuals associated with the spontaneous emergence of a new transcendental ethic, quite similar to Maslow's concept of the self-actualizing person. This individual seems to gain access to a new state of consciousness that is not understood in terms of his or her early history or cultural background, and aesthetic and artistic appreciation that has a transpersonal or even cosmic quality. Successful completion of the death rebirth process results in a new, more insightful, interesting, and satisfying
tory way of being in the world, with a sense of belonging, meaning, natural spirituality, and synesthetic participation.

This development involves a great conceptual expansion in many ways, but does not mean basic phenomena erasures of the Newtonian-Cartesian world-view. The world is still seen as objectively real and material in its essence. Space is three-dimensional, time is linear and causality is accepted as a mandatory principle governing the course of events, although its roots have been extended far into the transpersonal realms. Intraframe experiences, racial and phylogenetic memory, metaphysics of the DNA, archetypal dynamisms, and the law of the cooptation into the subject's thinking to account for the enormous expansion of the experiential world. A scientifically trained individual still typically accepts at this point the Cartesian division between mind and matter and tries to find material substrates for all his or her LSD experiences in the structures of the central nervous system.

As the psychoactive process continues and the subject explores the world of transpersonal phenomena, many of the above attributes of the Newtonian-Cartesian world-view become philosophically untenable. The possibility of transcending the limitations of matter, time, space, and linear causality is experienced so many times and in so many different ways that it has to be integrated into the new world-view. Although for the practical purposes of everyday life the individual still thinks in terms of matter, linear time and causality, the philosophical understanding of existence approaches that of Kashmir Shaivism, Taoism, Hinduism, or modern physics. The universe ceases to be a gigantic assembly of material objects; it becomes an infinite system of adventures in consciousness. The new understanding has distinct holonomic features, and the dichotomy between the part and the whole, experience and the experienced, determinism and free will, form and emptiness, or even existence and non-existence has been transcended.

Since much of the information in this book has been obtained in a clinical context, a few words should be said about the implications of the abovement transformation for the understanding of emotional disorders and psychotherapy. The LSD process can be viewed as therapy in the traditional sense as long as the self-exploration remains limited to the biographical areas. Once it reaches the perinatal level, it can be better described in terms of a rite of passage or spiritual transformation. Although the client is still working on emotional, psychosomatic, and interpersonal problems, the emphasis tends to shift toward a philosophical and spiritual question of the symptoms and difficulties in living disappearing in the process, some of them in a psychodynamic context, others during the death-rebirth process, or as a result of certain transpersonal experiences. However, as the process deepens, each client without exception also has to deal with a number of problems that were previously latent and only emerged during the LSD process. In general, the emphasis should be on a good integration of each LSD session in the series, rather than on long-term maximalistic goals such as eliminating all negativity from the sessions, which is unrealistic.

There are aspects of the psychoactive approach, however, that are much more important than concerns about simple symptomatic relief. The intensity and magnitude of the LSD experiences are so great that they change the basic tolerances for difficulties in life and alter the very concept of what constitutes a hardship. The simplistic approach to life, which tries to eliminate any difficult experiences and create a utopian world free of problems, is replaced by a "transcendental realism" which sees the dark and light side of the universe as two inextricably inseparable components, in the sense of the Taoist yin and yang. From this point of view, the objective is not to eliminate the negative elements from life, but to develop an attitude that would affirmatively embrace the universe as it is in its complex cosmic dialectics. In this context, various aspects of the life process that previously would have been considered negative appear to have multiple new dimensions and can be seen from so many different points of view that they become intriguing and interesting. The ultimate reconciliation with the universe—not necessarily with its status quo but with the unfolding cosmic process—comes from the insight that the totality of existence forms a unified field or network which is experientially available to each of us. From the point of view of an advanced LSD subject, we are all ramifications of the principle that has created this universe in its infinite complexity and are thus responsible for all the processes involved.

NOTES

1. The phenomenon of the universe and the human brain was developed by physicist David Bohm (33) and the neuroscientist Karl Pribram (81, 82). It is a revolutionary paradigm that offers the possibility of a new synthesis of such seemingly disparate fields as mysticism, modern consciousness research, parapsychology, neurophysiology and quantum-relativistic physics. This model makes it possible to bridge the different between the part and the whole, or between separate objects and undifferentiated unity. It also offers a new approach to the understanding of spatial and temporal characteristics of the phenomenal world. Because of its importance to a comprehensive theory of the human mind, it will be discussed in detail for the next volume.

2. Dr. Rick Tarnas (99), who has been systematically studying the correlations between various aspects of the process of spiritual development and major planetary transits, drew my attention to the fact that the archetypal features of the planets Neptune, Saturn, Pluto and Uranus, as described by astrology, show striking parallels to my descriptions of the experiential characteristics of BPM I, BPM II, BPM III and BPM IV respectively.

3. A similar understanding of the connection between various schools of psychotherapy and specific levels of consciousness was recently expressed by Ken Wilber (100) in his concept of spectrum psychology.

4. This episode is described in detail in my book, Realms of the Human Unconscious, p. 30. (32)

5. See the description of this memory constellation in Realms of the Human Unconscious, pp. 57-60. (32)
INDICATIONS FOR
LSD PSYCHOTHERAPY,
THERAPEUTIC
POTENTIAL, AND
CLINICAL RESULTS

Problems in the Evaluation of Clinical Results
Depressions, Neuroses and Psychosomatic
Symptoms
Alcoholism, Drug Addiction, Character
Disorders and Sexual Deviations
Borderline Psychotic States and Endogenous
Psychoses
Emotional Distress and Physical Pain of Dying
Individuals

PROBLEMS IN THE EVALUATION OF
CLINICAL RESULTS

Disagreement about the potential and efficacy of LSD therapy has been one of the
most striking aspects of the LSD controversy. Professional literature discussing the
clinical significance of the drug falls into three distinct categories. The first group
of publications consists of enthusiastic reports by LSD therapists according to
whom remarkable and relatively quick results have been achieved in the therapy
of emotional disorders, not only those that usually respond to conventional treat-
ment but also many that otherwise have a very poor clinical prognosis. In some
LSD studies, the success reported with chronic alcoholics, heroin addicts, subjects
with severe character disorders, criminal recidivists, and individuals dying of
cancer was quite dramatic. The second group of articles on LSD therapy involves
those studies that produced essentially negative clinical results, and tend to deny
the enthusiastic reports of the first group. Finally, the third group of clinical
reports on LSD focuses on descriptions of various deleterious aftereffects of LSD
self experimentation. The images of LSD in professional literature thus cover a
wide range, from therapeutic panacea for psychogenic disorders to dangerous
psychosis-producing substance. Without a deeper dynamic understanding of the
nature of the LSD effect, therefore, it is difficult to draw any clear conclusions
from the published material about its clinical use.
The evaluation of the therapeutic potential of LSD psychotherapy presents many serious problems. Some of them are not specific to LSD-assisted therapy, but relate to any kind of psychotherapy or to psychiatric therapy in general. These include not only the difficulties with the accuracy and reliability of the measuring instruments, but a lack of agreement as to what the basic indicators of therapeutic change should be. These authors, who limit their efforts to symptomatic approaches, tend to emphasize the reduction of emotional and psychosomatic distress as the major criterion of therapeutic progress. Those who are more dynamically oriented prefer to focus on the patient's ability to solve conflicts or problems concerning and on the quality of interpersonal relationships. Some authors value more objective but less specific indices, such as changes in certain psychophysiological or biochemical parameters. This is further complicated by various criteria that reflect contemporary societal values, such as income, professional achievement, or residential adjustment. The difficulties in assessing therapeutic results can be best illustrated by the fact that researchers of the nature of Experients argue that there exists absolutely no scientific evidence for the therapeutic efficacy of any psychoanalytically oriented psychotherapy. (25)

The evaluation of LSD psychotherapy presents several additional problems of a more specific nature. This treatment modality involves much more than just administration of a powerful psychoactive substance; it is a complex process which is critically dependent on many non-drug variables. The personality and approach of the therapist and a variety of factors related to set and setting have to be considered integral parts of the treatment process. In the past, many authors approached LSD therapy simply as a chemotherapy, expecting therapeutic results from the administration of the drug alone without regard to all the extrapharmacological factors involved. Others had various degrees of understanding of the complexity of the process and the appreciation for the importance of the psychotherapy that precedes, accompanies, and follows the drug session. Unfortunately, most clinical reports about LSD therapy do not give sufficient information about the degree and quality of psychotherapeutic care involved. In discussing the therapeutic results achieved with the use of LSD it is essential to realize that all the drug can do is to bring previously unconscious material into consciousness; the outcome of this process depends critically on the way this material is received and integrated. There is nothing inherent or beneficial or detrimental about the effect of the drug per se.

The state of mind and level of consciousness of the therapist is also an important variable in the treatment process. His or her ability to remain calm and receptive in the face of various extraordinary experiences and unusually intense emotions, and the degree of open-mindedness, tolerance, and self-restraint maintained towards the entire spectrum of psychic phenomena are far more critical to therapeutic success. The role of the therapist in the process is so vital that it is impossible for him or her to make an objective evaluation of the efficacy of LSD psychotherapy without critically assessing his or her role in it. For this reason, specialized training of the therapist, which includes first-hand experiences of psychiatric states of consciousness, is an important element in LSD psychotherapy. It is easier for LSD therapists to tolerate, encourage, and appreciate certain unusual experiences of a perinatal or transpersonal nature that have a therapeutic value if they have successfully confronted them in their own psychoanalytic sessions.

Evaluation of the therapeutic results of psychedelic therapy is further complicated by the fact that the clinical improvement is frequently associated with profound changes in life style, philosophical and scientific world-view, and the basic hierarchy of values. Alleviation of severe psychopathological symptoms can be accompanied by a distinct loss of interest in the pursuit of power, status, and position. An orientation toward competition and achievement can be replaced by one toward maximum well-being at minimum expenditure of energy and effort. Previously pragmatic and materialistic individuals can develop deep interest in and genuine appreciation of the spiritual aspect of existence. A tendency to control and dominate other people and nature might be replaced by sympathetic and ecological concern. A psychiatrist who sees the present Occidental value system, based on ambition and competition, as a natural, healthy, and ultimately mandatory, may consider the above changes in a psychopathological framework and describe these as showing lack of initiative, loss of interest in socially desirable goals, or even development of psychotic delusional systems. This can be illustrated by an episode which occurred during my lecture at the Harvard University School of Medicine in 1968, after I described dramatic clinical improvements that I had observed in several of my patients during LSD psychotherapy. Those changes followed death-rebirth experiences, feelings of unity with the whole universe, and various transpersonal phenomena. In the discussion, one of the participants offered the interpretation that the previously neurotic condition of these patients had actually changed into psychosis, because they had now become interested in spiritual questions, were seriously considering the possibility of reincarnation, and had become deeply interested in yoga and meditation.

At present, the situation in the world is quite different from what it was ten years ago. The limitations and dangers of the Occidental value system are more than obvious. Criticisms of the one-sided orientation toward unlimited industrial growth come from many different directions, the failures of competitive politics and technology are beginning to overshadow the successes, and ecological consciousness is gaining ground in view of the impending environmental crisis. The criteria of sanity are changing rapidly; according to Abraham Maslow and other humanistic and transpersonal psychologists, feelings of oneness with the universe or other mystical experiences need not be considered psychopathological phenomena. They can occur in healthy individuals and are conducive to self-actualization and self-realization. Oriental systems of thought and spiritual practices are attracting increasing numbers of mature and well-educated individuals who cannot be easily dismissed as ambulatory schizophrenics. Transpersonal psychology and psychiatry, a recently developed discipline that represents an attempt to integrate spirituality and mysticism into modern psychology and psychiatry, is gaining wider and wider acceptance among professionals.

Many theoretical physicists are coming to the conclusion that the mystical world-view is perfectly compatible with the philosophical implications of modern science, particularly relativity theory and quantum physics. If it is quite possible, if the present trend continues, that individuals resisting mysticism will in the near future be considered evolutionary throwbacks. At present, however, the theory
and practice of mainstream psychology and psychiatry is based on the Newtonian mechanistic model of the universe and on the Cartesian dichotomy between mind and matter. Perceptual and cognitive congruence with the Newtonian-Cartesian world-view and agreement with the present Occidental value system are important criteria of sanity. This fact cannot be ignored in evaluating the results of psychedelic therapy.

Because of the above factors, I will present my personal view of the potential of LSD psychotherapy, rather than a balanced synopsis of the clinical literature on the subject. Although I will occasionally refer to the work of others, the statements in the following sections should be seen in the context of the therapeutic philosophy and practice described in this volume.

In general, LSD psychotherapy is indicated in those conditions that have a psychological rather than organic basis, and are a result of learning in its general sense. That does not necessarily exclude disorders with clear physical manifestations, as long as psychological factors have played an important role in their development. This definition of the indications for psychedelic therapy is rather loose and leaves much space for individual therapeutic experimentation. Whether a certain disorder is considered psychic or somatic depends on the level of development of medical science in general and on the degree of understanding of a specific disease in particular. Since medical opinion concerning the nature and genesis of various disorders is seldom unanimous, the diagnosis of a problem as functional or organic will frequently also reflect the personal philosophy of the clinician.

There are conditions for which the degree of agreement among different researchers will be very high. Psychological factors are clearly of great importance in the genesis of various psychoneuroses, such as anxiety or conversion hysteria and obsessional-compulsive neurosis. Similarly, in character disorders, alcoholism, drug addiction, and various sexual dysfunctions and deviations, the psychogenic component seems to be unquestionable. Bronchial asthma, peptic ulcers, neurasthenia, and ileus of various origins are typically considered to be of psychic origin. The opinions of clinicians about the ratio of psychogenic and somatic factors in various diseases, borderline psychiatric states and so-called endogenous psychoses such as schizophrenia and manic-depressive disease, vary considerably. In some other conditions only a minority of researchers consider psychogenic factors to be of any relevance; cancer and collagenous diseases are important illustrations of these.

Fortunately, the nature of the LSD reaction seems to offer help in those cases where the therapist experiences uncertainty. One or two exploratory psychedelic sessions will usually make it clear for the client and the therapist whether the disorder has an important psychological component or not. Emotional and psychosomatic symptoms of psychogenic origin tend to be accentuated by the effect of LSD, and the content of the psychodysleptic experience will bring relevant insights into the psychodynamic, perinatal, and transpersonal roots of the problem. During the initial experiences, the patient also usually gets a clear feeling about the possibility of influencing the disorder by psychotherapeutic work in the LSD sessions. As I mentioned earlier, one of the most remarkable aspects of the effect of LSD is the patient’s ability to detect dynamic structures with intense emotional charge and bring

their content to consciousness, making it available for introspective analysis and working through.

Despite the fact that LSD psychotherapy can be beneficial over a very broad spectrum of emotional and psychosomatic disorders, it should not be considered an easily available psychiatric panacea. It is a highly demanding and specialized procedure, and requires a rigorous training of the therapist. The course of LSD treatment is not always equally smooth and safe, nor is its outcome always predictable and successful. There are certain patients who require a large number of LSD sessions, and for whom the therapeutic progress is slow and painful. For reasons that are still insufficiently understood, there appear to be a small percentage of severely disturbed individuals who show very limited therapeutic gain despite large numbers of psycholytic sessions and a great investment of time and energy. In some other cases, the process is not limited to the time of the pharmacological action of the drug and the intervals between the sessions are difficult or even potentially dangerous.

Clinical conditions in which LSD psychotherapy has been successful fall into four major categories: 1) depressions, neuroses, and psychosomatic symptoms; 2) alcoholism, drug addiction, character disorders, and sexual deviations; 3) borderline states and endogenous psychoses; 4) emotional distress and physical pain of the dying, particularly cancer patients.

DEPRESSIONS, NEUROSES, AND PSYCHOSOMATIC SYMPTOMS

In general, the less serious the clinical problem, the quicker and more dramatic are the results and the safer the treatment procedure. The best candidates for LSD psychotherapy seem to be subjects who have a good intellectual and adequate interpersonal and professional adjustment, but lack not for life and a sense of meaning. Although they might appear to be highly successful by the standards of the society that surrounds them, they cannot connect emotionally with their achievements and enjoy them. These symptoms would fall into the category of what Victor Frankl calls neurotic depression. A single high-dose psychedelic session with LSD is frequently enough to change this situation dramatically. The selective accentuation of negative aspects of the world and the basically pessimistic philosophy of existence associated with this condition can be dissipated within a few hours. These previously almost-depressed individuals typically emerge from a successfully integrated LSD sessions with elevated mood, joyful appreciation of existence, enhanced self-esteem and self-acceptance, and greater capacity for meaningful human relationships. Their inner life is enriched, they are more open, and they show an increased appreciation of beauty in nature and art. In addition, many of them are able to apply various insights from their psychedelic sessions in a creative way in their professional lives.

Various forms of depression seem to respond unusually well to LSD psychotherapy. In general, depression is the most changeable psychiatric symptom, one which shows great fluctuations even without any specific treatment. Two different kinds of changes of depression can occur as a result of psychedelic sessions,
and it is important to distinguish between them. A single LSD session, well
resolved and integrated, can totally dispel clinical depression, occasionally even a
deep one that has lasted for months. However, that does not mean that the depres-
sion has been permanently cured; an apparently cured patient may have a relapse as
a result of various psychological or physiological factors.

This can be illustrated by the influence of LSD on so-called periodic de-
pressions. A patient suffering from this disorder has regular attacks of depression
following a rather rigid pattern, in terms of occurrence of symptoms at certain
times of the year and the specific duration of the episodes. A single LSD adminis-
tration can frequently produce a disappearance of the usual recurrent pattern would have lasted several more weeks or months. How-
ever, this does not necessarily change the general course of the disorder, and the
next episode of depression might appear on the usual date and last the usual
period of time. Systematic work in sequential LSD sessions is necessary to change
the complex underlying dynamic structure and influence the overall pattern of the
disease.

Most neurotic disorders tend to respond well to LSD psychotherapy; how-
ever, even with the powerful catalyzing effect of the drug one should not expect
therapeutic miracles in long-term treatment. Various psychosomatic complications
in general, most authors seem to agree that the prognosis is
best in those cases where anxiety and depression are important components.
Psychiatric patients, however, may suffer from anxiety or anxiety disorders,
well as those whose anxiety is bound in the form of various phobias, respond well
to psychosomatic treatment. Conversion hysteria usually presents greater difficulties,
but LSD therapy is frequently successful with this disorder. As in conventional psychoanalysis, anxiety and conversion hysteresis might present special problems in
terms of transference and countertransference. Monosymptomatic neurasthenia are
not necessarily easier to treat than those that have a more complicated clinical picture. Frequently, a single topid symptom condenses problems from
many different areas and levels in the patient, and a great number of LSD sessions
might be necessary to resolve this. 

Although success in treating obsessive-compulsive psychoses has occasionally
been reported, I do not recall of any significant alleviation of all cases in my experience seem to have the dimmest prognosis of all
the patient categories. Less favorable states have been suc-
cessfully influenced by long-term systematic LSD therapy, but severe cases of this
category belonged to our most painful failures. Usually much higher doses have to be used to overcome these patients and a large
number of sessions is necessary for any therapeutic program. However, it is con-
ceivable that these therapeutic failures reflect our limited understanding and in-
adequate technique in the treatment of such disorders. The main object of this study is to point out the importance of realizing the difference between
these cases. On occasion, it is possible to use the same approach in cases where the
traumatization was prolonged and chronic. We should mention in this context a
unique LSD program for victims of the Nazi regime conducted by A. Bastian and
his students at the University of Leiden in Holland. These researchers have reported
success in working through delayed traumatic consequences of incarceration in
former inmates of a concentration camp (the so-called "concentration camp
syndrome").

Sexual experiences and behavior can be deeply influenced by the LSD pro-
cess. The intensity, depth and completion of the sexual organs and the ease with
which it occurs seems to be closely related to the process of letting go of psycho-
logical defenses. Many problems in this area can be traced back to unconscious
confusion between the pattern of genital organs and that of the total physical
release that characterizes the orgasm of birth. As LSD subjects learn to let go in
the death-rebirth process, their orgasmic ability increases considerably; this im-
provement of sexual experiences can be observed in both males and females. In
those individuals who did not have any major psychopathological symptoms prior
to the LSD session, the same effect can usually be observed after one or several
high-dose psychedelic experiences. Sexual neurasthenics, such as frigidity,
歆es, vaginal spasms (vaginismus), genital pain during intercourse, impotence and premature
ejaculation frequently respond well to LSD psychotherapy; however, effective
administration of these disorders usually requires serial administration of the drug
and eventual confrontation of the roots of these disorders on the person level.

A wide variety of psychogenic physical problems have in the past been
favorably influenced by LSD psychotherapy; this applies equally to organ-
neurotic manifestations, symptoms that have the dynamic structure of hysterical
or perinatal conversions, and psychosomatic diseases. Painful conditions of
various kinds, such as ordinary or migraine headaches, severe menstrual cramps,
gastrointestinal spasm, pain in the neck muscles or in the lumbar area, and even
arthritic pains without a detectable organic basis can be traced back to their
origins and worked through in the course of LSD therapy. Neurotic disorders of
various organs, such as cardiac dysfunction, gastric distress, breathing difficulties,
excessive sweating, muscular tremors, constipation or diarrhea, and menstrual
irregularities often disappear in the course of LSD treatment. Far-reaching im-
provemets of myopia, which occurred as an unexpected side-effect during LSD
psychotherapy with two neurotic patients in Prague, suggest that in some cases of
this disorder there is a substantial component of psychogenic muscular tension that
can be relieved by psychosomatic treatment. Prenatal conversions, such as
psychogenic asthma, various muscular tics, and stammering are usually relatively
resistant to LSD therapy, which may be related to an underlying obsessive-
compulsive personality structure. However, the situation is far from hopeless, and
patients with these disorders have on occasion been successfully treated with serial
LSD sessions. An especially interesting indication for LSD psychotherapy seems to
be neurosis, resulting from major personal traumas, such as war situations, natural catastrophes, or mass accidents, have in the past been
the best indications for drug-assisted alternative therapy (narcosynthesis) or hyp-
notic interventions (hypnosynthesis). LSD can be used with great success for such
doctors because of its unique properties as an ablative agent. A single high-
dose LSD session can frequently alleviate or remove very debilitating symptoms in
Depressions, Neuroses and Psychosomatic Symptoms
orotic, certain chronic infections such as syphilis, bronchitis, and sinusitis are examples of this. A possible therapeutic mechanism is suggested by the fact that such physical changes immediately follow the resolution and integration of a psychological stressor in which the corresponding area is meaningfully involved. The experience of Tanya described in a later section can be mentioned here as an illustration of this. (p. 288) This suggests that the infectious agent is just one element in the development and perpetuation of the condition, and possibly a secondary one. Much more important factors seem to be decreased vitality of the organ or tissue, which accounts for the ineffective defense against the bacterial invasion. It is not difficult to see how psychological factors could play an important role in this situation. One of the possible mechanisms could be, for example, psychogenic constriction of the alveolar vessels resulting in limited blood supply to and reduced immunological resources in the afflicted area. It is interesting that during the session immediately preceding the clinical improvement of a physical problem of this kind, LSD subjects usually report that a block has been removed and free flow of blood and energy established in the afflicted area. This is typically associated with an invigorating feeling of pleasant warmth, and tingling sensations.

### ALCOHOLISM, DRUG ADDICTION, CHARACTER DISORDERS, AND SEXUAL DEVIANCES

Many of the emotional and psychosomatic disorders described above are, by and large, within the range of indications for traditionally analytically-oriented psychotherapy. The use of LSD as an adjunct in these cases will intensify, deepen, and accelerate the therapeutic process. However, LSD psychotherapy can be successfully applied in some diagnostic categories which are outside the realm of the traditional indications for dynamic psychotherapy. Many clinical studies of psychiatric therapy have reported dramatic results in chronic alcoholics. Unfortunately, in a great majority of them the evaluation was based on clinical impressions. Like many results reported in psychosomatic literature, these are open to questioning and criticism from the point of view of rigorous research methodology.

In a large, controlled study conducted by our team at the Maryland Psychiatric Research Center, 135 hospitalized alcoholics were randomly assigned to either high-dose (450 micrograms) or low-dose (50 micrograms) LSD treatment. After six months, an independent evaluation team rated fifty-three percent of the high-dose group as "essentially rehabilitated," as compared to thirty-three percent of the low-dose group. In statistical terms this difference had only five chances in one hundred of being coincidental. Differences between high- and low-dose groups were no longer as great after eighteen months, with 54 percent of the high-dose patients considered greatly improved versus 47 percent of the low-dose patients.

The overall results of this study were quite impressive, considering that the patients were volunteers selected from the population of the Alcohol Rehabilitation Unit of a state mental hospital, and that most of them had only one high-dose LSD session and several hours of drug-free psychotherapy preceding and following it. An interesting and unexpected research finding was the dramatic improvement in some patients in the control group who received only 50 micrograms of LSD on a double-blind basis, as compared to 450 micrograms for the experimental group. In our original thinking the dosage of 50 micrograms was considered to be an active placebo, the therapeutic effect of which would be negligible. In reality, several patients in the low-dose group had quite significant experiences, while a few of the individuals in the high-dose category had uneventful psychiatric sessions. The interested reader will find a more detailed description of this study in a paper by the Spring Grove team entitled The Experimental Use of Psychiatric (LSD) Psychotherapy. (C7)

The above results of the Spring Grove team are in sharp contrast with the outcome of an extensive controlled study conducted by Ludwig, Lester, and Stack (96) at the Mendota State Hospital in Madison, Wisconsin. The authors randomly assigned the 176 alcoholic patients who had volunteered for this project to one of the following four groups: 1. "psychic therapy" with LSD, 2. hypnotherapy, 3. administration of LSD alone, and 4. no specific therapy at all (milieu therapy). In addition, half of each group was offered Antabuse medications after the completion of the experiment. The results of this study were devastatingly negative; the authors did not find significant differences between any of the groups, and the overall remission rate was extremely low. After six months between 70 and 80 percent of the patients in all the categories were drinking, and after a year this number ranged between 80 and 90 percent. Even the introduction of Antabuse did not make any difference in this context.

This study met the Symal criteria of contemporary medical research as well that it received the Holstein Award from the American Psychiatric Association. For this reason the negative results of this project deserve special attention; they can be used to demonstrate some of the basic principles emphasized in this book. In the following text I will refer to an inclusive critique that Charles Savage presented in March 1971 at a staff meeting of the Maryland Psychiatric Research Center, of which he was Associate Director. He pointed out that very serious deficiencies could be detected in this study, which on the surface appeared to be methodologically sound and meticulously designed. In the past, substantial claims for fast and dramatic therapeutic success in alcoholics have only been made for the psychedelic model; no LSD therapist has ever indicated that one psycholytic session with LSD can have a profound effect on alcoholic patients. Ludwig and his associates were familiar with the essential characteristics of psychedelic therapy, as evident from the accurate definition given in their book. However, in the actual study they rejected the psychedelic model, while pretending to test it, and neglected many of the elements that psychedelic therapists consider mandatory for therapeutic success. The therapists engaged in this project were thirteen residents and state hospital psychiatrists who were not committed to the work and performed it as a peripheral activity. None of them had personally explored the psychedelic or hypnotic state; they were not experienced in either LSD therapy or hypnotherapy and had only a superficial "crash-course" in both. The preparation for the LSD session was limited to one two-hour session, half of which was spent on measurements of suggestibility. The ex-ante justification that the authors gave for this drastic condensation of the preparatory work was that none of the patients became psychotic. This fact might be used as an illustration of the safety of LSD.
but certainly does not imply that the procedure was adequate for therapeutic purposes. Although the dosages they used were in the lower range of those used in psychedelic therapy, (3 micrograms per kg) the approach was essentially psycholytic. There was no true psychological or verbal exchange, which is known to increase the patient’s resistance and interferes with deep regression. The therapists attended the patients for only three hours of the session and left them alone for the remaining hours of the drug action. The most important of the psychedelic model were reported by only 8.4 percent of the patients as compared to the LSD study. Charles was so far concluded that the patient reflected a strong bias in the authors. At a time when LSD was popular, Levine and Ludwig (58) had reported positive results using the hypnosis technique with addicts, a group generally much more difficult to treat than alcoholics. When LSD fell out of favor and the positive results became politically unfashionable, they obtained negative results. Unconsciously or consciously they built into their therapeutic elements a large part of their past therapeutic failure. The use of inexperienced and untrained therapists, defective preparation, antimystical orientation, violation of the basic rules of psychedelic therapy, and a lack of understanding on the part of trained therapists as well as effectiveness with indiscriminate individuals may be considered here as important elements. LSD can best be described as a facilitator, and in the above study it seems to have facilitated mediocrity, hence brilliantly reported and admistrated with elegant statistical techniques.

On the basis of encouraging results with alcoholics, the team at the Maryland Psychiatric Research Center carried out a study of LSD psychotherapy with heroin addicts. All volunteers for this program were male addicts serving a sentence in Maryland correctional institutions, mostly for theft, robbery, and involvement in illegal drug traffic. Those who were interested in participating in the study were recommended by the research staff for an early parole hearing by the Board of Parole and Probation. Only individuals who had been granted parole were accepted into the research program. One half of the volunteers had one high-dose psychedelic session after an average of twenty-three hours of intense psychological preparation, while the other half participated in a regular program of non-drug therapy at the out-patient clinic, which lasted a comparable amount of time. The assignment of patients to the experimental and control group was done on a random basis. Both groups were required to remain in residence with the outpatient clinic after treatment and give samples of urine for chemical analysis. The results of this experimental treatment program were reported by two members of the Spring Grove team, Charles Savage and Lee McCabe (03). Eleven of the thirty-four patients in the LSD group did not return to narcotics during the six-month follow-up period, while only one control subject showed a comparable improvement. At the one-year follow-up, the LSD patients were still abstaining as compared to none in the control group. Although not dramatic in absolute terms, this has to be considered a very promising result for this extremely difficult category of patients (03). Short-term follow-up studies of narcotic addicts indicated that typically 94-97 percent of the patient’s return to drug use within a few weeks following conventional treatments.

The successful therapeutic effect of psychoneurosis and psychoanalytic disorders usually requires a appropriate therapeutic psychiatric treatment in these two categories quite striking improvements may frequently be observed after a single LSD experience. It was mentioned earlier that this might be related to the ease with which many alcoholics and drug addicts achieve transcendental states of mind. In the Spring Grove program, the number of sessions per patient was limited by the research design. All heroin addicts and most alcoholics received only one LSD session, some alcoholic patients had two or, quite exceptionally, three sessions. There is good reason to believe that much better clinical results could have been achieved if the research design had been less rigid. In a more open-ended situation in Prague, it was possible to administer LSD sessions without any limitations, we observed in some instances not only lasting abstinence but also positive restructuring of the alcoholic’s or addict’s personality.

Another category of difficult patients with poor prognosis that can occasionally be reached by LSD-assisted psychotherapy should be mentioned in this context. There are indications that certain individuals with sexual, antisocial, and criminal tendencies can benefit from LSD treatment. Several aspects of the psychedelic process seem to make it possible to achieve positive results with these subjects. The most serious obstacle to effective psychotherapy of psychiatric individuals under normal circumstances is their inability to form, develop and maintain relationships. This interferes significantly with the treatment process, since a strong-emotional connection with the therapist is considered an important element of therapeutic change. It is well-known that during psychoanalysis just the sharing of intimate personal material leads to result in development of a transference relationship in most subjects. This factor is much more powerful in psychedelic therapy; merely sitting by an understanding and supportive way in a person’s LSD sessions will automatically result in formation of a strong emotional tie. This bond can be positive, negative, or distinctly ambivalent, but the patient cannot easily avoid some sort of response. Although this is just a prerequisite for effective therapy and not necessarily a therapeutic element per se, it is an essential condition for the successful treatment of individuals with psychotic ways. In addition, the LSD experience provides effective channels for the discharge and integration of enormous amounts of aggression and destructive feelings underlying antisocial activities. Experiential access to the areas of transcendental feelings and connection with the system of reactivation seems to be even more important in this context. As a result, criminal behavior is often taken out of the narrow context of a revolt against human society and can suddenly be seen as violation of the cosmic order.

Several LSD therapists occasionally described good results in individual patients with antisocial tendencies in the context of larger clinical studies involving a broad range of diagnostic categories. In several instances, researchers conducted special studies focusing on antisocial and criminal populations. Aronson-Hein (4) treated twenty-one severely criminal psychopaths with regular LSD sessions dosages of 50-150 micrograms. After a period of ten to twenty weeks of therapy, twelve were clinically improved and two greatly improved.

In the early sixties, a team of Harvard psychologists headed by Timothy Leary initiated a research program of psychedelic therapy with recidivists at the Concord State Prison in Massachusetts. (58) The drug used in this project was not LSD, but the closely related phyllostigma, the active psychedelic principle from the
Mexican sacred mushroom *Peyote mexicana*. The unique aspect of this research was that the psychotics ingested the drug along with the convicts, although a non-drugged "ground control" and supervising psychiatrist were always present. The results of this study, in which over two hundred psychiatric sessions were run with men incarcerated for their antisocial behavior, was a statistically significant reduction in new crimes committed by the group that had psilocybin experiences. Several years ago, Walter Huston Clark carried out a formal follow-up study, with quite impressive results. At least one interesting aspect that has been neglected is the integration of LSD therapy into a complex therapeutic regime under the conditions of maximum security. The results of this experiment, conducted at the Maximum Security Division of the Mental Health Center at Prescott, Ontario, have been reported by G.J. Maier, D.L. Tate, and B.D. Paris. (61)

Favorable clinical results have occasionally been described in patients with various sexual abnormalities who are usually very unresponsive to conventional psychotherapy or therapy in general. Among them, individuals showing sadistic and masochistic tendencies seem to have the most favorable prognosis. Once the psychiatric process reaches the perinatal level, powerful channels become available for discharge and integration of enormous amounts of aggressive and destructive impulses. Experiences of the death-rebirth sequences offer unique opportunities for the resolution of the intimate perinatal link between sexuality and aggression which underlies sadomasochism. Some other sexual deviations that can respond to psychedelic therapy include fetishism, exhibitionism, and coprophilia. Although favorable results have occasionally been reported for male and female homosexuality, it is difficult to make any generalized statements in this area because of the heterogeneity and complexity of the problems involved. The prognoses of patients in this category is critically dependent on the nature of their problem, their own attitude toward their sexual behavior, and the motivation for therapy. A positive outcome can be expected only when the individual considers the deviation to be a problem, has a strong intrapsychic conflict about it, and shows an active motivation in treatment.

Character disorders of various kinds, sometimes even severe and complicated cases, can be considered for LSD therapy if a well-equipped facility with trained personnel is available to handle the situation. Usually, it will be necessary for the therapist to have a sufficient indication of the prognosis for a particular individual. In the course of the LSD therapy of character disorders that were originally symptom-free, one can frequently observe temporary neurotic and psychosomatic symptoms in the free intervals between the sessions.

**BORDERLINE PSYCHOTIC STATES AND ENDOGENOUS PSYCHOSSES**

Psychiatric patients with borderline and manifest psychotic conditions need not necessarily be excluded from psychedelic therapy. Although clinical experiences of the treatment of schizophrenia and LSD are rather limited, it is possible to make certain general conclusions. By and large, the prognosis in psychotic individuals seems to be much better than in certain severely defended neurotics, particularly obsessive-compulsive patients. However, this statement is conditional and needs clarification and specification. LSD work with severely disturbed individuals is a very demanding and intense process which requires special preparation and training. It should not be attempted by anyone who has not had sufficient experience of LSD sessions with "normal" and neurotic individuals. The interval between the sessions may be characterized by dramatic exteriorization or intensification of various psychotic symptoms. In certain critical stages of the psychedelic process the inner experiences and behavior of the client can be almost entirely focused on the therapist, in the sense of a "transference psychosis." A special treatment unit with trained personnel and 24-hour-a-day supervision is an absolute necessity for this undertaking.

The deepest roots of schizophrenic symptomatology can always be found in the various perinatal matrices and in negative transpersonal experiences. A therapist sharing the complicated journey triggered in the psychotic patient by LSD has to remain grounded and centered during the entire process, which might turn out to be a wild emotional and conceptual roller-coaster. Because of its importance, not only to the LSD therapy for schizophrenia but also for the basic understanding of the dynamics of psychosis, I will illustrate this process with the story of Milada.

Milada was a 38-year-old psychologist who for many years before starting LSD treatment had suffered from a complicated neurotic disorder involving a variety of obsessive-compulsive, organ-neurotic, and hysterical conversion symptoms. She started systematic psychoanalytic treatment, but four months later had to be hospitalized because she developed acute psychotic symptoms. An important part of her clinical symptomatology was an erotomanic delusional system. Milada was convinced that her employer was deeply in love with her and she herself felt irresistible affection and sexual attraction toward him. She sensed a strange erotic and spiritual communion existing between them which they shared intrapsychically, beyond the facade of their rather formal social interaction. Several weeks later she started hallucinating the voice of her imaginary lover. In these hallucinations, she heard him describe in detail his passionate feelings for her, promised a beautiful shared life in the future, and gave her advice or specific suggestions. During the evening and night hours Milada experienced powerful sexual sensations which she interpreted as intercourse at a distance, magically performed by her "lover." Although in actual sexual situations she had always been frigid, during these episodes she experienced orgastic feelings of cosmic proportions.

Milada's hospitalization became unavoidable when she started acting under the influence of her delusions and hallucinations. One day in the morning she left her husband, made an attempt to move into her employer's apartment with her children, and got into a physical fight with his wife. She referred to his "voice," which allegedly had told her that divorce had been arranged for both of them and that they could now live together. After many months of unsuccessful treatment with a variety of tranquilizers and antidepressants, as well as individual and group psychotherapy, she was selected for psychedelic therapy with LSD.
After twelve LSD sessions, the psychotic symptoms completely disappeared and Milada developed full insight in regard to her irrational behavior in the past. In more than thirty subsequent sessions she worked on a variety of complicated neurotic and psychosomatic problems, reliving traumatic memories from different periods of her life and tracing her present problems to their emotional sources in her unhappy childhood. Much time was spent on her complicated marital situation. Her husband was cold, insensitive and physically aggressive; he was emotionally involved in the pursuit of a political career and provided no emotional support for her. Both of their children were showing signs of serious emotional disturbances that required professional assistance.

Then the LSD sessions moved into the personal realm and Milada experienced the entire spectrum of experiences characteristic of the death-rebirth process. The emotions and physical sensations associated with the reliving of her difficult birth, during which her twin brother had died, were so abnormal that she referred to these sessions as a "psychological Hiroshima." When she finally completed the birth process and experienced the final ego death, she expected a marked improvement, as was the case in most neurotic patients. However, to my great surprise I witnessed a sudden and complete reappearance of the original psychotic symptoms, which Milada had not shown for many months. The only difference was that this time I became the main target of all the psychotic phenomena; in the process of LSD psychotherapy she had developed a transference psychosis.

At this point Milada believed herself to be under my hypnotic influence and felt in constant support with me, in the LSD sessions as well as during the free intervals. She experienced a mutual exchange of thoughts and even verbal comminution. It was interesting that in some of these hallucinatory interviews we "continued" psychotherapy. Milada "discussed" various aspects of her life with me and carried out activities suggested by my illusory voice, such as several hours of bathing and physical painting every day and exercises in acquisitive housework. In these hallucinatory conversations I told her that I had decided to drop the therapeutic game and become her lover and husband. I also allowed her to use my last name instead of her husband's name. She was repeatedly assured of my love, was told that her divorce was already arranged, and asked to move with her children into my apartment. It was clear from the context of her LSD sessions that this "wishful magical thinking" was a transference phenomenon reflecting her early symbiotic relationship with her mother. Among other things Milada talked about the "hyperorganic sessions" she was getting from me in the evening and night hours. Sexual sensations and hallucinations of intercourse were interpreted by her as deliberate lessons in experiencing sex that I had decided to give her in order to accelerate therapy.

At one point, Milada spent many hours a day in a bizarre posture that resembled catalepsy, however, it was always possible to bring her out of them by talking to her. She would then assume a normal posture, answer questions, and logically explain her behavior. Her emotional and psychosomatic condition at this time was dependent on the position of her body. In some postures she experienced ecstatic bliss, ecstatic feelings and a sense of

The experience, during a transpersonal session, of elements of the collective unconscious. The patient became a member of an ancient culture that she could not identify by name, historical period or geographical location. However, she was able to draw and paint in an artistic style.
cosmic unity; in others, deep depression, nausea, and metaphysical anxiety. She herself related this phenomenon to the situation during her intrauterine existence where she had to compete physically and mechanically with her twin brother.

On the basis of previous experiences with other patients, I continued with regular weekly administrations of LSD despite her persisting psychotic symptoms. These sessions consisted almost entirely of negative experiences of a transpersonal nature. There was an important emphasis on rekindling unpleasant intrauterine memories, which she related to the emotional stress and illnesses of her mother during pregnancy, various embryonic crises, and the mechanical discomfort of being twins in a uterus. She also had some negative karmic sequences and archetypal experiences of a demonic nature.

In the final phase of treatment a most unusual phenomenon occurred: suddenly the LSD had a distinctly paradoxical effect. Under the influence of LSD Milada appeared normal and regained insight and critical judgment; when the effect of the drug was wearing off, the symptoms of transference psychosis recurred. Finally, in her nineteenth session she experienced for several hours profound ecstatic feelings, with cosmic unity as the prevailing pattern. To my surprise, she emerged from this session without the previous psychotic and neurotic symptoms and with a completely restructured personality.

According to her own description, she was now able to experience herself and the world in a way completely different than ever before. She had a zest for life, a new appreciation of nature and art, a totally transformed attitude toward her children, and the ability to give up her previous unrealistic ambitions and fantasies. She was able to resume her job and perform it adequately, obtained a divorce from her husband, and lived independently while taking care of her two children. To my knowledge, she has not needed any in- or outpatient psychiatric care during the more than twelve years since the termination of her LSD treatment.

In several other schizophrenic patients whom I treated with LSD therapy, the process was similar but less involved and dramatic than the one described above.9 Kenneth Goodley, an American psychiatrist who also attempted this difficult task and reported successful treatment of psychotic patients with serial LSD sessions. (31)

Even under the best circumstances, patients with marked paranoid tendencies should not be treated by LSD psychotherapy as long as they include the therapist into the paranoid system and see him or her as one of the perpetrators. A good therapeutic relationship with a foundation of basic trust seems to be the single most important element for successful psychedelic treatment. Informed consent, active interest, and good cooperation are necessary conditions for a smooth course of therapy. This is very difficult to achieve with paranoid patients; even in milder cases, it requires long and intense drug-free work. If LSD is administered to a paranoid patient, he or she tends to experience the session in total psychological isolation and blame all the emotional and psychosomatic distress on the therapist. The extraordinary nature and scope of the psychedelic experiences...
can, under these circumstances, not only powerfully reinforce and justify the con-

viction of the therapist’s evil intentions, but magnify his or her image in the pa-

tient’s eyes into a malevolent figure of cosmic proportions.

Psychotic conditions of the manic-depressive type can also be treated by

LSD psychotherapy, although special problems might be encountered in this cate-

gory of patient. A significant number of manic-depressive patients experi-

ence a complete remission of the depressive or manic episode. In a similar way, a

single administration of the drug can change the phase of the disease, turning
depression into mania or vice versa. In such cases, the patient is very similar to that of electro-

therapy. Within the conceptual framework presented in this book such changes can be understood as COEX or BPM transmodulations—chemically triggered

drifts in the dynamic systems influencing the patient’s ego. It seems that in manic-depressive disorders LSD can precipitate such changes much more easily

and more frequently than in other diagnostic categories. This may be because

lability and periodic characteristics of this disorder.

The COEX or BPM transmodulations should not be mistaken for a cure of the
disease. There is always a possibility that another depressive or manic phase will

occur in the future when the dormant processes become activated by various

physical triggers, specific psychological stress, or physiological changes within

the organism. However, in some cases it seems possible to influence the

psychological roots and basic underlying mechanisms of this disorder by sys-

tmatic intrapychic work in serial LSD sessions. This procedure has its special

risks, the main one being the possibility of triggering deep depressions with suicidal ten-

dency after some of the sessions. As with other kinds of paranoiac and

schizophrenic psychoses, LSD psychotherapy of manic-depressive disorders should be

conducted on an in-patient basis, or a suitable facility should at least be

available at all times for temporary hospitalization if the condition of the client re-

quires it.

EMOTIONAL DISTRESS AND PHYSICAL PAIN

OF DYING INDIVIDUALS

Probably the most interesting and promising indication for LSD psychotherapy is its use in seriously ill people who are facing death. Although this approach has

been most systematically applied in selected cases, it is applicable to persons

with other life-threatening diseases. The use of psychedelic therapy in this

indication has been discussed in detail in a previous volume and will only be briefly

described here.

The original suggestion that psychedelic therapy could be useful for persons

with terminal diseases came independently from the American paediatrician of

Roman origin, Valentinum, and the writer and philosopher Aldous Huxley. Wason came to this conclusion on the basis of her experience with the

Mexican sacred mushrooms, and Huxley as a result of his psychedelic sessions with meconoline and LSD. The pioneering clinical work with cancer patients was

carried out in the early sixties at the Chicago Medical School by Eric Kast who was

primarily interested in the possibility of using LSD as an analgesic. A systematic

complex study of the effects of psychedelic therapy on cancer patients in relation
to their emotional condition, physical pain, concept of death, and attitude toward
dying was carried out by the team of the Maryland Psychiatric Research Center.
The initiator and original head of this research project was Walter Pahnke; after
his death I assumed medical responsibility and completed it in cooperation with

William Birckhead. In this program, over one hundred cancer patients were treated over the years with psychedelic therapy using LSD and a similar short-

acting substance, DPT (dipropyltryptamine). Positive changes were observed quite consistently in several different areas. Many patients showed a definite

alleviation of various emotional symptoms, such as depression, general tension,
sleep disturbances, and psychological withdrawal. LSD therapy also had a strik-
ing effect, although not predictable, on severe physical pain. In some patients who had not responded to anesthetics or narcotics, pain was alleviated or even com-
pletely eliminated for periods of weeks or months after a single LSD session.
The most remarkable changes were observed in the patients’ concepts of death and

attitudes toward dying. Those patients who had perinatal or transpersonal ex-

periences tended to show a marked decrease in fear of death. Their understanding of the process of dying tended to shift in the direction of ancient or non-Western

belief systems according to which consciousness or some form of existence con-
thinutes beyond the time of biological annihilation.

I mentioned earlier that the psychedelic transformation observed after LSD

sessions with a transcendent emphasis involves drastic changes in the hierarchy

of values. Having experienced death and rebirth and/or feelings of cosmic on-

LSD subjects tend to put less emotional emphasis on the past and future and show

an increased appreciation of the present. Preoccupation with the diurnal prospects

for the future is replaced by concern about the best possible utilization of each
day. The ability to draw satisfaction from simple and ordinary things in life is ac-
npanied by acute awareness of the ultimate futility of amorous pursuits of status,

power and possessions. It is not difficult to understand that the above changes in

values and life strategy can make the situation of the terminally ill more tolerable.

Psychological work with the patients and their families also seemed to have a

positive influence on the survivors. It not only eased their reaction to dying and to

the death of their relative, but helped them to cope with their grief and integrate

the loss in a constructive way.

According to the clinical ratings, approximately thirty percent of the cancer

patients showed dramatic improvement in the above areas after a single LSD

session and an additional forty percent showed a moderate degree of positive
change. In the remaining thirty percent there were no manifest differences, pos-
itive or negative, from pre- to post-session measurements. The results of DPT-

psychotherapy were similar, although less striking and consistent.

Of all the indications for LSD psychotherapy, its use for work with the
dying seems to be the most interesting and least controversial or problematic. The

possibility of alleviating in a relatively short time the emotional and physical dis-

tress of persons facing the ultimate crisis of human life should be of great in-

terest to all of us. Most of the objections raised against the use of LSD are of little

relevance here, certainly those concerning heredity and chromosomes. In addi-

tion, recent research showing the possible role played by psychological factors in
cancer, as well as some of our own observations on the subject, seem to suggest that at least for some cancer patients, LSD psychotherapy could become a factor contributing to healing, and not only a preparation for death.

NOTES

1. The interested reader will find detailed information about the recent convergence of quantum-relativistic physics, mysticism, and modern consciousness research in books by Itzhak Bentov (13), Fritjof Capra (18), Nick Herbert (37), Larry Le Shan (56), Kenneth Pelletier (79), Bob Taben (101), and Arthur Young (105).

2. An example of dramatic and lasting success in a severe case of compulsive neurasthenia was published in Scandinavia by E. Brandrup and T. Vanggaard (16). On page 185 I described striking improvements in a patient with an obsessive-compulsive neurasthenia that had resisted Freudian psychoanalysis for eighteen years. Unfortunately, our research design did not allow for more than three sessions and the therapy could not be completed.

3. The combined story of another of these patients, Michael, is presented in my first book, Realm of the Human Unconscious (33), pp. 160 and 235.

4. Stanislav Grof and Joan Halifax: The Human Encounter With Death (34). The bibliography of this book gives all the specific references to original papers in this area.
NON-THERAPEUTIC USES OF LSD

Training Sessions of Mental Health Professionals
Administration of LSD to Creative Individuals
Drug-Induced Religious and Mystical Experiences
Role of LSD in Personal Growth and Self-Actualization
Use of LSD in the Development of Paranormal Abilities

TRAINING SESSIONS OF MENTAL HEALTH PROFESSIONALS

The extraordinary value of LSD for the education of psychiatrists and psychologists became evident at a very early stage of its research. In his pioneering paper, published in 1947, Stoll emphasized that an auto-experiment with this drug gives professionals a unique opportunity to experience first-hand the alien world which they encounter in their everyday work with psychiatric patients. During the "model psychotic" phase of LSD research, when the psychedelic state was considered a chemically-induced schizophrenia, LSD sessions were recommended as reversible journeys into the experiential world of psychosis which had a unique didactic significance. The experience was recommended for psychiatrists, psychologists, nurses, social workers, and medical students as a means of acquiring insights into the nature of mental illness. Raskin (83), Boulié (90) and other researchers who conducted didactic experiments of this kind reported that a single LSD session can dramatically change the understanding that mental health professionals have of psychotic patients, and result in a more humane attitude toward them.

The fact that the "model psychosis" concept of the LSD state was eventually rejected by most researchers did not diminish the educational value of the psychedelic experience. Although mental changes induced by LSD are obviously not identical with schizophrenia, the ingestion of the drug still represents a very
special opportunity for professionals and students to experience many states of mind that occur naturally in the context of various mental disorders. These involve perceptual distortions in the optical, acoustic, tactile, olfactory, and gustatory areas; quantitative and qualitative disturbances of the thought processes; and abnormal emotional qualities of extraordinariness. Under the influence of LSD it is possible to experience sensory illusions and pseudocalculations, retardation or acceleration of thinking, dilatation interpretations of the world, and an entire gamut of intense pathological emotions such as depression, manic mood, agression, self-destructive craving, and agonizing feelings of inferiority and guilt, or conversely, ecstatic rapture, transcendental peace and unification, and a sense of cosmic unity. The psychedelic experience can also become a source of revelatory aesthetic, scientific, philosophical, or spiritual insight.

Contemporary uses of LSD do not exhaust its didactic potential. Another learning experience of great value is participation in the sessions of other subjects. This offers an opportunity for young professionals to observe an entire range of abnormally phenom and be exposed to and become familiar with the phenomena and unusual behavior patterns. This occurs under specially structured circumstances, at a convenient time, and in the context of an existing relationship with the experient. All these factors make this a situation better suited for learning than the admission ward or emergency unit of a psychiatric hospital. In a more specific way, sitting in LSD sessions has been recommended as an unqualified training. The intensification of the relationship with the sitter that is characteristic of LSD sessions presents a rare opportunity for a novice professional to observe transference phenomena and learn to cope with them. The use of LSD in the context of a training program for future psychotherapists has been discussed in a special paper by Feil, Goodman, and Guzzo. (26)

An extensive and systematic study of the didactic potential of LSD sessions was conducted at the Maryland Psychiatric Research Center. In this program, up to three high-dose LSD sessions were offered to mental health professionals for training purposes. Over one hundred persons participated in this program between 1970 when it began, and 1972 when it ended. Most of these individuals were interested in the psychedelic experience because it was closely related to their own professional activities, in particular counselor work in crisis intervention units or with patients who had problems related to psychedelic drug use. Others were practitioners of various psychotherapeutic techniques and wanted to compare LSD psychotherapy with their other psychological approach—psychoanalytic, psychodrama, Gestalt therapy, psychocynisis, or biocinetics. A few were researchers involved in the study of altered states of consciousness, the dynamics of the unconscious, or the philosophy of religion. A small group consisted of professionals who were specifically interested in becoming LSD therapists. They usually spent several months with us, attending staff meetings, watching videotapes of LSD therapy practice, or guiding psychotherapy sessions under supervision. They then had the opportunity to undergo their own LSD sessions as part of the training schedule. All the participants in the LSD program for professionals agreed to cooperate in pre- and post session psychological testing, and complete a follow-up questionnaire six months, twelve months, and two years after the session. The questions in this follow-up form focused on changes they observed after the

LSD sessions in their professional work, life philosophy, religious feelings, their emotional and physical condition, and interpersonal adjustment. Although we have much anecdotal evidence of the value of this training program, the data from the pre- and post-session psychological testing and from the follow-up questionnaires has not yet been systematically processed and evaluated.

As I have emphasized earlier, LSD training sessions are an essential qualification for every LSD therapist. Because of the unique nature of the psychedelic state it is impossible to reach a real understanding of its quality and dimensions unless one directly experiences it. In addition, the experience of confronting the various areas in one's own unconscious is absolutely necessary for developing the ability to assist other people with competence and empathy in their process of deep self-exploration. LSD training sessions are also highly recommended for nurses and other members of the staff in psychiatric treatment units who come in close contact with clients in unusual states of consciousness.

ADMINISTRATION OF LSD TO CREATIVE INDIVIDUALS

One of the most interesting aspects of LSD research is the relationship between the psychedelic state and the creative process. Professional literature on the subject reflects considerable controversy. Robert M. Mayer (74), who reviewed the existing experimental data on the performance of various functions related to creativity, work, found the results inconclusive and contradictory. Thus some studies focusing on instrumental learning demonstrated impairment during the drug experience, while others indicated a definite enhancement of the learning capacity. Conflicting results have also been reported for color perception, recall and recognition, discrimination learning, concentration, symbolic thinking, and perceptual accuracy. Studies using various psychological tests specifically designed to measure creativity usually fail to demonstrate significant improvement as a result of LSD administration. However, how relevant these tests are in relation to the creative process and how sensitive and specific they are in detecting the changes induced by LSD remains an open question. Another important factor to consider is the general lack of motivation in LSD subjects to participate and cooperate in formal psychological testing procedures while they are deeply involved in their inner experiences. In view of the importance of set and setting for the psychedelic experience, it should also be mentioned that many of the above studies were conducted in the context of the "model schizophrenia" approach, and thus with the intention of demonstrating the psychotic impairment of performance.

One negatively oriented outcome of creative studies is in sharp contrast to the everyday experience of LSD therapists. The work of many artists—painters, musicians, writers, and poets—who participated in LSD experimentation in various countries of the world has been deeply influenced by their psychedelic experiences. Most of them found access to deep sources of inspiration in their unconscious mind, experienced a striking enhancement and unleashing of fantasy, and reached extraordinary vitality, originality and freedom of artistic expression. In many instances, the quality of their creations improved considerably, not only according to their own judgment but the opinion of the LSD researchers, but by the
administration of LSD to creative individuals was profound in the life, art and philosophy of Aldous Huxley. Many of his writings, including "brave new world," "Island," "heaven and hell," and "the doors of perception" have been directly influenced by his psychedelic experiences. Some of the most powerful poisons by Allen Ginsberg were inspired by his own experimentation with psychedelic substances. The role of in a French art of "the fin de siecle" could also be mentioned in this context. The Canadian Japanese architect Kiyon Isami was able to make unique use of his LSD experiences in designing modern psychiatric facilities. (40)

Since LSD mediates the access to the contents and dynamics of the deep unconscious—in psychoanalytic terms, to the primary process—it is not particularly surprising that one can expect art, and that such experiences can play an important role in the creative development of artists. However, many observations from psychological research indicate that LSD can also be of extraordinary value to various scientific disciplines that are traditionally considered domains of reason and logic. Two important aspects of the LSD effect seem to be of particular relevance in this context. First, the drug can mediate access to a vast reservoir of concrete and valid information in the collective unconscious and make them available to the scientist. According to some observations, the revealed knowledge can be very specific, accurate, and detailed; the data obtained in this way can be related to many different fields. In our relatively limited LSD training program for scientists, relevant insights occurred in such diverse areas as cytochemistry, the nature of space and time, subatomic physics, ethology, animal psychology, history, anthropology, sociology, politics, comparative religion, philosophy, genetics, obstetrics, psychosomatic medicine, psychology, psychopathology, and thanatology. (41)

The second aspect of the LSD effect is of great relevance for the creative process: the facilitation of new and unexpected synthesis of data, resulting in unconventional problem-solving. It is a well-known fact that many important ideas and solutions to problems did not originate in the context of logical reasoning, but rather in various unusual states of mind—in dreams, while falling asleep or awakening, at times of extreme physical and mental fatigue, or during an illness with high fever. There are many famous examples of this. Thus, the chemist Friedrich August von Kekulé arrived at the final solution of the chemical formula of benzene in a dream in which he saw the benzene ring in the form of a snake biting its tail. Nikola Tesla constructed the electric generator, an invention that revolutionized industry, after the complete discovery of the phenomenon of electromagnetic induction. Albert Einstein discovered the basic principles of his special theory of relativity in an unusual state of mind; according to his description, most of the insights came to him in the form of kinesthetic sensations. We could mention many instances of a similar kind where a creative individual struggled uselessly for a long time with a difficult problem using logic and reason, while the actual solution emerged unexpectedly from the unconscious in moments when his or her rationality was suspended. In everyday life events of this kind happen very rarely, and in a completely unexplainable fashion. Psychedelic drugs seem to facilitate the occurrence of such creative situations to the point that they can be deliberately programmed. In an LSD state, the old conceptual frameworks break down, cultural cognitive barriers dissolve, and
the material can be seen and synthesized in a totally new way that was not possi-
ble within the old systems of thinking. This mechanism can produce not only striking
new solutions to various specific problems, but new paradigms that revolu-
tionize whole scientific disciplines.

Although psychedelic experimentation had been drastically curbed before this avenue could be systematically explored, the study of creative problem-solving conducted by Willard van Orman Quine at the Stanford Institute for Research in the General
Similarity of the effects of these two drugs, comparable results should be expected
with the use of LSD: various accidental observations from our LSD training pro-
gram for scientists at Harman-Fadlman brought enough interesting evidence to encourage further research. The
drug used in this experiment was not LSD but mescaline, the active ingredi-
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**DRUG-INDUCED RELIGIOUS AND MYSTICAL EXPERIENCES**

The use of psychedelic substances for ritual, religious, and magical purposes can be traced back to ancient shamanic traditions and is probably as old as mankind. The legendary divine potion soma, prepared from a plant of the same name whose identity is now lost, played a crucial role in the Vedic religion. Preparations from

hemp Cannabis indica and sativa have been used in Asia and Africa for many cen-
turies under different names—hashish, charas, bhang, ganja, kif—in religious
ceremonies and folk medicine. They have played an important role in Brahman-
im, have been used in the context of Sufi practices, and represent the principal
sacrament of the Rastafarian. Religion-magical use of psychedelic plants was
widely practiced in the Pre-Columbian cultures, among the Aztecs, Mayans, Olmecs,
and other Indian groups. The famous Mexican cactus Lophophora williamsii (peyote), the sacred mushroom Psilocybe mexicana (teonanacatl), and several
varieties of morning glory seeds (ololupi) were among the plants used. Ritual use
of peyote and the sacred mushroom still survives among various Mexican tribes;
the peyote hunt and other sacred ceremonies of the Huichol Indians and healing
rituals of the Mazatecs using the mushrooms can be mentioned here as important
elements. Peyote was also assimilated by many North American Indian groups
and about one hundred years ago became the sacrament of the syncretic Native
American Church. South American healers (yumbacos), and pre-Columbian
Amazonian tribes such as the Anuaruca and the Jivaro use peyote, psychedelic ex-
tracts from the "Visionary vine," the jungle liana Banisteriopsis caapi. The best
known African hallucinogenic plant is Tabernanthe iboga (iboga), which in small
dosages serves as a stimulant and is used in large quantities as an irritant
drug. In the Middle Ages, potions and ointments containing psychoactive plants
and animal ingredients were widely used in the context of the Witches' Sabbath
and the black mass rituals. The most famous constituents of the witches' brews
were the deadly nightshade Atropa Belladonna), mandrake (Mandrages of-
ficinum), thornapple or "jimson weed" (Datura Stramonium), henbane
(Hyoscyamus niger), and toad skin. Modern chemical analysis has detected in the
skin of toads (Bufo bufo), a substance called bufotenine (or dimethyltryptamine)
which has psychedelic properties. The psychedelic plants mentioned above repre-
sent only a small selection of those that are most famous. According to
rhinobontist Richard Schultes of the Botanical Department of Harvard Uni-
versity, there exist more than one hundred plants with distinct psychoactive
properties.

The ability of psychedelic substances to induce visionary states of a religious
and mystical nature is documented in many historical and anthropological
sources. The discovery of LSD, and the well-publicized occurrence of these ex-
eriences in many experimental subjects within our own culture, has brought this
issue to the attention of scientists. The fact that religious experiences could be trig-
gerred by the ingestion of chemical agents instigated an interesting and highly con-
versational discussion about "chemical" or "insect" mysticism. Many behavioral
scientists, philosophers, and theologians became involved in fierce polemics about
the nature of these phenomena, their meaning, validity, and authenticity. The
opinions soon crystallized into three extreme points of view. Some experimenters
saw the possibility of inducing religious experiences by chemical means as an op-
portunity to transfer religious phenomena from the realm of the sacred to the
laboratory, and thus eventually to explain them in scientific terms. Ultimately,
these would be nothing mysterious and holy about religion, and spiritual ex-
periences could be reduced to brain physiology and biochemistry. However, other
researchers took a very different stance. According to them, the mystical
phenomena induced by LSD and other psychedelic drugs were genuine and these

substances should be considered sacraments because they can mediate contact with transcendental realities. This was essentially the position taken by the shamans and priests of psychedelic cultures where visionary plants such as soma, peyote and teonanatl were seen as divine materials or as delusively themselves. Yet another approach to the problem was to consider LSD experiences to be “quasi-religious” phenomena which only simulate or superficially resemble the authentic and genuine spirituality that comes as “God’s grace” or as a result of discipline, devotion, and ascetic practices. In this framework, the seeming state with which these experiences could be triggered by a chemical entirely discredit their spiritual value.

However, those who argue that LSD-induced spiritual experiences cannot be valid because they are too easily available and their occurrence and timing depend on the individual’s decision, misunderstand the nature of the psychedelic state. The psychedelic experience is neither an easy nor a predictable way to God. Many subjects do not have spiritual elements in their sessions despite many exposures to the drug. Those who do have a mystical experience frequently have to undergo psychological ordeals that are at least as difficult and painful as those associated with various aboriginal rites of passage or rigorous and austere religious disciplines.

Most researchers agree that it is not possible to differentiate clearly between spontaneous mystical experiences and “chemical mystics” on the basis of phenomenological analysis or experimental approaches. This issue is further complicated by the relative lack of specific pharmacological effects of LSD and by the fact that some of the situations conducive to spontaneous mysticism are associated with dramatic physiological and biochemical changes in the body.

Prolonged fasting, sleep deprivation, a stay in the desert with exposure to dehydration and extremes of temperature, forced respiratory maneuver, excessive emotional stress, physical exertion and torture, long monotonous chanting and other popular practices of the “technology of the sacred” cause such far-reaching altercations in body chemistry that it is difficult to draw a clear line between spontaneous and chemical mysticism.

The decision whether chemically induced experiences are genuine and authentic or not lies in the domain of theologians and spiritual authorities. Unfortunately the representatives of different religious have expressed a wide spectrum of conflicting opinions; it remains an open question which should be considered as authorities in this area. Some of these religious experts have been made judgments without ever having had a psychedelic experience and can hardly be considered authorities on LSD; others have made far-reaching generalizations on the basis of one session. Serious differences of opinion exist even among leading representatives of the same religion—Catholic priests, Protestant ministers, Rabbis, and Hindu saints—who have had psychedelic experiences. At present, after thirty years of discussion, the question whether LSD and other psychedelics can induce genuine spiritual experiences is still open. Negative opinions of individuals like Meher Baba or B. C. Zacharias stand against those of several Tibetan Buddhist masters, a number of shamans of the psychedelic cultures, Walter Clark, Huston Smith, and Alan Watts.

Whether the experiences produced by LSD are genuine mystical revelations or just very convincing simulations thereof, they are certainly phenomenally of great interest to theologians, ministers, and students of religion. Within a few hours, individuals gain profound insights into the nature of religion, and in many instances their purely theoretical understanding and formal belief is vialized by a deep personal experience of the transcendental realities. This opportunity can be particularly important for those ministers who profess a religion, but at the same time harbor serious doubts about the truth and relevance of what they preach. Several priests and theologians who volunteered for our LSD training program at the Maryland Psychiatric Research Center were skeptics or atheists who were involved in their profession for a variety of external reasons. For them, the spiritual experiences they had in their LSD sessions were important evidence that spirituality is a genuine and deeply relevant force in human life. This realization liberated them from the conflict they had had about their profession, and from the burden of hypocrisy. In several instances, the relatives and friends of these individuals
A series of drawings illustrating the relation between spiritual pathology and the biological birth trauma. The first four show images of the most sacred Christian theme—redemption—contaminated by what the patient calls "obscene biology." During her session she realized that this confusion reflected not only specific childhood experiences, but particularly the biological trauma of birth.

The sacred event of delivery is inextricably connected with genitals, sexuality, aggression, defecation and urination.

In the final picture the conflict is resolved. The figure of 'Purified Christ' rises above the realm of "obscene biology", separating from it. However, the patient's hands are reaching for the Black Sun which is a symbol of inner reality even beyond Christ, the divine that transcends all forms and limitations.
reported that their sessions following the LSD session showed unusual power and natural authority.

Spiritual experiences in psychedelic sessions frequently draw on the symbolism of the collective unconscious and can thus occur in the framework of cultural and religious traditions other than the experient's own. LSD training sessions are therefore of special interest for those who study comparative religion. Many psychadelics affiliated to a specific church are sometimes surprised when they have a profound religious experience in the context of an entirely different creed. Because of the basically mystical nature of the psychedelic experience, this usually does not disqualify their own religion but places it in a broader cosmic perspective.

ROLE OF LSD IN PERSONAL GROWTH AND SELF-ACTUALIZATION

During the years of intensive LSD research, the major focus was on basic psychological investigation, psychiatric therapy, or some quite specific uses, such as enhancement of artistic expression or medication of a religious experience. Relatively little attention was paid to the value that psychedelic experiences could have for the personal development of "normal" individuals. In the mid-sixties, this issue emerged in an elemental and explosive fashion in a wave of massive non-supervised self-experimentation.

In the atmosphere of national hysteria that ensued, the pros and cons were discussed in a passionate, over-enthusiastic, and ultimately confusing way. The LSD promoters presented the drug quite uncritically as an easy and safe panacea for all the problems that beset human existence. Psychadelic self-exploration and personality transformation were presented as the only viable alternative to sudden assimilation in a nuclear holocaust or slow death among industrial waste products. It was recommended that as many people as possible should take LSD under any circumstances and as frequently as they could in order to accelerate the advent of the Aquarian Age. LSD sessions were seen as a rite of passage that should be mandatory for everybody who reached their teens.

Failure to warn the public about the dangers and pitfalls of psychedelic experimentation and to give instructions for minimizing the risks resulted in a large number of casualties. Apocalyptic newspaper headlines describing the horrors of LSD "bummers" and drug-related accidents ignited a witch-hunting response in legislators, politicians, educators, and many professionals. Ignoring the data from almost two decades of responsible scientific experimentation, the anti-drug propaganda switched to the other extreme and presented LSD as a totally unpredictable drug that may be a dangerous threat to the sanity of the present generation and the physical health of generations to come.

At present, when the emotional charge of this controversy has subsided, it seems possible to take a more rational and objective view of the problem involved. Clinical evidence strongly suggests that "normal" people can benefit most from the LSD process and are taking the least risk when participating in a supervised psychedelic program. A single high-dose LSD session can frequently be an extraordinary value for those persons who do not have any serious clinical problems. The quality of their lives can be considerably enhanced and the experience can move them in the direction of self-realization or self-actualization. This process seems to be comparable in every way to the one that Abraham Maslow described for individuals who had spontaneous "peak experiences."

The official anti-drug propaganda is based on a very superficial understanding of the motivations for psychedelic drug use. It is true that in many instances the drug is used for kicks or in the context of juvenile rebellion against parental authority or the establishment. However, even those who take LSD under the worst circumstances frequently get a glimpse of the drug's real potential, and this can become a powerful force in future use. The fact that many people take LSD in an attempt to find a solution to their emotional dilemmas or from a deep need for philosophical and spiritual answers should not be underestimated. The craving for contact with transcendental realities can be more powerful than the sexual urge.

Throughout human history countless individuals have been willing to take enormous risks of various kinds and to sacrifice years or decades of their lives to spiritual pursuits. Any reasonable measures regulating the use of psychedelic drugs should take these facts into consideration.

Very few serious researchers still believe that experimentation with pure LSD represents a genetic hazard. Under proper circumstances the psychological dangers that represent the only serious risk can be reduced to a minimum. In my opinion, there is no scientific evidence that precludes the creation of a network of facilities in which those who are seriously interested in psychedelic self-exploration could engage in it with pure substances and under the best circumstances. Many of these would be subjects who are so deeply motivated that they would otherwise be serious candidates for illegal self-experimentation involving a much higher risk.

The existence of government-sponsored centers of this kind would have an inhibiting effect on the immature motivations of people for whom the present strict prohibitions represent a special challenge and temptation. An additional advantage of this approach would be the opportunity to accumulate and process in a systematic way all the valuable information about psychedelics that is otherwise lost in elemental and chaotic unsupervised experimentation. This would also remedy the existing absurd situation in which almost no serious professional research is being conducted in an area where millions of people have been experimenting on their own.

USE OF LSD IN THE DEVELOPMENT OF PARANORMAL ABILITIES

Muck historical and anthropological evidence and numerous anecdotal observations from clinical research suggest that psychedelic substances can occasionally facilitate extraordinary perception. In many cultures visionary plants were administered in the context of spiritual healing ceremonies as means to diagnose and cure diseases. Equally frequent was their use for other magical purposes, such as locating lost objects or persons, astral projection, perception of remote events, precognition, and clairvoyance. Most of the drugs used for these purposes have been mentioned earlier in connection with religious rituals. They include the resin of extraordinary value for those persons who do not have any serious clinical problems. The quality of their lives can be considerably enhanced and the experience
Tabernanthe iboga among certain African ethnic groups; the snuffs cohoba (Anadenanthera peregrina) and yéndé (Virola theiodora) of South America and the Caribbean, and the three basic psychotropes of the Pre-Columbian culture—the peyote cactus (Lophophora williamsii), the sacred mushrooms teonancatl (Psalidate neoxea) and otlahuau or morning glory seeds (Ipomea olacurac). Of special interest seems to be paqat, a brew prepared from the jungle creeper, Sceletium tabacum, and other "vines of the dead" used by South American Indians in the Amazon valley. Harmin, also called yage or banisterione, one of the active alkaloids isolated from the Banisteriopsis plant, has actually been referred to as telepathic. The psychic states induced by the extracts of these plants seem to be especially powerful enhancers of paranoid phenomena. The most famous example of the unusual properties of paqat can be found in the reports of Mestizos (89) one of the anthropologists who described this plant. According to his descrip-

Use of LSD in the Development of Paranormal Abilities

The most interesting paranormal phenomena occurring in psychic sessions are out-of-the-body experiences and the instances of traveling clairvoyance and clairaudience. The sensation of leaving one's body is quite common in drug-

induced states and can vary in form and degree. Some persons perceive themselves as completely detached from their physical bodies, hovering above them or observing them from another part of the room. Occasionally, the subjects can lose the awareness of the actual physical setting altogether and their con-

sciousness moves into experiential realms and subjective realities that appear to be entirely independent of the material world. They may then identify entirely with the body images of the protagonists of these scenes, be they persons, animals, or archetypal entities. In exceptional cases the individual may have a complex and vivid experience of moving to a specific place in the physical world, and give a detailed description of a remote locale or event. Attempts to verify such extra-

sensory perceptions can sometimes result in amazing corroborations. In rare in-

stances, the subject can actively control such a process and "travel" at will to any location or point in time he or she chooses. A detailed description of an experience of this kind illustrating the nature and complexity of the problems involved has been published in my book Realms of the Human Unconscious, p. 187. (32)

Objective testing by the standard laboratory techniques used in parapsycholo-

gical research has generally been quite disappointing and has failed to dem-

onstrate an increase of extra-sensory perception as a predictable and constant aspect of the LSD effect. Masters and Houston (65) tested LSD subjects with the use of a special card deck developed in the parapsychology laboratory at Duke University. The deck contains twenty-five cards, each of which has a geometrical symbol: a star, circle, cross, square, or wavy lines. The results of the experiments in which LSD subjects attempted to guess the identity of these cards were statistically nonsignificant. A similar study conducted by Whittlesey (102) and a card-guessing experiment with palynological subjects reported by van Asperen de Boer, Barkema and Kappers (6) were equally disappointing, though an interesting finding in the first of these studies was a striking decrease of variance; the subjects actually guessed closer to mean chance expectation than predicted mathe-

matically. Unpublished findings of Walter Pahnke's parapsychological research at the Maryland Psychiatric Research Center suggest that the statistical approach to this problem might be misleading. In this project, Walter Pahnke used a modified version of the Duke University cards in the form of electronic keyboard panels. The LSD subject had to guess the key that had been hit on a panel in an adjacent room either manually or by a computer. Although the results for the entire group of LSD subjects were not statistically significant, certain individuals achieved strikingly high scores in some of the measurements.

Some researchers voiced objections to the uninteresting and unsuggestive approach to the study of parapsychological phenomena represented by repetitive card guessing. In general, such a procedure does not have much chance in the competition for the subject's attention as compared to some of the exciting subjec-

tive experiences that characterize the psychic state. In an attempt to make the task more appealing, Cavena and Servadio (19) used emotionally- loaded materials rather than cards; photographic color prints of incongruous paintings were prepared for the experiment. Although one subject did remarkably well, the overall results were nonsignificant. Karlis Oss (73) administered LSD to a num-

ber of "mediums" who were given objects and asked to describe the owner. One
medium was unusually successful, but most of the others became so interested in the aesthetic and philosophical aspects of the experience, or to caught up in their personal problems, that they found it difficult to maintain concentration on the task.

By far the most interesting data emerged from a pilot study designed by Masters and Huston (63) who used emotionally charged images with sixty-two LSD subjects. The experiments were conducted in the termination periods of the session, when it is relatively easy to focus on specific tasks. Forty-eight of the indi-

viduals tested approximated the target image at least two times out of ten, while five subjects made successful guesses at least seven times out of ten. In fact, one subject visualized "two saws" when the correct image was a Viking ship in a stream. The same subject repeated "bush vegetation" when the image was rain forests in the Amazon, "a camel" when the image was an Arab on a camel, the "Alps" when the picture was the Himalayas, and "a Negro picking cotton in a field" when the target was a plantation in the South.

The study of paranormal phenomena in psychedelic presents many technical problems. In addition to the problems of getting the subject interested and keeping his or her attention on the task, Blewett (72) also emphasized the rapid flow of eidetic imagery that interferes with the ability of the subject to stabilize and choose the response that might have been triggered by the target. The methodological difficulties in studying the effect of psychedelic drugs on extraordinary perception or other paranormal abilities and the lack of evidence in the existing studies cannot, however, invalidate some quite extraordinary observations in this area. Every LSD therapist with sufficient clinical experience has collected enough challenging observations to take this problem seriously. I myself have no doubt that psychedelics can occasionally induce elements of genuine extra-

sensory perception at the time of their pharmacological effect. On occasion, the occurrence of certain paranormal abilities and phenomena can extend beyond the day of the session. A fascinating observation that is closely related and deserves at-


tention in this context is the frequent accumulation of extraordinary coincidences in the lives of persons who had experienced transpersonal phenomena in their psychedelic sessions. Such coincidences are objective facts, not just subjective interpretations of perceptual data; they are similar to the observations that Carl Gustav Jung described in his essay on synchronicity. (44) The discrepancy between the occurrence of parapsychological phenomena in LSD sessions and the negative results of specific laboratory studies seems to reflect the fact that an increase in ESP is not a standard and constant aspect of the LSD effect. Psychological states conducive to various paranormal phenomena and characterized by an unusually high incidence of ESP are among the many alter-

native mental conditions that can be facilitated by this drug; in other types of LSD experi-

ences the ESP abilities seem to be on the wane level as they are in the every-

day state of consciousness, or even further reduced. Future research will have to assess if the otherwise unpredictable and elemental incidence of paranormal abilities in psychedelic states can be harnessed and systematically cultivated, as it is indicated in shamanic literature.

NOTES

1. The interested reader will find comprehensive discussion of this subject in Robert Masters' and Jean Houston's excellent book Psychedelic Art (60). The influence of LSD and psilocybin on the creativity of professional painters has also been uniquely documented in the book Experimental Psychotics (90) by the Czech psychiatrist, J. Bouché. Oscar Janiger's unpublished collection of professional paintings done under the influence of LSD also deserves to be mentioned in this context.

2. Some concrete examples of relevant insights of this kind are described in my book Realms of the Human Unconscious. (52)

3. Many additional examples of this phenomenon can be found in Arthur Koestler's The Car of Creation. (48)

4. The interested reader will find more information on the subject in Stanley Krippner's essay Psychotherapy in Creativity and Psychiatric Drugs. (51)

5. The most interesting study of this kind was Walter Palaske's (75) Good Friday experiment conducted in 1964 in the Harvard Chapel in Cambridge, Massachusetts. In this study, ten Christian theological students were given 30 milligrams of psilocybin, and ten others who functioned as a control group received 200 milligrams of nicotinic acid as placebo. The assignment to the two groups was done on a double-blind basis. They all listened to a two-and-a-half hour religious service that consisted of organ music, vocalized prayers, readings, prayers, and personal meditation. The subjects who were given psilocybin rated very high on the mystical experience questionnaire developed by Palaske, whereas the response of the control group was minimal.
EFFECTIVE THERAPEUTIC MECHANISMS OF LSD THERAPY

Intensification of Conventional Therapeutic Mechanisms
Changes in the Dynamics of Governing Systems
Therapeutic Potential of the Death-Rebirth Process
Therapeutic Mechanisms on the Transpersonal Level

The extraordinary and often dramatic effects of the LSD process on various emotional and psychosomatic symptoms quite naturally give rise to questions about the therapeutic mechanisms involved in these changes. Although the dynamics of some of these transformations can be explained along conventional lines, the majority appear to involve processes as yet undiscovered or unacknowledged by traditional psychology and psychiatry. This does not mean that these phenomena have never been encountered or discussed before. Descriptions of some of these mechanisms are found in the religious literature describing spiritual healing and its effects on emotional or psychosomatic illnesses. Anthropologists may also recognize elements that occur in shamanic practices, aboriginal rites of passage, and various healing ceremonies.

It has already been mentioned that LSD does not have any intrinsic therapeu tic properties related simply to its pharmacological effects. It is necessary to structure and approach the experience in a specific way to make the emergence of unconscious material therapeutic rather than destructive. Analysis of the observations from LSD psychotherapy suggests that the therapeutic changes that take place are very complex and cannot be reduced to a single common denominator. The LSD experience appears to involve a variety of factors on many different levels; each has distinct therapeutic potential and can be utilized for effective treatment and personality change. In the following text we will briefly discuss the most important mechanisms of this kind operating in LSD sessions. The richness of opportunities for deep dynamic shifts and transformations that is characteristic of psychedelic states seems to make LSD a very special adjucnt to psychotherapy.
INTENSIFICATION OF CONVENTIONAL THERAPEUTICAL MECHANISMS

The only factors of therapeutic change available in the initial stages of a psychoanalytic process are the mechanisms that have been described in the context of traditional psychoanalytic schools. However, even in superficial psychodynamic experiences these mechanisms are greatly intensified. Under these circumstances the defense systems and the physiological resistance decrease.

The emotional responses of the subject are dramatically enhanced and one may observe powerful abreaction and catharsis. Repressed unconscious material, including early childhood memories, becomes easily available, and this may result not only in enhanced recall but in genuine age-regression and vivid, complex reliving of emotionally relevant memories as well. Unconscious material also frequently appears in the form of various symbolic phenomena with a structure similar to dreams. The emergence of this material and its integration are associated with emotional and intellectual insights into the psychodynamics of the patient's situation and marked improvement in his social relationships.

The therapeutic potential of the reliving of emotionally important episodes from childhood seems to involve two important elements. One of them is a deep release of pent-up energy and their peripheral discharge in the form of emotional and physical abreaction. The second is conscious incorporation of the content that is now devoid of affective charge. This is made possible by the dual orientations or dual role that individuals develop in the LSD state, either simultaneously or in an alternating fashion. On the one hand, they experience full and complex age-regression to early life periods when the traumatic events took place; on the other hand, they also have access to more conscious, corresponding to their chronological age at the time of the LSD session. In this way, it becomes possible to reevaluate from an adult point of view the relevance of events that were once overwhelming for the immature organism. The replay of early biographical events is thus experienced by a subject who represents an interesting hybrid between a naive, emotionally totally involved child and a more or less detached adult observer.

This dual role facilitates the therapeutic relationship. The subject can perceive the therapist and interpret objective reality in a way that reflects unresolvable material from the past. However, on another level, he or she can also maintain adequate perspective in order to better understand the origin and mechanisms of these distortions. The transference relationship is typically intensified and is experienced in a vivid pictorial form. As indicated in an earlier chapter, the distortion of the transference relationship is related to the point of view from which the therapist perceives the material that was made available that day. The manifest clinical condition of an individual is not a global reflection of the nature and overall amount of the unconscious material; it is dependent on the specific transference focus and transference response of the material that was made available that day. The manifest clinical condition of an individual is not a global reflection of the nature and overall amount of the unconscious material; it is dependent on the specific transference focus and transference response.
Changes in the governing influence of dynamic matrices can occur as a result of various biochemical or physiological processes inside the organism, or in a reaction to a number of external influences of a physical or psychological nature. LSD sessions seem to represent a deep intervention in the dynamics of the governing systems and their functional interplay. Detailed analysis of the phenomenology of LSD experiences indicates that in many instances sudden clinical improvement during therapy can be explained as a shift from the psychoanalytically dominant of a negative governing system to a state where the individual is under the selective influence of a positive constellation. Such a change does not necessarily mean that all the unconscious material underlying that particular pathological state has been worked through. It simply indicates an inner dynamic shift from one governing system to another. This situation can be referred to as transmutation; it can occur on several different levels. A shift among constellations involving autobiographical material can be called COEX transmutation. Because of the functional interrelatedness between the COEX systems and the BPMs, most experiencing of traumatic childhood memories remains partial and mitigated reliving of a certain facet of the birth trauma. Similarly, positive childhood experiences can be viewed as partial restitution of the pleasant postnatal or intrapsychic condition. A comparable dynamic shift from one positive relational matrix to another can be referred to as BPM transmutation. A transpersonal transmutation then involves governing functional systems in the transindividual realm of the unconsciousness.

A typical positive transmutation has a biphasic course; it involves intensification of the dominant negative system and a sudden shift to the positive. However, if a strong positive system is already available it can dominate the LSD experience from the very beginning of the session, and the negative system recedes into the background. A shift from one dynamic constellation to another does not necessarily indicate clinical improvement. There is a possibility that a poorly resolved and integrated session will result in negative transmutation—a shift from a positive system to a negative one. This situation is characterized by a sudden occurrence of psychopathological symptoms that were not manifest before the session. Another interesting possibility is a shift from one negative system to another that is also negative in nature. The external manifestation of this intraorganic event is a remarkable qualitative change in psychopathology from one clinical syndrome to another. Occasionally, this transformation can be so dramatic that the patient moves from a completely different diagnostic category; a clinical illustration of this phenomenon was given earlier in this book (p. 40). Though the resulting condition might appear on the surface to be entirely new, all its essential elements existed in a potential form in the patient's experiential repositories before the dynamic shift occurred. It is thus important to realize that in addition to working through unconscious material, the LSD procedure can also involve dramatic shifts of focus that change its experiential relevance.

I would like to mention in this context an interesting metaphor which one of my patients used to illustrate her concept of this process. She described the human unconscious as a dark storage house, full of various objects of all kinds, some of them ugly, others beautiful. The LSD process appeared to her to involve not only removing junk and garbage, but also changing the direction of a flashlight illuminating the inside space. Only those of the stored objects that were illuminated by the flashlight would be perceived at a particular time. Similarly, only those unconscious contents that are in the spotlight of conscious awareness can actually be fully experienced. An issue that deserves special consideration at this point is the relative therapeutic significance of negative and positive experiences in LSD sessions. The problem whether the emphasis in LSD psychotherapy should be on resolving conflicts and traumatic memories or on achieving transcendent experiences has been one of the most controversial issues between psychodynamic and psychodynamic therapists. According to my experience, working through the traumatic material and experiencing ecstatic states are both important and integral parts of the healing process. Moreover, these two aspects of LSD psychotherapy seem to be mutually interrelated in a dialectic fashion, since they do not in any way conflict in the way that deep positive experiences do not necessarily lead to the achievement of a meaningful adaptation. Instead, they transcend the usual personal framework and see their problems in a cosmic context. This results in a relatively optimistic attitude that is of great help in dealing with the negative psychodynamic and perinatal material when it emerges during treatment. An individual who has experienced a transcendent and a positive perinatal matrix to another can be referred to as BPM transmutation. A transpersonal transmutation then involves governing functional systems in the transindividual realm of the unconsciousness.

Therapeutic Potential of the Death-Rebirth Process

The therapeutic changes associated with experiences on the psychodynamic level seem to be of relatively minor significance compared to those that result from perinatal sessions. The everyday clinical practice of LSD psychotherapy brings repeated evidence of the powerful healing potential of the death-rebirth process. The discovery of this potent therapeutic mechanism, as yet unrecognized and unacknowledged by Western science, represents one of the most surprising findings of my LSD research.

Experiential sequencer of dying and being born can result in drastic alleviation of a variety of emotional and psychodynamic problems. Negative perinatal memories are an important reservoir of emotions and physical sensations of extraordinary intensity; they function as a potential experiential source of many of the defensive strategies as anxiety, aggression, depression, fear of death, feelings of guilt, a sense of inferiority, helplessness, and general emotional tension seem to have deep roots on the perinatal level. Many aspects of these phenomena and their interrelations make sense if considered in the context of the birth trauma. Similarly, I have also frequently been able to trace a
client's preoccupation with various physiological functions or biological material, strange hypochondriacal complaints, and a variety of psychosomatic symptoms to certain aspects of the death-rebirth process. This was particularly true for obsessions or migraine headaches, neurotic feelings, lack of oxygen and sodium, cardiac distress, nausea and vomiting, various dyskinetic or muscular tensions, pain, and terrors in different parts of the body.

A rather common observation in psychoanalytic therapy was that patients who had moved beyond the psychodynamic level altogether in their process continued to have difficult LSD experiences and a number of clinical problems in their everyday life. It became evident that certain psychopathological symptoms were rooted in the perinatal level and would not disappear unless and until the underlying material was thoroughly worked through.

The "two-world" matrix experimentally in order to reach a lasting resolution -- not just a temporary remission -- of claustrophobia or an inhibited depression. Similarly, the deep roots of an agitated depression were found in the death-rebirth struggle of the third perinatal matrix.

Suicidal urges often disappeared completely when patients worked through and integrated the perinatal material. Several individuals who had completed the death-rebirth process independently reported that their previous suicidal tendencies had actually been unrecognized cravings for the ego death and transcendence. Since this insight was not available to them at the time, they focused psychologically on a situation in objective reality that bore for them a close resemblance to the ego death, namely, physical destruction. The experience of psychological death tends to eliminate or greatly reduce suicidal tendencies and ideation. Powerful aggressive and self-destructive impulses are consumed in the many dramatic experiential sequences of the death-rebirth process. In addition, after completing the process of the ego death individuals consider human existence in a much broader spiritual framework. Consciousness is seen as supersubordinate matter and drastic maneuvers on the material plane appear absurd and ineffective as a remedy for difficulties in individual development. No matter how difficult the life situations and circumstances may be, the ego is at an objective point of view, suicide somehow no longer appears to be a solution.

In our work with alcoholics and heroin addicts we made some interesting observations that were quite similar to those concerning suicidal individuals. From a certain point of view, alcoholism and heroin addiction can be seen as suicidal behavior extended over a long period of time; the underlying dynamics of suicide and addiction have much in common. LSD patients who have experienced profound feelings of cosmic unity frequently developed a negative attitude toward the states of mind produced by intoxication with alcohol and narcotics. The insights of these patients resonance with the nature of their addiction resemble in many respects that of persons with suicidal tendencies. After they had recovered and experienced feelings of cosmic unity in their sessions, they realized that the state they had really been craving for was transcendence and not drug intoxication. They recognized a certain superficial similarity and overlap between the alcohol or heroin intoxication and the unitive feelings evoked by LSD, and began to see that their desire for these drugs was based on confusing these two conditions. The elements that the transcendental state has in common with these sensations are disappearance or diminution of various painful emotions or sensations, emotional indifference toward one's past or future, loosening of the body boundaries, and a fluid, undifferentiated state of consciousness. However, many essential characteristics of the unitive state are not reproduced in the experience of intoxication by alcohol or narcotics. Indeed, in inducing a state of cosmic consciousness in its totality, these drugs preclude its occurrence; however, the resemblance is close enough to mislead the individual involved and seduce him or her into systematic abuse. Repeated administrations then lead to biological addiction and irreversible physical, emotional, and social damage.

After experiences of ego death and cosmic unity, abuse of alcohol or narcotics, and suicidal tendencies, are seen as tragic mistakes caused by an unrecognizable and misunderstood spiritual craving for transcendence. The presence of strong feelings of this kind, improbable as it might seem in view of the behavior patterns and file style of narcotic addicts and alcoholics, can be illustrated by statistics from psychodrama therapy. In the Spring Grove research, alcoholics and heroin addicts had the highest incidence of mystical experiences of all the groups studied, including neurotics, mental health professionals, and individuals dying of cancer.

Malignant aggression, impulsive behavior and sadomasochistic tendencies also have important roots on the perinatal level. Activation of the destructive and self-destructive potential in the individual is one of the most important aspects of the death-rebirth struggle. Sense of unbridled aggression and mass destruction, as well as sadomasochistic orgies, are standard components of the perinatal unfold ing. In this context, enormous amounts of destructive energy are mobilized and discharged; the result is a dramatic reduction of aggressive feelings and tendencies. The experience of rebirth is typically associated with a sense of love, compassion, and reverence for life.

Perinatal elements also play an important role in the dynamics of various anxiety states and phobias, hysterical conversion symptoms, and certain aspects of obsessional-compulsive tendencies. Many sexual disorders and deviations seem to be anchored on the perinatal level and can be logically explained from certain aspects and facets of the birth trauma. This is true for impotence, frigidity, menstrual crises, painful vaginal spasms during intercourse (dyspareunia), indulgence in preoccupation with biological material in a sexual context such as eating feces and drinking urine (coprophagia and urolagnia), clinical sadomasochism, and certain cases of fetishes and homososexuality.

Many important aspects of the schizophrenic process seem to represent perinatal elements in a more or less pure form. Here these deep unconscious contents are not mitigated and modified by later biographical material, as is the case in most of the disorders mentioned above. Thus the episodes of diabolic tortures, extreme physical and mental suffering that seems endless, a deep sense of the absurdity of existence, or visions of a monstrous world of cardboard characters and automata described by many psychotic patients indicate the involvement of BPM II. Sequences involving death, dismemberment, annihilation of the world, cosmic catastrophe, distortions of the aggressive and sexual impulses, preoccupation with biological material, and explorative focus on the birth-sex-death triad are characteristic of BPM III. Mesmeric delusions, identification with Christ, and
experiences of rebirth or of recreation of the world are associated with the transition from the third to the fourth perinatal matrix. Facilitation and completion of the death-rebirth process is associated with the disappearance of many of the above psychotic symptoms.

The perinatal area of the unconscious thus seems to represent a universal, undifferentiated matrix for a number of different psychopathological and psychosomatic symptoms and syndromes. Whether or not pathology, develops and what specific form it takes depends on the quality and nature of the individual's postnatal life. This explains why experiences of death and rebirth may be associated with dramatic improvements in a wide variety of clinical conditions and problems. The therapeutic mechanisms available on this level are much more powerful than any known to traditional psychiatry and psychotherapy. The profound changes observed seem to involve a combination of two important therapeutic factors. The first one is release and discharge of enormous amounts of pent-up emotions and physical sensations associated with BPM II and III, which provide energy for clinical symptoms. The second is the healing potential of ultimate ecstatic states experienced in the context of BPM IV and I. These experiences have such a profound influence on clinical symptoms of various kinds, on the personality structure, hierarchy of values, and worldview that they deserve special note.

I believe that the experiential content of the perinatal matrices cannot be reduced to the memory of biological birth. However, one way of approaching this new therapeutic principle is to focus on the biological aspects of the perinatal process. Whether or not an actual causal link can be established, experiences of oceanic ecstasy and cosmic union seem to be deeply related to the undifferentiated state of consciousness that an infant experiences in the symbiotic interaction with the maternal organism during undisturbed intrauterine existence and nursing. The association of the feelings of cosmic unity with goodmother and good breast experiences offers some clues for the understanding of their far-reaching healing potential. It is a well-established fact of developmental psychology that the blissful egoless states a child experiences during the early period of its life are very important for his or her future emotional development, stability, and mental health.

The experiences of cosmic unity induced in an adult by LSD or by various non-drug techniques seem to be in this sense equivalent to good mothers and good breast experiences. They satisfy fundamental psychological and biological needs in the individual and facilitate emotional and psychosomatic healing. The experience of uniled ecstasy can thus be seen as a retroactive intervention in the individual's history and an anachronistic satisfaction of basic infantile needs. However, as important as the above mechanisms might be, it reflects only one relatively superficial facet of the experience of cosmic unity. To overemphasize the biological side of this phenomenon would be to neglect its philosophical and spiritual dimension.

An individual who has a transcendent experience develops an entirely new image of his or her identity and cosmic status. The materialistic image of the universe in which the individual is a meaningless speck of dust in the vastness of the cosmos is instantly replaced by the mystical alternative. Within the new worldview, the very creative principle of the universe is experientially available to the individual and, in a certain sense, is commensurate and identical with him or her. This is a drastic change of perspective and it has far-reaching consequences for every aspect of life.

A unique series of paintings from transpersonal sessions representing insights into the nature of reality and the relationships between the ego, the Self and the universe.

Above. "Through Suffering to the Black Sun", the manifestation of the innermost core of the human being, the divine Self. It is connoted by the Black Sun, which, unlike the soul of alchemy, is associated with transcendental bliss. The red stripes represent the suffering which must be endured in order to realize one's real nature.
The Black Sun is here depicted as the ultimate source of creative energy in the cosmos. In combination with the preceding painting this gives rise to the idea of the 'Beyond Within', the essential identity between the individual Self and the universal Self. The insight shows a similarity to the Hindu concept of the relationship connecting Jiva with Atma-Brahma and is especially striking as the subject was not familiar with Indian philosophy.

The process of creation and its relationship to the individual as well as the universal Self. The stream of creative cosmic energy-consciousness emanates from its source, the Black Sun, and generates the infinite richness of form. In this case the created elements are related to the vegetable kingdom: blossoming trees, flourishing meadows and aquatic plant forms.
In the cultural history of mankind, experiences of this kind have been described in different frameworks for centuries or even millennia. They may occur spontaneously in certain individuals under special circumstances, or be facilitated by various spiritual procedures designed specifically for this purpose. Despite the fact that both the existence of these experiences and their beneficial impact on patients have been known for such a long time, they have hardly ever been mentioned in the context of modern psychotherapy or therapy in general. Until the publication of Abraham Maslow’s work the only framework available in psychiatry for “peak experiences” was that of schizophrenic symptomaticity. The healing potential of ecstatic states is so paramount significance, however, that it suggests an entirely new orientation in psychiatric therapy. We should carefully study the characteristics of these states and develop new methods for their facilitation and induction.

**THERAPEUTIC MECHANISMS ON THE TRANSPERSONAL LEVEL**

Observations from LSD psychotherapy provide ample evidence that transpersonal experiences are more than just curious phenomena of theoretical interest. In many instances, specific clinical symptoms are anchored in dynamic structures of a transpersonal nature and cannot be resolved on the level of psychodynamic or even perinatal experiences. In order to dilute a specific emotional, psychosomatic, or interpersonal problem, the patient sometimes has to experience dramatic sequences of a clearly transpersonal nature. Many unusual and interesting observations clearly indicate the need to incorporate transpersonal aspects and approaches into everyday psychotherapeutic practice.

To the surprise of both patient and therapist, seemingly bizarre and unexplainable experiences sometimes have a dramatic impact on certain clinical symptoms and problems. Since the therapeutic process frequently leads into unexplored and unexpected territories, it requires considerable openness-mindedness and an adventurous spirit in both the client and the therapist. A therapist who adheres rigidly to conventional paradigms is unwary of and closed to unfamiliar levels of consciousness will generally be less effective with patients whose problems have a strong transpersonal emphasis. He or she will not encourage them to have experience that would resolve their symptoms, or might even implicitly and explicitly discourage them from entering transpersonal realms. Such an approach, in addition to being therapeutically less effective, also fails to meet the inherent spiritual needs of these patients and give them sensitive guidance.

In some LSD patients difficult emotional symptoms that had not been resolved on the psychodynamic or perinatal level disappeared or were mitigated in connection with various embryonal experiences. Believing attempted abortions, maternal diseases or emotional crises during pregnancy, and fetal experiences of being unwanted ("rejecting womb") can be of great therapeutic value. Particularly dramatic instances of therapeutic change have been observed in connection with past-incarnation experiences. Sometimes these occur simultaneously with perinatal phenomena, at other times they are independent thematic gestals. The subject experiences a sequence set in another country and/or a different historical period, usually with deep emotional involvement and dramatic abstraction. This is
associated with a strong sense of reliving an episode from a previous incarnation. A particular emotional, interpersonal or psychosomatic problem is felt to be a meaningful part of a karmic pattern, and disappears when this gestalt is completed. In some instances this may be accompanied by independent synchronistic changes in the lives and specific attitudes of people whom the subject denoted as protagonists in the karmic scene. The following episode is a good illustration of this unusual phenomenon:

Tanya, a 34-year-old teacher and divorced mother of two children, was undergoing LSD psychotherapy for depression, anxiety states, and a proneness to fatique. One of her LSD sessions brought an unexpected solution to a severe physical problem which had been considered purely organic in nature. For the previous twelve years she had been suffering from chronic sinusitis with occasional acute flare-ups because of colds or allergies. The sinus troubles had started shortly after her wedding and represented a severe inconvenience in her life. The major manifestations were headaches and strong pains in the cheeks and teeth, low-grade fevers, heavy nasal discharge, and bouts of sneezing and wheezing. On many occasions she was awakened by a coughing attack; some mornings these symptoms lasted from four to eight hours. Tanya had numerous tests for allergies and was treated by many specialists with antihistamines, antibiotics, and flushing of the sinuses with disinfectant solutions. When all this failed to bring any therapeutic results, the doctors suggested an operation of the sinuses, which Tanya declined.

In one of her LSD sessions, Tanya was experiencing suffocation, congestion and pressure on her head in the context of the birth experience. She recognized that some of these sensations bore a close resemblance to the symptoms associated with her sinus problems; however, they were greatly amplified. After many sequences that were clearly of a perinatal nature, the experience opened fully into a reliving of what appeared to be a past incarnation memory. In this context, the experiences of oppression, choking and congestion that had earlier been part of the birth trauma became symptoms of drowning. Tanya felt that she was tied to a slanted board and was slowly being pushed under water by a group of villagers. After dramatic emotional abrasion associated with screaming, violent choking, coughing, and profuse secretion of enormous amounts of thick, greenish nasal discharge, she was able to recognize the place, circumstances and protagonists.

She was a young girl in a New England village who had been accused by her neighbors of witchcraft, because she was having unusual experiences of a spiritual nature. A group of villagers dragged her out one night to a nearby birch-grove, fixed her to a board, and drowned her head-first in a cold pond. In the bright moonlight, she was able to recognize among her tormentors the faces of her father and husband in her present lifetime. At this point, Tanya could see many elements of her current existence as approximate replicas of the original karmic scene. Certain aspects of her life, including specific patterns of interaction with her husband and her father, suddenly appeared to make sense, down to the most specific details.

This experience of the New England drama and all the intricate con-

nections Tanya made, convincing though they were on the subjective level, obviously did not constitute proof of the historical validity of the episode and of a causal link between the event and her sinus problems. Nor could her conviction that she was dealing with a karmic pattern be considered evidence for the existence of reincarnation. However, to the astonishment of everybody concerned, this experience cleared the chronic sinus condition that had plagued Tanya for a period of twelve years and had proved completely refractory to conventional medical treatment.

It is interesting to note that this mechanism is not limited to psychedelic states. Many similar observations have been reported by therapists who utilize non-drug techniques, such as hypnosis, gestalt practice or primal therapy. Donnny Kelvy and Joan Grant (45) induce a hypnotic trance in their subjects and suggest that they go back in time to find the source of their emotional or physical problems. Without special programming, many of their subjects relive past incarnation memories under these circumstances and resolve their symptoms in this context.

One of their clients should be mentioned here because the mechanisms involved bear a close resemblance to what I have observed many times during LSD psychotherapy. She suffered from a severe phobia of birds and feathers that had resisted conventional psychological treatment for years. Her difficult symp-

toms was resolved after she relived with a dramatic abrasion a scene that had a past-incarnation experiential quality. She experienced herself in a male form, as a

Tanya's experience of a previous incarnation. Above her the dark figures of the crew form a circle against the night sky and the full moon.
Persian warrior who had been wounded by an arrow and was lying on the battle-
field. As he lay there approaching his terminal agony, vultures were gathering
around him, awaiting his death. They kept jumping toward him and pecking
at him, while hitting his face with their wings. The patient found the roots of her
phobia of birds fleeing in this horrifying experience; disable of the emotional
energy together with the new insight fed her permanently from the telltale
symptoms.

Emmet Miller (70) has occasionally made similar observations using a hypn-
otic technique which he calls suggestive awareness. There are psychological
psychiatrists in the United States who specialize in regressing their clients to the
past-incarnation level to find the roots of individual and interpersonal problems.
Many past-incarnation experiences have been described in the context of sup-
stiting in science. The results of Edgar Cayce also often contain references to
karmic levels as the sources of their clients’ problems. On occasion, past-incarnation
memories emerge spontaneously in everyday life; they can have the same benefi-
cial consequences if they are allowed to reach completion. This raises a question
as to how many opportunities for effective therapeutic intervention have been
missed by Cartesian-Newtonian psychiatrists whose patients reported access to
karmic levels. The importance of transpersonal experiences for the therapeutic
approach to schizophrenia was illustrated earlier in this book by the history of Milläa, 
(see p. 245).

Ancestral experience can sometimes play a role similar to past-incarnation
memories. In some instances symptoms disappear after patients relive what they
feel are memories from the lives of their ancestors. I have also seen patients iden-
tify certain intrapsychic problems as internalized conflicts between the families of
their ancestors and resolve them on this level. Some psychopathological and
psychosomatic symptoms can occasionally be traced back to elements of plant or
animal consciousness. Thus, the complex and seemingly bizarre sensations of a
female patient were resolved when she recognized them as states of vegetable con-
sciousness and allowed herself to identity with the experience of being a tree. In
another patient, unusual physical feelings and symptoms of a severe hay fever
were ameliorated by the effect of the drug and become authentie sensations of being
as animal of another species. To illustrate the complexity and fascinating dimen-
sions of the problems in question I would like to describe a case that does not in-
clude a clear therapeutic outcome but provides most interesting insights.

I was recently contacted by Arthur, a 46-year-old mathematician who had
had LSD experiences in the past for didactic purposes and as a means of finding
the roots of his neurotic symptoms. Most of the work he had done in
his sessions focused on problems of emotional development and birth. He
had to face special complications in these areas owing to the fact that he had
a twin sister. In many of his LSD sessions he had visions and experiences of
creatures with complex geometrical organization. He felt very emotionally
involved in these experiences, although they were strange and did not make
any sense. He could not understand why he spent so much time on these
bizarre and incomprehensible forms.

Several years later, long after he had discontinued the LSD sessions, he
overestimated himself while working on an involved project. For many
months he had had little sleep, drank much coffee, and smoked two packs of
cigarettes a day. During the convalescence period following a heart attack,
he acquired Ernst Haeckel’s book Art Forms in Nature, (35) a collection of
plates depicting various animal forms in the evolutionary pedigree. He was
attracted when, looking through the book, he recognized many of the
forms that had represented—so an important part of his LSD sessions. In
an instant he received insights into the nature of the process that he had never
completed. As a twin, he had to face special problems related to symmetry
during his embryological development. His experiences of different stages of
his embryological development were associated in the LSD sessions with
the corresponding animal forms in accordance with Haeckel’s synergetic law. 
In this context, he recognized that the heart as an asymmetrical organ pres-
sents special problems during embryogenesis. It was on this level, in the
realm of the basic geometry of nature, that Arthur found the deepest roots of
his life-long interest in mathematics, symmetry, and geometrical forms.

In some instances, LSD patients recognized that some of their symptoms,
attitudes, and behavior were manifestations of an underlying archetypal struc-
ture. Full experiential identification with the various archetypal entities can lead
to the resolution of such problems. Occasionally, the energy forms involved have
such an alien quality that the behavior of the LSD subjects resembles what
anthropologists have ascribed to spirit possession. In such cases the therapeutic
procedure can have many of the characteristics of exorcism as it was practiced
in the medieval church, or the expulsion of evil spirits in aboriginal cultures. Such
scull situations can be very demanding for both patient and therapist. The following
story is the most dramatic example of this phenomenon I have ever witnessed; the
fact that the patient had amnesia during most of the process distinguishes it from
other similar episodes.

While working at the Maryland Psychiatric Research Center, I was in-
vited to a staff conference at the Spring Grove State Hospital. One of the
psychiatrists was presenting the case of P.W., a 28-year-old single patient who
had been hospitalized by then for more than eight months in a locked
ward. All available therapy, including tranquilizers, antidepressants,
psychotherapy, and occupational therapy, had been tried but failed, and she
was facing transfer to the chronic ward. P.W. had one of the most com-
plicated combinations of symptoms and problems I have ever encountered
in my psychiatric practice. When she was sixteen years old, she was a mem-
ber of a gang that conducted an armed robbery and killed a night watch-
man. As driver of the get-away car, P.W. spent four years in prison and was
then placed on parole for the rest of her sentence. During the stormy years
that followed, she became a multiple drug addict. She was an alcoholic and
a heroin addict, and frequently used high doses of psychostimulants and
barbiturates. Her severe depressions were associated with violent suicidal
tendencies; she frequently had impulsive to drive her car over a cliff or col-
lide with another automobile. She suffered from hysterical vomiting which
occurred easily in situations where she became emotionally excited. Prob-
ably the most agonizing of her complaints was a painful facial cramp, "tic
dolorous," for which a Johns Hopkins neurosurgeon had suggested a brain operation consisting in severing the nerves involved. Flora was a lesbian and had severe conflicts and guilt about it; she had never had a heterosexual intercourse in her life. To further complicate the situation, she was courted—committed because she had severely wounded her girlfriend and room-mate while trying to silence a gun under the influence of heroin.

At the end of the Spring Grove case conference, the attending psychiatrist asked Dr. Charles Savage and me if we would consider LSD psychotherapy. We found the idea too exciting to reject, especially because this was at the time of the national hysteria concerning LSD. Flora had a criminal record already, she had access to weapons, and had severe suicidal tendencies. We reasoned that schizophrenia was such that if we gave her an LSD session, whatever happened after that point would automatically be blamed on the drug, without regard to her past. On the other hand, everything she tried without success and she was facing a lifetime in a chronic ward. Finally, we decided to take the chance and accept her into the LSD program, feeling that her desperate situation justified the risk.

Flora’s first two high-dose LSD sessions were not much different from many others I had run in the past. She faced a number of situations from her stormy childhood and repressed sequences of the struggle in the birth canal. She was able to connect her violent suicidal tendencies and painful facial cramps to certain aspects of the birth trauma, and to discharge large amounts of intense guilt and physical tension. Despite this, the therapeutic gains seemed to be minimal.

In her third LSD session, nothing extraordinary happened during the first two hours: her experiences were similar to those of the previous two sessions. Suddenly, she started complaining that the painful cramps in her face were becoming unbearable. Before our eyes, the facial spasms were grotesquely accentuated and her face froze into what can best be described as a mask of evil. She started shrinking to a black, male voice and everything about her was so different that I could not see any connection between her present appearance and her former self. Her eyes had an expression of indescribable malevolence and her hands were sticky and looked like claws.

The alien energy that took control over her body and voice introduced itself as the devil, ordering me to stay away from Flora and give up any attempt to help her. She belonged to him and he would punish anybody who dared to invade his territory. What followed was explicit blackmail, a series of demands that would happen to me, my colleagues, and the program if I would not obey. It was difficult to describe the uncanny atmosphere which this scene evoked; one could almost feel the intangible presence of something alien in the room. The power of the blackmail was further increased by the fact that it involved certain concrete information to which the patient in her everyday life could not have access.

I found myself under considerable emotional stress which had metaphysical dimensions. Although I had seen similar manifestations in some LSD sessions, they were never so realistic or convincing. It was difficult for me to control my fear and a tendency to enter into what I felt would be an active combat with the presence. I found myself thinking fast, trying to choose the best strategy for the situation. At one point, I caught myself thinking that we should have a catastrophic in our therapeutic armamentarium. My rationalization for this idea was that this was obviously an archetype that was manifesting and the cross could, under these circumstances, be a specific archetypal remedy.

It soon became clear to me that my emotions, whether of fear or aggression, were making the entity more real. I could not help thinking of scenes from science fiction stories involving alien entities that fed on emotions. Finally, I realized that it was essential for me to remain calm and centered. I decided to put myself into a meditative mood, while I held Flora’s cramped hand and tried to relate to her in the form in which I had known her before. At the same time, I tried to visualize a capsule of light enveloping us both, which intuitively seemed to be the best approach. The situation lasted over two hours of clock-time, in terms of the subjective time-sense these were the longest two hours I have ever experienced outside of my own psychedelic sessions.

After this time, Flora’s hands relaxed and her face returned to its usual form; these changes were as abrupt as the onset of the peculiar condition. I soon discovered that she did not remember anything of the two hours preceding. Later, in her write-up, she described the first hours of the session and continued with the period following the “possession state.” I seriously questioned if I should discuss the time-related by her amnesia with her and decided against it. There did not seem to be any reason to introduce such a macabre theme into her conscious mind.

To my great surprise, this session resulted in an astounding therapeutic breakthrough. Flora lost her suicidal tendencies and developed new appreciation for life. She gave up alcohol, heroin and barbiturates and started zealously attending the meetings of a small religious group in Catsville. For most of the time she did not have any facial cramps, the energy underlying them seemed to have exhausted itself in the “mask of evil” that she maintained for two hours. The occasional recurrence of the pain was of negligible intensity and did not even require medication. She started experimenting with heterosexual relations and eventually married. Her sexual adjustment was not good, however; she was capable of intercourse, but found it painful and not very pleasant. The marriage ended three months later and Flora returned to lesbian relationships; this time, however, with much less guilt. Her condition was so improved that she was accepted as a taxi driver. Although the following years had their ups and downs, she did not have to return to the psychiatric hospital that could have become her permanent home.

The above discussion and the two examples given represent only a small sample of the observations I have made during twenty years of LSD research which suggest that transpersonal experiences can be of great therapeutic value. Whatever the therapist’s professional and philosophical opinion of the nature of transpersonal experiences, he or she should be aware of their therapeutic potential.
Therapeutic Mechanisms on the Transpersonal Level

should be willing to support and validate the process as long as it does not involve physical danger to the client or to others. Ultimately it does not seem to make any difference which form the experience takes: if the client is true to his or her process and surrenders to it fully, it can be a childlike memory, bird sequence, karmic interaction, psychotic episode, or demonic manifestation. The therapist should be sufficiently open-minded to encourage the client to follow the energy flow, regardless of the specific content of the process. Completion of the experiential gestalt brings therapeutic results, whether or not the process has been intellectually understood. After the process is completed, the therapist and the client can make attempts to put the events of the session into a theoretical framework. Depending on the nature and level of the experience, the system that offers the best maps may be Freudian psychoanalysis, Frank's psychology, the theoretical constructs of C. G. Jung, Tibetan Buddhism, alchemy, Kabbalah, or some other ancient cartography of consciousness, the mythology of a particular culture, or a particular spiritual system. However, the intellectual processing should be considered an interesting academic exercise that is not essential for therapeutic progress. Although on the surface this might be seen as intellectual analytic breeding conceptual chaos, it has a deep logic of its own and can be meaningfully related to a new model of the universe and of human nature. Discussion of this issue has to be reserved for the next volume.

NOTES

1. The possible socio-political implications of this observation have been discussed in detail in my paper, "Perinatal Roots of War, Totalitarianism, and Revolution." (32)

2. Ernest Becker's biogenetic law states that during its individual development (ontogeny) the organism represents in a condensed way the history of the species (phylogeny).
EPILOGUE:  
THE FUTURE OF LSD PSYCHOTHERAPY

In the preceding sections of this book I have tried to express and illustrate my belief that LSD is a unique and powerful tool for the exploration of the human mind and human nature. Psychedelic experiences mediate access to deep realms of the psyche that have not yet been discovered and acknowledged by mainstream psychology and psychiatry. They also reveal new possibilities and mechanisms of therapeutic change and personality transformation. The fact that the spectrum of the LSD experience appears puzzling to most professionals and cannot be accounted for by the existing theoretical frameworks does not mean that the effects of LSD are totally unpredictable. The safe and effective use of this drug requires a fundamental revision of the existing theory and practice of psychotherapy. However, it is possible to formulate basic principles for LSD-assisted psychotherapy which maximize its therapeutic benefits and minimize the risks.

It is very difficult at this point to predict the future of LSD psychotherapy. The fact that it can be used safely and effectively does not automatically mean that it will be assimilated by mainstream psychiatry. This issue is complicated by many factors of an emotional, administrative, political and legal nature. However, we should clearly differentiate between the future of LSD psychotherapy and its contribution to the theory and practice of psychiatry. I mentioned earlier in this volume that LSD is a catalyst or amplifier of mental processes. If properly used it could become something like the microscope or the telescope of psychiatry. Whether LSD research continues in the future or not, the insights that have been achieved in LSD experimentation are of lasting value and relevance.

The theoretical formulations and practical principles that LSD psychotherapy has discovered or validated include a new, expanded cartography of the human mind, new and effective therapeutic mechanisms, a new strategy of psychotherapy, and a synthesis of spirituality and science in the context of the transpersonal approach. In addition, the recent rapid convergence between mysticism, modern consciousness research and quantum-relativistic physics suggests that psychedelic research could contribute in the future to our understanding of the nature of reality.

It is true that psychedelic experimentation has its dangers and pitfalls. But ventures into unexplored areas are never without risk. Wilhelm Conrad Roentgen, the discoverer of X-rays, lost his fingers as a result of his experiments with the new form of radiation. The mortality-rate of the early pilots who paved the way for
today's safe jet travel was allegedly 75 percent. The degree of risk is directly proportion to the significance of the discovery, and its potential; thus the invention of gen powders involved a different level of risk from the development of nuclear energy. LSD is a tool of extraordinary power; after more than twenty years of clinical research I feel great awe in regard to both its positive and negative potential. Whatever the future of LSD psychotherapy, it is important to realize that banning psychedelic research we have not only given up the study of an interesting drug or group of substances, but also abandoned one of the most promising approaches to the understanding of the human mind and consciousness.

The present prospects for systematic LSD research and its extensive use in psychotherapy look rather grim. It is difficult at this point to say whether or not the situation will change, though there are indications that the general climate might become more favorable in the years to come.

One of the major problems in LSD psychotherapy was the gradual nature and extent of the psychedelic experience. The intensity of the emotional and physical experience characteristic of LSD sessions was in sharp contrast to the conventional image of psychotherapy, with its face-to-face discussions or disciplined free-associating on the couch. The themes of birth, death, insanity, ESP, cosmic unity, archetypal entities, or past-life experiences occurring in psychedelic states were far beyond the conventional topics of psychotherapy which emphasized biographical data. An average professional at that time felt reluctant toward or even fear of the experiential realm of this kind because of their association with psychosis. At present, intense emotional outbursts, dramatic physical manifestations, and various perceptual and transpersonal experiences are much more acceptable and less frightening for many therapists because they can be encountered quite routinely in the context of the new experiential therapies, such as Gestalt practice, encounter groups, mythography and mode switching, primal therapy, and various neo-Beh-Schian approaches. Many modern therapists value and encourage various dramatic experiences which in the framework of classical analysis would be seen as dangerous acting-out and considered a reason for discontinuation of treatment or even psychiatric hospitalization. Some modern approaches to schizophrenia actually encourage deep experiential immersion into the process instead of its chemical inhibition. For new therapists of the above orientation, psychedelics would naturally be the next step to help accelerate and deepen the process.

LSD entered the scene at the time of the psychopharmacological revolution, when new tranquilizers and antidepressants had their early triumphs and generated excessive hope for easy chemical solutions to most of the problems in psychiatry. At present much of the original enthusiasm in this area has tapered off. While appreciating the humanization of the mental hospitals and pacification of psychiatric wards which has brought their atmosphere closer to that of general hospitals, it is becoming increasingly obvious that tranquilizers and antidepressants are, by and large, only symptomatic remedies. They do not solve the problems and in more serious cases lead to a life-long dependence on maintenance medication. In addition, there is an increasing number of professional papers that emphasize the dangers of massive use of these drugs—irreversible neurological symptoms of tardive dyskinesia, degenerative changes in the retina, or actual physiological addiction with a withdrawal syndrome.

We should also mention important social forces that might play a role in the future changes of policy toward psychedelic research. Many of the young people who are in or will be moving into various positions of social relevance—as lawyers, teachers, administrators, or mental health professionals—had intense exposure to psychedelics during their student years. Those individuals who had experiences themselves, or had the opportunity to observe the process in close friends and relatives, will have formed an independent image and will not be dependent on second-hand sources for information. Elements of sanity in the new marijuana laws in many states may be the first fruits of this development. The fact that ritualized and responsible use of psychedelics received social sanction in some ancient societies and pre-industrial countries has meaningfully woven into the social fabric represents a somewhat hopeful precedent.
BIBLIOGRAPHY

1 Abravanel, H A: LSD-25 as an Adjunct to Psychotherapy with Elimination of Fear of Homosexuality. J. Psychol. 56:127, 1955
5 Arends-Hein, G W: Personal communication
7 Bastian, A: Der Mann im Konzentrationslager und der Konzentrationslager im Mann. Minigrafoped Lecturer
10 Benedetti, G: Beispiel einer strukturanalytischen und pharmakodynamischen Untersuchung an einem Fall von Alkoholhalluzinose, Charakterneurose und psychotischer Halluzinose. Z. Psychother. med. Psychol. 1:177, 1954
Part B: Implicate and Explicate Order in Physical Law. Foundations of Physics. 3:139, 1973
18 Cera, F; The Tao of Physics. Shambhala Publications, Berkeley, California, 1978
24 Dubinsky, J et al.: Personal communication
30 Gilberti, F; Gregorotti, L; Boeri, G: L'impiego della LSD nelle psicose vortic. Stor. nerv. 4:191, 1936
31 Godfrey, K: Personal communication
33 Grof, S: Perinatal Roots of Wars, Totalitarianism and Revolutions. J. Psychosomotary 4:369, 1977
APPENDIX: Crisis Intervention in Situations Related to Unsupervised Use of Psychedelics

Since the mid-sixties, when experimentation with LSD and other psychedelics moved from psychiatric institutes and clinics to private homes and public places, the role of mental health professionals is in regard to these substances has been dramatically redefined. Instead of being in the forefront as experimenters and researchers, they have become the rescuers and undertakers called upon to deal with the casualties of the psychedelic scene. This development has contributed considerably to the present attitudes of most professionals toward these drugs; the primary focus of psychiatrists and psychologists has shifted from the therapeutic potential of psychedelics to their dangers. In the highly emotional atmosphere created by sensational publicity, professionals have allowed their image of LSD to be shaped by journalists and newspaper headlines rather than scientific data generated by research. Consequently, the casualities and complications of unsupervised experimentation with LSD, instead of being attributed to irresponsible and ignorant use, have been interpreted as reflecting dangers inherent in the drug itself.

Restrictive legislation has practically destroyed scientific research of psychedelic substances, but has not been very effective in curbing unsupervised experimentation. While samples of psychedelic drugs of doubtful quality are readily available in the streets and on college campuses, it is nearly impossible for a serious researcher to get a license for scientific investigation of their effects. As a result of this, professionals are in a very paradoxical situation: they are expected to give expert help in an area in which they are not allowed to conduct research and generate new scientific information. The widespread use of psychedelics and relatively high incidence of drug-related problems are in sharp contrast to the lack of understanding of the phenomena involved; this is true for the general public as well as the majority of mental health professionals.

This situation has very serious practical consequences. Various emergencies associated with psychedelic drug use are handled in a way that is at best ineffective, but more likely counter-productive and harmful. Crisis intervention in psychedelic sessions and treatment of the long-term adverse effects of unsupervised self-experimentation are in many cases of much medical and social relevance that they deserve special attention. Much of the information that is essential for understanding the problems involved and for an effective approach to this area has been presented in various sections of this book. However, because of the importance of...
work, with or without psychodetics. It is important to emphasize that the effect of LSD is essentially self-limited; the overwhelming majority of difficult psychic experiences reach a resolution quite spontaneously. Actually, those states that are most dramatic and stormy tend to have the best outcome. The use of tranquilizers in the middle of a psychotic session is a grave error and may be harmful. It tends to prevent the natural emotional or psychic development and to "freeze" the experience in a negative phase. The only constructive approach is to provide basic protection to the subject, and support and facilitate the process, but not to intervene with it.

After this brief introduction, we can return to the problem of complications during unsupervised psychedelic experimentation. Although the basic principles discovered during clinical research with LSD are directly applicable to clinical intervention, it is important to emphasize the basic differences between the two situations. The LSD administered in clinical and laboratory research is pharmacologically pure and its quality can be accurately gauged; most black market samples do not meet these criteria. Only a small fraction of a "street acid" specimen is relatively pure LSD, the black market preparations frequently contain various impurities and some of the street samples that have been analyzed in laboratories, researchers have detected amphetamines, THC, PCP, strychnine, benactyzine, and even traces of urine. There have been instances where the combination of these substances and no LSD whatsoever. The poor quality of many of the street specimens is certainly responsible for some of the adverse reactions that occur in the context of unsupervised self-experimentation. In addition, uncertainties about quality and dosage and the resulting fears can have a negative influence on the ability of the subject to tolerate unpleasant experiences, which are then readily interpreted at signs of toxicity or overdose rather than manifestations of the user's unconscious.

However, the quality of drug and the uncertainty about it seem to be responsible for a relatively small fraction of the adverse reactions to LSD. There is no doubt that extrapharmacological elements, such as the personality of the subject and the setting, are by far the most important factors.

In order to understand the context of the difficulty of psychedelic crisis that occurs in the context of unsupervised self-experimentation, it is important to take into consideration the circumstances under which many people tend to take LSD. Some of the naive users they have no previous conceptual framework for understanding the frightening and disorienting experiences. Unsupervised experimentation frequently takes place in complex and continuing physical and interpersonal settings that can contribute many important transient elements. The hectic atmosphere of large cities, busy highways in the rush hour, crowded rock concerts or disco, and noisy social gatherings are certainly not setting conducive to productive self-exploration and safe confrontation with the difficult aspects of one's unconscious.

Personal support and a relationship of trust are absolutely crucial for a safe and successful LSD session, and these are seldom available under these circumstances. Not infrequently the person under the influence of LSD is surrounded by total strangers. In some other instances good friends may be present, but they are themselves under the influence of the drug or are unable to tolerate and handle intense and dramatic emotional experiences. When a group of people take LSD together, the painful experiences of one person can create a negative atmosphere which contaminates the sessions of others. There have been episodes in which people who took LSD or were given the drug were, for a variety of reasons, exposed to deliberate psychological abuse. It is easy to understand that such toxic circumstances are highly conducive to adverse reactions.

**PROFESSIONAL CRISIS INTERVENTION AND THE SELF-HELP APPROACHES**

The present intervention offered by professionals in psychedelic crisis is based on the medical model and usually creates more problems than it solves. The steps typically taken under these circumstances reflect a serious lack of understanding of the nature of the psychedelic experience, and are conducive to long-term complications. This is further compounded by the numerous demands on the time of a mental health practitioner and a lack of adequate facilities for handling casualties from the psychedelic scene. The tranquilizers that are routinely administered under these circumstances tend to prevent effective resolution of the underlying conflict and thus contribute to the incidence of chronic emotional and psychosomatic difficulties after the session. Instant transfer of the individual to a psychiatric facility is the middle of the LSD experience is not only unnecessary, but represents a dangerous and harmful practice. It disregards the fact that the LSD state is self-limiting, in most instances, a dramatic negative experience if properly handled will result in a beneficial resolution and the subject will not need any further treatment. The "emergency transfer" to a psychiatric facility, particularly if it involves an ambulance, creates an atmosphere of danger and urgency that contributes considerable additional trauma for a person who is already extremely sensitized by the psychedelic state and the painful emotional crisis. The same is true of the admission procedure in the psychiatric facility and the atmosphere of the locked ward which is the final destination of many psychedelic casualties.

Exposure to the routine of the psychiatric machinery while under the influence of LSD can cause a life-long trauma. The fact that psychiatric diagnosis and hospitalization may often represent a serious social stigma is another important factor to consider before proceeding with an unnecessary transfer and admission. Moreover, if the LSD process does not reach a satisfactory resolution, contemporary psychiatric care applies continued medication with tranquilizers instead of the uncovering therapy that is the preferred treatment under these circumstances.

The basic points of the above discussion can be illustrated with the following example:

When I was working in the Psychiatric Research Institute in Prague,
Czechoslovakia, I was asked as consultant to see two employees of the pharmaceutical laboratories that were involved in the production of LSD. They had both suffered delayed adverse effects of an accidental intoxication with LSD, while synthesizing the drug. One of them, a man in his forties who was heading the department, showed symptoms of deep depression with occasional bouts of anxiety, a sense of constriction of existence, and doubts about his sanity. He dated these symptoms to the time of his intoxication with LSD and subsequent brief hospitalization in a psychiatric facility. His assistant, a woman in her twenties who had experienced accidental intoxication with LSD several months after he did, complained about bizarre sensations in her scalp; she was convinced that she was rapidly losing her hair, although there were no objective signs to support this.

During the diagnostic interviews with them I tried to reconstruct the circumstances of their LSD experiences and the dynamics of the problems they presented. It is a story that I heard, although unbelievable of LSD therapists or people familiar with the nature of psychedelic states, is unfortunately a typical example of crisis intervention based on the conventional medical and psychiatric model. The pharmaceutical laboratories that were involved in the production of LSD were situated approximately two hundred miles from Prague, where most of the clinical and laboratory research with psychedelics was happening at that time. The management received the order to stop the synthesis of Czechoslovakian LSD; it was felt that, because of the nature of the substance, the staff should be informed about its effects and instructed about the necessary measures in case of accidental intoxication.

The directive invited from the nearby state mental hospital—a psychiatrist who had no personal or professional experience of LSD and prepared himself by reading a few papers on the "mental psychosis" approach to schizophrenics. During the session with the staff, this superficially informed psychiatrist managed to paint a apocalyptic picture of LSD. He told them that this roiling, relentless, and tasteless substance could instantly enter their system, as had happened to Dr. Albert Hofmann, and induce a state of schizophrenia. He suggested that they should equip themselves with a supply of Thorazine in their first-aid kit and in case of accidental intoxication bring the traumatized victim without delay to the psychiatric hospital.

As a result of these instructions, both laboratory workers reacted Thorazine shortly after they had tasted the effects of the drug, and they were rushed in an ambulance to the locked ward of the state mental hospital. There they spent the rest of the intoxication period and a few following days under strict surveillance. While under the influence of the LSD-Thorazine combination, the department chief witnessed several grand mal seizures and had a long discussion with a patient who was showing bizarre behavior. Analysis of the LSD state, which was only incompletely truncated by the Thorazine medication, showed that he was experiencing elements of BPM II, and the confinement in the locked ward and his adventure there represented a powerful reinforcement of his depressive state.

The experience of his research assistant was more superficial; her reaction to the atmosphere of the locked ward was to pull herself together and maintain control at any cost. Retrospective analysis of her experiences showed that she was approaching a traumatic childhood memory, but because of the external circumstances she suppressed it and prevented it from surfacing. Her feeling of losing her hair turned out to be a symptom related to this deep psychological regression; the intimate body image corresponding to the age when she experienced a traumatic event involved hairlessness as a retinal condition.

During their visit to the Psychiatric Research Institute in Prague these two pharmaceutical workers were able not only to work on their symptoms, but also to change their image of LSD and the negative feelings associated with it. They explained to them the nature of the LSD state and discussed with them their therapeutic program and the principles of conducting sessions. Before they left they had ample opportunity to discuss the effects of LSD with patients undergoing psychiatric treatment who had experienced their sessions under substantially different circumstances. I assured them that there was no reason for alarm if someone was intoxicated by LSD, as a matter of fact, we were producing situations like that routinely in our program. They were advised to have a special, quiet room where the intoxicated individual could spend the rest of the day listening to music in the company of a good friend.

Several months later, I received a call from the department chief. He told me that they had had another "accident"; a nineteen-year-old laboratory assistant had experienced a professional intoxication. She spent the day in a comfortable room adjacent to her laboratory in the company of her friend and "had the time of her life." She found her experience very pleasant, interesting, and beneficial.

The avoidance techniques developed by the self-help movement, although less harmful than the approach based on the medical and psychiatric model, are also counterproductive. Attempts to engage the subject in superficial conversations ("talking them down"), to distract them by showing them flowers and beautiful pictures, or taking them for a walk does not solve the underlying problem. This can be seen as just as playing for time—keeping the individual occupied with distracting maneuvers until the crisis subsides or diminishes with the wearing of the tides' changing of the weather. This approach becomes obvious. The danger is in using techniques that encourage avoidance lies in the failure to confront and resolve the unconscious material that underlies the emotional and psychotic crisis. LSD sessions in which the emerging gestalt is not complete are conducive to prolonged reactions, negative emotional and physical aftereffects, and "flashbacks."
COMPREHENSIVE CRISIS INTERVENTION IN PSYCHEDELIC EMERGENCIES

Having discussed the factors that contribute to the development of emergencies in un-supervised LSD sessions and outlined the important principles that characterize the most professional and safe interventions, I would like to outline what I consider the optimal approach to psychedelic crises, based on the understanding of their dynamics. This approach encourages the use of an LSD session being highly reactive and dependent on a variety of factors. It reflects an interplay between the subject's own feelings about the experience, the opinions and tolerance of the people present, and the therapist's approach to help. This is a factor of critical importance; it depends upon the therapist's degree of understanding of the process involved, his or her clinical experience with unusual states of consciousness, and his or her freedom from precipitation. In psychedelic crisis intervention, as in psychiatric practice in general, drastic measures frequently reflect the helper's own feelings of threat and insecurity, not only vis-à-vis possible external dangers, but also in relation to their own unconsciousness. The experience from previous therapy and the new experimental psychotherapies clearly indicate that exposure to another person's deep emotional material tends to shake psychological defenses and to activate corresponding areas in the unconscious of the person assisting and witnessing the process, unless they have confronted and worked through these levels in themselves. Since traditional psychotherapies are limited to work on biographical material, even a profound medical or psychiatric traua is quickly prepared to deal with powerful experiences of a personal and transcendental nature. The prevailing tendency to put all such experiences into the category of schizophrenia and suppose them in every way reflects not only a lack of understanding, but also a convenient self-defense against the helper's own unconscious material.

As the sophisticated and clinical expertise of LSD therapists has increased, it has become more and more evident that negative episodes in psychedelic sessions should not be seen as unpredictable accidents, but as intrinsic and lawful effects of the therapeutic work with traumatized unconscious material. From this point of view, it becomes possible to adopt an understanding term "bomber" or "bad trip" does not make sense. To an experienced LSD therapist, an "unsuccessful" psychedelic session is not one in which the subject experiences lower level symptoms, but one in which they are absent or difficult physical sensations. If properly handled, a painful and difficult LSD session can bring about an important therapeutic breakthrough. It can facilitate the release of long-locked emotions and phantasies in a safe and responsible manner. This is the process of work in which the therapist is thwarts by the administration of tranquilizers and external distractions. It is the function of the hospital that this process be guided rather than to do it. Although LSD can induce difficult experiences even under the best circumstances, it would be a mistake to attribute "bad trips" to the drug itself. The psychedelic state is determined by a variety of non-drug factors; the incidence of serious complications depends critically on the personality of the subject, and the level of skill and setting. This can be illustrated by comparing the incidence of complications during the early supervised experimentation with LSD and the psychedelic scene of the sixties. In 1980, Sidney Cohen published a paper entitled "LSD: Side Effects and Complications." He wrote: "At the time, the number of seizures per person ranged between one and eight. In the group of normal volunteers, the incidence of attempted suicides after the session was less than one in a thousand cases, and that of prolonged reactions lasting over forty-eight hours was 0.8 per thousand. The number of suicides was somewhat higher when psychiatric patients were used as subjects; in every thousand patients there were 1.8 suicide attempts, 0.4 completed suicides and 1.8 prolonged reactions lasting over forty-eight hours. In comparison with other methods of psychiatric therapy, therefore, LSD appeared to be unusually safe, particularly when compared with other procedures used routinely in psychiatric treatment at that time, such as electroshock, insulin coma, and psychosurgery. These statistics contrast sharply with the incidence of adverse reactions and complications associated with un-supervised experimentation. During my visit to the Haight-Ashbury club in San Francisco in the late sixties, I was told by its director David Smith that they were treating an average of fifteen "bad trips" a day. Although this does not necessarily mean that all these clients had long-lasting adverse effects from their psychedelic experiences, it illustrates the issue at question.

The experience and sophistication of psychiatrists and psychologists in relation to psychedelics was certainly not great during the early years and the settings were far from ideal. However, the sessions reported in Dr. Cohen's paper were conducted in protected environments, under reasonable supervision and by responsible individuals. In addition, those who had difficult experiences were in a place that was equipped to provide help in case of need and they did not have to be subjected to the absurd ordeal of transfer to a psychiatric facility.

The psychedelic crisis is caused by a complicated interplay of internal and external factors. The therapist has to distinguish which of the two sets of influences is more important and proceed accordingly. The first and most important step is to handle the patient and difficult LSD session can bring about an important therapeutic breakthrough. It is important to release the individual from the traumatic situation or change it by active intervention. If the crisis occurs in a public locale, he or she should be taken to a quiet, secluded place. If the incident happens during a party in a private residence, it is important to simplify the situation by moving to a separate room or asking the guests to leave. A few close friends who appear sensitive and mature may be asked to assist in the process. They can provide group support and help the subject to actively work through the underlying problem during the intensification period of the session. The techniques of group involvement in psychedelic sessions have been discussed earlier in this book (p. 157).
After creating a safe environment the next important task is to establish good contact with the subject. A relationship of trust is probably the most significant prerequisite for the positive outcome of a psychedelic session in general and for successful crisis intervention in particular. A person asked to intervene in a crisis triggered by LSD is at a great disadvantage compared to a LSD therapist facing a similar situation in the course of psychedelic treatment, because the therapeutic session is preceded by a drug-free preparation period during which there is enough time to establish good contact and a relationship of trust. If a crisis situation arises in the course of an LSD series the client can also draw on his memories of previous sessions where painful experiences had been successfully resolved with cooperation of the therapist.

In contrast, the professional dealing with a crisis outside of the therapeutic context walks into the emergency situation as a stranger, usually without any previous contact with the subject involved. Trust and cooperation have to be established in a very short time and often under desperate circumstances. Freedom from anxiety, an ability to remain centered, deep empathy, and intimate knowledge of the dynamics of psychedelic states are the only means of generating trust under these circumstances.

It is essential to convey a sense of safety and security by emphasizing the self-limiting nature of the LSD experience. No matter how critical the condition appears to be, in most instances it will be resolved spontaneously five to eight hours after the ingestion of the drug. This time limit should be clearly communicated to the subject and other people present until that time there is absolutely no reason to panic or worry. However dramatic the emotional and psychosomatic manifestations might be. It is also of great advantage to keep the subject in a reclining position, lest this be attained without using physical force and open restraint. With a little experience, one can develop a technique with which it is possible to effectively restrain the individual using a context of support and cooperation rather than coercion.

When adequate contact has been established, a positive framework should be offered for the difficult LSD experience. It is essential to present it as an opportunity to face and work through various universal themes of one's inner world rather than as an unfortunate and tragic incident. A person subjecting a psychedelic crisis should make consistent attempts to conceptualize the experience in a larger context, to focus on one or two critical issues involved. The LSD experience should be encouraged to keep his or her own memories and the experience, whatever it is. The therapist should repeatedly communicate to the subject that the quickest way out of this difficult situation is through surrendering to the emotional and physical pain, experiencing it fully and finding appropriate channels to express it. This process of surrendering can be greatly facilitated by music. If a high-fidelity stereo system is available, and the subject is open to it, music should be introduced into the treatment as soon as possible.

When good rapport has been established, it is possible to offer active assistance by comforting physical contact, elements of playful struggle, and pressure on or massage of the parts of the body where the pain appears to be concentrated. This should not be done if the trust bond is precarious or absent; it should be absolutely contraindicated if the subject is paranoid and includes the person present among his or her persecutors. In some instances simply being with the client and playing for time might be the only solution. Under such circumstances, it is essential to use any possible means and existing resources to keep the LSD subject from hurting himself or others and causing serious material damage. While following this basic rule, occasional attempts should be made to establish rapport and gain the individual's cooperation.

If the goal of the experience remains unfinished when the effect of the drug is subsiding, psychological and physical activity should be used to facilitate integration. Ideally, the subject should complete the session feeling comfortable and relaxed, without any residual emotional or psychosomatic symptoms. The two techniques which have proven useful in this context are: the alternative approach and the cleansing hyperventilation — have been discussed earlier in this book (pp. 156-7, 159-60). After the subject reaches a psychologically and physically comfortable state, it is important to create a safe and nourishing atmosphere for the rest of the day and night. Ideally, a person who has been through a psychotic crisis should not be left alone for at least twenty-four hours after the ingestion of the drug. After this time the therapist should see the client again, reevaluate the situation and, depending on his or her judgment, choose the future strategy. In most instances no further provisions are necessary if the crisis was properly handled. It is useful to discuss the LSD experience in detail and facilitate its integration into the client's everyday life. If significant emotional and psychosomatic complaints have appeared as a result of the LSD experience, arrangements should be made for follow-up uncovering therapy and body work. An individualized selection of meditation techniques, Gestalt practice, neuro-behavioral approaches, guided imagery with music, controlled breathing, polarizing massage or rolling should be offered to the client.

Where the clinical condition remains precarious despite all the uncovering work, this treatment may have to be continued on an in-patient basis. If all the above approaches prove ineffective, integration can be facilitated by chemical means. Ideally, a supervised psychedelic session should be scheduled after adequate preparation. This approach might seem paradoxical to the average mental health professional, since it involves administration of the same drug or category of drugs that apparently brought the client trouble in the first place. Yet judicious use of psychedelics under these circumstances is the preferred treatment. Clinical experiences have shown that it is extremely difficult to restore defenses by the use of covert techniques such as tranquilizers, once the unconscious has been opened by a powerful psychedelic substance. It is much easier to continue the uncovering strategy and facilitate completion of the unfinished gestalt.

Phencyclidine, methylenedioxyamphetamine (MDA), tetrahydrocannabinol (THC), and dipropyltryptamine (DPT) are viable alternatives to LSD. They have the same general effects and are less contaminated by bad publicity. MDA and THC seem to be particularly useful in this context, because of their gentle effects and selective affinity to positive governing systems in the nervous system. Effective psychological work with these substances involves less emotional and psychosomatic pain than when LSD is used.

Since the above psychedelics are not readily available, and obtaining permission to use them involves tedious administrative procedures, a session with fentanyl (100-200 micrograms) or ketalar (100-150 micrograms) might be a more feasible approach. Tranquilizers should not be used in any condition related to
the use of psychedelic drugs until all the above uncovering approaches have been tried and have failed.

Powerful non-drug approaches could also be used in lieu of tranquilizers in all those cases where a poorly resolved LSD experience results in a long-term psychotic condition and psychiatric hospitalization lasting months or years. If these do not bring about sufficient clinical improvement, psychedelic therapy, using the substances mentioned above, is the next logical choice. Ketalar, a drug that is legally available and has been used in a medical context for general anesthesia, could prove promising in these otherwise desperate cases.

I would like to conclude this discussion of psychedelic crisis intervention with a description of the most dramatic situation of this kind I have encountered in my professional career.

In my third year in Big Sur, California, I was awakened at 4:30 one morning by a telephone call. It was the night guard from the nearby Esalen Institute asking for help. A young couple called Peter and Laura, who were traveling down the coast, had parked their VW camper on coastal route 1 in the vicinity of the Esalen Institute and had decided to take LSD together. They rolled out the bed in their car and shortly after midnight both of them ingested the drug. Laura's experience was relatively smooth, but Peter progressively developed an acute psychotic state. He became paranoid and violent, and after a period of verbal aggression he started throwing things around and demolishing the car. At this point Laura panicked, locked him in the car and sought help at Esalen. She appeared at the guard shack completely naked, holding the car keys in her hand. The night guard knew about my previous work with psychedelics and decided to give me a call; he also woke up Rick Tarnas, a resident psychologist who had done his dissertation on psychedelic drugs.

While the guard was taking care of Laura, who calmed down and had a pleasant, uncomplicated LSD experience, Rick and I walked to the camper. As we approached the car we heard loud noise and shouting; when we came closer we noticed that several of the windows were broken. We unlocked the car, opened the door and started talking to Peter. We introduced ourselves and told him that we had had considerable experience with psychedelic states and had come to help him. I tentatively stuck my head inside the door and looked into the camper: a half-gallon bottle missed me by about four inches and landed on the dashboard. I repeated this several times, and two more objects were flying in my direction. When we felt that Peter had nothing more to throw, we quickly moved into the camper and lay down on the roll-out bed on either side of him.

We continued talking to Peter, reassuring him that everything would be all right in an hour or two; knowing that he and his girlfriend had taken LSD after midnight, we could give him this definite time limit. It became obvious that he was in a paranoid state and saw us as hostile FBI agents who had come to fetch him. We held his arms in a comforting and reassuring way, changing this into a firm grip whenever he made an attempt to escape, but avoiding real physical antagonism and struggle. All the while, we kept talking about having had difficult experiences ourselves, and find-
APPENDIX:
The Effects of LSD on Chromosomes, Genetic Mutation, Fetal Development and Malignancy

In the last decade, a serious new dimension has been added to the LSD controversy. A number of scientific papers have been published indicating that LSD might cause structural changes in the chromosomes, genetic mutations, disturbances of embryonic development, and malignant degeneration of cells. However, a considerable number of publications question the accuracy of these allegations. Some are independent experimental studies which have yielded negative results, others criticize the original papers for serious conceptual and methodological inadequacies. Despite all the experimental work done in this area, and the vast expenditure of time and energy, the results are ambiguous and contradictory. It seems appropriate to include in this book a critical review of all the relevant research because the issue is extraordinarily important to the future of LSD psychotherapy.

The following discussion is based almost exclusively on careful study of the existing literature. I have limited firsthand research experience in this area, and genetics is not my primary field of interest and expertise. In the LSD study conducted in the Psychiatric Research Institute in Prague we did not examine the effect of LSD on the chromosomes or its implications for heredity; these were at that time no experimental or clinical observations that would suggest the need for such studies. The first paper that attracted the attention of scientists to this area did not appear until the late 1950's. (225) After my arrival in the United States, I participated in a major study concentrating on structural changes of the chromosomes in the white blood cells following LSD administration. This was one of the few genetic studies using pure pharmaceutical LSD, a double-blind approach, and comparison of the samples before and after the administration of the drug. (106)

The material discussed in this paper will be divided into several thematic groups. The first group includes papers describing structural changes of the chromosomes produced by LSD in vitro; in these experiments various concentrations of LSD are added to cultures of cells from human, animal, or plant tissues in a test-tube. The second group involves in vivo studies of LSD; in this type of

*Numbers apply to references that appear after this Appendix.
†in vitro literally means in glass, and refers to experiments conducted in test-tubes; in vivo is a medical term for experiments in living organisms.
The Effects of LSD on Chromosomes

research the effect of LSD is studied after the substance has been ingested by or injected into animals or humans. The papers in the third group describe the results of experiments studying the influence of LSD on the genes, and its mutagenic effects. It includes a small number of papers dealing with the detailed mechanisms of the action of LSD on the deoxyribonucleic acid (DNA), the most important constituent of the chromosomes. The fourth group consists of publications describing the consequences of LSD administration on the growth, development and differentiation of human and animal embryos. Finally, the fifth group compiles papers focusing on the possible link between LSD and the development of malignant changes in cells, especially in the case of leukaemia.

In the following sections, the most relevant findings in these five thematic categories will be briefly reviewed and critically evaluated.

THE EFFECT OF LSD ON CHROMOSOMAL STRUCTURE

The possibility of inducing structural changes in the chromosomes by exogenous agents such as radiation, viruses, and a variety of chemicals, has been a subject of great scientific interest for a long time. The genetic controversy about LSD started in 1967 when Cohen, Mariotti and Back (22) published a paper suggesting that LSD should be added to the list of substances capable of causing abnormalities in the chromosomes. Because of the widespread use of LSD, this information created vivid interest in scientific circles, and a number of investigators focused their attention on this area. Two major approaches were used in these studies; in some the effect of LSD on the chromosomes was studied in the test tube (in vitro), in others in the living organisms (in vivo). The cells studied were in most cases human white blood cells (lymphocytes).

In the in vitro studies, the blood samples were drawn from normal, healthy persons with no history of prior drug injection, radiation exposure, or recent viral infection. After incubation at 37° centigrade in appropriate media, colcemide was added to stop the cell division at the stage of metaphase. The cells were then harvested, made into specifically stained cytological preparations and examined with phase contrast microscopy. During the period of incubation, LSD dissolved in sterile distilled water was added to the experimental cultures in various concentrations.

In the in vivo studies, the blood samples were drawn from subjects who had been exposed to either “street acid” (illimit material allegedly containing LSD) or pharmaceutically pure LSD. In most of these studies, the chromosomes were examined after the exposure to LSD (retrospective approach); in a minority of these studies, the checkups were done both before and after the administration of the drug (prospective approach). The technical procedures employed in the in vivo studies did not differ significantly from that described for the in vitro approach. A special and rather important subgroup of the in vivo studies are reports about the influence of LSD on the chromosomes of the germinal cells (meiotic chromosomes).
IN VITRO STUDIES
Cohen et al. (22) added LSD to cultured human leukemia cells obtained from two healthy individuals. They used five concentrations ranging from 0.001 to 10.0 micrograms of LSD per cubic centimeter (cc) and the time of exposure was 24, 48, and 48 hours. The incidence of chromosome breaks for treated cells was at least twice that of control cells for all treatments, except at the lowest concentration and time (0.001 microgram of LSD per cc for four hours) where no significant difference existed between treated and control cells. There was no simple linear relationship between the frequency of these aberrations and the LSD dosage or duration of exposure. In some cultures, Hirschorn and Freck (23) obtained a different result. They studied the results of a larger study in which they used peripheral lymphocyte cultures from six normal, healthy persons. The concentration of LSD and the times of exposure were the same as in the original study. They found a significant increase of cellular division (mitosis) in the addition of the drug to the culture. The suppression of mitosis was directly proportional to the duration of exposure. The lowest frequency of chromosome breaks in the control was 3.9 micrograms of LSD; among the treated cultures, the lowest frequency was almost twice the control (7.7 percent) and ranged up to four times the control value (17.5 percent).

In 1968, Jarche et al. (43) performed one of the in vitro experiments of Cohen's group. In addition to LSD, they used alcohol, saline, and other chemicals. They found no increase in chromosome breaks for alcohol, saline, or other chemicals. The results of this study are consistent with the results of Cohen's group. In addition to LSD, they used a combination of ethanol and acetate (a drug commonly used in obstetric practice), aspirin, and streptomycin. They found a significant increase of chromosome breaks in the LSD-ethyl alcohol group (10.2 percent with the ratio 0.01-0.15 as compared to the control samples (5.2 percent) with the ratio 0.0-0.01). They found that the increase was approximately the same for both treatments.

Cory et al. (24) performed an in vitro study in ten individuals; one microgram per cc of LSD was added to the culture medium after twenty-four hours. The authors found an increase in chromosome breaks in all ten subjects. The increase was significant in all cases. The results of this study are consistent with the results of Cohen's group.

IN CULTURED HUMAN HEMOLYMPHOCYTES
Martino et al. (25) and Cohen et al. (22) found that LSD significantly increased the number of chromosome breaks in the cells of leukemia patients. The results of this study are consistent with the results of Cohen's group.

In conclusion, it is interesting to note that Singh, Kabir, and Zoh (26) found an increased incidence of chromosome breaks in the cells of leukemia patients as a result of exposure to LSD in the concentration 25 micrograms per cc. On the other hand, Samkoe and Stone (73) reported negative results of experiments on lymphocytes, hamster fibroblasts, and the plant Vicia faba.

The above-mentioned findings of structural changes in chromosomes following LSD administration became the basis of speculations concerning the possible influence of this drug on genetic mutations, fetal development, and malignancy. In the atmosphere of zonal hysteresis then existing, the original report of Cohen, Martino, and Back (22) was widely publicized by the mass media. As a result, the significance of their findings was considerably over-emphasized, and many premature conclusions were drawn for which there was not sufficient scientific justification.

Several important facts have to be taken into consideration before we can draw any substantial conclusions from the findings of increased chromosome breaks associated with LSD in the in vitro experiments. It must be emphasized that the findings themselves were not completely consistent. In several studies, there were no indications of increased chromosome breaks following the exposure to LSD. (27, 73, 105). In addition, the concentrations of LSD and duration of exposure used in these studies were usually much greater than those occurring in the human organism after the ingestion of LSD in the commonly used dosages. Cohen, Martino, and Back (22) themselves did not find increased breaks of chromosomes at the lower concentration and time (0.01 microgram of LSD per cc for four hours). Langham et al. (70) emphasized that it is precisely the lower concentration and duration of exposure used in this study that most closely approximates the expected concentration in blood, liver, and other organs after a dose of 100 micrograms of LSD ingested by a man weighing 70 kg. If the metabolic degradation of LSD is considered, then the effective concentration in vivo of unchanged LSD would be considerably less than this, approximating 0.0001 micrograms per cc—a concentration used only by Kato and Jarche (65) who found no increase in breaks at this dosage.

In general, special caution is required in extrapolating the in vitro findings to the situation in the living organism. The intact human organism differs from isolated cells in the test tube in its enormous complexity and in its ability to detoxify and excrete noxious compounds. Substances that are toxic in vitro do not necessarily have the same effect in vivo. In addition, some of the techniques used in the in vitro studies create an artificial situation and introduce factors that do not exist in the living organism. This issue has been discussed in detail in an excellent review on LSD and genetic damage by Dihovzsky et al. (28). These authors point to the fact that all the studies on cultured lymphocytes have used modifications of a technique in which the lymphocytes are stimulated by phytohemagglutinin to enter the reproductive cell cycle. In the normal state, i.e., small lymphocytes are in a phase of growth which precede DNA synthesis; they do not grow, divide, or enter the cell cycle. Thus, in the studies in vitro, lymphocytes are exposed to chemical agents during developmental stages of the cell cycle, including the synthesis of DNA, which do not normally occur in these cells in the body. Damage to a lymphocyte in this phase generally will not manifest itself as chromatic-type change in a subsequent division. Most, if not all chromatic-type changes are initiated by technical procedures, and the great majority of lesions reported in the in vitro and in vivo studies were of the chromatic type. The findings of increased rate of chromosomal breaks in lymphocytes exposed to LSD in vitro must therefore be interpreted with great caution.

Many recent studies concerning the structural changes caused in chromosomes by LSD give the impression that this effect was something specific and unique. Most of these reports have silently bypassed a fact that would have made the issue much less interesting and sensational. The changes in chromosomal structure described are not exclusively caused by LSD; they can be induced by a variety of other conditions and substances. Factors that have been known to cause
The Effects of LSD on Chromosomes

than double the 11.0 percent rate in the controls. Only two of the eight users did not have increased breakage rates. In a later and more extensive study carried out by Eganose, Irving and Maron (33) the mean breakage rate in forty-six illicit LSD users was 18.76 percent (with a range between 8 and 45 percent); this was more than double the rate of 9.03 percent found in control cells. Only three of the forty-six users did not have a breakage rate higher than the mean control rate. In addition, the authors studied the chromosomes of four infants exposed to LSD in utero. All four showed breakage rates above the mean control value. There was no evidence of disease or physical malformation in any of these children.

These findings were supported by Cohen, Hirschhorn and French (20) who studied eighteen subjects exposed to Illicit LSD. They described an increased chromosomal breakage in this group (mean 13.2 percent) which was more than triple that of the control group (3.8 percent). The authors also examined the chromosomes of four children born to two mothers who took LSD during pregnancy. The frequency of chromosome breaks was elevated in all four, and was greater in the two children who were exposed to LSD during the third and fourth months of pregnancy than in the two infants exposed to low doses of LSD late in pregnancy.

In a later paper, Cohen et al. (21) reported that thirteen adults exposed to illicit LSD showed chromosome breakage rates that were above the control mean. In nine children exposed to illicit LSD in utero, they found a mean breakage of 9.2 percent, as compared with 4.8 percent in four children whose mothers had used illicit LSD before but not during pregnancy. The breakage rate in the control group was 1.0 percent. All but two children had been exposed to other drugs during pregnancy; all were in good health and showed no birth defects.

Nelson, Friedman and Tzudof (80) found that their ten subjects exposed to illicit LSD had a mean breakage rate of 2.5 percent; this was significantly higher than that of the control group (0.2 percent). However, the allegedly pathological 2.5 percent rate is lower than that of the controls in other positive studies.

A number of investigators have not been able to demonstrate increased chromosome breakage in LSD users. The suppressive effect of LSD on chromosome studies was noted by Eganose et al. (20). In many cases, the researchers reported negative results of similar studies. At the present time, therefore, the results of in vivo studies are considered rather controversial and at best inconclusive.

Many investigators have attempted to offer explanations for the existing discrepancies between positive and negative reports. Some have criticized the breakage rate for controls in the studies by Cohen et al. (21) (3.8 percent) and Eganose and Egartson (57) (11.9 percent and 8.03 percent) as being unusually high.

Others have suggested that the high control values could have resulted from viral contamination of the cultures, insufficiently fortified media interfering with chromosome repair, technical variation in cell culturing, and the approach to reason to discuss the two categories of in vivo studies, those with pure and those with "alleged" LSD, separately.

Illicit LSD and Chromosomal Damage

The initial findings of chromosomal damage in illicit LSD users were reported by Eganose and Egartson. (57) They compared a group of eight illicit LSD users with a group of nine controls. The users had a mean breakage rate of 33.4 percent, more
findings of various teams of investigators. If they did, the aberrations resulting from these effects would be randomly distributed between groups exposed to illicir LSD and control groups. Since the distribution is uneven, these factors do not explain the significantly elevated breakage rates in eighty of the sixty-eight subjects exposed to illicir LSD studied by Cohen et al. and by Irwin and Espezone.

A much more important clue to the understanding of this controversy seems to be related to the characteristics of the group of the "LSD users." In this type of research, the investigators depend on the recall and reliability of the subjects in determining the type of drugs they have used in the past, the number of times, and the frequency of exposure, the alleged dosages, and interval since last exposure. Even in cases where the reports are accurate, the subjects usually do not know the context and the quality of the samples they are taking. The context of "pure LSD" for illicir LSD samples is always at least questionable, and various impurities and admixtures render frequent the samples analyzed in the past have been demonstrated to contain amphetamines, mescaline, DOM (4-methyl-2, 3-dimethoxyam- phetamine, also called STP), phenylcyclidine (phenylcyclclohexylpropionamide, PCP "angel dust"), benactyzine and even strychnine. In addition, all the subjects tested were to "abused drugs other than street LSD." These drugs included, among others, Bitaline, phenazone, alcohol, amphetamines, cocaine, barbiturates, benzoin and other opiates, and various psychedelic substances such as marihuana, hashish, psilocybin, mescaline, STP, methylenedioxymethamphetamine (MDA), and ketamine (DPT). Under these circumstances, one logically questions the logic of referring to this group in scientific papers as "LSD users." Most of these subjects were actually multiple-mixed drug users or abusers exposed to a variety of chemicals of unknown composition, quality and potency.

In addition, it has been repeatedly reported that this population suffered from malnutrition and had very high rates of venereal disease, hepatitis and various other viral infections. It was mentioned above that viruses are one of the most common factors causing chromosomal damage: the possible role of malnutri- tion remains to be evaluated. Dilworth et al. (28) conclude their review of the in vivo studies involving illicir LSD by relating the findings of in vivo studies of chromosome damage to a combination of factors such as long-term excessive exposure to illicir LSD, the presence of toxic contaminants, the intravenous route of administration, and the physical debility of many drug abusers. According to them, positive results, when found, are related to the more general effects of drug abuse and not, as initially reported, specifically to the use of LSD.

Pure LSD and Chromosomal Damage

Chromosomal studies of persons who received pharmacologically pure LSD in an experimental or therapeutic framework are much more relevant and reliable as a source of information than the studies of illicir drug users. In these studies, there is no uncertainty concerning purity, dosage, frequency of exposure and the interval between the latest exposure and blood sampling. Two different approaches can be distinguished in the chromosome studies using pure LSD. The studies of the first type are retrospective and use a "post hoc" design: they examine the chromosomal changes in subjects who were exposed to pure LSD in the past. The studies of the second type are prospective; the chromosomal patterns are examined both before and after the exposure to LSD, and each subject serves as his own control.

The Effects of LSD on Chromosomes

Retrospective Studies of Chromosomal Changes in Pure LSD Users. A review of the studies in this category reveals that only two groups of investigators have reported an increased rate of chromosome breakage in their subjects. Five other teams failed to confirm these positive findings.

Cohen, Martinello and Back (22) reported in their initial study that they found chromosomal damage in the white blood cells of one paranoid schizophrenic patient who had been treated fifteen times in the past with LSD in dosages between 80 and 200 micrograms. Nielsen, Friedrich and Tubbs (80) ex- amined the chromosomes of five persons treated with LSD and found "no correla- tion between any specific drug and the frequency of gaps, breaks, and hyper- dipoled cells." The authors later reexamined their data, forming smaller groups on the basis of age and sex. (81) After this revision of the original material, they con- cluded that LSD induced chromosomal damage. Tibbo, Fabehke and Kurland (106) critiqued this study on the basis of the insufficient number of cells analyzed for a reliable determination of breakage rates. Three of the five LSD subjects studied had no chromosomal aberrations, and the two remaining subjects accounted for all six breaks found. In addition, the 1.7 percent breakage rate is still within the range reported for the general population. Another study by Nielsen, Friedrich and Tubbs (52) which reported an increased breakage rate of 4.3 percent in a group of nine former LSD users has been criticized by Doherty et al. (28) on the basis of its unusual approach to data analysis.

Sparks, Melnick and Belletti (90) did not find an increase in chromosomal breakage in four patients treated with LSD in the past for medical reasons. Negative results were also reported by Bender and Stra Sankar, (11) who examined the chromosomes of seven schizophrenic children who had been treated in the past by prolonged administration of LSD. These children received LSD daily in two divided doses of 100 to 150 micrograms for a period of 2 weeks or months. The frequency of chromosome breakage in this group was less than 5 percent and did not differ from that of the control group.

Sankar, Reiss and Gerde (93) studied the chromosome patterns in fifteen children with psychiatric problems who had been given LSD, UML, or a combination of both. LSD was administered daily; the average dose for the whole group was 142.4 micrograms per day per patient, and the duration of therapy varied from 2 to 1,906 days. The breakage rate for the group treated with LSD was 0.8 percent, for the group treated with both LSD and UML 1.00 percent. This was not significantly higher than the rate of breakage in the controls. The pa- tients in this study received LSD two to four years prior to the chromosome studies. The authors admitted that the effects of LSD on the leukocyte chromo- some might have been rectified over such a long period of time. In any case, this would indicate that LSD therapy has no long-lasting effects on the chromosom-

Tibo, Fabehke and Kurland (106) published the results of chromosome analy- sis of a group of eight "normal" subjects who had received pure LSD in research experiments one to twenty-six times, two to fifteen months prior to giving the blood sample. The mean total chromosomal aberration rate for this group was 2.8 percent, and the individual rate in none of them exceeded the pre-LSD mean of 4.3 percent found in the patient sample.

Corey et al. (34) reported the result of a retrospective chromosome study of
sixteen patients, five of whom had been treated with LSD only, five with mesca- line only, and six with LSD plus mescaline. In the eleven individuals who were clinically treated with LSD dosages ranging from 200 micrograms to 4,250 micro- grams, frequency of dysphoric from that found in the thir- teen controls. The respective frequencies were 7.8 percent for LSD, 5.6 percent for mesca- line, 6.4 percent for LSD plus mescaline, and 7.0 percent for the control group.

In an unpublished study, Dishohity et al. examined the chromosomes of five subjects exposed in the past to pure LSD. The mean breakdown rate in this group (0.40 percent) was not significantly different from that of the eight control persons (0.33 percent). In a later study, Dishohity et al. (28) indicate that fifty-eight of seventy (82.9 percent) of the subjects studied after treatment with pure LSD have not shown chromosome damage. Because of incomplete data on nine of the remain- ing twelve subjects, they were not able to compute the precise percentage of sub- jects with elevated breakdown rates. However, they estimated that this figure was equal to or lower than 17.1 percent and 4.9 percent. All but one of the twelve subjects were reported by a single team of investigators. The authors concluded that in view of the procedure, incomplete data, questionable re-analysis of the data, and low breakdown rates reported, there is no definite evidence from this type of experi- ment that pure LSD causes chromosome damage.

Prospective Studies of Chromosomal Changes in Pure LSD Users. The studies comparing the chromosomal changes before and after exposure to pure LSD represent the most adequate scientific approach to the problem from the methodological point of view, and are the most reliable source of scientific infor- mation. The first report in this category was published in 1968 by Hungerford et al. (55) who examined the chromosomes of three psychiatric patients before and after repeated therapeutic administrations of LSD. Blood samples were taken from all patients before any LSD therapy, one hour before and one and one half hours after each dose, follow-up samples were taken at intervals of one to two months. An increase in chromosome aberrations was observed after each of three intra-venous injections of LSD. The increase was small in two of the three subjects; however, dicentric and ring and tetrad anomalies appeared after treatment, and almost all the abnormalities appeared more frequently after treatment. In the follow-up study, a return to earlier levels was observed in all three patients. The data from this study indicated that pure LSD may produce transitory increases of chromo- somal abnormalities, but that there is no longer evident one month after admin- istration of the final dose. The results were slightly complicated by the adminis- tration of chlorpromazine (Thorazine), in itself can produce chromosomal abnormalities. It is interesting to note that Hungerford's study is the only one in which LSD was administered intra-venously.

T. Furukawa and K. Karashima (106) reported the results of a study of sixty-two hospitalized alcoholic or neurotic patients treated with LSD in the framework of a double-blind controlled study at the Maryland Psychiatric Research Center. The dosage of LSD was 50 micrograms in eleven patients and 250-450 micrograms in twenty-one patients. The number of cells observed in this study (22,000) was more than twice the total number of cells observed in all other studies of pure LSD users. The amount of breakdown was not directly proportional to the dosage; actually those in the low-dose range showed greater increases than those on high dosage. The authors also examined a group of five persons who had taken illicit LSD from four to thirty-six times before the study. In these subjects, blood samples were drawn for seven to ten consecutive days before, during and after treatment with pure LSD either two or three times. Statistical analysis revealed no significant difference in the chromosomal aberration before and after LSD. In another prospective study, Corey et al. (24) examined the chromosomes of ten per- sons before and after the administration of 200-900 micrograms of pure LSD. The authors found no significant difference in the rate of chromosome breakage be- tween the pre- and post-samples and confirmed the negative findings of the previous study.

It is interesting to mention in this connection two prospective studies of LSD-related chromosomal damage which were conducted in Rhesus monkeys (Macaca mulatta); the results of both studies were rather unequivocal. Egan et al. (23) described transitory changes in chromosomes after multiple, subcutaneous injec- tions of LSD in high doses (125-1000 micrograms per kg. per injection) in Rhesus monkeys. The authors have not provided a statistical evaluation of the results; Dishohity et al., (28) who later analyzed their data, found them statistically non- significant.

Dishohity et al. (28) also offered a synaptic evaluation of the prospective LSD studies. According to them, only six of the fifty-six patients (10.7 percent) studied before and after treatment with pure LSD had elevated breakdown rates; of these, three received LSD intravenously and one had a viral infection. Of these six subjects, one individual was not available for follow-up determinations; in the re- maining five, breakdown returned to that observed before treatment. Four of the total number of subjects studied before and after treatment, 89.3 percent did not have chromosome damage. The results of the prospective LSD studies are thus in agree- ment with the negative conclusion of five of the seven teams that studied subjects only after LSD treatment.

Chromosomal Changes in Germinat Cells. In the past, the positive findings of some chromosomal studies have been used as a basis for far-reaching speculations concerning the hereditary dangers associated with LSD. Journalists, and also several scientific workers, described their rather apocalyptic vision of the offspring of LSD users. Such speculations were rather premature, and insufficiently substantiated by experimental data. The reasoning that refers to structural abnormalities of the chromosomes as "damage" and relates them automatically to genetic hazards has serious gaps in its logic. In reality, it is not quite clear whether or not the structural changes in the chromosomes of the white blood cells have any functional significance, and whether they are asso- ciated with genetic abnormalities. There exist many chemical substances that cause chromosomal breaks but have no adverse effects on genetic mutation or fetal development. The complexity of this problem can be illustrated by the case
of viruses. A variety of virus diseases (such as herpes simplex and shingles, measles, chicken pox, influenza, yellow fever, and possibly mumps) induce marked chromosomal damage without causing fatal malformations. According to Nicholls, (76) one of the exceptions is rubella (German measles), a disease that is notorious for causing severe fetal malformations when acquired by the mother in the first trimester of pregnancy.

In addition to the methodological problems involved and the inconsistency of the findings discussed above, one more important factor has to be taken into consideration. In all of the studies quoted, in one group of mice, in various in vitro, was assayed in the chromosomes of the white blood cells. No direct conclusions about the hereditary damages associated with the administration of LSD can be drawn on the basis of these studies since the lymphocytes are not involved in the reproductive processes. Speculations about mecha damages could be made only on the basis of chromosomal findings in germ cells such as the spermatocytes and ova, or their precursor cells. Unfortunately, the few existing studies of the chromosomes of germinal cells (the so-called meiotic chromosomes) yielded as conclusive results as the studies of the chromosomes of somatic cells.

Shakhashm, Philip and rugen (68) studied meiotic chromosomes from six healthy male mice injected with large doses of LSD (1,000 micrograms per kg); the number of junctions and intervals between expositions varied. Several chromosomal breaks, gaps and unidentifiable fragments were found in the treated animals but, with a few exceptions, not in the control animals. The authors consider their finding tentative evidence that high doses of LSD may influence meiotic chromosomes in mice. They admitted that the number of abnormalities was small and technical errors could not be excluded, but concluded that the changes found could have influence on fertility, size of the litter, and the number of congenital malformations. In a later study, Shakhashm and Brany (69) injected four mice subsequently with dosages of 1,000 micrograms per kg of LSD twice a week for five weeks. Analysis carried out on a blind basis showed a high frequency of abnormalities. The authors considered the results of this study as evidence that LSD may cause abnormalities in meiotic chromosomes. They admitted that the number of abnormalities was small and technical errors could not be excluded, but concluded that the changes found could have influence on fertility, size of the litter, and the number of congenital malformations. The practical significance of these findings is considerably reduced by the fact that the dosages used far exceeded anything used in clinical practice. A comparable dose in humans would come to 60,000-100,000 micrograms per person, which is 100 to 1,000 times more than the dosages commonly used in experimental and clinical work with LSD.

Another positive finding of meiotic chromosome damage induced by LSD was reported by Cohen and Makhate (23). These authors injected thirteen male mice with a single dose of LSD at a concentration of 0.5 micrograms per kg. In this study the meiotic cells were apparently less vulnerable than somatic cells. However, there was an obvious tenfold increase in chromosome damage among the mice treated with LSD. This reached a maximum between two and seven days after injection, with a subsequent decrease and return to almost normal levels after three weeks. On the basis of evidence from clinical cytogenetic studies, the authors concluded that the chromosome anomalies of this type may lead to reduced fertility, congenital abnormalities and fetal wastage.

The other existing studies of the effect of LSD on meiotic cells brought essentially negative results. Lecun and Iwai (32) studied the effects of LSD adminis-

The Effects of LSD on Chromosomes

tration in mice and Rhesus monkeys. The mice in this study received 5 micrograms per kg of LSD daily in a number of injections increasing from one to ten. Four adult male Rhesus macaques injected doses of either 5, 10, 20, or 40 micrograms per kg of LSD. Six months after their single dose of LSD, three of the monkeys received four doses each, at ten-day intervals, of 40 micrograms per kg of LSD per day. The authors reported essentially negative results in both the mice and the monkeys. In mice, occasional chromatid breaks and fragments were observed in similar proportions in the control and the experimental group. In the Rhesus monkeys, no significant differences were found before or after acute or chronic treatment.

Jagiello and Polski (66) published the results of a detailed and sophisticated study of the effect of LSD on mouse germ cells. They performed acute and chronic experiments on both male and female mice. The dosage of LSD in the chronic experiments ranged between 0.5-5.0 micrograms; in the acute experiments a single subcutaneous dose of 1,000 micrograms per kg of LSD was administered. The results of this study were essentially negative. The authors attributed the discrepancies with other studies to mole of administration, dosage and the animal strains involved.

In two of the existing studies, the effects of LSD on the meiotic chromosomes were tested in the banana fly, Drosophila melanogaster, an organism that has played an important role in the history of genetics. In one of these studies, Grace, Carolm and Goodhew (44) injected male flies in concentrations of 1, 100, and 500 micrograms per cc. The dosage used is equivalent to approximately one liter of the same solution in human (1,000, 10,000 and 500,000 micrograms respectively). No chromatid breaks were observed in premeiotic, meiotic or postmeiotic sperm. The authors concluded that LSD is in a class quite distinct from that of ionizing radiation and mustard gas. If it is a mutagenic or radiomimetic agent in human chromosomes, it is not a very powerful one. In another study, Markowsit, Borneaus and Markowits (74) fed LSD to male fruit flies in 1 % sucrose solution for twenty-four hours; the concentrations used were 100, 5,000, and 10,000 micrograms per cc. In these experiments, LSD had no detectable effect on chromosome breakage. The authors concluded that LSD is a relatively ineffective chromosome breaking agent in Drosophila.

Considerable caution is required in extrapolating the data about the effect of LSD on meiotic chromosomes obtained from animal experiments to humans, because of rather wide interspecies variability. The only report about the effect of LSD on human germ cells was published by Huldt (et al. (54) These authors examined the testicular biopsy in a patient who had used massive doses of illicit LSD in the past, up to an alleged 1,000 micrograms. For a period of four weeks he practised the administration of these dosages daily. There was no evidence of an increased frequency of structural chromosome aberrations in the germinal tissue of the testicles.

Concluding this discussion of the effects of LSD on chromosomal structure, we can say that the results of the existing studies are inconclusive despite the fact that the dosages used in many experiments far exceed the doses used in clinical practice. Whether LSD causes structural changes in the chromosomes or not remains an open question. If it does, the circumstances and dosage range in which these occur have not been established, and the interpretation of these changes and
their functional significance is even more problematic. This question could not be answered even on the basis of results of methodologically perfect chromosomal studies. In future research, much more emphasis should be put on the study of the effect of LSD on genetic mutation and embryonal development.

**MUTAGENIC EFFECTS OF LSD**

In the past, the classic experimental animal for the study of genetic mutations has been the banana fly, Drosophila melanogaster. Several studies exist in which the effect of LSD on genetic mutation has been observed in this fly. Grace, Cardon and Goodman (41) studied the mutational effects of intra-abdominal injections of LSD in concentrations ranging from 1 to 500 micrograms per cc. They have not found an increase in induced mutations in the LSD-treated group. On the basis of these negative findings, the authors consider it improbable that LSD induces mutation in humans. Markowitz, Brunner and Markowitz (42) fed LSD to male flies in concentrations of 100, 500, and 10,000 micrograms per cc. In this experiment, LSD produced no significant increase in the frequency of sex-linked recessive lethal mutations. The authors concluded that LSD at high concentrations is a weak mutagen in Drosophila.

In several studies performed in Drosophila flies, lower concentrations of LSD had no mutagenic effects, but an increased frequency of induced mutations was observed after excessive dosages. Venn (111) reported that dosages of 24,000 micrograms per kg produced no significant increase in the frequency of recessive lethals, whereas a dosage of 470,000 micrograms per kg did. Brouning (43) administered intraperitoneal injections of 0.3 microliters of a solution containing 10,000 micrograms per cc of LSD; this dosage corresponds to about 4,000,000 micrograms per kg of body weight. Out of seventy-five flies, only fifteen survived this procedure, and ten were fertile. Under these circumstances, a significant increase in recessive lethal mutations in the X-chromosome of male flies was observed by the author. A 1:1 dilution of the original solution, when injected into one hundred males, resulted in thirty-five survivors of which thirty were fertile; the frequency of mutations markedly dropped. Snell (103) concluded on the basis of his experiments with LSD in the Drosophila fly that LSD is a weak mutagen producing gene and chromosome mutations only when used in very high concentrations; this finding is in basic agreement with the existing literature on the mutagenic effects of LSD.

The effects of LSD were also tested on another standard genetic system, namely the fungus Neurospora crassa. Zetterberg (113) exposed the cells of this fungus to 20–50 micrograms per cc of LSD; he did not find any difference between treated and control cells. The data on Drosophila flies and fungi suggest that LSD is a weak mutagenic agent that is effective only in dosages far exceeding those commonly used by human subjects.

There are several interesting studies focusing on the interaction of LSD with deoxyribonucleic acid (DNA) and ribonucleic acid (RNA); these studies could contribute to our understanding of the mechanism of interaction between LSD and the chromosomes or genes. Yielding and Stergast (115), using spectrophotometric methods, were able to demonstrate binding of LSD, its inactive optical isomer, and its inactive brominated analogue by helical DNA of the calf thymus. Binding did not take place with yeast RNA or nonhelical DNA, suggesting that this binding is specific for helical DNA.

Wagner (112) concluded on the basis of his experiments that LSD interacts directly with purified calf thymus DNA, probably by intercalation, causing conformational changes in the DNA. According to him, it is unlikely that this could influence the internal stability of the DNA helix enough to cause chromosomal breakage. However, it may lead to the dissociation of histones, which could render DNA susceptible to enzymatic attack. Szybalski and Astur (110) performed similar experiments and arrived at the conclusion that LSD binds to nucleic acids by intercalation. According to Djabourov et al., (28) this evidence of LSD intercalation into the DNA helix provides a clue to the physical mechanisms involved in the mutagenic effects of high doses of LSD in Drosophila and the fungus, as reviewed above.

Nornay (83) investigated the effects of LSD on the Porchins cells of the ovary of growing rats. These studies were specifically focused on the action of the ribonucleoprotein (RNP) of the differentiating nucleolus-ribosome system. Only large doses of LSD (100–500 micrograms per kg) seemed to induce changes in the structure and staining properties of this cellular system.

Obviously, much more research is needed for the final clarification of the interesting interaction between LSD and various chemical substances involved in the genetic mechanisms.

**TERATOCENIC EFFECTS OF LSD**

It has been frequently hypothesized in the past that LSD may be a potential cause of abortion, fetal wastage and congenital malformations. The actual experimental studies of the effect of LSD on embryonic development have been made primarily in rodents. Since free transplacental transfer of LSD has been demonstrated in an autoradiographic study performed by Frohlich-Hettckild and Schoof, (56) it is conceivable that it might influence the developing fetus. In this study, the injected LSD rapidly passed the placental barrier into the fetus; however, according to the authors, the relatively high affinity of LSD for the maternal organs seemed to diminish the amount of the drug available for transfer into the fetus itself.

The experimental data from mice, rats and hamsters have been rather controversial. Auerbach and Ragowski (10) reported a high rate of embryonic malformations in mice following relatively low doses of LSD administered early in pregnancy. In all cases the induced malformations involved characteristic brain defects. Abnormalities of the lower jaw, shifts in the position of the eyes, and modifications of the facial contour were frequently associated with these defects. There was no observable effect on the embryonic development if the LSD exposure occurred later than the seventh day of gestation. These findings were partially supported by Hansen (47) who experimented with LSD in mice of a different strain. Using comparable dosages, he described a high incidence of lens abnormalities; however, he was unable to discover any malformation of the central nervous system, even on histological examination. DiPaolo, Giller and Erusin (27)
administered LSD to pregnant mice and hamsters. The total amount of LSD injected in mice ranged from 0.5 micrograms to 30 micrograms per pregnant animal. Syrian hamsters were injected with a single dose ranging between 10 and 300 micrograms. The authors concluded that their investigation failed to demonstrate that LSD is teratogenic for mice and Syrian hamsters. They interpreted the increased frequency of malformations observed in some of the experiments as an indication of a potentiating effect of LSD on individual threshold differences. It is necessary to emphasize that the doses used in this study were 25-1,000 times the human dosage. Alexander et al. (4) administered 5 micrograms per kg of LSD to pregnant rats. They described a significantly increased frequency of stillbirths and stunting in two of their experiments where LSD was administered early in pregnancy. In the third experiment, where the animals received similar single injections of LSD late in pregnancy, there was no obvious effect on the offspring. Gabor (40) reported a study in pregnant hamsters in which he administered LSD, mezcaline and a brominated derivative of LSD. He described a markedly increased frequency of rants, dead fetuses and reabsorbed fetuses in the experimental group. In addition, he observed a variety of malformations of the central nervous system such as encephalohid, spina bifida, interpartial meningocele, ophthalmolecule, myelocoele and hemihypertrophy of local brain areas, as well as edema along the spinal axis and in various other body regions. The dosages of LSD used in this experiment ranged between 0.6 micrograms per kg and 240 micrograms per kg. However, there was no correlation between the dose and the percentage of congenital malformations. LSD and meconal produced similar malformations; meconal appeared to be a less potent teratogen, as judged by the dose.

There exist a number of studies in which negative results were reported in all the species mentioned. Ronit, Dupuis and Aubry (86) administered LSD in dosages from 5-500 micrograms per kg per day to mice, rats and hamsters. There was no increase in fetal mortality or decrease in the mean weight of the fetuses for any group of experimental animals. There was no significant increase in the incidence of external malformations, and sections performed in approximately 40 percent of the experimental animals showed no visceral malformations. The authors concluded, on the basis of the results, that is in the three species studied, no significant, teratogenic or embryonic growth-depressing factors were observed, even after enormous doses. At least four studies of the teratogenic effect of LSD carried out on rats brought negative results. Warkany and Takacs (113) found no abnormalities in their experimental Wistar rats, despite the fact that they used large doses of LSD (up to 880 micrograms given by Alexander et al.). (4) The only finding was a reduction in size in one of the young. Naulin (83) administered to pregnant rats in dosages of 5, 25, and 50 micrograms per kg on the fourth and seventh days of gestation. He did not observe any external malformations of the head, column and extremities, or macroscopic lesions of the central nervous system and viscera. There were no differences from the controls as to mortality and fetal weight or reduction in number and size of the offspring, even with higher dosages. Negative results were also obtained in two studies performed and published by Ujiuno. (109, 110)

Fabro and Sieber (35) studied the effect of LSD and thalidomide on the fetal development of white rabbits. Thalidomide had a marked embryotoxic effect and produced an increased incidence of reseptions, decreased the mean fetal weight, and induced malformations of fetuses. Pregnant rabbits given LSD in a dosage of 20 or 100 micrograms per kg of body weight produced litters which were not significantly different from the controls. Decrease of the mean fetal weight at twenty-eight days was the only effect which could be detected in the litters of does treated with daily doses as high as 100 micrograms per kg.

As emphasized by Dethlefsen et al. (28) an overview view of the rodent studies indicates a wide range of individual, strain, and species susceptibility to the effects of LSD. The effect, when found, occurs at a highly specific time era in gestation; no effect was reported with exposure occurring late in pregnancy. Exception is required in extrapolating results from the rodent studies to the human situation, since fetal development and growth in these species is markedly different. Rodents lack the chorionic villi in the placenta, so that the fetal blood is separated from the maternal sinuses only by endothelial walls. This makes the rodents much more sensitive than humans to the teratogenic potential of any given substance.

In the only existing experimental study in primates, Kato et al. (60) administered multiple subcutaneous injections of LSD to pregnant Rhesus monkeys. Of four animals treated, one delivered a normal infant, two were stillborn with facial deformities and one died at one month. The two control animals delivered normal offspring. The dosage used in this study was more than 100 times the usual experimental dose for humans. The authors concluded that the small size of their sample made it impossible to draw any definite conclusion.

The information about the influence of LSD on the development of human embryos is scanty and exists only in the form of clinical observations. For obvious reasons, this problem cannot be approached in an experimental manner in humans. There are six reported cases of malformed infants born to women who ingested illicit LSD prior to or during pregnancy. Ashby, Norris and Zeilurger (32) described a child born with a congenital limb anomaly. Both parents of the child had taken alleged LSD of unknown purity and amount from an unidentified source on an indefinite number of occasions. The mother took LSD four times during pregnancy, twice during the first three months, which is the time at which the limbs are differentiated. Zeilurger, McDonald and Albo (117) reported the case of a child born with a complex unilateral deformity of the leg. This anomaly, the so-called fibrilar sphyric syndrome, includes absence of fibula, anterior bowing of the shortened tibia, absence of lateral rays of the foot, shortening of the femur, and dislocation of the hip. The parents of this child took illicit LSD, the mother on the 25th day and three times between the 45th and 98th day after her last menstrual period. The authors emphasized the fact that the seventh week of gestation is the period of most active differentiation of the lower limbs; this was also established for the thalidomide embryopathy. Hecht et al. (49) observed malformation of the arm in the case of a child whose parents had taken LSD and smoked marijuana. The mother took unknown amounts of LSD before and during early pregnancy. The authors concluded that the reaction of the deformity to LSD in this case is unclear. Cunakawansky, Neu and Gardiner (16) reported a similar case. It involved an infant with a terminal transverse deficit of portions of fingers on the left hand and syndactyly of the right hand with shortened fingers. This
malformation is characterized by a failure of the fingers to separate and function independently. The mother was believed to have been exposed to LSD and cannot during pregnancy. Elton and Martin (34) gave a report of a severely deformed baby with an anomaly involving defective development of the thoracic part of the skeleton (spina bifida). This rare condition had previously been described only in African infants. The mother in this case happened to take LSD once around the time of conception. The authors question the causal relationship between LSD and the deformity. Finally, Hsu, Streus and Hsia (67): (17) They described a multiple malformations, to parents who were both LSD users prior to conception. During pregnancy the mother also took marijuana, barbiturates and methadone. The malformations in this case were associated with chromosomal abnormalities indicating the so-called trisomy 13 syndrome.

Berling and Jacobson (12) studied 127 pregnancies in 112 women where one or both of the parents admitted taking LSD before or after the infant's conception. According to the authors, sixty-two pregnancies resulted in live birth, six of these infants had congenital abnormalities, with one neonatal death. One of the fifty-six normal newborns died of accidental causes. Sixty-five percent of the abortion terminations were terminated by about 13 weeks; seven abortions were spontaneous and four of these fetuses were abnormal. Out of fourteen therapeutic abortions, there were four abnormal fetuses. The rate of abnormal fetuses was ten percent, twice as large as the normal population. One of the findings in all the abortion specimens was failure of fusion of the cortex. Three of the six abnormal children born alive had myelomeningocele: one had hydrocephalus; all had symptoms of diseases and malnutrition. Most of the therapeutic abortions were done for psychiatric reasons. Thirty-six percent of the women had undergone extensive radiological investigations for abnormal findings. Berling and Jacobson's study, as well as the previously mentioned case reports of fetal abnormalities, involve infants born to parents who ingested illicit substances of unknown toxicity to date. There is no report of congenital malformations in human offspring exposed to pure LSD. In addition, as Blattor (13) pointed out in his rather bitter and emphatic criticism of the paper by Berling and Jacobson, (34) there is no scientific evidence for these individual case histories of a causal relation between the ingestion of illicit substances and the subsequent development of the embryonal malformation. The findings could be reported as pure coincidences and be related to any number of variables. Differences in type and severity of malformations may be due to genetic factors, both embryonic and parental.

There exists a considerable amount of clinical evidence contradicting or limiting the abovementioned findings. Among women exposed to LSD during pregnancy, the chromosomal breaks in children exposed to illicit LSD in utero reported elevated breakage rates of the chromosomes. (27, 33, 54) However, all fourteen infants studied were in good health and had no indications of birth defects. It is interesting to note in this context that the hypothesis of the possible teratogenic action of LSD was originally derived from observations of increased chromosomal abnormalities attributed to LSD. In the chromosomal findings were normal. Conversely, the children showed no physical abnormalities. Although it is not common, for obvious reasons, to publish case histories with negative results, Sato and Pergament (85) presented newborn whose mother had taken LSD before and during early pregnancy six times. The pregnancy was uneventful, and the baby was born a full-term, healthy, psycologically normal baby. The sex of the mother was uncertain; it took LSD during the critical stage for production of limb deformities, as it has been reported, but no fetal deformities developed.

Sato, Laris and Smith (1) observed a group of ten pregnant women who were ascertained as having ingested LSD in hallucinogenic dosages. These women subsequently delivered ten live and healthy babies. There was no evidence of teratogenic effects or chromosomal damage in any of these ten children. This finding is interesting to fact that all of the delivered children were girls. The low probability of girls is involved in the ratio of male to female newborns is 1:1.024. They suggest that fetuses and their maternal hosts; this results in the detection of the fetal tissue observation that women who became schizophrenic within one month of conception following ingestion of LSD; this was part of a larger study of 300 pregnant women. McClothin, Spurkin and Arnold (70) studied 145 human pregnancies by drawn from a population of 750 who received LSD orally in either an experimental or psychotherapeutic setting. The number of sessions ranged between one and seven. For twenty weeks, there was additional use of LSD under non-medical conditions. In a small percentage (9%) and strong psychosocial effects such as panic, use of LSD in reasonable doses by men before intercourse leading to conception, in men who are not in favor of aborting or birth defects, creation may increase the incidence of spontaneous abortions; the causal connection between these two events is not clear and requires further research. There, the authors concluded to this study increased the risk of having a child with a congenital defect. The only increased risk observed in this study, therefore, was a LSD. Spontaneous abortions occurred significantly more often when the mother had taken LSD than when the father only had taken it. The authors offered two explanations for this finding: (1) The period during which the treatment of the ova is very long; it takes several years, as compared to a few weeks for the
leukemia and other neoplastic diseases. The authors also pointed out that cells of neoplastic origin show a variety of chromosomal aberrations, many of which are not unlike those they had found in subjects after ingestion of LSD. In addition, some of the agents known to produce similar chromosome aberrations, such as radiation and various viruses, are known carcinogens.

The carcinogenic hypothesis was supported by the finding of Iwan and Egner (57) that nine subjects who had taken illicit LSD had chromosomal fragments resembling the so-called Philadelphia (Ph) chromosome, often associated with chronic granulocytic leukemia. Gromsba and et al. (46) found a Ph-like chromosome in all thirty-five peripheral leukocytes from an individual who had used illicit LSD and other drugs and who later developed acute leukemia.

Several serious objections have been raised against this hypothesis. First, the evidence that pure LSD causes chromosomal alterations is rather problematic and inconclusive. Second, the cause of the chromosomal lesions in the above mentioned inherited disorders is not known, nor has it been established whether these lesions have any relation to subsequent neoplastic developments. There exist many chromosome breaking agents which are not associated with leukemia, and quadriradial and other rearrangement figures have also been found in the white blood cells of normal individuals. Third, Cohen's comparison of the effects of LSD with those of radiation does not seem to be well substantiated by experimental and clinical findings. According to Dubitsky et al. (28) long-term chromosomal damage following LSD injection has been reported in three retrospective studies. In two reports of subjects studied before and after they took LSD (prospective approach), the occasional damage that was found was without exception transitory, suggesting a reversibility of effect unlike that associated with radiation. Fourth, the Ph-like chromosome was reported in only two studies; in both of them it was found in peripheral leukocytes. In chronic granulocytic leukemia, the Ph chromosome is characteristic only of myeloid and erythroid cells, which normally do not divide in peripheral blood. Dubitsky et al. (28) quote Nossell and Hungerford (94) who initially described this lesion: "A chromosome compatible with the Ph would have to be observed in blood cells other than lymphocytes to be relevant to the question of chronic granulocytic leukemia."

Only two cases of leukemia have been reported in individuals who were treated in the past with pure LSD (41, 108). In both of them it remains to be established whether the association represents a causal relation or a coincidence. In one of these cases, reported by Garson and Bohan, (41) there was a "remarkable incidence of childhood malignancies strongly suggestive of a familial predisposition to malignant disease." At the present time the carcinogenic hypothesis seems to be rather poorly supported by experimental and clinical data and remains in the realm of pure speculation. There appears to be no definite evidence that LSD is a carcinogenic agent.

SUMMARY AND CONCLUSION

Two-third of the existing in vitro studies have reported some degree of increased chromosomal breakage following exposure to illicit or pure LSD. With one exception, these changes were observed with concentrations of LSD and durations of exposure that far exceeded the dosages commonly used in humans. In none of the...
studies was the clear dosage-response relationship. Since similar findings have been reported in many commonly used substances, including artificial sweeteners, aspirin, caffeine, phenothiazine tranquilizers and antibiotics, there is no reason why LSD should be singled out and put in a special category. There is no justification for referring to the structural changes of the chromosomes as "chromosomal damage"; their functional relevance and relation to specific remains to be established. In addition, the fact that the in vivo experiments bypass the secretory and detoxifying systems present in the intact organism casts doubt on the overall relevance of the in vitro results.

In the in vitro chromosomal studies, the majority of positive findings was reported in persons who had been exposed to illicit, "alleged" LSD. Diesterweil et al. (28) is their excellent synoptic review of the chromosomal studies made in the past, summarized the existing evidence in the in vitro papers as follows: "In twenty-one in vitro chromosomal studies, a trial of 310 subjects were reported. Of these, 120 were treated with pure LSD; the other 184 were exposed to illicit, alleged LSD. Only 18 of 128 (14.3 percent) of the subjects in the pure LSD group were reported to have chromosomal aberrations above metabolic rates. In contrast, 89 of 184 (48.5 percent) of the subjects in the illicit LSD group had elevated aberration frequencies. Of all the subjects reported to have chromosomal damage, only 18 of 108 (16.7 percent) died, while 380 (48.5 percent) excess deaths were reported in the pure LSD. The frequency of individuals with chromosomal damage reported among illicit drug users was nearly triple that associated with the use of pharmacologically pure LSD. Three findings indicate that chromosomal aberrations when found were related to the more general effects of drug abuse and not to LSD per se: it is highly improbable that pure LSD ingested in moderate doses produces chromosomal aberrations in the white blood cells.

The positive findings in some of the chromosomal studies using human leukocytes were interpreted as indicating genetic damage and danger to future generations. To be of direct genetic relevance, however, the chromosomal damage would have to be demonstrated in the germinal cells, the sperm and ova, or their precursor cells. Several existing studies of the effect of LSD on the mitotic chromosome has been incorporated despite the use of various doses. The mutational studies in Drosophila melanogaster indicate no mutagenic effect from 0.28 to 500 micrograms of LSD per cc and a definite mutagenic effect from 2,000-10,000 micrograms of LSD per cc. The fact that truly astronomic mutations have to be used to induce weak mutant is unlikely to be mutagenic in any concentration used by human subjects.

In some of the early studies, LSD was implicated as a potential cause of congenital malformations, abortions and fetal weight. The original reports of teratogenic effects in hamsters, rats and mice have not been confirmed by later studies. The experiments in rodents indicated a rather wide range of individual strain and species susceptibility to the effects of LSD. It is highly questionable whether and to what extent the results of such investigations can be extrapolated to the situation in humans. There have been six individual cases reported of malformed children born to patients who have used illicit LSD. Only one team of workers reported an increased frequency of congenital malformations in the offsprings of illicit LSD users. In regard to the high frequency of unexplained spontaneous births and the wide-spread abuse of LSD, the above observations may be coincidental. The increased occurrence of malformations in the LSD users reported in one of the studies may be explained by many other variables characterizing this group, and there is no logical reason to implicate LSD as the single or most important factor. At the present time there is no clear evidence that pure LSD is teratogenic in humans. However, in view of the high vulnerability of the developing fetus to a great variety of substances and conditions, the administration of LSD is contraindicated for the gestation period.

There is no clinical or experimental data demonstrating that LSD has carcinogenic properties, as suggested by some of the early studies. No increase in the incidence of tumors among LSD users has ever been detected. Case reports of leukemia and malignant tumors in the population of LSD users have been exceedingly rare. In the three existing case reports of leukemia, there has been no proof or even indication of a causal relationship, and the association of leukemia with LSD use may have been merely a coincidence.

As this review shows, no convincing experimental or clinical evidence exists to prove that the commonly used doses of pure LSD produce genetic mutations, congenital malformations or malignant growths. As far as illicit LSD is concerned, the situation is much more complex, and the results of the studies of illicit LSD users should not be considered relevant to the question of the biological effects of LSD. Uncertainties about the dosage, and the contamination of black-market samples of psychedelic drugs by various impurities and additives contribute a very important dimension to the already serious psychological hazards associated with the self-administration of LSD.

There is absolutely no indication in the research data currently available that responsible experimental and therapeutic use of LSD by experienced professionals should be discontinued.

REFERENCES

This list includes works cited in the text and other related works consulted by the author for this critical review.

References

Scrobin, A. 155
self-actualization and self realization
(A. Madlov 36, 209
sensory isolation 10
sensory overload 10
serotonin (5-hydroxytryptamine) 21
Serrodo, E. 277
set and setting 163, 307
Shakki 93
shamanism 88, 262, 272
Shankar, R. 155
Shaw, E. 21
Shenwood, F. 37
Slava 93, 192, 210
Shiva the Destroyer 85, 210
Silverman, J. 27
Siyapah 81
Smith, C. M. 37
Smith, H. 264
Sobekkeward, J. 32
sona 262, 264
Seo, R. 37
spectrogrammology (K. Wilber) 231 note, 294
Spencer, A. M. 22, 32
Sphira 98-9
spirit possession 291
Sri Ramana Maharshi 162
Sner, J. 20
Stalin, J. V. 93
Stark, L. H. 241
status epilepticus 92, 137, 164
Stolarz, H. 37
Stoll, A. 77, 19
Stoll, W. A. 20, 25, 257
STP 109, 138, 163, 308
Straus, R. 155
strongine 109, 163, 308
Sudcit 110, 135, 263
suicide 192-2, 280
symbolics (C. H. van Rhijn) 28
synchronicity (C. G. Jung) 272
Tabernatlaidea thega (frogs) 263, 270
Taltanis 81
Tao Te Ching 230
Tao 79, 86
Taoism 110, 230
Tarnas, R. 231 note
Tar, C. 40
Tat turn ai 70
Tate, D. L. 244
Tevermann, J. 32
telepathy 88
teonanacatl 263, 264, 270
Terrible Mother archetype 73, 210
Thera, N. 261
Theraissi 21, 168
The-wodpa 263
Tibetan Book of the Dead (Jih-ba Thub-dobl) 37
Tibetan Buddhism 295
Theocrito (Devourer of Filth) 82
Troad skin 263
Toben, B. 254 note
transference phenomena 20, 37, 87-9, 176
transference psychosis 290, 245
transintegrative therapy (R. Maclean) 38
transmutation 276
transpersonal experiences 79, 87-9, 210, 222, 232
transpersonal psychology 120, 128 note
transphenomenal dynamic system (H. Levine) 110 note
Tresler, P. 17
Unger, S. 37
universal symbol 37
Upendahk 127
Vajrayana 110
Vajahata 86
Vajipus, J. (correction exercise) 44-5 note
Vandeil, T. 254 note
Venn 102
Vedda, G. 155
Vicari, R. 27, 28
Virgin Mary 86
Virda (the blind) ( agrees) 270
Vivakha, A. 150
Vivolto Darcu 93
volcanic vent 84
Wagner, B. 154, 155
Wenon, V. D. 252
Warl, A. 264
Wedler, J. 44 note
Whitlow, J. D. 22, 27, 32
Whittemore, J. 38, 37, 271
Wilkes, K. 221 note, 294
Winter, F. 155
Wise Man archetype 102
Witches' Sabbath 99, 201
Wolf, S. 3, 21
Woody, D. W. 21
yagi (Baummlaupus czaapi) 30, 263, 270
Yamada, R. 37
yin-yang 231
yoga 110, 229
Young, A. 254 note
Zahner, R. C. 264
Zunzha 110
Zunzha, N. 261