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ESP EXPERIMENTS  
WITH LSD-25  
AND PSILOCYBIN:  
A METHODOLOGICAL  
APPROACH

*Roberto Cavanna*  
*Emilio Servadio*

*with introduction by*  
*Dr. Charles T. Tart*



**PARAPSYCHOLOGY**

*Foundation, Inc*

# ESP Experiments with LSD-25 and Psilocybin

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# ESP Experiments with LSD-25 and Psilocybin

A Methodological Approach

By

Roberto Cavanna &  
Emilio Servadio

Parapsychology Foundation, Inc.  
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## ❖ *Preface to the New Edition*

*Charles T. Tart, Ph.D.*

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Psychedelic drugs and ESP . . . what an interesting and controversial combination!

When this monograph was first published in 1964, one of the most exciting research eras in psychology and psychiatry had just come to a sudden, screeching halt. There had been more than a thousand studies published on psychedelic drugs like LSD-25, mescaline, and the purified form of the Mexican "magic mushroom," psilocybin. Many of these studies were primarily biological and neurochemical studies and, although it is largely forgotten today, these studies led to major discoveries in understanding brain functioning.

It was the psychological and psychiatric studies that were of most interest to many of us though. Although it was originally thought by some that these drugs would lead to an understanding of mental illnesses like schizophrenia because they temporarily made normal people "schizophrenic," it soon became clear that such mimicking of mental illness (and a poor mimicking at that) was a very narrow subset of what these drugs could do, a semi-arbitrary creation of a particular set and setting, suggestions that pushed the experience in a particular direction. With more positive sets and settings, in properly selected and prepared people, these drugs were indeed psychedelic, mind-manifesting, rather

than psychotomimetic, psychosis-mimicking. Many promising studies had also appeared exploring the use of psychedelics as promising adjuncts to psychotherapy and, even more interesting, the induction of transcendent, transpersonal experiences that opened up reaches of the human mind and spirit normally inaccessible to most people.

For some three decades now I have explored human possibilities under the general topic heading of transpersonal psychology, a branch of psychology that had hardly been dreamed of in the early 1960s. "*Trans*" indicates the study and development of aspects of human nature that go beyond, transcend, our ordinary personality and biological nature. The term transpersonal was coined by psychologist Abraham Maslow to be a more descriptive, value-neutral term than such words as "spiritual, which have too many emotional connotations for people to think about clearly. Psychedelics, of course, can be very strong inducers of transpersonal experiences.

If I had to summarize all of my and my colleagues' transpersonal research in a couple of sentences, I would say it is now clear, in contrast to the dominant materialistic belief systems of our times, that, at heart, (a) we are spiritual, transcendent beings in a vitally real way, that (b) much of the suffering, craziness and pathology of modern life comes from a failure to recognize our transpersonal nature, that (c) this recognition must be based in deep experience, not simply in the intellect, not just belief, and that (d) techniques exist and are being improved upon to bring about such deep experiential recognition. To put it another way, if you are a spiritual being but ignore or deny it, you will suffer because you are out of contact with some of the most important parts of reality—but we can get into contact with the spiritual, the transcendent, and life improves greatly when we do so.

What is the connection of ESP to psychedelics and our transpersonal nature?

The dominant materialistic views of our time claim completeness: Everything important about reality is understood. This is what sociologists long ago termed scientism,



an arrogant world view that takes then contemporary understandings of physical science as the Ultimate Truths about the nature of reality. Because the spirit, the transcendent has no place in a universe that has no realities other than physical reality, the transcendent is denied and anyone who "believes" in it—the pejorative way interest in the spirit is usually described in scientism—is, at best, ignorant and, at worst, insane.

But, and this is an important "but," there has long existed a small number of researchers in the field of parapsychology who have used the scientific method that followers of scientism have used to support materialism—indeed used it in much higher quality ways than it is actually used in most areas of science—and who have reported and continue to report solid evidence of aspects of the human mind and spirit that are not compatible with materialism, that instead point toward taking the spiritual and transcendent as realities important to study in their own right. That is, there are a lot of solid findings (probably more than 1,500 published experiments, by my rough estimate—I can't keep up with them all any more) that provide an empirical, scientific foundation for taking the spiritual quite seriously as a reality, not just a pathological idea or fantasy. These include such well established parapsychological phenomena—psi phenomena as they are now generally called within the field—as telepathy, clairvoyance, precognition, psychokinesis (PK) and mental healing, as well as possible but not thoroughly studied phenomena such as out-of-the-body experiences and possible non-corporeal survival of death<sup>1</sup>.

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<sup>1</sup>For the interested reader, these phenomena and their implications are discussed at length in my book *Body Mind Spirit: Exploring the Parapsychology of Spirituality* anthology (Charlottesville, Virginia: Hampton Roads Press, 1997). Other papers on this and related themes are available at my [www.paradigm-sys.com/cttart/](http://www.paradigm-sys.com/cttart/) website, and an ongoing collection of transcendent experiences of scientists are available at The Archives of Scientists' Transcendent Experiences (TASTE) ([www.issc-taste.org](http://www.issc-taste.org))

The main problem with this parapsychological research, one reason that it has had little impact on mainstream scientific and cultural views, is that generally the psi effects that can be produced and studied in the laboratory are quite small and unreliable. That is, a series of experiments by a seasoned researcher is likely to be statistically significant, but this might mean an average of 51% correct outcomes where 50% is expected by chance, and you can't guarantee this result in any particular experiment. We don't, in general, know how to make psi work in strong and reliable ways. (There are other, irrational reasons people reject the evidence for psi, but this need not concern us here—some of the papers on my website, [www.paradigm-sys.com/cttart/](http://www.paradigm-sys.com/cttart/), deal with that.)

So here we are, spiritual beings lost in materialism, knowing at some semi- or unconscious level that something is amiss in the way we think about ourselves and the world and so how we live our lives, rightfully impressed by genuine science, and also thoroughly conditioned by the dominant scientism to scoff at the spiritual. Along comes parapsychology saying there's excellent evidence that mind seems to have a reality that transcends the merely biological/physical, but it's so hard to demonstrate that in a certain way. If only there were a way to make psi abilities work so much better that there would be no question about their reality and implications. Why can't we figure it out?

Enter psychedelics. First, we have drugs which, used under the right circumstances, temporarily suppress ordinary, "normal" consciousness where ESP doesn't work well, and which can produce altered states where the normal inhibitions that keep us from using psi might be weakened or suspended. Second, we have many anecdotal reports from people who have been exploring their minds with psychedelics that this is not just a theoretical possibility, it does indeed happen, they feel like they sometimes transcended limits of space and time, read others' minds, and experienced other apparent psychic phenomena. Maybe this is the big breakthrough we need in order to get psi to work?

Obviously we have to go beyond the anecdotal stage, though, and use psychedelics in more controlled, laboratory settings to see how to make this happen: Thus the important, pioneering work reported in this monograph. Biochemist Roberto Cavanna and psychoanalyst Emilio Servadio began exploring ways to use psychedelics to enhance psi, using state of the art (at that time) knowledge and looking at the deeper psychology of the experimental situation. Their work was seen by them as pilot work that would lead to much more extensive and sophisticated research, perhaps eventually bringing psi under conscious control.

And, as I mentioned above, in spite of all this promise for psychedelic research in general, as well as for enhancing ESP, all the research came to a sudden, screeching halt in 1963. Official reasons were given by the authorities, but basically the sons and daughters of the powerful started taking psychedelics, rejecting their parent's values and "dropping out," not going on to the important and powerful careers they were expected to value and pursue. LSD and other psychedelics were made illegal and even for research purposes given the most restrictive scheduling possible for drugs. Scientists then doing research were required to immediately halt it and send back all their supplies of psychedelics. In theory, researchers could apply for new grants, but in point of fact the administrative paperwork became an excessive burden, and most researchers believed that biases in review committees would mean that unless your research would justify seeing psychedelics as very dangerous and upholding the new laws, you had no real chance of getting any approval and funding. Hysteria, both for and against psychedelics, drowned out reasonable discussion of genuine benefits and dangers and stopped research.

There had been and still are negative reactions to psychedelic use. Some people should probably never use them under any circumstances, others only under professional guidance to increase safety. But the baby was thrown out with the bath water. We might have had much more effective treatments for alcoholism, recidivism among criminals,

psychotherapy, or ways to ease the psychological suffering of dying, for example, or ways of enhancing psi, but we don't know, as research has been almost non-existent since 1963. The Multidisciplinary Association for Psychedelic Studies (MAPS) (their website is: [www.maps.org](http://www.maps.org)) has managed to get a few research projects started and is the best source of information on what is or might be done, but, compared to what we need to know about reducing risk and learning to effectively use the vast positive potentials of psychedelics, it's only a drop in the bucket so far.

In the normal course of scientific research, a research study almost 40 years old would be of only historical interest, as so many better studies would have been done by now. Because this hasn't happened, the Cavanna and Servadio study remains as important today as when it was first published, and will hopefully guide a new generation of researchers to finding the knowledge we need!

## ❖ *Acknowledgments to the First Edition*

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## ❖ Chapter 1

# Introduction

In previous ESP experiments by other researchers, various substances active on the central nervous system were administered to the subjects; namely, alcohol (Averill & Rhine, 1945; Brugmans, 1922), caffeine (Rhine, Humphrey & Averill, 1945), barbiturates and stimulants (Cadoret, 1953; Huby & Wilson, 1961). It has been difficult to gather significant information from these works, because no efforts were made to achieve standardization of methods concerning the assessment of the personalities involved and of the effects of the drugs used.

Actually, in most of the past experiments with selected subjects, with or without drugs, medical and psychological investigation of personality was generally limited and often entirely lacking. There is no doubt, however, that the subject's personality, with its variables, plays a fundamental role in ESP experiments, even if no positive and direct correlations have yet been found between any of its aspects and the phenomena under study. Therefore, we regarded as justifiable the collection of a large amount of data on each subject, and the standardization of this procedure. We consider it essential to future research of this kind.

When psychotropic drugs first became available, that is, substances endowed with a specific action on mood and/or mental activity (Baruk & Launay, 1962; Bradley, Deniker & Radouco-Thomas, 1959; Cerletti, 1960; Garetini & Ghetti, 1957; Jacobsen, 1959; Kety, 1957; Robson & Stacey, 1962; Rothlin, 1959, 1961; Shepherd & Wing, 1962; Taeschler & Cerletti, 1960; Tonini, 1961; Weidmann, 1961), several open-minded

scientists made self-experiments with them, especially with psychodysleptics (drugs disrupting personality balance) in order to gain better insight into the dynamics of human personality. Many researchers administered these drugs to the normal, to psychotics and neurotics in the hope of gaining a better understanding of the mechanisms of distortion of mental processes (Abramson, 1955, 1956, 1960; Blewett & Chwelos, n.d.; Denber, 1956; Denber & Merlis, 1954, 1955; Dews, 1956; Fabing & Hawkins, 1956; Gibbs, 1959; Hoch, 1958; Hoch & Zubin, 1957; Kline, 1956, 1959; Pennes, 1958; Quetin, 1960; Sai-Halasz, Brunebecker & Szara, 1958). In this way, a great deal of valuable material on the structure and function of the human personality was collected (Cole & Gerard, 1959; Hoffer, 1956; Janiger, 1959; Kety, 1959, 1960; Ostow, 1962; Rinkel, 1957, Wikler, 1957); however, as far as we know, no attempt has been made to study the possible occurrence and the conditioning of ESP phenomena under the effect of such drugs. Meanwhile, reports dealing with the possible mechanisms underlying telepathic occurrences between analyst and patient, during psychoanalytical treatment (Eisenbud, 1946, 1948; Ehrenwald, 1954; Fodor, 1947; Gillespie, 1956; Servadio, 1955a, 1955b, 1956, 1958, 1962), had paved the way for such an investigation.

In this preliminary approach we have tried to outline a methodology for an extensive investigation of the occurrence and conditioning of ESP phenomena in humans during specific personality states. These states were induced by the intake of substances known to have well-defined, controllable, transient, and pharmacologically reproducible impact on the central nervous system, resulting in reversible alterations of personality; such alterations were studied prior to the experiments and thoroughly assessed with the means of dynamic psychology.

## ❖ Chapter 2

# Drugs and ESP

The intake of drugs in connection with divinatory practices is probably as old as mankind. We assume that thought transference is an archaic means of communication among humans (Freud, 1933; Meerloo, 1949) and therefore was probably much more widespread in more primitive cultures. It is reasonable to think that there was often the need of inducing particular personality states by interfering more or less empirically, with the physiological substratum called to extra work, that is, the central nervous system. If we consider Oriental practices for introducing trained individuals into states of contemplation (Behanan, 1937; Eliade, 1948, 1951), or shamanistic sessions in primitive cultures (Feindeisen, 1957), we see that such rituals are usually accompanied by emotional stress, probably reflecting a very particular cerebral metabolism (Reymert, 1950).

It is quite likely that primitive men in search of food accidentally discovered that, when ingesting certain plants or mushrooms, they felt "different" and started "seeing things." One can postulate that the intake of natural products endowed with such extraordinary powers was soon organized in ceremonies aiming to widen knowledge on important events or to strengthen self-assurance before taking decisions involving the whole community (La Barre, 1960; Lassek, 1957). Probably, it was then realized that some men were more apt than others to enter such states, and so the intake of active products became their privilege. In some instances, scarcity in nature of a certain plant containing active principles contributed to reinforce both the belief in



its magic properties and the privilege of its use by certain members of the community. This is a schematic picture of a highly complex phenomenon involving several disciplines. Nevertheless, we want to emphasize that in the specialized literature several observations are reported which deserve attention from the modern researcher in psychopharmacology, in spite of their having been collected with the purely descriptive methods of classical anthropology.

One of the latest cases is that of the Mexican mushroom *teonanácatl* used *ab antiquo* in connection with divinatory practices (Heim & Wasson, 1958; Johnson, 1939). A few years ago a team of natural scientists attended such ceremonies ("Mushroom ceremony of Mazatec Indians of Mexico," 1957) and the observations made were interesting enough (Heim, Personal communication) to prompt the taxonomic classification of the mushrooms used (La Barre, 1960; Heim, 1957), their cultivation in Europe (Heim & Cailleaux, 1957), and finally the extraction and purification of the active principle (Hofmann, 1960a). This proved to be 4-hydroxy-w-N, N-dimethyl-tryptamine, mainly present in the mushrooms as phosphoric ester, a novel and simple indolic compound endowed with a definite pharmacologic action on the central nervous system (Horita & Weber, 1961; Kalberer, Kreis, & Rutschmann, 1962; Monnier, 1959; Weidmann, Taeschler & Konzett, 1958; Weidmann & Cerletti, 1960).

Even if not found in nature, another most interesting substance is the diethylamide of d-lysergic acid (LSD 25), a derivative prepared in the laboratory from the skeleton of naturally occurring ergot alkaloids (Stoll & Hofmann, 1943) whose properties were known for many centuries (Rothlin & Fanchamps, 1955). An impressive amount of material has been published on the biological activity (*Catalogue of the literature on Delysid*, 1961; Rothlin, 1957) and psychological impact of this highly active substance,<sup>2</sup> but its mechanism of action is still unknown, despite extensive studies on its

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<sup>2</sup> See *Catalogue of the literature on delysid* (1961), page 1 (a to 1), page 2 (a to g), pp. 3-4, and page 5 (a and b).

metabolic rate (Alexrod, Brady, Witkop, & Evarts, 1957; Stoll, Rothlin, Rutschmann, & Schalch, 1955).<sup>3</sup>

Assuming the validity of Hess' (1948) functional systems, an interesting hypothesis was formulated (Brodie, Bogdanski, & Shore, 1957; Brodie & Shore, 1957) on the interaction of psychotropic compounds with brain processes. Most likely the steady state for cerebral metabolism is a dynamic one in which both systems, "ergotropic" and "trophotropic," are balancing each other, and it is reasonable to suppose that the subjective feeling of presence in the waking state (Oswald, 1962) is nothing but the subconscious awareness of such an equilibrium. This equilibrium is presumably controlled by a number of factors, most of them still unknown, but we can grossly oversimplify the picture and assume that any interference with such a highly complex homeostatic system should result in instantaneous alterations of the balance between chemical mediators. To postulate such a simplified general mechanism of action for psychotropic compounds is obviously a very rough approximation of a much more detailed pattern of specific interactions with several functionally interdependent physiologically active substances existing in the brain.

In the case of psychodysleptic compounds, although a few investigations on their possible interference with some enzymatic processes in the central nervous system have not given conclusive evidence of a direct and specific interaction (*Catalogue of the literature on delysid*, 1961, p. 16; Geronimus, Abramson & Ingraham, 1956), thus failing to help in explaining their mode of action, such studies ought to be diligently pursued bearing in mind not only Hess' hypothetical systems, but also the operational interactions of many highly specific biochemical mechanisms regulating the turnover of low molecular compounds, which have a powerful central action and are rapidly and topically produced, released and destroyed (De Ajuriaguerra, 1962; Freedman &

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<sup>3</sup> See *Catalogue of the literature on delysid* (1961), p. 5, "Distribution and fate in the body."

Giarman, 1963; Marrazzi & Hart, 1955; Paton, 1962; Robson & Stacey, 1962; Tower, 1958).

This kind of interpretation of presence-regulating mechanisms is obviously one-sided: we are aware that many other approaches are equally valid and that all of them are needed to complete the general picture. Nevertheless, on the assumption that a certain degree of loss of presence would favor regression to more empathic states, and that such a regression might represent a favorable ground for the occurrence of ESP phenomena, we attempted to induce such states by pharmacological means, because we think they have several advantages over other procedures. In fact, trance-induction, hypnosis, lack or excess of oxygen, hypothermia, fasting, sensory deprivation, etc., besides lacking in specificity of action, all challenge with serious stress not only the central nervous system but the whole organism, and some of them even jeopardize life. Another negative side of these procedures is the lack of cooperation of the subject and the difficulty in establishing good contacts with him, which renders the performance of scientifically meaningful experiments an extremely difficult task.

The use of psychodysleptic compounds in suitable doses for provoking a moderate loss of presence enabled us to overcome these difficulties, besides being physiologically harmless. Care must be taken though, to gather all possible information about the personality of the subject and to have experienced personally the effects of each substance, in order to be able, at the right moment, to counteract possible psychic troubles resulting from experiments with such drugs, which may shake the very core of a personality (Abramson, 1956c; Cohen, 1960; Ostow, 1959). We believe that skilled support, based upon documented knowledge of the personalities involved, can succeed in restoring an upset balance and even in helping the subject to turn such an experience into a highly positive and fruitful event (Abramson, 1956).

The ideal substance, making possible a sort of "tuning" between humans, has not yet been found. We chose for our pilot work LSD 25 and psilocybin, as both affect personality

functions by altering the balance between coordination and drives. We could rely on a large amount of creditable observations available on their impact on human personality under a variety of conditions (Abramson, Jarvik & Hirsch, 1955; Abramson, Jarvik, Kaufman, Kornetsky, Levine & Wagner, 1955; Abramson, Jarvik, Levine, Kaufman & Hirsch, 1955; Abramson, Kornetsky, Jarvik, Kaufman & Ferguson, 1955; Delay, Pichot, Lemperiere, Nicolas-Charles, & Quetin, 1958; Jarvik, Abramson & Hirsch, 1955; Levine, Abramson, Kaufman & Markham, 1955; Levine, Abramson, Kaufman, Markham & Kornetsky, 1955; Stoll, 1947). Both compounds considerably depress the ego functions and uncover less mediated communication mechanisms even in very low doses (Abramson, 1956b; Lennard, Jarvik & Abramson, 1956). How much advantage we shall be able to take of it in our research, we cannot tell before having thoroughly studied the conditioning of possibly occurring ESP phenomena. States of regression are undoubtedly advantageous for the operation of more archaic ways of communication, but existing patterns of interpersonal relations contribute to the establishment and configuration of empathic states. Moreover, these interpersonal relations are not static but, due to the impact of the substances and to more or less conscious manipulation by the individuals involved, evolve dynamically towards more overtly rewarding relationships.

For the sake of simplicity, we considered only GESP in this first approach, and made experiments with one subject at a time under drug, or placebo. At the end of this volume we report two exploratory experiments in telepathy, which we made with the same subjects using the same targets: the results obtained in these experiments and in previous ones of the same type (Cavanna & Servadio, 1960) made us aware of the necessity to broaden the scope of our project. The investigation of possible ESP occurrences between two individuals both under drug, whose emotional connections with each other are predictable because of previous knowledge, and can be kept under observation during the course of the experimental session, seems very promising. Monozygotic

twins would be invaluable in this respect (Burlingham, 1952; Wilkins, Malitz & Escover, 1962). But we think that such types of experiments will require a considerable refinement of methods and techniques.

In this first phase we could already detect remarkable differences between the psychic effects of LSD 25 and those of psilocybin, probably reflecting the known differences in their mechanisms of action (Hofmann, 1960b; Hofmann, 1961; Jacobsen, 1959; Monnier, 1959). The arousal pattern of the central nervous system under psilocybin is much milder and less irresistible than that under LSD 25 in comparably effective doses and regression is more massive and primary in the latter than in the former (*Catalogue of the literature on Delysid [D-Lysergic acid diethylamide or LSD 25,]* 1961). Moreover, exploratory experiments which we carried out with the collaboration of highly selected subjects (Servadio & Cavanna, N.D.), consistently pointed to striking qualitative differences between these effects. While LSD 25 uncovers the mechanics of the relationship ego-es, psilocybin seems to disclose another aspect of personal dynamics, namely the interaction between ego and superego. The imagery often evoked by psilocybin is more decor-like, richer in objectual references, as compared to the ego-concerned hallucinatory experiences induced by LSD 25. There are pros and cons in both cases as far as ESP experiments go: if it is difficult to grasp and describe an image out of an overwhelming flow of inner events, as under LSD 25, it is equally difficult to discern meaningful and self-contained images in a continuously swaying, deeply interwoven, decorative pattern, as under psilocybin.

Maybe other substances or combination of substances (A. Hofmann, Personal communication), such as the amide of d-lysergic acid (Sandoz LA 111), most recently found in the seeds of *Rivea corimbosa*, the "ololiuqui" of Mexicans (Hofmann, 1961; Hofmann & Cerletti, 1961; Osmond, 1955), and the monoethylamide of the same acid (Sandoz LAE 32) not yet found in nature, could bring us much nearer to the desired state of receptivity. In this series of compounds

the arousal pattern induced in the nervous system, so impressive in the case of LSD 25, is directly proportional to the number of ethyl groups, the unsubstituted amide producing a sort of stuporous, sleep-like state accompanied by rich imagery (Solms, 1956a). A withdrawal from reality is induced by all these compounds, but has a strikingly different character for each of them: it is, so to speak, highly active in the case of the diethyl substitution and totally passive with no substitution at all, going through an intermediate type of reaction for the monoethylamide. Effective dosages for LAE 32 and LA 111 are in the range of 5 to 10 micrograms per kg. body weight, ten times higher than those of LSD 25 (Solms, 1956b). Another compound, which could be of some interest in this respect, is 1-(1-phenylcyclohexyl)-piperidine hydrochloride (Sernyl), reported to induce states resembling sensory deprivation (Beech, Davies & Morgenstern, 1961).

It is obvious that ESP tests should be designed to fit the particular type of response elicited by each drug and still be flexible enough to allow for different individual reactions to such drugs. At the same time, a consistent methodology has to be defined and the significance of the results obtained through it should be assessed. The present investigation aims at establishing the validity of the experimental setting and procedure which we devised for testing the effects of various psychotropic compounds on the performance and outcome of ESP experiments (Cavanna & Servadio, 1960).

## ❖ Chapter 3

# Methodological Problems

One meets with numerous methodological and experimental difficulties when trying to reproduce in a scientifically valid frame the psychologically and socially significant setting usually observed as background for any parapsychological occurrences. The most accurate reports of anthropologists on drug ceremonies in primitive cultures were of little value to us, due to a profound antinomy implied in the very nature of ESP phenomena. In field work, our simplest experimental techniques, which would lead to a significant evaluation of the results obtained, according to our methodological standards, cannot be used without seriously interfering with the ceremonies under investigation. Conversely, the social and personal motivations, which are an integral part of the conditioning for such ceremonies, are totally lacking when individuals, even gifted persons, are submitted to strict laboratory tests.

We believe that one of the main difficulties encountered in parapsychological investigation is the strong emotional involvement of the investigator himself. Such biased attitude, provoked by the very nature of the matter under study, underlies in the majority of cases the motivation of the research. This results in a body of work open to criticism from all sides, though it is often honestly and carefully conceived and performed. We do not wish to imply that a much greater flexibility and ingenuity in planning experiments is not needed in such a border science as compared with more organized disciplines. Rather, starting from the sort of subjectively descriptive attitude which has prevailed in the field

for centuries, it is necessary to proceed to an objectively meaningful one. Moreover, the problem is not one of performing experiments by analogically applying already known conceptual schemes, but is one of devising an epistemologically significant experimental pattern resting on simple and checkable working hypotheses enabling us to establish a more pertinent methodology.

The very first condition to be met by any scientific observation worthy of its name, is undoubtedly that it be objective and reproducible. It is extremely difficult to meet such a requirement in experiments with human subjects, due to the very nature of the object under investigation. But even if this term of the equation cannot be completely defined, this does not mean that it cannot be confined and its limits determined, so as to give us hints on the directions in which to improve our methodology. Let us consider two examples in this connection: the role of deep interpersonal relationships in the occurrence and conditioning of ESP phenomena, and the possible isolation or synthesis of a substance affecting the central nervous system in a direction favoring such phenomena. In both cases a well established discipline can lend its own methods to the investigation of occurrences relevant to parapsychological studies: results obtained will be just as valid for the parapsychologist as for the psychologist or the chemist.

Great care must, of course, be taken, during the actual performance of ESP experiments, to follow clearly predetermined schemes, if one wants to obtain results which are significant in a given logical frame and are comparable with other data. Objectivity and reproducibility of a parapsychological observation are strictly dependent, as in any other type of research, on the degree of mental clarity and selfhonesty of the investigator. We are also aware that any type of unconscious bias in a researcher affects the heuristic value of his work, however sound and unobjectionable his methodology might appear. This difficulty is acutely felt in parapsychological research and calls for additional care in the planning of experiments: not only must any emotional



involvement of the participants be thoroughly analyzed and the danger of subjective recording ruled out, but the members of a research team must agree on the basic principles of the dynamics of human personality. Team-work, a necessity in most fields of modern science, is an advantage for parapsychological investigation: representatives of complementary disciplines have an opportunity, through collaboration, to mutually enrich and to cross-check their methodological approaches.

Various scientists have at one time or another turned their attention to parapsychological tests, and tried to apply in this field the methodology pertinent to their own disciplines. There are a few reports on the use of drugs to induce particular personality states believed to favor parapsychological occurrences, and much unpublished work was brought to our attention. We gained the impression, however, that none of these investigations allowed for all the following basic assumptions which represent necessary conditions for the scientific validity of this type of research:

- I. Rigorously objective recording, whose formal expression has to be significant in scientific language. This condition can be met by using mechanical devices (tape-recording, photography, etc.) and by cross-checking in different ways all material collected during the experiments by the different observers, in order to exclude possible individual bias.
- II. Accurate assessment of the personality of subjects who are to participate in the experiments. This can be done by submitting each potential subject to a standardized clinical and psychological testing procedure.
- III. Constant awareness that the experimenters are primary elements within the investigation, as much as the subjects or the drugs used. Attitude and behavior must be controlled at all times. This can be achieved by carefully selecting the members of the experimental staff among individuals who are not only

emotionally balanced, but also conversant with controlled introspection.

- IV. The targets used in ESP experiments must be endowed with a strong emotional significance, formally as well as substantially, in order to appeal to subjects. Targets must also be unequivocally definable and highly improbable, in order to make qualitative scoring scientifically meaningful.

In this project we endeavored to fulfill these requirements and to establish a tentative methodological approach for the study of ESP phenomena, based on research methods customary in the natural sciences.

## ❖ Chapter 4

# Experimental Procedure

### Subjects

For this introductory work we considered a pilot cycle of experiments on four subjects, two alleged "sensitives," i.e. persons who had previously given some evidence of parapsychological powers, and two "normals," i.e. well adapted average individuals of corresponding age, sex and cultural standards. The choice of subjects at this first stage was governed mainly by the scarcity of reliable "sensitives" available, and by the need to make a selection of "normal" subjects according to the sensitives chosen. Preliminary screening took place by means of informative personal interviews with the candidates, in order to ascertain their fitness and willingness to participate in such a project without ambiguous motivations. We experienced remarkable difficulties in our search for adult persons who would volunteer freely to participate in such a project. The motivations of most of them did not stand up to a deeper investigation and forced us to discard a number of otherwise interesting and promising individuals.

The persons selected were asked to contact the clinician who collected their anamnestic data and conducted a thorough physical check-up of each one. To substantiate this clinical investigation, the subjects underwent some laboratory tests (see *Appendix B*) which gave us additional information on their health condition with particular regard to liver functions. As second step they were tested by a psychologist, who applied the Wechsler-Bellevue Intelligence Scale (Wechsler, 1944), the Rorschach Projective Test (Rorschach,

1937), the Thematic Apperception Test (Murray, 1943), and the Rosenzweig Frustration Test (Rosenzweig, 1948), whose results gave us a fairly complete picture of the personality structure and the degree of adaptation of the selected individuals. In order to gain a better insight into their deeper motivations and to grasp the fundamentals of the dynamics of their personality, subjects were then requested to undergo two personal interviews with a Freudian psychoanalyst (Deutsch & Murphy, 1955). After a matching and interpretation of the results of the various tests and interviews, one of the sensitives, Mrs. M. G., was eliminated from the experiments; certain personality disturbances (see below) made it inadvisable to submit her to the impact of psychodysleptic compounds. This subject could not be replaced.

**SUBJECT: M.G.**

*Age: 51; Sex: Female; Occupation: Fortune Teller; Marital Status: Married, no children; Family History: Father died at 40 from suicide. Mother died at 60 from cerebral hemorrhage. No information available about the rest of the family.*

*Personality Profile (Based on interviews)*

M.G. seems very disturbed in the three basic fields of behavior: domestic, social, sexual. The immediate and easy ostentation of her problems seems primarily due to a partial and discontinuous realization of the serious fragility of her ego, with a resulting serious anxiety; secondly, it reflects the atmosphere of the environment in which she has lived and of her profession.

Her self-criticism is fairly good, but it functions only when it is not submerged by emotionally-loaded perceptions. This self-criticism frequently turns to irony, showing her need for self-devaluation.

Her aggressive and self-aggressive impulses are very strong, the latter complemented by remarkable exhibitionistic traits. During the interviews she has frequently related thoughts of, and attempts at, suicide. Her aggressiveness, prevalently oral, is very slightly sublimated. Sexually, she shows a definite ambivalence towards her husband, due to

a clear refusal of her own feminine role. She has obvious problems of frigidity. It seems that, in this relationship as in all the others, her requirements are very archaic, and she has a strong need to act as a "nurse." Thus, the balance of the marriage seems founded upon a complementary neurosis of the husband. This could explain, at the same time, the acute rivalry between M.G. and her mother-in-law.

M.G. would seem to be very giving, but actually, in exchange, she exacts total submissiveness. She easily becomes deeply attached to people, especially in her professional life, by identification mechanisms. Her aggressiveness is then expressed in the form of regret, because of her wish that objects should behave in accordance with her identification requirements. She uses this mechanism as defense against a strong separation anxiety; she experiences serious difficulty in parting from objects, and accomplishes this only by using aggression.

It seems impossible for her to have personal contacts unbiased by dependence or identification in the social field, because of serious disturbance in object-relations. The projection of her internal conflicts floods all her relationships with others, which aim at masking a prevailing narcissistic concern. Any relationship is thus felt by M.G. as ambivalent and deceptive and she reacts with an aggressiveness of a type and strength usually found in response to more primary deceptions. Her professional activity serves the purpose of satisfying her oral needs ("devouring" the client), and procures her a narcissistic satisfaction of her self-esteem. From several episodes in her personal history one suspects that in her environment M.G. is continually acting out her internal conflicts, in order to placate instinctual needs and feelings of guilt. This constant repetition of traumatic events is experienced passively with subjective consciousness and is rationalized just as if it all really happened against her will (traumatophilia).

One can observe in M.G. other personality traits of hysterical type, such as suggestibility, tendency to reactivate childhood reactions, passivity problems, irrational emotional outbreaks, dramatization, histrionic and chaotic

behavior. From all this a diagnosis can be made of hysterical character, with strong oral and narcissistic components. There is also a suspicion of schizoid tendencies, due to the existence of primary narcissistic traits with a strong wish for omnipotence, together with a tendency to deform the control of reality. It is evident that her profession of magical helper supports, with subjective feelings of omnipotence, M.G.'s defense mechanisms of the aggressive type used to counteract narcissistic frustrations. A more thorough investigation would be needed to establish a diagnosis of schizoid personality.

*Attitude toward Parapsychology*

M.G. has been extensively studied by other researchers (Società Italiana de Metapsichica, 1950) and is considered a gifted subject. The configuration of her parapsychological powers is probably that of a defense mechanism aiming at counteracting and masking with welfare omnipotence her strong fear of her own aggressivity. Her unfailing interest in psi phenomena is sustained by the strong narcissistic needs of her weak ego, and is modulated by her past and present environment. She is earning her living as a fortune-teller of good repute.

**SUBJECT: C.M.**

*Age: 51; Sex: Male; Occupation: Accountant; Marital Status: Married, with one son; Family History: Father died at 63 from myocardial infarction. Mother died at 93. A sister died at 36 from heart failure.*

*Personality Profile (Based on interviews)*

In his domestic life, C.M. seems to have achieved a good degree of adaptation by modeling his affections into a conventional pattern which prevents him from becoming deeply involved. Although his relationships with his family of origin and with his immediate family are good, they are ruled by pseudo-patriarchal conservative middle-class ethics. In C.M.'s marital life one can detect a strong repression of his own

aggressiveness, as well as minimization of his wife's. C.M. considers his sexual life completely satisfactory and denies any frustration. This seems quite plausible in view of his strict defenses especially against narcissistic wounds. In his work, C.M., in spite of painstaking concentration, fails to distinguish himself in any special way. He seems over-absorbed in his work, due to both pressure from his conformistic and very rigid superego, and his need of an outlet for his lively pregenital impulses. From an analysis of his hobbies we find some anal-sadistic and oral-aggressive components accompanied by magical motivations and omnipotence.

It could be said that C.M., through his hobbies, almost achieves a break with reality. The sudden termination of each hobby, satisfactory as it was, was always attributed to outside circumstances; but it could as well have been a defensive correction of tendencies which he unconsciously regarded as dangerous. Thus, on the whole, his hobbies compensate for serious troubles in object-relation. These compensations are expressed by his need to possess objects (to "steal" with his eyes, to covet), to conceal them (graphs which only he understands, unusual and "mysterious" experiments), and to produce them projectively ("creation," with a subjective feeling of omnipotence). This compensation is successful because it follows a pattern which is compatible with the reality of working life, and also functions as a source of secondary gratification.

His cultural and literary interests conform with average middle-class ideas, and are founded on collective defenses. He is typically moralistic in his outlook, and totally uninterested in social reality. His contacts with people are extensive, but ruled by conventions. He succeeds better in group contacts than with individuals, because he is then able to soften his repression of aggressiveness. He also shows a need to enrich his self-esteem with mechanisms which, without being those of an adult, show his good adaptation.

In C.M.'s character we find traits of compulsive personality, without actual symptoms of obsessional neurosis, but with a tendency to rigidly constructed reactions, especially

against his aggressive-sadistic impulses, masked behind a social adaptation full of kindness and cordiality. His impulses and feelings can be expressed only when channeled into conventional moral rules, which are reassuring collective defenses adapted to his needs. In spite of the limited flexibility of his defenses, which have almost become character traits, and an inability to achieve full satisfaction, his adaptation is sustained by a manifold capacity of sublimation, which together with his organized reactions promotes his intense need for work and his creative hobbies. The deep motivations underlying his parapsychological interests are less clear. Undoubtedly, his activity in this field is a source of secondary narcissistic gratification, and may also give satisfaction to his aggressive impulses.

Briefly, C.M. shows evident neurotic character-traits, rigidly established, but arranged in such a way as to permit apparently normal objective and subjective adaptation.

#### *Attitude toward Parapsychology*

C.M. has a long time interest and experience in parapsychology, and has been previously studied by one of us (E.S.) and by other researchers. He has often volunteered in seriously controlled experiments. His conscious motivation was one of scientific collaboration. At a deeper level, one could see that his parapsychological exploits helped him to relieve a strong inner tension, due to very rigid defensive character traits, by obtaining substantial gratification through a pseudo-compliance with the needs of his defenses.

#### **SUBJECT: L.K.**

*Age: 38; Sex: Female; Occupation: Chemist; Marital Status: Married, two children; Family History: Parents and brother in good health. A younger sister died at the age of 3 1/2 from tubercular meningitis. Another sister presented a behavior disturbance which required psychiatric treatment.*



*Personality Profile (Based on interviews)*

It is impossible to make a definite personality diagnosis of L.K. on the basis of short verbal contacts, due to her high capacity for rationalization.

It seems that serious conflictual problems, of prevailing oedipal nature, coexist with a remarkable elasticity in defense mechanisms which guarantee sufficient adaptation in all situations. Both the personalities of L.K.'s parents and her relationship with her sister support this hypothesis. We suspect that in this relationship identification components enable L.K. to act out, through her sister, the largest part of her own neurosis. It is most likely that she projects on to her sister most of her own aggressiveness and all dubious or negative aspects of herself, strengthening by comparison her own self-confidence. L.K.'s numerous occupations, all successful, show that she has a large amount of libido at her disposal, coupled with a good sublimation capacity. But she also has the unconscious need of reaffirming a feminine autonomy frustrated by her family, and she does so by displaying a working efficiency at least equal, if not superior, to that of a man: father or husband.

L.K.'s personal history shows a prominent ambivalence between the need for affirmation in a masculine field and the fear of losing her feminine role, which was anyhow only superficially accepted because of its self-reassuring function.

We can list here the unconscious motivations for the choice of her husband, which has evidently been influenced by previous sentimental experiences (these were felt mostly as unreal, and became alarming when they grew too realistic): (a) need of escape from family and of breaking abruptly but legally a dependent relationship, which did not evolve towards normal autonomy during adolescence; (b) need of embellishing the masculine image with mysterious and anti-conformistic attributions, mitigated by the basic desire of complying with the habits of the majority ("Russian but at the same time Italian husband"); (c) need of escaping from the bourgeois conjugal conventions without really deserting

the moralistic structure as understood in her family (husband is "more lover than husband"); (d) need of success in working life as virile vindications. These were permitted by a husband who is rather passive, but not enough to accept a complete and definite inversion of roles, which even L.K. felt was dangerous; (e) need for a sexually normal man able to give her normal sensations, which she presumably experiences with some identification; but, at the same time, culturally and intellectually her inferior, so that he does not compete for leadership in this field.

In her relationships with her children, L.K. shows a clear rejection of the eldest daughter and identification of herself with the young boy: through his experiences she compensates her own ambitions of virility by projecting on to the child the heavily repressed masculine components of her own character.

Nevertheless, L.K. seems to be a well adapted individual without overt neurotic manifestations, either characterological or symptomatic. She definitely has a rich reserve of basic libido, and her ego seems fairly strong in spite of weaker zones; these are preoccupying to her at times, at others they are held back with varying defenses: repression, reactive formation and above all a large amount of rationalization.

*Additional Interview (February 1962)*

Before starting the second series of experiments, the subject was asked to undergo another medical check-up. The clinician having found evidence of a slight state of stress, it was felt advisable to interview the subject again. The interview was not tape-recorded and the subject was granted professional secrecy. Here follow a few considerations on the present state of the subject, drawn from these additional data.

New happenings in L.K.'s life clearly show a weakening of defenses, producing emotional alarm. Even if this mobilization could eventually result in new and perhaps more valid mechanisms of adaptation, it produced a slight ego regression and a feeling of vulnerability. Facts which can be disclosed include: a return to her mother, looking for care and protection; unconscious attempts to upset her husband

about her mental and physical health; a feeling of insecurity revealing excessive anxiety or aggressiveness, still well controlled by rationalization; a considerable weakening of defense mechanisms during the interview, as compared with previous ones; attenuation of general cultural and social interests, coupled with self-concern; appearance of slight hysterical conversion symptoms, her anxiety resting on a strong subjective state of alarm, with fantasies of mutilation and of sensory impairment, pointing to a serious fear of her own passivity.

The subject showed ambivalent feelings toward any repetition of experiments: the conscious decision not to take part any more in the project is quite well motivated in order to keep the balance of her personality, while the underlying desire to repeat them looks more like a neurotic defense. On this ground we have purposely reassured the subject about her being fit for the experiments, at the same time accepting her wish not to continue to take part in them.

#### *Attitude toward Parapsychology*

L.K.'s conscious motivation for participating in our experiments was her wish to deepen her knowledge about her own personality. At a deeper level it seemed that her moderate interest, not without rational skepticism, was modulated by her strong desire for revenge through omnipotence and esoteric knowledge. Her attitude is that of a well informed, highly cultured and sophisticated graduate in science.

#### **SUBJECT: F.S.**

*Age: 38; Sex: Male; Occupation: Policeman; Marital Status: Married, no children; Family History: Parents in good health. No history of serious disease in the family.*

#### *Personality Profile (Based on interviews)*

The subject can be considered normal, with a good degree of domestic and social adaptation. By means of efficient defense mechanisms, he solves all emotional problems

which might give rise to intrapsychic conflicts, and thus his ego seems well structured in regard to the situations which he has so far encountered. He shows a normal level of endurance of frustrations, and a normal threshold to anxiety-reactions. In particular, his capacity to establish satisfactory social contacts can be deduced from his ability to participate in other people's interests, his need to make himself useful in order to obtain reassuring protection, and his capacity to keep within his own limits.

In his personal contacts, and in particular in those with his wife, he shows traits of dependent passivity, built up as stable character defenses. His choice in marriage seems conditioned by this, and is evidently the repetition of his relationship with a hyper-protective over-anxious mother, basically felt as very gratifying and reassuring. The same passivity traits may be noted also in his choice of professions and in his ways of complying with reality. These traits are organized into flexible defenses which are not at all pathologically rigid. This passivity manifests itself as a compliance with the demands of reality, and as an absence of need for competition. This may be understood in view of his relationship with a father image full of influence but too authoritarian and exacting. There is an apparent contrast between his passivity and dependence on one hand, and on the other his strong initiative, as demonstrated during wartime adventures. But, on consideration, the initiative always aims at guaranteeing F.S. a privileged position of dependence in a strongly protective environment.

#### *Attitude toward Parapsychology*

F.S. has a man-of-the-street knowledge of parapsychological phenomena, and is totally unaware of their aspect and conditioning. His participation in our project was consciously motivated by financial considerations. On a deeper level he presumably saw the possibility of gratifying his need for passivity in a compliant relationship with the experimenters.

## Drugs

The substances we intended to use, besides being harmless, had to be able to provoke reversible alterations in the personality of the volunteers in the sense of a regressive detachment from reality, by means of a definite action on the central nervous system. This action had to respond to four main requisites: it had to be specific, in order to give us the possibility of developing fruitful hypotheses concerning the cerebral mechanisms with which it interfered; controllable, in order to enable us to make safe and meaningful experiments with human volunteers; transient, to permit observation of the subjects during the whole course of its action, and, finally, it had to be reproducible, so as to enable us or other investigators to duplicate the experiments.

The psychodysleptic compounds, already clinically tested, which best complied with these requirements, were LSD 25 (dosage range 0.5–1.0 microgram per kg. body weight) and psilocybin (0.15–0.20) mg per kg. body weight). Tap water was used as placebo, in order to make the same experiments in the same setting with the same procedure, without drugs. The substances<sup>4</sup> diluted were tasteless and colorless, so that the different beverages were indistinguishable from one another. For this pilot work, relatively low dosages were preferred, because they would make it easier for the investigators to examine the mechanisms involved in depersonalization, presumably more evident in individuals constantly on the verge of losing "presence" than in individuals no longer masters of their ego functions. Because of the overt psychic and physical effects of the substances chosen, we made no attempt at using a double-blind procedure: the only precaution taken was that neither the subject nor the

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<sup>4</sup> D-lysergic acid diethylamide tartrate (LSD-25): Delysid Sandoz (in solution, 1 ml containing 0.1 mg). 4-hydroxy-w-N,N-dimethyl-tryptamine phosphate (psilocybin): Indocybin Sandoz (in solution, 1 ml containing 3 mg), generously supplied by Dr. A. Hofmann, Sandoz Ltd., Basle, Switzerland.

physician knew what was in the beverage. The physician was informed after the session (or during it, in the case of unfavorable reaction by the subject), the subjects never.

#### DOSAGE AND ADMINISTRATION

|      | A1                | A2           | AX | B1            | B2   | BX   | C1      | C2 | CX          |
|------|-------------------|--------------|----|---------------|------|------|---------|----|-------------|
|      | LSD 25 micrograms |              |    | Psilocybin mg |      |      | placebo |    |             |
| L.K. | 50                | n.p.(*)—(**) |    | 10            | n.p. | n.p. | water   | —  | —           |
| F.S. | 50                | 75           | 40 | 10            | 15   | —    | water   | —  | —           |
| C.M. | 50                | n.p.         | —  | 10            | 15   | —    | water   | —  | no beverage |

(\*) n.p.: not performed

(\*\*)—: not planned

At the beginning of every session, R.C. prepared the beverage, immediately before use, by measuring the desired amount of active solution by means of a 1 ml syringe and diluting it in 75 ml of fresh tap water. In placebo experiments only water was given, as the substances in the dilutions used had no taste whatsoever. In fact, the subjects could never assess whether they had been drinking anything but plain water.

The onset of autonomic and psychic reactions was duly recorded and is schematically described for each session. If needed, psychological support was given, to help the subjects to overcome possible initial distress. Antidotes were available for emergencies. We observed a very extended range of personal reactions to the psychodysleptic compounds used, but we never encountered major difficulties. Nevertheless, we emphasize that one has to be exceedingly cautious when carrying out such experiments, because even after a thorough preliminary assessment of the subjects' personality, their reactions to the impact even of small doses can still be unpredictable, due to several physical and psychic factors outside the control of the experimenters.

### Staff

The staff attending all experimental sessions consisted of the senior Author (E.S.), acting as psychological supervisor,

a physician for assistance, and the Author (R.C.), who took care of the recording.

Assuming that a female presence would have a favorable influence on the subjects regressing because of the drugs, we selected an extroverted lady doctor as physician (G.L.) and gave her the additional task of catering for the party and offering general care and support to the subjects. The atmosphere created by the experimenters was a very friendly one, resting on a solid basis of congeniality and common interests. This setting was altered only by the presence of the medical supervisor (G.P.), who took part as an observer in sessions LKAI and CMBl. During this last session a distinguished psychopharmacologist (E.R.) was also present as a guest observer. The subjects always felt a positive and encouraging attitude on the part of the staff, with one exception in the very first session, LKAI, when an ideological conflictual tension between E.S. and G.P. was strongly perceived by the subject under LSD.

Before starting the cycle of experimental sessions with volunteers, each member of the staff separately underwent at least one session with each drug in the dosage ranges above indicated, under due medical and psychological supervision. An extensive panel discussion followed about the recordings of these sessions and a very fruitful basis was thus laid for a more objective assessment of the subjects' reactions during the experiments. A serious drawback was implied in this procedure: the investigators were tempted to compare, more or less consciously, some particular personality states which they could observe in the subjects under the impact of drugs with similar ones they had themselves gone through during self-experiments. One could try to avoid this pitfall by consciously mastering one's own involvement: the advantages of having personally experienced the effects of the substances to be given to other people largely compensated for the effort required.

Another factor had to be taken into account when planning these experiments with drugs, namely, the relative emotional involvement of all members of the gathering: an objective evaluation of all aspects of such an intricate

pattern of relationships would be practically impossible and would not fall within the scope of this investigation, besides being of doubtful heuristic value. Nevertheless we gained the impression that the clue of conditioning for the occurrence of ESP phenomena lies just in these dynamic emotional interactions between individuals in need of prelogical communication with their fellow-beings.

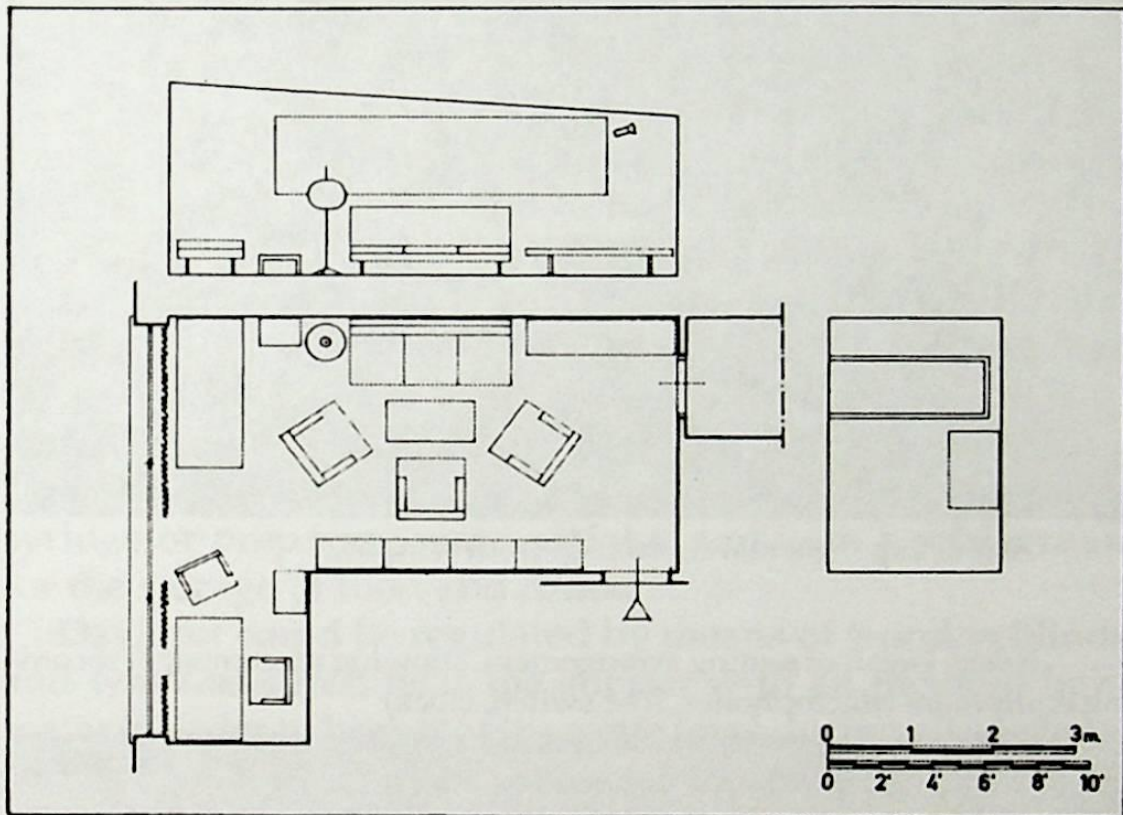
Moreover, during several experiments with psychodysleptic compounds on different individuals, we repeatedly observed that the relationship between subject and experimenters becomes tinged with strong transferential elements, varying in intensity, polarity and configuration according to the impact of the substance and the personal equations of the individuals involved (Cavanna, Luccardi & Servadio, 1961). These observations prompted us to undertake two exploratory experiments in telepathy which are reported at the end of this work, and whose results warrant an extension and deepening of such an approach. We do believe that the importance of an operational evaluation of the transferential mechanics during the experimental sessions must not be underestimated.

## Setting

A physical factor could also interfere in the relationship between subject and experimenters, namely their relative positions during the sessions (R. Sommer, Personal communication). We succeeded in keeping the gathering very united by choosing for the experiments a small living room, instead of a more technical setting, such as a doctor's office or a laboratory.

All sessions took place in an isolated top-floor apartment consisting of living room and bathroom (see plan). The room was air conditioned and the acoustical requirements for recording were dealt with by a fitted carpet, a large cork panel on the longest wall and window curtains. All pieces of furniture were modern and functional, in plain bright colors;

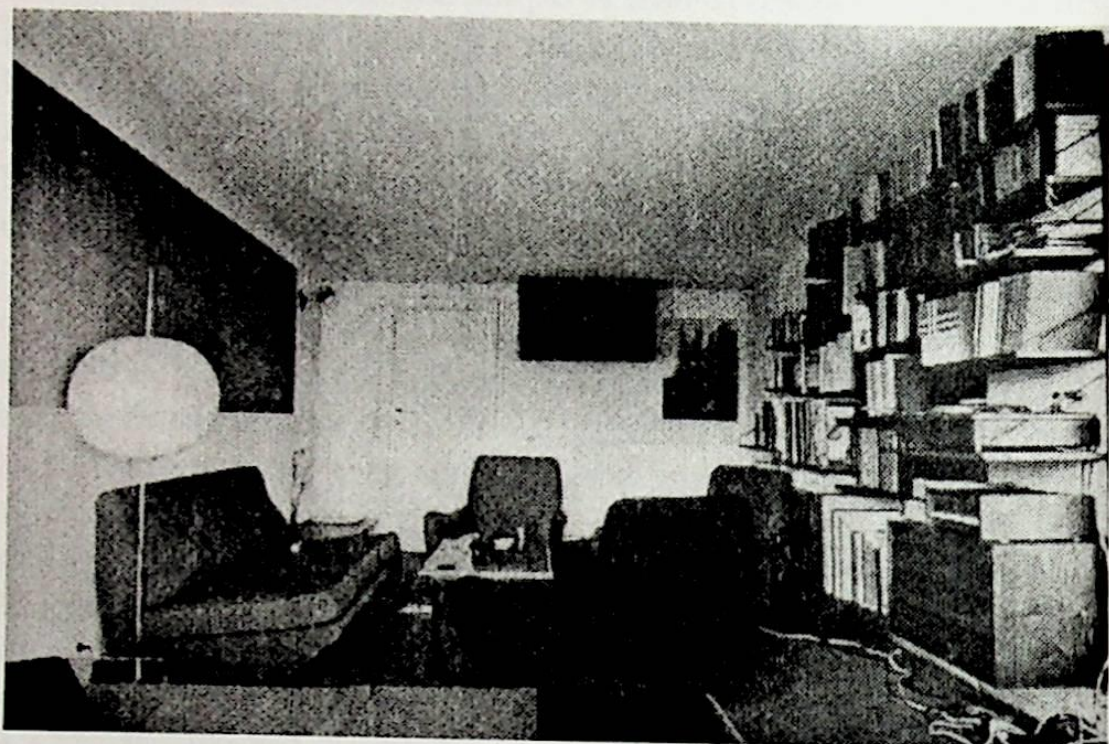




*Plan of Experimental Room*

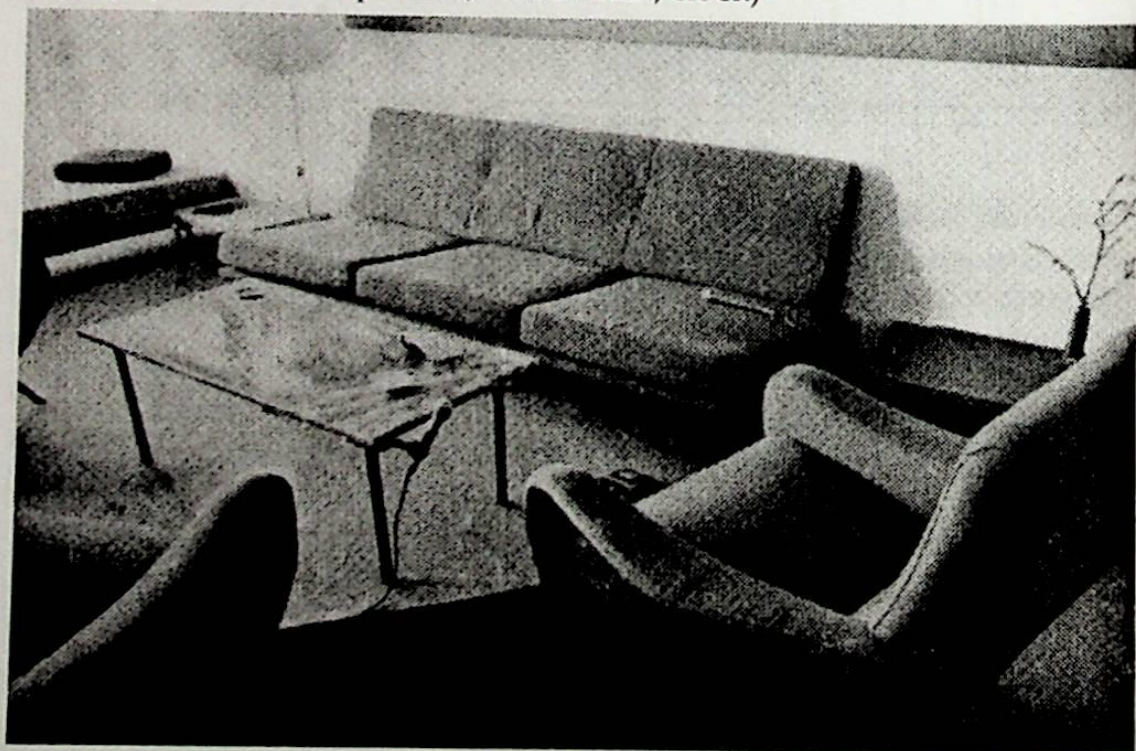
Starting from the upper left: couch (orange), small bedside table, lamp, settee (turquoise), three armchairs (respectively black, purple and grey), coffee table (brown marble), bench. Over the settee, a cork panel (12 feet by 3 feet), to its right a spotlight.

To the right: door to bathroom, and hanging loudspeaker enclosure. Facing the settee: bookshelves. Lower left corner: desk and chairs, used in telepathy experiments; this part of the room may be screened off.



*Above:* Experimental room seen from window.

*Below:* Detail of seating arrangement, showing placement of recording equipment (microphones, foot switch, clock)



the walls were white, the fitted carpet light yellow and the curtains pale blue (see photos). The relative positions of all pieces of furniture and other objects, as well as their measurements, can be understood from the plan and the photos. No major displacements were made between sessions, so that the setting remained unchanged throughout the project.

The spatial relationship of members of the group was kept as constant as humanly possible during the entire cycle of sessions. A satisfactory result was obtained by inconspicuously forcing each member to take a definite place, where the items pertinent to his role had been prearranged: any minor displacement during the sessions was kept under control and its impact on the subject's reactions duly recorded. A couch was provided for the subject in case he should like to lie down, with an attachment for a microphone near it.

The lavatory adjacent to the room was equipped with a small electrical heater for emergency use, such as boiling a syringe or preparing warm drinks, and with a refrigerator for the storage of food and drinks.

Daylight could be regulated by means of wooden blinds and was measured near the subject with an incident light meter in order to keep it at the same level during all sessions, i.e.  $24 \pm 8$  foot candles. Artificial light was supplied, as needed, by two 150 W indirect spotlights plus 120 W diffused through a lamp shade: the location of light sources and other electrical appliances is reported in the plan.

The milieu was cozy and comfortable, and in its general design could be easily reproduced for subsequent experiments by us or by other investigators.

#### *Recording Devices and Procedure*<sup>5</sup>

A two-track in line semi-professional tape recorder was provided, with a microphone connected to each channel for

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<sup>5</sup> Tape-recorder: Revox mod. D 36, ELA A.G., Zurich, Switzerland. Microphones: Siemens mod. D 19/60, set for conversation, connected to the former by means of Beyer 1:15 impedance transformers. Tapes: Soundcraft P 24 RE, Scotch 111 and 190, Agfa PE 31.

simultaneous operation. The recording speed was 9.5 cm (3 3/4") per second and the diameter of the spools was 25 cm (9 3/4"), which gave for 1,000 meters of tape a recording time of 170 minutes, quite sufficient for integral recording of an experiment, and most of the time for the whole session. The cables of both microphones were of sufficient length to allow for emergency displacement anywhere in the room. The machine was operated from a distance by means of a foot switch. The microphone connected to the first channel was placed and secured in the most favorable position for recording everything said by the subject without interfering with his movements: the volume was adjusted to obtain maximum intelligibility with minimum background noise. The hum of the air-conditioner was particularly disturbing, but could be kept under reasonable control due to the microphone being directional. The second microphone was mobile and was at the disposal of the members of the staff: it was regulated at an extremely low volume in order to pick up only words spoken at a distance of 5 cm from it. Its sensitivity nevertheless guaranteed perfect recording even of the whispered word, free from any other sound produced in the room. The experimenter operating the tape recorder took care after each interruption to record on the second channel the time from a clock, accurate to the minute. The recorder was on throughout the actual experiments.

One of the Authors (R.C.) wrote down simultaneously all that the subjects said during the experiments in connection with the targets, and marked the time when an envelope was taken by the subject and when it was put back. The physician and the senior Author took written notes throughout the sessions, recording the reactions of the subjects and the results of the periodical physical check-ups. All the notes written by the staff were marked and collected at the end of each session, to be filed together with any other material produced by the subject during that session. Any additional comments as well as the routine procedure for opening and closing the sessions were recorded on the second channel.

### *Catering*

G.L., who was in charge of the catering, could serve directly from the refrigerator, at any time during the session, iced water or fruit juices, sandwiches and pastries. Plates and glasses were kept at hand, to avoid upsetting the atmosphere. Chocolates and candies were already in the room. Before the experiments only soft drinks were served, if requested: food and other drinks were always served afterwards. Tea or coffee could then be easily prepared, and wine was available. However, the subjects were discouraged from drinking substantial amounts of beverages containing CNS active substances (tea, coffee, wine, Coca Cola, etc.). After the experiments the subjects were allowed to smoke, if they wanted to. All members of the staff were non-smokers.

### *First Aid*

In addition to the physician's bag there were: p-oxyphenyl-methylamino-ethanol tartrate, 10% solution, for oral administration (Sympatol Boehringer), chlorpromazine HCl, 50 mg in 2 ml vials, for i.m. injection (Largactil Farmitalia), sodium pentobarbital, 100 mg capsules, for oral administration (Nembutal Abbott).

No accidents requiring emergency measures occurred during or after the experimental sessions. Any discomfort experienced by the subjects in connection with the effects of the active drinks could be kept under control by means of the above mentioned remedies (Apter, 1958; Dobkin & Harland, 1960; Isbell, 1959). The only unfortunate exception was the use of chlorpromazine *per os* (25 mg tablet of Largactil Farmitalia) in session LKA1, which proved to be totally ineffective in counteracting psychic disturbances generated by 50 micrograms of LSD 25, as confirmed by other investigators (Abramson, Rolo & Stache, 1960).

## **Targets**

The targets we used in this introductory investigation consisted of photographic color prints, size 5 × 7", obtained

from original color negatives that one of the Authors (R.C.) personally made of two simple objects, incongruous with each other, whose combination resulted in extremely improbable images (see photos facing pp. 80, 81).<sup>6</sup> The scenes represented had a definite emotional significance, overt or symbolic, in order to appeal to deep layers and interfere with primary mechanisms of the subjects' unconscious. The basic principles followed in preparing the scenes to be photographed were: (a) incongruity, (b) simplicity, (c) emotional significance, overt or symbolic.

These requirements were met in the following way: (a) by including in each picture two elements incongruous with one another, thus making their combination extremely unlikely; (b) by using the minimum needed amount of unequivocally definable objects for the construction of the scenes to be photographed; and (c) by carefully selecting only those pictures that by virtue of both content and formal expression had a definite emotional impact on the average member of our culture.

About one hundred pictures were taken, out of which three series of ten were chosen, each containing pictures with similar content. A list of all targets used, showing the combinations of elements, is reported in Table 1.

Each picture was wrapped in aluminum foil, then sandwiched between two sheets of white cardboard and the whole inserted in a thick orange envelope which was closed, stamped over the seal and numbered on the back (A 1 to A 10, B 1 to B 10, C 1 to C 10). Each of these envelopes was then inserted in a larger thick white envelope (10 × 12"), which was closed and left unnumbered. These final envelopes being indistinguishable from each other, care was taken from this point on to keep the three series separated.

Three large folders were prepared, with covers of different colors, a green one marked A, a red one B, and a blue one

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<sup>6</sup> Hasselblad camera mod. 1600 with Kodak Ektar lenses. Kodak Ektachrome Professional film for preliminary test transparencies. Kodacolor Negative film enlarged on Ektacolor paper and Agfacolor Negative film enlarged on Agfacolor paper for final prints.

C. Each had ten sections clearly numbered from one to ten: the envelopes of each series were shuffled and put at random, one in each section. Each folder was then sealed in a large envelope (marked A, B, or C) in order to prevent accidental displacement of the targets. The large envelopes containing the folders were unsealed for the experiments, and the folders put in new marked envelopes before the end of each session, and kept sealed until needed for another experiment. When a folder was out, it was kept constantly under control, in order to prevent interchanging of targets. The whole procedure was carried out jointly by the Authors.

The target images were conditioned as described, in order to exclude any possibility whatsoever of sensory perception, even subliminal, and their randomization made it impossible for the subjects to get hints from the attending staff for the simple reason that no one knew what was in that particular envelope. The only possibility left, but already belonging to the realm of ESP, was that of an indefinite unconscious-to-unconscious communication between the subject on one side and the Authors on the other side, who both had once seen all the targets. This contingency could produce serious trouble by blurring and mixing up the different images perceived by the subject, thus considerably increasing the difficulties in scoring the results obtained. We tried to overcome this difficulty by applying, in our evaluation of the material produced by the subjects, the strictest of criteria, disregarding any possible transposition effect of elements from target to target, etc., and in addition we evaluated each answer versus all targets of that series. Moreover, in order to lay the ground for a more exact checking of the above-mentioned eventuality, we undertook additional experiments in telepathy, i.e., the same targets were brought one at a time to the conscious attention of one of the Authors (E.S.), while the subject under drug tried to describe his imagery in connection with that particular target (for experimental details see Appendix A).

#### *Matching and Scoring Procedure*

At the end of the whole cycle of sessions the members of the staff (G.L., E.S., and R.C.) met in the experimental room

TABLE 1: COMBINATIONS OF ELEMENTS IN TARGETS

| Target No. | Constant element      | Varying element        |                   |                   |
|------------|-----------------------|------------------------|-------------------|-------------------|
|            |                       | Series A               | Series B          | Series C          |
| 1          | Devil                 | Banana                 | Angel             | Princess          |
| 2          | Statuette of woman    | Trident                | Puppet's head     | Mice              |
| 3          | Breasts               | Key                    | Mice              | Thimble           |
| 4          | Mouth                 | Doll's eyes            | Little metal hand | Key               |
| 5          | Drinking glass        | Doll's head            | Porcelain monk    | Poor devil        |
| 6          | Vegetables woman      | Orange and lettuce     | Garlic and potato | Apple and bananas |
| 7          | Man's face painted on | Doll's head (reversed) | Woman's body      | Bottle (reversed) |
| 8          | Hand                  | Screws                 | Little metal hand | Doll's eye        |
| 9          | Foot                  | Wrist-watch            | Doll's eye        | Thimbles          |
| 10         | Little metal hand     | Tongue                 | Nipple            | Eye (closed)      |

for the purpose of evaluating the material collected during the experiments versus the corresponding target images. The meeting was integrally tape-recorded, and a protocol of the proceedings signed jointly.

R.C. opened the large envelopes containing the folders, and recorded on each white envelope, containing a target, the serial letter (A, B or C) and the number of the corresponding place in the file from where the envelope had been taken. The white envelopes were now opened one at a time, and the series and number of the corresponding targets, as written on the back of the orange envelopes containing them, were tabulated (see Table No. 2). The orange envelopes were then opened; folder classification and actual target number were marked on the back of each picture with different colored permanent inks.<sup>7</sup>

<sup>7</sup> This part of the procedure referred only to the B series, the A and C having been previously opened and the envelopes and targets marked as described, in connection with the telepathy experiments reported in Appendix A.



TABLE 2

| White Envelope | Target |    |    |
|----------------|--------|----|----|
|                | A      | B  | C  |
| 1              | 10     | 9  | 4  |
| 2              | 4      | 5  | 7  |
| 3              | 5      | 3  | 10 |
| 4              | 2      | 10 | 2  |
| 5              | 1      | 1  | 3  |
| 6              | 3      | 4  | 9  |
| 7              | 9      | 7  | 8  |
| 8              | 6      | 6  | 1  |
| 9              | 7      | 2  | 6  |
| 10             | 8      | 8  | 5  |

The scoring was carried out as follows: R.C. read aloud twice the transcripts of the verbatims, while the corresponding target was displayed to the gathering. A copy of the transcripts was available throughout for the others as reference.

After each reading the material produced by the subject (images, sensations, drawings, etc. ) in connection with that envelope, was carefully evaluated versus the corresponding target. All self-contained items, however described, forming each answer, were counted (T) and the value of those significant (S) in connection with that target was discussed, while the S's were underlined in the transcript of the verbatim; they appear italicized on the following pages.

Each member of the staff then proceeded to allot the answer an overall tentative mark ranging from zero to five, in accordance with the following conventional scale: 0: miss, 1: dubious, 2: approximate, 3: indicative, 4: highly indicative, 5: hit; and briefly described his motives; in case of disagreement a thorough discussion was immediately undertaken, until a sufficient convergency of opinions would be reached and a final mark could be given by common agreement.

For all results different from zero, this basic scoring level was supplemented with a significant factor  $F = S/T \leq 1$  in order to take into consideration the relevance of the items

contributing to the scoring in each answer. In fact the lower the value of  $F$ , the smaller was the part represented by the significant items in the totality of the material produced by that subject in connection with that particular target. For  $F = 1, S = T$ , thus meaning that all the material produced was relevant for the scoring, which would imply a congruous formulation of the answer, reflecting a clear and undisturbed perception of the target regardless of the precision of hitting. We did not consider any further mathematical treatment of the figures obtained.

On a later occasion two outside observers, who had agreed to undertake a complete rescoring of the results, met with one of the Authors (R.C.) in the setting just described; P.B., a psychologist and Freudian psychoanalyst, and G.G., a physico-chemist with a solid epistemological background, were strangers to each other and to the whole project. The Author outlined for them the main points of this research, with particular regard to methodological questions, and acquainted them with the system used for scoring. No hints whatsoever were given about the experimental results and the previous scoring. The observers proceeded to evaluate *ex novo* all the material produced by the subjects in connection with the targets in essentially the same way used by the staff: the Author read them the transcripts, which were also accessible to them both, and they gave independent marks. In case of immediate agreement they proceeded, for all marks different from zero, to calculate the significance factor. In case of disagreement, they discussed their respective attitudes and in all cases managed to reach a score acceptable to both. The Author apart from reading the transcripts took no active part whatsoever. The meeting was integrally taped-recorded and a protocol of the proceedings signed jointly.

## Sessions

### *General Description of Procedure*

Here is the outline of our experiments: in every session we attempted to reproduce its main phases as carefully as is

possible when experimenting with human subjects. The sessions were usually held on Saturdays, starting at 2:45 or 3:00 P.M. The subject's participation was ascertained several days in advance of the planned session and he was requested not to alter in any way his habitual routine except for a slight change in the intake of food on the day of experiment: a substantial breakfast early in the morning, and no lunch.

The subject was received by the staff in the experimental room, where everything had been previously prepared, and comfortably seated in his place. After a few minutes of adjustment, during which the first medical check-up was performed, he was offered a glass containing the freshly mixed beverage. This procedure was simultaneously described on the second channel of the tape recorder. Considering the highly symbolic implication of this phase of our procedure, great care was taken that there would be no variations in the routine from one session to another: the same glass was used for all experiments, and the senior Author gave it to all the subjects, keeping the same friendly encouraging attitude.

During the initial period after the ingestion of the drink the staff managed to preserve a warm atmosphere in the form of non-committal general conversation, in order to help the subject not to concentrate on the onset of autonomic symptoms (Rothlin, Cerletti, Konzett, Schalch & Taeschler, 1956), which could be felt as distressing and thus transform the whole experience into a continuous process of somatization. Such danger is definitely higher when low dosages of active substances are used. This introductory phase was obviously one of the weakest points of our whole procedure and we think it could be advantageously replaced by a recurrent and pleasantly absorbing task given to the subject (E. Rothlin, Personal communication), such as listening to a definite piece of music or looking at a collection of black and white photographs (preferably portraits or landscapes), or even better, drawing, or modeling clay, or playing a musical instrument if he is able. A simple task could be represented by free imagination building with system toys, as for instance Lego, which could at the same time provide the investigators with additional information on the subject's personality and mood.

At the first subjective description of psychic alterations the tape recorder was put into operation and all relevant happenings were recorded: all words from or to the subject on the first channel, any observation of the staff on the second one. The periodical medical observations were written down directly by the physician. The next phase started with the stabilization of symptoms, and if the subject was cooperative, and showed an interest in it, the large envelope containing the file with the targets was unsealed, and the file left with him throughout the session. The subject was given a facsimile of the envelopes and kindly but firmly reminded to take only one target at a time and to replace it before taking the next.

From that moment on, general conversation was restricted. Any interference was avoided during the actual experiments and the recording was continuous, both taped and written. For every envelope considered by the subject, the corresponding number in the folder was written down by one of the Authors (R.C.) and independently spoken by the other one (E.S.) in the microphone No. 2. The subject was left to decide when he had said enough, and the total time spent on each target was recorded, accurate to the minute. Encouragement was given to make as many as ten trials using if possible a different target each time, in any wished succession, but repetition was not discouraged, if the subject spontaneously took the same envelope more than once. In response to any requests of approval put by the subject only generally encouraging words were spoken, avoiding any participation whatsoever on the part of the staff in the feelings experienced by the subject in connection with the targets.

After the experiments were completed food and drink were liberally offered. The file was then put in a new large envelope, sealed and dated in front of the audience, in order to be ready for a similar experiment with another subject. The rest of the session was spent in sympathetic conversation providing essential support for the subject, in order to help him to come out smoothly from the unusual state he

might have entered due to the drug absorbed. His condition was checked and recorded at regular intervals and he was given an antidote if necessary. In any case a safety period of time had to elapse before he was accompanied home, and he was contacted the next morning to ascertain his satisfactory recovery from the experience. If expressly requested, qualified psychological support was made freely available for the subject, in order to help him to integrate the experience undergone under the effect of psychodysleptic compounds.

The session was closed by one of the Authors, who summarized the proceedings, speaking on the second channel. The only parapsychological material considered valid for final scoring was that collected following the scheme just described. Other occurrences reported by the subjects in connection with the experiments were duly recorded, but not taken into consideration for the scoring of results.

#### Chronological Order of Sessions

| Session No. |                    | L.K. | Subject F.S. | C.M. |
|-------------|--------------------|------|--------------|------|
| 1           | February 2, 1961   | A1   |              |      |
| 2           | March 3, 1961      |      | B1           |      |
| 3           | March 12, 1961     |      |              | B1   |
| 4           | March 19, 1961     | B1   |              |      |
| 5           | April 8, 1961      |      | A1           |      |
| 6           | May 7, 1961        |      |              | A1   |
| 7           | May 13, 1961       | C1   |              |      |
| 8           | May 27, 1961       |      | C1           |      |
| 9           | June 3, 1961       |      |              | C1   |
| 10          | September 16, 1961 |      |              | A2   |
| 11          | October 21, 1961   |      |              | B2   |
| 12          | November 11, 1961  |      | B2           |      |
| 13*         | June 9, 1962       |      | CX           |      |
| 14*         | July 15, 1962      |      |              | AX   |

\*: See Appendix A

For each session follow:

- a concise but comprehensive summary;
- a schematic table, where the course of events is reported in chronological order, as observed by the attending staff and described by the subject;
- an integral transcription of the verbatim and literatim translation of everything said by the subject in connection with each target;
- the matching of the white envelopes to the actual target images they contained;
- our evaluation of the results and scoring;
- the subsequent re-evaluation and scoring by two independent observers;
- the subject's own impressions about the session, when available.

[Note: In the original protocols kept in the Authors' file all observations are recorded, but in the transcripts of the verbatim attached to each session only the staff's S's are italicized, in order to avoid complication.]

### *SESSION No. 1—LKA1*

#### *Summary*

The session lasted five and a half hours. A rather heavy somatization of symptoms was observed, mainly during the initial phases. The subject was rather distressed and uncooperative, being concerned at the stress with which her ego was challenged, and trying to keep conscious control over the situation. Psychically, she reacted by developing a split transferential relationship towards the experimenters, a negative one directed against E.S. as the person responsible for her distress, and a positive, though highly rationalized one, towards G.P., whom she regarded as the reassuring representative of logical thinking. In addition the subject showed a direct and primary feeling of dependence toward the female image, G.L.

Only after four and a half hours from the start, the subject on request considered one envelope without describing any definite image. After a while, by common agreement, she remained alone with E.S. and took another envelope. She became emotionally involved and managed to describe a few images. No ulterior experiments were possible, due to the anxious state of the subject, who was given a 25 mg tablet of chlorpromazine, and was accompanied home after one hour. Her anxious state lasted until she fell asleep in the middle of the night.<sup>8</sup>

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<sup>8</sup> The course of this session was evidently affected by the fact of being the first one of the whole cycle. This implied a bias, acutely felt by the subject, who developed feelings of anxiety in response to an atmosphere of expectation created by the staff. It has also to be noted that the subject's feelings for the experimenters G.P. and E.S. rested on objective discrepancies in their mentalities, emerging from discussion during the session.

| SUBJECT: L.K. |             | SESSION: 1 |          | SUBSTANCE: LSD 25   |  | DOSE: 50 micrograms |  | DATE: February 2, 1961                                  |  |  |  | STAFF ATTENDING: G.L., E.S., R.C., G.P. |  |
|---------------|-------------|------------|----------|---|--|---------------------|--|---|--|--|--|---|--|
| EXPERIMENTS   |             | TIME       |          | SUBJECTS OWN FEELINGS   |  | PSYCHIC SYMPTOMS    |  | STAFFS OBSERVATIONS ON SUBJECTS CONDITION AND REACTIONS |  |  |  |   |  |
| File A        | Time (Min.) | Check      | Progr.   | Physical Symptoms   | Psychic Symptoms   | Blood Press.        | General Condition  | Autonomic Reactions                                     | Psychic Reactions  |  |  |   |  |
| Exp.          | Hold. Paus. | Hr. Min.   | Hr. Min. |   |  | Pulse               | OF SUBSTANCE   |   |  |  |  |   |  |
|               |             | 15 00      | 0 00     |   |  | 60                  | Good   | Normally reacting, hoch. pups.                          |  |  |  |   |  |
|               |             | 21         | 21       | Ache in the right calf  |  |                     |  |   |  |  |  |   |  |
|               |             | 24         | 24       | Dizziness, blurring of vision   |  |                     |  |   |  |  |  |   |  |
|               |             | 30         | 30       | Suffocation, nausea   | Nervousness, boredom   | 90                  | Good   | Unchanged pups.   | SI. excitement   |  |  |   |  |
|               |             | 40         | 40       | Paresis on fingers, blurring of vision  | Detachment   |                     |  | SI. mydriasis, SI. cyanotic and cold hands              |  |  |  |   |  |
|               |             | 48         | 48       | Left cheek numbness, headache, nausea   |  |                     |  |   |  |  |  |   |  |
|               |             | 50         | 50       | Giddiness, could not get up, cold in the groin                                    | Anxiety, feels different   |                     |  | SI. cyanotic face                                       | Confusion, asks for a mirror   |  |  |   |  |
|               |             | 16 00      | 1 00     | Sees a lot of yellow  |  | 96                  | Good   | Less cyanotic face                                      |  |  |  |   |  |
|               |             | 12         | 12       | Strong headache   | Alteration of distance perception  |                     |  | Visual hyperacuity                                      |  |  |  |   |  |
|               |             | 20         | 20       | Objects seem to radiate light and to oscillate                                    | Uncomfortable  |                     |  | Sighs   | Restlessness   |  |  |   |  |
|               |             | 32         | 32       | Disturbed by violet colours, left side numbness of the face, dryness in the mouth | Difficulty in talking, not in thinking but in verbalising  |                     |  | SI. hands' tremors                                      | Unease, praises the eyes of G.L.   |  |  |   |  |
|               |             | 45         | 45       |   | Unpleasant experience  |                     |  |   | Shows dependence on G.P.   |  |  |   |  |
|               |             | 17 00      | 2 00     | Paresis of mouth, feverish  | Describes her dislike of E.S.  |                     |  | Peripheral vasodilation                                 |  |  |  |   |  |
|               |             | 09         | 09       | Tremulous cold feeling  |  | 96                  | Good, wrapped in a blanket   | Venular cyanosis of face                                |  |  |  |   |  |
|               |             | 30         | 30       |   | Distress, anxiety, difficulty in finding the right words. Describes how much she likes G.L., and how indifferent she is toward R. C. |                     | (G.P. goes out)  |   |  |  |  |   |  |
|               |             | 50         | 50       | Lowering of hearing threshold accompanied by dampening of reverberation of sound  | Is disturbed by tape recorder on and off switching   |                     | Bathroom, then coffee drinking   |   | Asks for a cup of coffee   |  |  |   |  |
|               |             | 18 00      | 3 00     |   | Feels reassured, having recognised herself in the mirror   | 92                  | Good   |   | Asks for music, (Vivaldi's 4 Seasons, Mozart K.525 or Bach 6 <sup>th</sup> Brandenburg Concerto) |  |  |   |  |
|               |             | 05         | 05       | Dampened, padded hearing  |  |                     | (Playing Bach 6 <sup>th</sup> Brandenburg Concerto)                                |   |  |  |  |   |  |
|               |             | 25         | 25       |   |  |                     | (G.P. comes back)  |   | SI. euphoria   |  |  |   |  |
|               |             | 40         | 40       |   | Impossibility to establish good communication, esp. with E.S.  |                     | General discussion about s. transference feelings and about experiments' modality. |   |  |  |  |   |  |
|               |             | 19 00      | 4 00     |   | Discussion   |                     |  |   |  |  |  |   |  |





## Experiments

File: A

| Experiment No. | Envelope No. | Verbatim literal translation of original recording  | Matching Target | Scoring Staff Control |                      |
|----------------|--------------|---|-----------------|-----------------------|----------------------|
| 1              | 6            | I don't know what there is inside, very interesting feeling, colors, blue, sparkling, pleasant feeling.   | A3              | 0                     | 1<br>F=0.40<br>(2/5) |
| 2              | 5            | Railing, a piece of lace, kaleidoscope, no colors, a piece of lace, very beautiful music, flowers, aquarium, escutcheon, railing with escutcheon, no colors, white and grey lace. | A1              | 0                     | 0                    |

*Subject's Impressions*

My attitude before the experiment was not one of fear, but of skepticism and amused interest in a new experience. During the action of the drug, my surprise at feeling rather ill physically, quite unexpectedly, and the uncertainty of what would happen next, completely extinguished my amused interest. My skepticism regarding the usefulness of the experiment was still present. A feeling of trance or ecstasy into which I entered at a certain moment, gave me a slight fear that something undesirable and uncontrollable might happen to me. As time passed, realizing that I could not recover spontaneously and return to normal, I felt a stronger fear of the unknown which changed to anxiety after I had received the antidote.

I got the impression that besides not producing the result which I expected (putting an immediate end to my unusual state), it did not achieve the results expected by the specialists around me, as if they had started a process which had escaped their control, due to some physical or mental peculiarity of mine. My state of anxiety lasted until midnight. A part of myself was still reasoning and helplessly observing the other part which had escaped the control of the conscious ego. This splitting of personality is the most unpleasant

memory of the whole experience. After a short sleep (not longer than half an hour) everything seemed to return gradually to normal, and I started to have more serene feelings about the experiment.

During the following days I was very keen to talk about it: I wanted to know whether I had been of some use, what had happened inside myself, and the opinion of the specialists on my reactions. I think that this excessive interest was still a result of my excited state. Later on I felt worried that my nervous system was much weaker than the physicians had thought. I no longer had a fear of further experiments, but of my reactions in coping with difficult personal or social situations. Having experienced how my balance could be altered by a drug which had only very limited effects on others, I wondered whether external stimulations would as easily put me into such a state without any possibility of recovering by means of a simple antidote. I did not like the idea of going through this experience again, and was frightened of touching the envelopes and falling into the state of trance which had troubled me so much. Then gradually the uneasy feeling vanished, and, as before, my attitude became more favorable towards undergoing a new experiment.

A feeling of split personality, and my state of trance are the most vivid memories I have of the experiment. I was told that it was unlikely that my state had been a real trance, and I have no argument to prove that it was real: I can only describe what I felt, in order to help others to give a right interpretation. What I called "trance" was a mental ecstasy, a state of complete abstraction from immediate reality, entering a different, unreal, unattainable world by which I felt at the same time attracted and repulsed, with a concentration of pleasure-pain in the hands which were holding the envelope. This ecstasy was very similar to a sexual one transferred to a purely mental level.

The envelope was the link which was connecting me with this spaceless and timeless world. It was alive and pulsating in my hands, while a series of black and white images were

moving inside it as in an aquarium. The room which I usually found cluttered and oppressive, ceased to exist, not by reason of a sudden enlargement of boundaries, but because my micro-perception was so intense and predominant as to affect the traditional conception of space. I had been told that the experiment would be, on the whole, pleasing. This is the only adjective which I would not use to describe my personal experience with hallucinogenic substances. It has been unpleasant and in some ways upsetting: I could repeat the experiment without particular emotion, but am unwilling to do so several times.

### *SESSION No. 2 - CMB1*

#### *Summary*

The session lasted four hours. Within 45 minutes from the ingestion of the substance a feeling of sleepiness, giddiness and detachment from reality commenced. One hour from the start the subject considered the ten envelopes in fairly rapid succession, with one pause: he described very precise images for each target and showed some emotion in connection with one of them. The experiment lasted two hours. The subject was cooperative throughout and did not suffer from any unpleasant sensations. Three and a half hours after the start he had apparently returned to normal. No after-effects were experienced.

| SUBJECT: C.M. |                        | SESSION: B 1   |                 | SUBSTANCE: Psilobyn                           |  | DOSE: 10 micrograms |              | DATE: March 3, 1961                                       |  |  |  | STAFF ATTENDING: G.L., E.S., R.C., G.P., E.R. (guest) |  |
|---------------|------------------------|----------------|-----------------|---|--|---------------------|--------------|---|--|--|--|---|--|
| EXPERIMENTS   |                        | TIME           |                 | SUBJECT'S OWN FEELINGS                        |  |                     |              | STAFF'S OBSERVATIONS ON SUBJECTS' CONDITION AND REACTIONS |  |  |  |   |  |
| File B Env.   | Time (Min.) Hold. Pau. | Check Hr. Min. | Progr. Hr. Min. | Physical Symptoms                             | Psychic Symptoms                                       | Pu-lic Press.       | Blood Press. | General Condition   | Autonomic Reactions  | Psychic Reactions                        |  |   |  |
|               |                        | 15 00          | -0 05           |   |  | 96                  | 150 / 80     | Good  | S1. myotic, normally reacting pupils, rather brisk tendon reflexes | S1. excitement                           |  |   |  |
|               |                        | 05             | 00              |   |  |                     |              |   |  |  |  |   |  |
|               |                        | 30             | 25              |   |  | 96                  | 150 / 80     | Good  |  |  |  |   |  |
|               |                        | 35             | 30              | Dizziness                                     |  |                     |              |   |  |  |  |   |  |
|               |                        | 48             | 43              | Sleepiness                                    |  |                     |              |   |  |  |  |   |  |
|               |                        | 52             | 47              |   | Detachment   |                     |              |   |  |  |  |   |  |
|               |                        | 16 00          | 55              |   |  | 92                  | 130 / 85     | Good  | S1. mydriasis, increased reflexes, s1. tremor outstretched hands   | Withdrawal, sleepiness                   |  |   |  |
| 2             | 9                      | 05             | 1 00            | Inebriation                                   | Detachment   |                     |              |   |  |  |  |   |  |
|               |                        | 08             | 03              |   |  |                     |              |   |  |  |  |   |  |
|               |                        | 17             | 12              |   |  |                     |              |   |  |  |  |   |  |
|               |                        | 17             | 12              |   |  |                     |              |   |  |  |  |   |  |
| 6             | 5                      | 22             | 17              | Exhaustion                                    | S1. depersonalization                                  |                     |              |   |  |  |  |   |  |
|               |                        | 24             | 19              |   |  |                     |              |   |  |  |  |   |  |
| 4             | 6                      | 30             | 25              | Inebriation                                   |  |                     |              |   |  |  |  |   |  |
|               |                        | 32             | 27              |   |  |                     |              |   |  |  |  |   |  |
| 1             | 4                      | 36             | 31              | Asthenia                                      |  |                     |              |   |  |  |  |   |  |
|               |                        | 42             | 37              | Speaking makes s. tired                       | Detachment, indifference                               | 88                  | 145 / 90     | Good  | Frequent sighs<br>Sighs<br>Cold perspiration (hands)               | S1. euphoria                             |  |   |  |
| 7             | 9                      | 51             | 46              | Lumbar feel very heavy, increasing sleepiness |  |                     |              |   |  |  |  |   |  |
|               |                        | 58             | 53              |   |  |                     |              |   |  |  |  |   |  |
| 8             | 10                     | 17 08          | 2 03            | Very tired, starts                            |  |                     |              |   |  |  |  |   |  |
|               |                        | 10             | 05              |   |  |                     |              |   |  |  |  |   |  |
|               |                        | 34             | 29              | Head feels heavy, hearing benumbed            | Not unpleasant experience, detachment and indifference |                     |              |   |  |  |  |   |  |
| 3             | 3                      | 37             | 32              |   | Unclear mind   | 78                  | 130 / 80     | Good, coffee drinking, smoking                            | Mydriasis, no tremors, no perspiration                             | Request of a cigarette and cup of coffee |  |   |  |
|               |                        | 38             | 33              | Fatigue                                       | Anxiety  |                     |              |   |  |  |  |   |  |
| 5             | 8                      | 46             | 41              |   |  |                     |              |   |  |  |  |   |  |
|               |                        | 46             | 41              |   |  |                     |              |   |  |  |  |   |  |
| 9             | 7                      | 53             | 48              | Giddiness                                     |  |                     |              |   |  |  |  |   |  |
|               |                        | 53             | 48              |   |  |                     |              |   |  |  |  |   |  |
| 10            | 5                      | 58             | 53              |   |  |                     |              |   |  |  |  |   |  |
|               |                        | 18 00          | 55              |   |  |                     |              |   |  |  |  |   |  |
|               |                        | 18 10          | 3 05            | S1. dizziness                                 |  | 72                  | 140 / 80     | Good  | Rather mydriatic, readily reacting pupils                          |  |  |   |  |
|               |                        | 30             | 25              |   |  |                     |              | Snack   |  |  |  |   |  |
|               |                        | 19 05          | 4 00            |   |  | 88                  | 120 / 70     | Good, END OF SESSION                                      | S1. mydriasis, right anisochoria, s1. cyanosis of face             |  |  |   |  |

## Experiments

File: A

| Experiment No. | Envelope No. | Verbatim literal translation of original recording  | Matching Target | Scoring Staff Control |                       |
|----------------|--------------|---|-----------------|-----------------------|-----------------------|
| 1              | 2            | Toy train, poom-poom, band.   | B 5             | 0                     | 0                     |
| 2              | 6            | Sword and scales, Brennus, on the bottom right light blue which does not match the rest, Justice?, little animal running around, dog, cat, on its four legs.  | B 4             | 0                     | 2<br>F=0,14<br>(1/7)  |
| 3              | 4            | (He twice makes the gesture of taking off his hat.) So many vertical green things, wooden gate painted green, garden with very few plants, all white, low white walls, colored ball left by little boy.   | B 10            | 0                     | 0                     |
| 4              | 1            | Wooden stuff, wooden toys, work of a child, to go up, roof, on the left, war.   | B 9             | 0                     | 0                     |
| 5              | 7            | Here is the world, large and round [Rhymes in Italian.] (He holds his chin); <i>mock scowl</i> , a very high hat, half blindfolded eye, <i>caricature of brigand</i> , house in the woods, wooden hut, dark colors, Hansel and Gretel, the riddle of the mushroom, be quiet, don't move.  | B 7             | 1<br>F=0.29<br>(2/7)  | 1<br>F=0.10<br>(1/10) |
| 6              | 8            | (He whistles "Magic Moments"; makes gesture of putting the envelope into his mouth) Host, colored sunshine in a church, vertical ray, error, carved stones, engraved, underground tunnel, grey stone, like catacombs, but there is light, underground hall in grey stone, exit in the distance to the right, slips, slips, slips, like Modugno. | B 6             | 0                     | 0                     |

|    |    |   |     |     |                      |
|----|----|---|-----|-----|----------------------|
| 7  | 3  | Wooden vat (horizontally), Pinelli, old Rome (now vertically), little street with laundry hanging, stool in the middle of the street, old Rome colors, Piazza Navona in the background.   | B 3 | 0** | 0                    |
| 8  | 5  | (Refusal, suffering) Punchinello, a bit strange (restless) green veil, as if alive, like fins of tropical fish, Prof. Rizzo [The subject studied Rorschach test with him.] would call it a confabulation, from the veil to the tail, black, yellow, red, green, blue.   | B 1 | 0   | 1<br>F=0.17<br>(1/6) |
| 9  | 9  | (He drops envelope on the floor and picks it up again.) A black and white water-color painting with some grey, a little female foot, shoe, instep, unfashionable dress, very wide skirt with fringes, tiny little foot, joking with the escort, I cannot see clearly how he is dressed to place him in the right period, woman seen in perspective from the top with this dress in a dancing position, a bunch of artichokes, maybe (joking). | B 2 | 0   | 0                    |
| 10 | 10 | Bottle, funnel, glass, chair, table, trivial drawing, the cat's tail but the cat is not there (he finds it funny), old tale, Forforello Forforello you will be a little ass [Rhymes in Italian], brown door half opened, towel or something similar hanging from a nail on one side of the door.  | B 8 | 0   | 0                    |

\*\* The model is typically Roman, and comes from the part of town described.

*Subject's Impressions*

After ingestion of the active substance: slight feeling of dizziness and of empty-headedness. These sensations increased as time passed. I felt sleepy and detached from immediate surroundings. It became increasingly difficult to pay attention or coordinate thoughts, and I found it difficult to form my words. Everything around me seemed unimportant, and although I knew I had to do this experiment, even that did not seem to matter. I felt a great lassitude. When in a standing position, all the above sensations were magnified, but I had no difficulty in keeping my balance. As I felt dizzy, it required more concentration to walk straight, although my legs felt normal.

During the ESP test I had the impression that I spoke a lot of nonsense, but nevertheless I was not concerned. I remember talking to an envelope, and although I realized that this was absurd I could not help doing so. I felt very restless for some time, and could not keep still: I believe I was sighing and groaning—I do not know for what reason, I only know that I felt anxious without any physical pain.

I have no idea of how long each experiment lasted. All sense of time was lost. I do not know how long the effect of the active substance lasted. I gradually returned to reality, but the dizziness lasted for quite a long time. During the night I slept soundly. During the following days I occasionally felt dizzy and tired.

*SESSION No. 3 - FSB1**Summary*

The session lasted four hours. The general condition of the subject was good throughout the whole session, with very mild physical and psychic reactions. One and a half hours from the start he considered the ten envelopes, and managed to describe some definite images superimposed on a persistent "Oriental" pattern. There was a lot of repetition and a definite sluggishness in verbalizing. No after-effects were experienced.



| SUBJECT: F.S. |                        | SESSION: B 1   |                | SUBSTANCE: Psilobin  |                                    | DOSE: 10 micrograms |             | DATE: March 12, 1961                                     |   |                     |                             | STAFF ATTENDING: G.L., E.S., R.C. |  |
|---------------|------------------------|----------------|----------------|--|------------------------------------|---------------------|-------------|--|---|---------------------|-----------------------------|-----------------------------------|--|
| EXPERIMENTS   |                        | TIME           |                | SUBJECT'S OWN FEELINGS   |                                    |                     |             | STAFF'S OBSERVATIONS ON SUBJECTS CONDITION AND REACTIONS |   |                     |                             |                                   |  |
| File B Enc.   | Time (Min) Held, Ppoc. | Clock Hr. Min. | Prog. Hr. Min. | Physical Symptoms  | Psychic Symptoms                   | Pulse               | Blood Press | General Condition  | Autonomic Reactions                     | Psychic Reactions   |                             |                                   |  |
|               |                        | 14 40          | - 05           |  |                                    | 96                  | 150 / 90    | Good   | Normally reacting normal pupils         |                     |                             |                                   |  |
|               |                        | 45             | 0 00           |  |                                    |                     |             | INGESTION OF SUBSTANCE                                   |   |                     |                             |                                   |  |
|               |                        | 15 00          | 15             | Tingling in arms & hands<br>exhaustive, metal taste, faintness   |                                    | 100                 | 150 / 90    | Good   | Unchanged pupils                        |                     |                             |                                   |  |
|               |                        | 09             | 24             | Weightlessness   |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 12             | 27             | Sweating of hands, humming,<br>contractions of abdominal muscles |                                    |                     |             |  | Normal bands                            |                     |                             |                                   |  |
|               |                        | 20             | 35             |  | Alteration in color percept.       | 80                  |             |  | Brisk tendon reflexes, esp. left        |                     |                             |                                   |  |
|               |                        | 30             | 45             |  |                                    |                     |             |  | Very sl. mydriasis, norm. react. pupils |                     |                             |                                   |  |
|               |                        | 48             | 1 03           | Light-headedness   |                                    | 80                  | 150 / 90    | Good   | Unchanged pupils                        |                     |                             |                                   |  |
| 1             | 3                      | 16 10          | 25             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
| 3             | 1                      | 13             | 28             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 14             | 29             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
| 4             | 4                      | 15             | 30             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 15             | 30             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
| 5             | 4                      | 19             | 34             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 20             | 35             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 24             | 39             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 47             | 2 02           |  | Objects sway when s. looks at them | 70                  | 150 / 90    | Good   | Unchanged pupils                        |                     |                             |                                   |  |
| 8             | 6                      | 50             | 05             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 56             | 11             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
| 9             | 3                      | 56             | 11             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 59             | 14             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
| 10            | 6                      | 59             | 14             |  |                                    |                     |             |  |   |                     | Disturbed by traffic noises |                                   |  |
|               |                        | 17 05          | 20             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        |                |                | Asthma   |                                    |                     |             |  |   |                     |                             |                                   |  |
| 2             | 6                      | 17             | 32             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 23             | 38             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
| 6             | 6                      | 23             | 38             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 29             | 44             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
| 7             | 8                      | 29             | 44             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 37             | 52             |  |                                    |                     |             |  |   |                     |                             |                                   |  |
|               |                        | 18 45          | 4 00           |  |                                    |                     |             |  |   | Good END OF SESSION |                             |                                   |  |

## Experiments

File: B

| Experiment No. | Envelope No. | Verbatim literal translation of original recording  | Matching Target | Scoring Staff Control |                      |
|----------------|--------------|---|-----------------|-----------------------|----------------------|
| 1              | 1            | Dragon's head or lion's in the middle, open mouth dragons, moving legs.   | B 9             | 0                     | 0                    |
| 2              | 3            | Nothing.  | B 3             | 0                     | 0                    |
| 3              | 4            | Indian deities, Shiva with all those arms, witch from Snow-white tale on the broom, apple, lion with claws, tusks.  | B 10            | 0                     | 0                    |
| 4              | 5            | Decorations, Oriental environment (besides already described images).   | B 1             | 0                     | 0                    |
| 5              | 8            | Decorative patterns, paraps, in the middle same lion, Oriental patterns, cat, princess's crown, no more.  | B 6             | 0                     | 1<br>F=0.14<br>(1/4) |
| 6              | 9            | Nothing (traffic noise disturbs).   | B 2             | 0                     | 0                    |
| 7              | 10           | An emblem with two eagles, usual Oriental patterns, another Indian dragon, head of . . . , a face with a widely open mouth, a skull (repeats), lace, on the right another dragon, lace (repeats again), women's heads with princely crowns. | B 8             | 0                     | 0                    |
| 8              | 2            | Oriental patterns, some dragons, princely crowns, white patterns on black background.   | B 5             | 0                     | 0                    |
| 9              | 6            | Green light-blue, Oriental patterns.  | B 4             | 0                     | 1<br>F=1.00<br>(2/2) |
| 10             | 7            | Images, Michelangelo, faces with beard, but superimposed on patterned background, whole figure, another one with a beard, one more, usual patterns, nothing else.   | B 7             | 4<br>F=0.60<br>(3/5)  | 4<br>F=0.60<br>(3/5) |

**SESSION No. 4 - LKB1**

*Summary*

The session lasted three and a half hours. The subject's experience was pleasant throughout, with a general feeling of elation and euphoria, accompanied by rich visual hallucinations in the form of beautifully colored baroque patterns. Forty minutes from the start the subject considered three targets in rapid succession, and after a while another two, still without describing precise images, in spite of her apparent readiness to cooperate. Three hours from the start the subject had almost returned to normal. No after-effects were experienced.

| SUBJECT: L.K. |             | SESSION: B I |          | SUBSTANCE: Psilobyn                  |   | DOSE: 10 micrograms  |  | DATE: March 19, 1961         |           |                   |  | STAFF ATTENDING: G.L., E.S., R.C. |  |                   |  |
|---------------|-------------|--------------|----------|--------------------------------------|---|--|--|------------------------------|-----------|-------------------|--|-----------------------------------|--|-------------------|--|
| EXPERIMENTS   |             | TIME         |          | SUBJECT'S OWN FEELINGS               |   | SUBJECT'S OBSERVATIONS ON SUBJECTS CONDITION AND REACTIONS |  | Blood Press.                 |           | General Condition |  | Autonomic Reactions               |  | Psychic Reactions |  |
| File B        | Time (Min.) | Prog.        | Progr.   | Physical Symptoms                    | Psychic Symptoms  | Pulse  |  |                              |           |                   |  |                                   |  |                   |  |
| Env.          | Hold. Paus. | Hr. Min.     | Hr. Min. |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 15 00        | 0 00     |                                      |   | 90   |  | Good, INGESTION OF SUBSTANCE | 120 / 80  |                   |  |                                   |  |                   |  |
|               |             | 15           | 15       | Dizziness                            |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 20           | 20       | Numbness of face                     |   | 100  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 22           | 22       |                                      |   |  |  | Good                         | 140 / 100 |                   |  |                                   |  |                   |  |
|               |             | 27           | 27       | Cold                                 | Alteration in colors perception   |  |  | S. covered with a blanket    |           |                   |  |                                   |  |                   |  |
|               |             | 32           | 32       | Headache                             | Colored patterns  |  |  |                              |           |                   |  |                                   |  |                   |  |
| 3             | 4           | 35           | 35       | Sleepiness                           |   | 90   |  | Draws the patterns she sees  |           |                   |  | S.I. mydriasis                    |  |                   |  |
|               |             | 38           | 38       |                                      |   |  |  |                              |           |                   |  | Handa hypothermia                 |  |                   |  |
|               |             | 42           | 42       |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 43           | 43       |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 45           | 45       |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 45           | 45       |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
| 6             | 2           |              |          |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 47           | 47       |                                      | Colored surfaces are composed of many points of various colors, recurrent oriental patterns, indifference for attending staff | 90   |  | Good                         | 135 / 90  |                   |  |                                   |  |                   | Euphoria, laughter                     |
|               |             | 54           | 54       | Exhaustion                           |   |  |  |                              |           |                   |  |                                   |  |                   |  |
| 4             | 3           | 16 01        | 1 01     |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 04           | 04       |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 08           | 08       | Sleepiness                           | Magnificent visual hallucinations, (fireworks, baroque patterns, gardens oriental-like) continuously swaying                  |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 22           | 22       |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 27           | 27       | Relaxation                           | Detachment  |  |  |                              |           |                   |  |                                   |  |                   | Laughter                               |
|               |             | 30           | 30       |                                      | Fellings of guilt   | 90   |  | Good                         |           |                   |  |                                   |  |                   | Marked drowsiness, decreasing euphoria |
|               |             | 39           | 39       | Headache, giddiness                  | Slowing of sense of time  |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 46           | 46       | Tension in under-orbital zone        | "Feels" her face  |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 52           | 52       |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 57           | 57       | Headache                             | The visual phenomena disappear slowly & in waves  | 90   |  | Good, goes to bathroom       | 135 / 90  |                   |  |                                   |  |                   |  |
|               |             | 17 12        | 2 12     |                                      |   |  |  |                              |           |                   |  |                                   |  |                   |  |
|               |             | 18 00        | 3 00     | Facial tension, fingers paraesthesia | Idem  | 90   |  | Good                         | 130 / 90  |                   |  |                                   |  |                   | Decrease mydr.                         |
|               |             | 32           | 32       |                                      |   | 90   |  | Good, END OF SESSION         |           |                   |  |                                   |  |                   |  |

## Experiments

File: B

| Experiment No. | Envelope No. | Verbatim literal translation of original recording  | Matching Target | Scoring Staff Control |                      |
|----------------|--------------|---|-----------------|-----------------------|----------------------|
| 1              | 3            | Red and green or blue, it is alive, patterns, flowers, they move, change color, image.  | B 3             | 0                     | 0                    |
| 2              | 8            | I don't see the colors, yellow, they are not flowers, black fishes?, octopuses.   | B 6             | 0                     | 0                    |
| 3              | 6            | It doesn't tell me anything.  | B 4             | 0                     | 0*                   |
| 4              | 4            | I see colors here, a light blue, green light colors, a lace.  | B 10            | 0                     | 0                    |
| 5              | 9            | No colors, every now and then red, same patterns, denser, the red disturbs, the objects have a shape, consistency, body of the non-color. | B 2             | 0                     | 1<br>F=0.50<br>(3/6) |

\* The expression used for refusal is striking, as it clearly corresponds to the target's symbolic meaning.

*SESSION No. 5 - CMA1**Summary*

The session lasted six hours. The subject's reactions started after half an hour with muscular contractions, dizziness and detachment accompanied by mental confusion. One hour from the start the subject considered the ten envelopes in fairly rapid succession, and described with some difficulty a few images rather well defined. The whole experiment took one hour. The subject then entered an anxious-depressive state, and was given Nembutal. After one hour, the peak of distress was over and the subject fell into quiet sleep, which lasted for a couple of hours. At the end of the session his condition had returned to normal, except for a slight increase in blood pressure. No after-effects were experienced.

| SUBJECT: C.M. |                        | SESSION: A 1   |                 | SUBSTANCE: LSD 25                 |   | DOSE: 50 micrograms |                | DATE: April 8, 1961   |   | STAFF ATTENDING: G.L., E.S., R.C.                   |  |  |
|---------------|------------------------|----------------|-----------------|-----------------------------------|---|---------------------|----------------|---|---|---|--|--|
| EXPERIMENTS   |                        | TIME           |                 | SUBJECTS OWN FEELINGS             |   |                     |                | STAFFS OBSERVATIONS ON SUBJECTS CONDITION AND REACTIONS   |   |   |  |  |
| File A Evc.   | Time (Mins) Hold Paus. | Clock Hr. Min. | Progr. Hr. Min. | Physical Symptoms                 | Psychic Symptoms                                  | Blood Press.        | Pulse          | General Condition   | Autonomic Reactions   | Psychic Reactions                                   |  |  |
|               |                        | 15 15          | 0 00            |                                   |   | 160 / 100           | 84             | Good, INGESTION OF SUBSTANCE  | Normal pupils, readily reacting   |   |  |  |
|               |                        | 40             | 25              | Headache                          |   |                     | 80             | Stands up for a while   | Unchanged pupils  |   |  |  |
|               |                        | 52             | 37              | Giddiness, tiredness              | Alterations of body feeling, feels taller         |                     |                |   | SI: mydriasis, right anisochoria, cold dry hands                                    |   |  |  |
|               |                        | 16 00          | 45              | Hands' numbness                   | SI: confusion                                     |                     |                |   | SI: mydriasis, right anisochoria, cold dry hands                                    |   |  |  |
| 3             | 3                      | 06             | 51              |                                   | SI: confusion                                     | 160 / 100           | 96             | Good  |   | Started at sudden noises                            |  |  |
|               |                        | 15             | 1 00            | General tremor                    |   |                     |                |   |   |   |  |  |
|               |                        | 18             | 03              | Shivers, or electric shocks, cold |   |                     |                |   |   |   |  |  |
| 4             | 5                      | 19             | 04              |                                   |   |                     |                |   |   |   |  |  |
|               |                        | 24             | 09              |                                   |   |                     |                |   |   |   |  |  |
| 6             | 2                      | 25             | 10              |                                   |   |                     |                |   |   |   |  |  |
|               |                        | 27             | 12              |                                   |   |                     |                |   |   |   |  |  |
| 7             | 7                      | 27             | 12              |                                   | Cannot "look" - just "sees" Confusion, detachment |                     |                |   |   | Frequent spontaneous starting                       |  |  |
|               |                        | 34             | 19              | Tremors                           |   |                     |                |   |   |   |  |  |
| 8             | 6                      | 34             | 19              | Giddiness                         |   |                     |                |   |   |   |  |  |
|               |                        | 40             | 25              | Inner Cold                        |   |                     |                |   |   | Moans   |  |  |
| 9             | 1                      | 40             | 25              |                                   |   |                     |                |   | Trembling   | Moans   |  |  |
|               |                        | 41             | 26              | Exhaustion                        |   |                     |                |   |   |   |  |  |
| 10            | 4                      | 41             | 26              |                                   |   |                     |                |   |   |   |  |  |
|               |                        | 45             | 30              |                                   |   |                     |                |   |   |   |  |  |
| 1             | 5                      | 38             | 33              |                                   |   |                     |                |   |   |   |  |  |
|               |                        | 53             | 48              |                                   |   |                     |                |   |   |   |  |  |
| 2             | 5                      | 54             | 39              | General feeling of tension        | Cannot succeed in relaxing                        |                     |                |   | SI: mydriasis, right anisochoria, sighs, shivers, tremors and muscular contractions | Moans   |  |  |
|               |                        | 59             | 44              |                                   |   |                     |                |   |   |   |  |  |
| 5             | 8                      | 17 00          | 45              |                                   |   |                     |                |   |   |   |  |  |
|               |                        | 08             | 53              |                                   |   |                     |                |   |   |   |  |  |
|               |                        | 10             | 55              |                                   | Feels taller                                      |                     | 66, resp. 30   |   |   |   |  |  |
|               |                        | 28             | 2 13            | Giddiness Cold                    |   | 170 / 110           | 70 resp. r. 24 | Good, gets up a moment Goes to bathroom Puts on jacket  | Frequent general contractions, hypercoaxia  |   |  |  |
|               |                        | 45             | 30              |                                   |   | 180 / 110           | 80             | Fairly good, 100 mg Nembutal per os   | SI: mydriasis, right anisochoria  |   |  |  |
|               |                        | 18 00          | 45              |                                   |   |                     | 90             | Is invited to lie down  | Tremors, contractions, sighs  | Anxiety, depression                                 |  |  |
|               |                        | 18 10          | 2 55            |                                   |   |                     |                | Asks the physician (G.L.) to arrest his state (but it is not felt advisable to inject chlorpromazine) | SI: mydriasis, right anisochoria  | Groans  |  |  |
|               |                        | 18 18          | 3 03            | Headache                          | Anxiety, distress                                 | 180 / 100           |                | Distressed, as drug had shaken ego defences, uncovering anxiety & hysteria habitually blocked         | Intense contractions, sighs   | Frenzy, groans, motor discharges, repeats "enough!" |  |  |
|               |                        | 30             | 15              |                                   |   |                     | 84             | Calmness down   |   | Slumbers  |  |  |
|               |                        | 21 00          | 5 45            | SI: dizziness                     |   | 180 / 100           | 96             | Speaks most of the time in slumber Good, END OF SESSION   | Normal pupils, SI: anisochoria persisting   |   |  |  |

Experiments

File: A

| Experiment No. | Envelope No. | Verbatim literal translation of original recording   | Matching Target | Scoring Staff Control |                      |
|----------------|--------------|--|-----------------|-----------------------|----------------------|
| 1              | 3            | It flies, flies, flies over a garden, lawn, let it fly, hedge, so much green, not aeroplane, rather glider, sloping ground.                        | A 5             | 0                     | 0                    |
| 2              | 4            | Train, road, curve, I am on the ground.  | A 2             | 0                     | 0                    |
| 3              | 6            | Piano, hands seen in perspective.  | A 3             | 0                     | 0                    |
| 4              | 7            | Galloping horses, riding them, bas relief of horse from the left or front, Holy Virgin.  | A 9             | 0                     | 0                    |
| 5              | 8            | Fountains, everything is turning, windows of a courtyard, noise of falling water behind, Villa d'Este, only one stone fountain.                    | A 6             | 0                     | 0                    |
| 6              | 9            | <i>Gargoyle</i> , Silenus, horns, beautiful, gay, beard, <i>open mouth</i> .   | A 7             | 3<br>F=0.33<br>(2/6)  | 2<br>F=0,17<br>(1/6) |
| 7              | 10           | Wheel of a water mill, water, wheel in a tilted position, everything a little twisted, deformed.   | A 8             | 0                     | 0                    |
| 8              | 1            | Difficult, church, dark dark paintings from old churches, tilted figures, fragment of... church, column?, architrave, naked figure, man, big legs. | A 10            | 0                     | 0                    |
| 9              | 2            | Like a mercer unfolds a ribbon from its cardboard (so he turns the envelope over and over), trumpet, cornet (vertically) mouse.                    | A 4             | 0                     | 0                    |

|    |   |  |     |                 |   |
|----|---|--|-----|-----------------|---|
| 10 | 5 | Fire, I would like to break this one into pieces, to tear it, something torn, broken feeling affection, "le baiser," image of ruffled woman and man holding her tight around her waist. [The subject later explained that he intended to refer to the painting "The Ivy" by T. Cremona.] | A 1 | 1               | 0 |
|    |   |  |     | F=0.40<br>(2/5) |   |

### *Subject's Impressions*

The substance taken during the second experiment affected me in a very different way from that taken during the first. During the period of waiting, after the ingestion of the substance, I felt less dizzy and fatigued. The action of the substance seemed more rapid. The images I perceived more fleeting, less distinct, and contained more movement, and I think they were all slightly tilted. Out of the ten envelopes which I examined, I remember only four: horses, a fast moving train, a large mask, a trumpet with a mouse. I have no idea at all of what I said in regard to the six other envelopes. I remembered much more after the previous experiment. I have the impression that I said very little. I feel that my lucid moments were much less frequent than in the first experiment.

My perception of the environment and of persons present showed no deformation but seemed muffled and uninteresting. I had a strong feeling of physical tension, a sensation of the contraction of all my nerves and muscles, and of the impossibility of relaxing. Violent shudders, without any feeling of cold. At times a feeling of electrical currents surrounding my entire body. Irrepressible tremors, mainly of my head and shoulders. A most painful and agonizing sensation, from which there was no escape.

I believe that, at one point, I begged to be relieved of these discomforts. I also felt as though I had a tight, constricting band around my heart, but I was unable to speak or to ask for a check-up. These contractions gradually increased until it seemed to me that I had convulsions. My brain was no



longer able to marshal its thoughts, and was completely empty of ideas, there was only anxiety. I remember the lady doctor checking my condition, and that she was frowning. After this my mind is a blank, I only remember that somebody helped me to lie down. I was shivering violently. At a certain moment, I sensed that all the observers were standing around me, which made me feel that they were concerned about my state. Another gap in my memory, and when I woke up I was told that I had slept. The tremors and feeling of anxiety had disappeared, I felt quite well, and the concern with which my friends surrounded me gave me a warm sense of gratitude, relief and security. Contrary to the aftermath of the first experiment, in the following days I felt no disturbance whatsoever.

#### *SESSION No. 6 - FSA1*

##### *Summary*

The session lasted six hours. The subject showed a moderate reaction, with vasomotor disturbances, slight dizziness and some detachment from reality. He experienced a few quite clear visual hallucinations, and managed to describe them very accurately. One and a quarter hours from the start he considered six envelopes, spending a fairly long time on each one, describing a rich imagery. These images too had the character of true hallucinations, but there was a certain sluggishness in verbalizing them. No further cooperation was obtained, as the subject was slowly reverting to normal. After-effects: a slight increase in blood pressure and a sensation of pressure on the eyeballs which persisted for twenty four hours.

| SUBJECT: F.S. |                       | SESSION: A 1   |                 | SUBSTANCE: LSD 25   |   | DOSE: 50 micrograms |              | DATE: May 7, 1961   |  |   |  | STAFF ATTENDING: G.L., E.S., R.C. |  |
|---------------|-----------------------|----------------|-----------------|---|---|---------------------|--------------|---|--|---|--|-----------------------------------|--|
| EXPERIMENTS   |                       | TIME           |                 | SUBJECT'S OWN FEELINGS                                      |   |                     |              | STAFF'S OBSERVATIONS ON SUBJECT'S CONDITION AND REACTIONS |  |   |  |                                   |  |
| File A        | Time (Min) Hold Paus. | Clock Hr. Min. | Progr. Hr. Min. | Physical Symptoms   | Psychic Symptoms                            | Pulse               | Blood Press. | General Condition   | Autonomic Reactions  | Psychic Reactions   |  |                                   |  |
|               |                       | 15 00          | 0 00            |   |   | 80                  | 150 / 100    | Good, INGESTION OF SUBSTANCE                              | Normally reacting isoch. pupils,                                   |   |  |                                   |  |
|               |                       | 34             | 34              | Metal taste   |   | 72                  | 150 / 100    | Good  | Unchanged pupils   |   |  |                                   |  |
|               |                       | 53             | 53              | Tingling in legs, s.l. dizziness, sweating                  |   |                     |              |   |  |   |  |                                   |  |
|               |                       | 16 00          | 1 00            |   | Objects swaying, visual hallucinations      | 72                  | 170 / 100    | Good  | S.l. mydr., persistent under stimulation, perspiration, cold hands |   |  |                                   |  |
| 3             | 9                     | 10             | 10              | Visual hyperacuity  |   |                     |              |   |  |   |  |                                   |  |
|               |                       | 15             | 15              |   |   |                     |              |   |  |   |  |                                   |  |
| 4             | 9                     | 24             | 24              |   |   |                     |              |   |  |   |  |                                   |  |
|               |                       | 24             | 24              |   | Feels like laughing                         |                     |              |   |  |   |  |                                   |  |
|               |                       | 33             | 33              |   |   |                     |              |   |  |   |  |                                   |  |
| 5             | 13                    | 47             | 47              | Twitching of leg muscles                                    | Visual hallucinations - feels like laughing |                     |              |   |  | Withdrawal, verbal sluggishness (throughout the whole exp.) |  |                                   |  |
|               |                       | 17 00          | 2 00            |   |   |                     |              |   |  |   |  |                                   |  |
| 6             | 15                    | 28             | 28              |   | Detachment                                  | 68                  | 170 / 100    | Good  | S.l. mydr. little reacting pupils, cold and moist hands            |   |  |                                   |  |
|               |                       | 43             | 43              |   |   |                     |              |   |  |   |  |                                   |  |
| 7             | 25                    | 18 00          | 3 00            |   | Visual hallucinations                       | 68                  | 180 / 100    | Good  | Mydr. right anisochoria, cold & moist hands                        |   |  |                                   |  |
|               |                       | 10             | 10              |   |   |                     |              |   |  |   |  |                                   |  |
|               |                       | 35             | 35              |   |   |                     |              |   |  |   |  |                                   |  |
| 8             | 23                    | 36             | 36              | Asthenia, feels the envelope heavier than the previous ones |   |                     |              | Muscular functionality unchanged                          |  |   |  |                                   |  |
|               |                       | 59             | 59              |   |   |                     |              |   |  |   |  |                                   |  |
|               |                       | 19 00          | 4 00            |   |   | 70                  | 170 / 100    | Good  | Decreasing mydr. right anisochoria                                 |   |  |                                   |  |
|               |                       | 20 00          | 5 00            |   |   | 76                  | 160 / 100    | Good  | Mydr. finished, right anisochoria persisting                       |   |  |                                   |  |
|               |                       | 21 00          | 6 00            |   |   |                     |              | Good, END SESSION   |  |   |  |                                   |  |

Experiments

File: A

| Experiment No. | Envelope No. | Verbatim literal translation of original recording   | Matching Target | Scoring Staff Control |                       |
|----------------|--------------|--|-----------------|-----------------------|-----------------------|
| 1              | 3            | Oriental patterns, dragons, open and close their mouths, cavern which closes, patterns appear and disappear; dragons, with arms, colorless, white lace on black, sphinxes, human body from the face to pelvis, of a man . . . deities, eagles, emblems, helm of an ancient Roman, in-laid, dragons, oriental patterns, heads with crowns, of women.  | A 5             | 0                     | 1<br>F=0.10<br>(1/10) |
| 2              | 4            | (He feels like laughing) A theatre box, someone who was gesticulating and shouting, as in an Opera House, a Japanese female figure with kimono, standing, usual patterns, swaying, no color, usual dragons, big black women, children's faces, figure of a bigger man, faceless, still (looks elsewhere for a while), usual patterns, bell, Superman with a cape, who is about to fly, or an imposing figure with crossed arms, with a challenging attitude. | A 2             | 0                     | 0                     |
| 3              | 5            | Usual patterns, nothing particular, (encouraged by E.S., he looks elsewhere ), patterns of an Oriental type (looking at the ceiling) on hanging veils, chalk masks, big wall with a kind of fountain, main gate, bronze doors, several heads of women, man's face, they are superimposed, with a very large hat . . . five heads of men with top hats, main gate.  | A 1             | 0                     | 0                     |

|   |   |  |     |                  |   |
|---|---|--|-----|------------------|---|
| 4 | 6 | <p>(He feels absent) Usual patterns, <i>face of a woman, with bosom and ornaments, feathers, seen in profile, another head without manly features, the face yes, head of a woman, body, features cannot be seen clearly, head of a man with a large cowboy hat, one sees that he is a man, but covered features, eyes are seen, blindfolded?, very green, green background, yellow, green, white, yellow, color with patterns.</i></p>   | A 3 | 3                | 0 |
|   |   |  |     | F=0.33<br>(4/12) |   |
| 5 | 7 | <p>Red in the middle, gilded colored patterns around, red, woman's face with a whole long body, without arms, heads of statues, helmets, women's faces crying, a child, an old man, bright red, liquid, whirling, funnel, vortex of very red water, empty tank, spiral stairs, Oriental-looking man, greyish colored face, another one next to it, soldier with helmet, figure of a naked man with long hair, dark face, not so dark skin color, hands in attitude of prayer, sort of cavern entrances, they look as if they were widening and narrowing, gate, fans, women's necks adorned with bracelets (metal rings), the usual hat, very large, this time yellowish, women's faces, children?, woman with a large hat on her head, long, holy man with beard, tunic and raised arms who is preaching.</p> | A 9 | 0                | 0 |
| 6 | 8 | <p>(He holds envelope, weighs it.) It weighs more than the other ones, <i>palish green, turns, usual sombreros in the middle, Garibaldi type</i></p>   |     |                  |   |

faces, Mazzini type faces,  
 head of policeman with cap,  
 English, light yellow at the  
 right, rainbow, everything  
 is colored, someone with  
 blind-folded face, faces  
 change, Egyptian, sort of  
 puppet theatre, theatre for  
 children, with puppets,  
 usual funnel, black whirls,  
 it is not water, feeling of  
 whirling, it is not liquid  
 (with closed eyes) statues of  
 ancient Egyptians, pharaohs,  
 half length figure of man  
 with top hat, little top hat,  
 negro faces with adorned  
 head, with feathers, many  
 colors, red and green,  
 colored plate with red and  
 green patterns, *big masks  
 with large eyes, green with  
 something yellow, horrible  
 faces*, man with helmet,  
 whom I don't know, face of  
 a bearded man, *colors with  
 thinner vertical stripes, green,  
 yellow, red, and black, Arabic  
 woman with earrings, green  
 rings, bright red lips, green  
 eyebrows, colors with vertical  
 stripes, usual patterns.*

|     |        |        |
|-----|--------|--------|
| A 6 | 2      | 2      |
|     | F=0.44 | F=0.56 |
|     | (7/16) | (9/16) |

### *Subject's Impressions*

During the experiment [by "experiment" the subject means the whole session] it seemed to me that I was surrounded by smoke or mist. Superimposed on my surroundings I could see persistent patterns. When I closed my eyes I still had hallucinations, although in the first experiment this did not happen. The colored or metallic objects in the room seemed to be moving, and I am sure this was not due to my dizziness. I was able to follow other people's conversation. Noises did not disturb me. The faces of the observers were not changed in any way, except for the lady doctor who seemed slightly distorted. I saw a lot of images in connection with the envelopes, some persistent, some fleeting, all

against an unchanging background of lace-like design. The only aftermath was a continued ache in my eyeballs and a strong feeling of sleepiness so that I had to sleep during the day, which is unusual for me. Otherwise I felt quite normal.

*SESSION No. 7 - LKC1*

*Summary*

The session lasted four hours. A total lack of reaction, both physical and psychological, was observed. By mere kindness the subject considered two envelopes, two and a half hours from the start, without describing any images. Her state was fully normal throughout the session, slightly tinged with criticism and impatience.

| SUBJECT: L.K.  |                            | SESSION: C 1      | SUBSTANCE: Water   |                        | DOSE =           |            | DATE: May 13, 1961 |   |                                 |   | STAFF ATTENDING: G.L., E.S., R.C. |  |  |
|----------------|----------------------------|-------------------|--------------------|------------------------|------------------|------------|--------------------|---|---------------------------------|---|-----------------------------------|--|--|
| EXPERIMENTS    |                            | TIME              |                    | SUBJECT'S OWN FEELINGS |                  |            |                    | STAFF'S OBSERVATIONS ON SUBJECT'S CONDITION AND REACTIONS |                                 |   |                                   |  |  |
| File A<br>Env. | Time (Min.)<br>Hold. Paus. | Clock<br>Hr. Min. | Progr.<br>Hr. Min. | Physical Symptoms      | Psychic Symptoms | Pu-<br>lsc | Blood<br>Press.    | General Condition   | Autonomic Reactions             | Psychic Reactions                                 |                                   |  |  |
|                |                            | 14 57             | 0 00               |                        |                  | 100        | 115 / 65           | Good. INGESTION OF<br>SUBSTANCE                           | Isocn. normally reacting pupils |   |                                   |  |  |
|                |                            | 16 00             | 1 03               |                        |                  | 90         | 115 / 65           | Good  | Normal pupils                   |   |                                   |  |  |
| 4              | 3                          | 17 17             | 2 20               |                        |                  | 90         | 120 / 65           | Good  | Normal pupils                   | Sl. boredom, lack of interest, kind<br>compliance |                                   |  |  |
|                |                            | 20                | 23                 |                        |                  |            |                    |   |                                 |   |                                   |  |  |
| 7              | 2                          | 20                | 23                 |                        |                  |            |                    |   |                                 |   |                                   |  |  |
|                |                            | 22                | 25                 |                        |                  |            |                    |   |                                 |   |                                   |  |  |
|                |                            | 18 15             | 3 18               |                        |                  | 90         | 135 / 90           | Good  | Normal pupils                   |   |                                   |  |  |
|                |                            | 19 08             | 4 11               |                        |                  | 90         | 130 / 85           | Good. NED SESSION   | Normal pupils                   |   |                                   |  |  |

## Experiments

File: C

| Experiment No. | Envelope No. | Verbatim literal translation of original recording   | Matching Target | Scoring Staff Control |   |
|----------------|--------------|--|-----------------|-----------------------|---|
| 1              | 4            | [The subject took the envelope but remained silent.] | C 2             | —                     | — |
| 2              | 7            | Fir tree.  | C 9             | 0                     | 0 |

*SESSION No. 8 - CMC1**Summary*

The session lasted three and a half hours. A very mild initial reaction, with tremors and slight distress was observed. One hour from the start the subject considered the ten envelopes in rapid succession, describing a few images in connection with each target, rather vague and ill-defined. The condition of the subject was clinically unchanged throughout the session.



| SUBJECT: C.M. |                         | SESSION: C 1   |                 | SUBSTANCE: Water       |                  | DOSE: =   |              | DATE: May 27, 1961   |   | STAFF ATTENDING: G.L., E.S., R.C. |  |
|---------------|-------------------------|----------------|-----------------|------------------------|------------------|---|--------------|----------------------|---|-----------------------------------|--|
| EXPERIMENTS   |                         | TIME           |                 | SUBJECT'S OWN FEELINGS |                  | STAFF'S OBSERVATIONS ON SUBJECT'S CONDITION AND REACTIONS |              |                      |   |                                   |  |
| File C Env.   | Time (Min.) Hold. Paus. | Clock Hr. Min. | Progr. Hr. Min. | Physical Symptoms      | Psychic Symptoms | Pulse   | Blood Press. | General Condition    | Autonomic Reactions                         | Psychic Reactions                 |  |
|               |                         | 15 10          | - 12            |                        |                  | 84  | 140 / 80     | Good                 | S1. myotic, normally reacting isoch. pupils |                                   |  |
|               |                         | 22             | 0 00            |                        |                  |   |              |                      |   |                                   |  |
|               |                         | 16 10          | 48              |                        |                  |   |              |                      |   |                                   |  |
| 9             | 2                       | 28             | 1 06            |                        |                  |   |              |                      |   |                                   |  |
|               | 1                       | 30             | 08              |                        |                  |   |              |                      |   |                                   |  |
| 3             | 1                       | 31             | 09              |                        |                  |   |              |                      |   |                                   |  |
| 1             | 3                       | 32             | 10              |                        |                  |   |              |                      |   |                                   |  |
|               | 0                       | 33             | 11              |                        |                  |   |              |                      |   |                                   |  |
|               | 0                       | 36             | 14              |                        |                  |   |              |                      |   |                                   |  |
| 2             | 4                       | 36             | 14              |                        |                  |   |              |                      |   |                                   |  |
|               | 0                       | 40             | 18              |                        |                  |   |              |                      |   |                                   |  |
| 4             | 5                       | 40             | 18              |                        |                  |   |              |                      |   |                                   |  |
|               | 0                       | 45             | 23              |                        |                  |   |              |                      |   |                                   |  |
| 5             | 3                       | 45             | 23              |                        |                  |   |              |                      |   |                                   |  |
|               | 4                       | 48             | 26              |                        |                  |   |              |                      |   |                                   |  |
| 6             | 4                       | 52             | 30              |                        |                  |   |              |                      |   |                                   |  |
|               | 0                       | 56             | 34              |                        |                  |   |              |                      |   |                                   |  |
| 7             | 4                       | 56             | 34              |                        |                  |   |              |                      |   |                                   |  |
|               | 0                       | 17 00          | 38              |                        |                  |   |              |                      |   |                                   |  |
| 8             | 2                       | 00             | 38              |                        |                  |   |              |                      |   |                                   |  |
|               | 0                       | 02             | 40              |                        |                  |   |              |                      |   |                                   |  |
| 10            | 2                       | 02             | 40              |                        |                  |   |              |                      |   |                                   |  |
|               |                         | 04             | 42              |                        |                  |   |              |                      |   |                                   |  |
|               |                         | 08             | 46              |                        |                  | 84  | 150 / 100    | Good, snack          | Unchanged pupils                            |                                   |  |
|               |                         | 18 15          | 2 53            |                        |                  | 80  | 140 / 90     | Good                 | Unchanged pupils                            |                                   |  |
|               |                         | 43             | 3 21            |                        |                  | 80  | 140 / 80     | Good, END OF SESSION | Unchanged pupils                            |                                   |  |

## Experiments

File: C

| Experiment No. | Envelope No. | Verbatim literal translation of original recording   | Matching Target | Scoring Staff Control |   |
|----------------|--------------|--|-----------------|-----------------------|---|
| 1              | 9            | Only one, grass-green, yellowish green, darker green.  | C 6             | 0                     | 0 |
| 2              | 3            | (He sighs) Flight of seagulls over the sea, colored.   | C 10            | 0                     | 0 |
| 3              | 1            | A person praying, so many flowers, lilies, little image of a saint, holy woman kneeling on a praying stool and praying, with a ray of light.   | C 4             | 0                     | 0 |
| 4              | 2            | Hand with forefinger pointing, there is also an inscription, handwritten capital letters, much white in this plate, there is little, arm in perspective, thus funny, to win.   | C 7             | 0                     | 0 |
| 5              | 4            | I feel like folding it, feeling of softness to the touch, like silk or velvet, on the other side (turning it over) , I would like to make a hole in it, so many discs or rings, seen in an elliptical shape, there is some gold, discs are part of this gold, there is some dark blue . . . sorry to leave it, it is nice. | C 2             | 0                     | 0 |
| 6              | 5            | Something whirling, a vortex, a thing with shovels revolving, footsteps, impressions of shoes, whistle.  | C 3             | 0                     | 0 |
| 7              | 6            | (Standing up) Seeing the city from a window, from rather high up, poor and industrial district, chimneys, dark sky background, yellow color sprinkled among house in distance, telephone pole and support, wires, forest of poles, it might seem a harbor, masts.  | C 9             | 0                     | 0 |

|    |    |  |     |   |   |
|----|----|--|-----|---|---|
| 8  | 7  | (Still standing, walking)<br>Rampant heraldic animal,<br>unicorn, inscription<br>"Prudentia" written across,<br>colors: grey black and white.                              | C 8 | 0 | 0 |
| 9  | 8  | (Still standing) Cartoon from<br>a humoristic magazine,<br>representing chaotic traffic<br>of a city street, with<br>purposely childish design,<br>cars, trumpets, a mess. | C 1 | 0 | 0 |
| 10 | 10 | (Still standing, walking)<br>White?, all blank, white<br>cardboard.  | C 5 | 0 | 0 |

### *Subject's Impressions*

My impression is that the liquid I drank was much, much weaker than the previous ones, if not just fresh water. So the experiments were performed in perfect lucidity and consciousness. That's all.

### **SESSION No. 9 - FSC1**

#### *Summary*

The session lasted four hours. Except for a few vaguely defined visual hallucinations, the condition of the subject was normal during the whole session. One hour from the start he considered two envelopes, without succeeding in describing any images. After a while he considered two more targets and described a few vague images, superimposed on a decorative "Oriental" pattern. No further cooperation was obtained, and it was not felt advisable to urge the subject to consider more targets.

| SUBJECT: F.S.  |                            | SESSION: C 1      |                    | SUBSTANCE: Water           |   | DOSE: "   |                 | DATE: June 3, 1961  |                     | STAFF ATTENDING: G.L., E.S., R.C. |  |  |
|----------------|----------------------------|-------------------|--------------------|----------------------------|---|-----------|-----------------|---|---------------------|-----------------------------------|--|--|
| EXPERIMENTS    |                            | TIME              |                    | SUBJECTS OWN FEELINGS      |   |           |                 | STAFF'S OBSERVATIONS ON SUBJECT'S CONDITION AND REACTIONS |                     |                                   |  |  |
| File C<br>Env. | Time (Min.)<br>Hold. Pass. | Check<br>Hr. Min. | Progr.<br>Hr. Min. | Physical Symptoms          | Psychic Symptoms  | Pu-<br>be | Blood<br>Press. | General Condition   | Autonomic Reactions | Psychic Reactions                 |  |  |
|                |                            | 14.35             | 0.00               |                            |   | 80        | 130 / 80        | Good, INGESTION OF<br>SUBSTANCE                           |                     |                                   |  |  |
|                |                            | 15.15             | 40                 | Sharpening of visual power |   |           |                 |   |                     |                                   |  |  |
|                |                            | 20                | 45                 | Metal taste                |   |           |                 |   |                     |                                   |  |  |
|                |                            | 32                | 57                 |                            |   | 68        | 110 / 70        | Good  |                     |                                   |  |  |
| 3              | 5                          | 46                | 1.11               |                            |   |           |                 |   |                     |                                   |  |  |
|                |                            | 51                | 1.6                |                            |   |           |                 |   |                     |                                   |  |  |
| 5              | 8                          | 51                | 1.6                |                            |   |           |                 |   |                     |                                   |  |  |
|                |                            | 59                | 2.4                | Weakness in the leg        |   |           |                 |   |                     |                                   |  |  |
|                | 13                         | 16.12             | 3.7                |                            | Visual hallucinations, abstract<br>patterns in light colors |           |                 |   |                     |                                   |  |  |
| 6              | 8                          | 20                | 4.5                |                            |   |           |                 |   |                     |                                   |  |  |
|                |                            | 23                | 4.8                |                            |   |           |                 |   |                     |                                   |  |  |
| 7              | 12                         | 35                | 2.00               |                            |   |           |                 |   |                     |                                   |  |  |
|                |                            | 55                | 2.0                |                            |   |           |                 |   |                     |                                   |  |  |
|                |                            | 18.05             | 3.30               |                            |   | 66        | 170 / 100       | Good  |                     |                                   |  |  |
|                |                            | 47                | 4.12               |                            |   |           | 160 / 100       | Good  |                     |                                   |  |  |
|                |                            |                   |                    |                            |   |           |                 | END OF SESSION  |                     |                                   |  |  |

Experiments

File: C

| Experiment No. | Envelope No. | Verbatim literal translation of original recording   | Matching Target | Scoring Staff Control |   |
|----------------|--------------|--|-----------------|-----------------------|---|
| 1              | 3            | Nothing, just nothing.   | C 10            | 0                     | 0 |
| 2              | 5            | Usual background Oriental patterns.  | C 3             | 0                     | 0 |
| 3              | 6            | Usual background, tribe of Arabs, desert camel, I don't know, a thing moving, which is walking. . . on a very pale blue, a big head here on one side, I don't know whether of a man, rather bald, changed pattern, now leaves, flowers, nothing in the middle, embroidery. . . , fixed in the middle the image of those Arabs, the background is now pink, red, violet, a red stripe, (turns the envelope).  | C 9             | 0                     | 0 |
| 4              | 7            | Oriental embroideries with white spots at some points, light blue in certain parts, brighter white on the top right, a sort of dragon with tongue protruding from the mouth, rampant, with spikes, sort of head, sort of narrow long tunnel, of cave, bright white color on one side . . . , entrance to zoo, super-imposed bedouins, desert, people walking, jumping, springing, sharp white at the edges, center as usual (Oriental patterns), a child's trunk, white on top right . . . , a woman with masses of loose hair, with outstretched arms, all a bit blurred. | C 8             | 0                     | 0 |

*SESSION No. 10 - FSA2**Summary*

The session lasted five hours. Moderate physical reactions, a wealth of visual hallucinations. Two and a half hours from the start the subject considered four envelopes, and described precise images. There was considerable verbal sluggishness and some stuttering. The subject felt anxious in connection with one of the targets. No further cooperation was requested as it was felt of little value, due to the continuous flow of hallucinations experienced by the subject independently from the targets. At the end of the session, Nembutal was prescribed, to be taken at bedtime. No after-effects were experienced.

| SUBJECT: F.S. |                        | SESSION: A 2   |                 | SUBSTANCE: LSD 25                |   | DOSE: 75 micrograms |   | DATE: September 16, 1961                                  |                   |              |  | STAFF ATTENDING: G.L., E.S., R.C. |  |
|---------------|------------------------|----------------|-----------------|----------------------------------|---|---------------------|---|---|-------------------|--------------|--|-----------------------------------|--|
| EXPERIMENTS   |                        | TIME           |                 | SUBJECT'S OWN FEELINGS           |   |                     |   | STAFF'S OBSERVATIONS ON SUBJECT'S CONDITION AND REACTIONS |                   |              |  |                                   |  |
| File A Env.   | Time (Min) Hold. Paus. | Clock Hr. Min. | Progr. Hr. Min. | Physical Symptoms                | Psychic Symptoms  | Blood Press.        | General Condition   | Autonomic Reactions                                       | Psychic Reactions |              |  |                                   |  |
|               |                        | 14 55          | 0 00            |                                  |   | 72                  | Good. INGESTION OF SUBSTANCE                              | Inoch. normally reacting pupils                           |                   |              |  |                                   |  |
|               |                        | 15 42          | 47              | Metal taste                      |   |                     |   |   |                   |              |  |                                   |  |
|               |                        | 50             | 55              | Stomach spasms, cold limbs       |   | 81                  | Good  | Sl. myotic, normally reacting pupils                      |                   |              |  |                                   |  |
|               |                        | 55             | 1 00            | Asthenia                         |   |                     |   | Cyanosis of face  |                   |              |  |                                   |  |
|               |                        | 16 00          | 05              |                                  |   |                     |   | Clonic contractions of leg muscles                        |                   |              |  |                                   |  |
|               |                        | 18             | 23              | Giddiness                        |   |                     |   |   |                   |              |  |                                   |  |
|               |                        | 30             | 35              |                                  | Difficult in verbalizing, stuttering, visual hallucinations                                       |                     |   |   |                   |              |  |                                   |  |
|               |                        | 50             | 55              |                                  | Alterations in visual perception  | 66                  | Good  | Sl. mydriatic, little reacting pupils                     |                   |              |  |                                   |  |
|               |                        | 57             | 2 02            |                                  | Visual hallucinations   |                     |   | Cold and moist hands, mydriasis                           |                   |              |  |                                   |  |
|               |                        | 17 05          | 10              | Warmth in whole body except arms |   |                     |   |   |                   |              |  |                                   |  |
|               |                        | 15             | 20              |                                  | Feels like unmotivated laughing, synesthesia ("feels" musical harmony in connection with visions) |                     |   |   |                   | Stuttering   |  |                                   |  |
| 2             | 9                      | 20             | 25              |                                  |   |                     |   |   |                   | Laughter     |  |                                   |  |
|               |                        | 29             | 34              |                                  |   |                     |   |   |                   |              |  |                                   |  |
| 1             | 9                      | 40             | 45              |                                  | Feels like going away together with images he experiences   |                     | Drinks a cup of tea                                       |   |                   |              |  |                                   |  |
|               |                        | 49             | 54              |                                  |   |                     |   |   |                   |              |  |                                   |  |
|               |                        | 50             | 55              |                                  |   | 78                  | Good  | Normal, little reacting pupils                            |                   |              |  |                                   |  |
|               |                        | 18 09          | 3 14            |                                  | Visual hallucinations   |                     |   | Yawning   |                   |              |  |                                   |  |
| 4             | 9                      | 26             | 31              | Tremor                           | Anxiety   |                     |   |   |                   |              |  |                                   |  |
|               |                        | 35             | 40              |                                  | Disturbed by light switched on  |                     |   |   |                   |              |  |                                   |  |
| 7             | 10                     | 37             | 42              |                                  |   |                     |   |   |                   |              |  |                                   |  |
|               |                        | 47             | 52              |                                  |   |                     |   |   |                   |              |  |                                   |  |
|               |                        | 50             | 55              |                                  | Hearing illusions   | 66                  | Good  |   |                   |              |  |                                   |  |
|               |                        | 55             | 4 00            |                                  | Visual hallucinations   |                     | Snack and red wine  |   |                   |              |  |                                   |  |
|               |                        | 19 15          | 20              |                                  | Alterations in visual perception  |                     |   |   |                   | Sl. euphoria |  |                                   |  |
|               |                        | 30             | 35              | Asthenia                         |   |                     |   |   |                   |              |  |                                   |  |
|               |                        | 20 00          | 5 05            |                                  |   | 84                  | Good. END OF SESSION (prescr. 100 mg Nembutal at bedtime) | Normal pupils   |                   |              |  |                                   |  |

## Experiments

File: A

| Experiment No. | Envelope No. | Verbatim literal translation of original recording  | Matching Target | Scoring Staff Control |   |
|----------------|--------------|---|-----------------|-----------------------|---|
| 1              | 2            | (He laughs) A hill, horses in the background, grazing, wires barbed wire, faces, (describes several colors), merry-go-round turning, a large valley with barbed wire on top, bombs, flames, (describes several colors), emblem in the background, japanese, soldiers, rivers, ships around, sea?, red color rising.   | A 4             | 0                     | 0 |
| 2              | 1            | Visages, faces, Hitler, a little man, an enormous fortress, a sort of bird comes out, a head of something, doors, two doors opening, walls, colored rockets spring out, interweave, fishes leaping out of the water (describes several colors), flashing patterns, the little one is talking with someone I don't know, whirl of colors, flames, acrobatics, reds, blacks, smoke. | A 10            | 0                     | 0 |
| 3              | 4            | (Subjective feeling of anxiety, refusal) A mill with chains turning, huge wheels, of marble, of stone, people running, sort of light as if of burning candle, lamp, pear-shaped bulb, light projected down, silvery, red, falling down, (interrupted by a light being switched on).   | A 2             | 0<br>F=0.25<br>(2/8)  | 1 |



|   |   |  |     |   |   |
|---|---|--|-----|---|---|
| 4 | 7 | Cat's paws, they walk, dancing<br>step, green, circus tent, crowd,<br>searchlights, wheel turning<br>around the pole supporting the<br>circus tent, people turning for<br>fun tied to wheels, like a merry-<br>go-round, view of a city from<br>an airplane at night, (describes<br>several colors), sea bottom,<br>water, (describes several colors),<br>spits with all colored birds<br>revolving, it looks like a scene of<br>a fabulous world, fishes flying,<br>sea-bottom, fishes jumping out,<br>fall down again (he is requested<br>to end the whirling images). | A 9 | 0 | 0 |
|---|---|--|-----|---|---|

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**SESSION No. 11 - FSB2**

*Summary*

The session lasted five hours. The subject showed a marked physical reaction, with vasomotor and circulatory disturbances. He experienced a moderate feeling of detachment and a few hallucinations. One hour from the start he considered four targets, describing several images, all affected by a persistent sensation of circular motion, most likely due to the subject's giddiness. Some images were experienced in connection with all four targets, and this recurrent repetition coupled with the subject's condition discouraged us from requesting further cooperation.

No after-effects were experienced.

| SUBJECT: F.S. |                         | SESSION: B 2   |                 | SUBSTANCE: Psilocybin  |  | DOSE: 15 mg |              | DATE: October 21, 1961   |  | STAFF ATTENDING: G.L., E.S., R.C. |  |
|---------------|-------------------------|----------------|-----------------|--|--|-------------|--------------|--|--|-----------------------------------|--|
| EXPERIMENTS   |                         | TIME           |                 | SUBJECT'S OWN FEELINGS                                       |  |             |              | STAFF'S OBSERVATIONS ON SUBJECT'S CONDITION AND REACTIONS  |  |                                   |  |
| File B Env.   | Time (Min.) Hold, Paus. | Clock Hr. Min. | Progr. Hr. Min. | Physical Symptoms  | Psychic Symptoms   | Pu- lse     | Blood Press. | General Condition  | Autonomic Reactions                      | Psychic Reactions                 |  |
|               |                         | 16 10          | • 10            |  |  |             |              | A spell of abdominal pain before coming prompts a checking of physical condition s.l. tender colon | leech., normally reacting pupils         |                                   |  |
|               |                         | 17             | 03              |  |  | 80          | 150 / 110    | Good. INGESTION OF SUBSTANCE   |  |                                   |  |
|               |                         | 20             | 00              |  |  |             |              |  |  |                                   |  |
|               |                         | 38             | 18              | Lock-jaw feeling   |  |             |              |  | No objective signs of trismus            |                                   |  |
|               |                         | 47             | 27              |  | Everything a waying, changes in body feeling, distortions in visual perception |             |              |  |  |                                   |  |
|               |                         | 55             | 35              |  | Visual hallucinations  |             |              |  | Repeated yawning, cyanosis of face       | Paraphasia                        |  |
| 1             | 10                      | 17 07          | 47              | Serious difficulty in opening the mouth                      | Feels his own voice "different"  |             |              |  | No objective signs of trismus            | Detachment                        |  |
|               |                         | 15             | 57              |  |  |             |              |  |  |                                   |  |
|               |                         | 21             | 1 01            | Contracting of neck muscles, faintness, exhaustion           | Visual hallucinations when not looking   | 76          | 170 / 100    | Good   | Unchanged pupils                         | S.l. euphoria                     |  |
| 3             | 6                       | 32             | 12              |  | Concern for what he says   |             |              |  |  |                                   |  |
|               |                         | 4              | 18              |  |  |             |              |  |  |                                   |  |
| 4             | 7                       | 42             | 22              | Warmth & muscular contraction on right side of face and neck | Sees a connection between his physical symptoms and his imagery                |             |              | No difference in skin temperature between left and right side of face                              |  |                                   |  |
|               |                         | 20             | 29              |  |  |             |              |  |  |                                   |  |
| 10            | 8                       | 18 09          | 49              | Vertigo  |  |             |              |  |  |                                   |  |
|               |                         | 17             | 57              |  |  |             |              |  |  |                                   |  |
|               |                         | 20             | 2 00            | Warmth of neck   |  | 60 weak     | 140 / 110    | Fair   | Intense vasodilation of the nape of neck |                                   |  |
|               |                         | 19 15          | 55              |  |  | 58          | 135 / 110    | Fair   |  |                                   |  |
|               |                         | 45             | 3 25            | Lock-jaw feeling   |  | 78 normal   | 140 / 100    | Good   | No objective signs of trismus            |                                   |  |
|               |                         | 21 10          | 4 50            |  |  | 80          | 155 / 110    | Good. END OF SESSION   |  |                                   |  |

Experiments

File: B

| Experiment No. | Envelope No. | Verbatim literal translation of original recording  | Matching Target | Scoring Staff Control |   |
|----------------|--------------|---|-----------------|-----------------------|---|
| 1              | 1            | Hats with faces not clearly seen, they expand, they shrink, golden color, (upon request he closes his eyes, with closed eyes he sees) hat or cap, giant hand ( ° ), like a piston from a funnel, spurts of various colors, huge dome, lovely colors, violet, a vortex of whirling colors, like a whirlpool, water, immense colors, white, black, on a light blue black background, vortex of colors, road, deep colors. | B 9             | 0                     | 0 |
| 2              | 3            | These hats, (with closed eyes) a very large hat, it lengthens like a funnel, something unlimited, lights, colors, faces, hand widening, huge hand ( ° ), corridor, immense hand ( ° ), fast moving vortex, green colors, yellow, flying fishes pursuing each other, enormous wings waving, feeling of splitting into two parts.   | B 3             | 0                     | 0 |
| 3              | 4            | Faceless visages, on the right they move, on the left they are still immense hand seems to be directing ( ° ), points at whirling faces, laughing, man with moustache, giant pine tree, no, another tree, exploded, falling down like a kind of lava, jet planes shooting together, looping, colors, red yellow, on the left black darkness, cave, hats, colors, rainbow, eight-like forms                              |                 |                       |   |

<sup>9</sup> Recurring image decreases the value of the answer on B8.

|   |    |   |      |                       |                       |
|---|----|---|------|-----------------------|-----------------------|
|   |    | going away, enormous mushroom, cloud, faces, woman's face all colored round the edge, on the right, on the left dark cavern, very long necks, go down and widen like champagne goblets.   | B 10 | 0                     | 0                     |
| 4 | 10 | (With closed eyes) Three or four hats, faces, <i>hand, red spurts</i> , rather dull red, whirl very fast, funnel, hat in the background, brown, vortices, a kind of mosaic, <i>from a black thing the five finger points of the huge hand come out</i> ( <sup>10</sup> ), bats as if inside a cave, very bright blue, <i>wide-open wings frontally, as if stuck to the walls</i> , an old woman opening her toothless mouth, with the prominent chin, like laughter . . . mouth, vortex, colors, funnel, it whirls. | B 8  | 3<br>F=0.25<br>(4/10) | 5<br>F=0.25<br>(3/12) |

### SESSION NO. 12 - CMB2

#### Summary

The session lasted five hours. The subject experienced serious vasomotor and cardiovascular troubles. One hour from the start he considered one envelope, without describing any definite images. No further cooperation was obtained, due to a state of severe distress which the subject experienced in connection with circulatory disturbances. After an abrupt fall in blood pressure, a cardiocirculatory stimulant was given, to help the subject in overcoming his prostration. Within one hour the subject had recovered his normal physical and psychic state. The only physical after-effect was a strong headache, while psychically there was mental confusion with spells of anxiety, persisting for thirty-six hours.

<sup>10</sup> Recurring image decreases value of answer on B8.

| SUBJECT: C.M.  |                            | SESSION: B 2      |                    | SUBSTANCE: Psilocybin              |  | DOSE: 15 mg    |                 | DATE: November 11, 1961                                   |   | STAFF ATTENDING: G.L., E.S., R.C.         |  |  |
|----------------|----------------------------|-------------------|--------------------|------------------------------------|--|----------------|-----------------|---|---|---|--|--|
| EXPERIMENTS    |                            | TIME              |                    | SUBJECT'S OWN FEELINGS             |  |                |                 | STAFF'S OBSERVATIONS ON SUBJECT'S CONDITION AND REACTIONS |   |   |  |  |
| File B<br>Env. | Time (Min.)<br>Hold. Paus. | Clock<br>Hr. Min. | Progr.<br>Hr. Min. | Physical Symptoms                  | Psychic Symptoms   | Pul.<br>rhythm | Blood<br>Press. | General Condition   | Autonomic Reactions   | Psychic Reactions                         |  |  |
|                |                            | 15 20             | 0 00               |                                    |  | 88<br>rhythm   | 175 / 100       | Good, ING. OF SUBSTANCE                                   | Isoch. pup. normoreact.   |   |  |  |
|                |                            | 44                | 24                 | Numbness of hands, giddiness       |  |                |                 | No object changes in music,<br>tone and potency           |   |   |  |  |
|                |                            | 55                | 35                 | Nausea, asthenia                   |  |                |                 |   | S1. mydriasis, normoreact. pup., cold<br>hands, sighs               |   |  |  |
|                |                            | 16 05             | 45                 | Exhaustion                         | Serious detachment,<br>visual hallucinations   |                |                 |   | Stumbers  |   |  |  |
|                |                            | 15                | 55                 |                                    |  | 88<br>rhythm   | 170 / 100       | Good  | S1. mydriasis, normoreact. pup., cold<br>hands, sighs               | Moans                                     |  |  |
| 9              | 23                         | 25                | 1 05               | Nausea                             | Confusion  |                |                 |   |   | Moans                                     |  |  |
|                |                            | 48                | 28                 |                                    | Asks whether he slept, he feels<br>he did & saw colored images,<br>he still falls asleep |                |                 |   |   | Moans                                     |  |  |
|                |                            | 17 00             | 40                 |                                    |  |                |                 |   |   |   |  |  |
|                |                            | 20                | 2 00               |                                    |  | 88             | 180 / 110       | Fairly good   |   | Feel. depend. G.L., depress.              |  |  |
|                |                            | 45                | 25                 |                                    |  |                |                 | Improved  |   | Marked withdrawal, verbal<br>sluggishness |  |  |
|                |                            | 18 15             | 55                 | Substernal discomfort              |  | 88<br>rhythm   | 205 / 120       | Distressed  |   | Normal ideation and verbalisation         |  |  |
|                |                            | 35                | 3 15               |                                    |  | 88<br>weak     |                 | Poor  | Profuse sweating, pallor, mod. dyspnea                              | Severe prostration and anxiety            |  |  |
|                |                            | 36                | 16                 |                                    |  | 54<br>astr.    |                 |   |   |   |  |  |
|                |                            | 45                | 25                 |                                    |  |                |                 |   |   |   |  |  |
|                |                            | 52                | 32                 |                                    |  |                | 135 / 90        | 10 drops Sympicard  | Intense pallor, subcyanosis of prolabium,<br>reacts when stimulated | Serious distress                          |  |  |
|                |                            | 19 48             | 4 28               | Recovering from severe<br>distress |  | 84             | 140 / 75        | Improved  |   |   |  |  |
|                |                            | 20 09             | 49                 |                                    |  |                |                 | Good, END OF SESSION                                      |   |   |  |  |

## Experiments

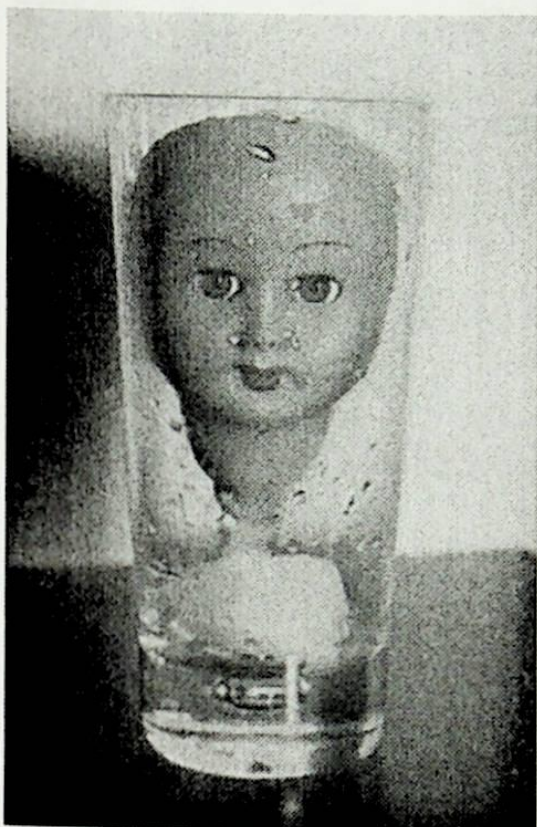
File: B

| Experiment No. | Envelope No. | Verbatim literal translation of original recording   | Matching Target | Scoring Staff Control |   |
|----------------|--------------|--|-----------------|-----------------------|---|
| 1              | 9            | Obscene ideas, scaffolding, metal grid, aluminum, diver's helmet, too many things, too many things, a dead world, without human figures, they are not patterns, they are volumes and colors. | B 2             | 0                     | 0 |

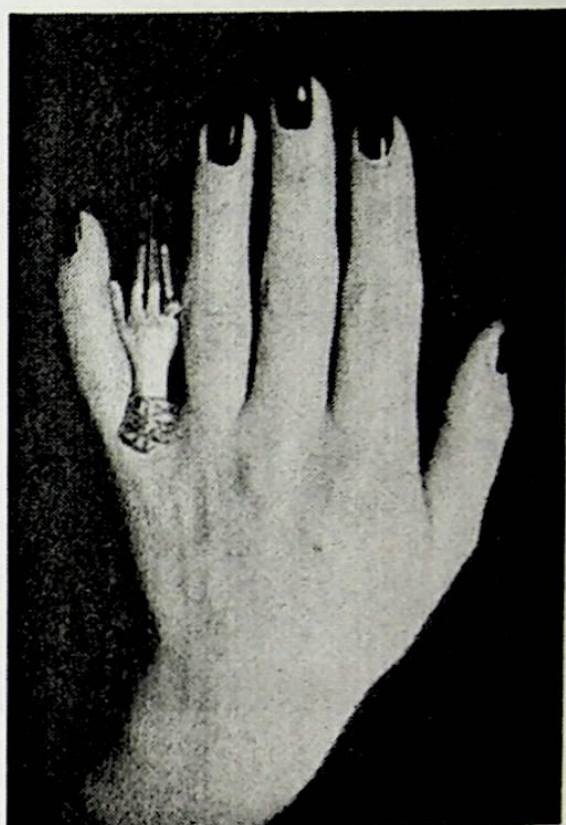
*Subject's Impressions*

As in previous experiments I followed the instructions regarding the intake of food. In case it could be of some interest, in the evening before the experiment I was up working until one o'clock in the morning, and on the actual day I got up at 5:30 a.m. Compared to previous times, the active substance had a more definite taste. After a certain time, which I can't estimate, I started feeling slightly dizzy at every head movement. I don't know how long this first phase lasted. I could hear very clearly the voices of those present and understand the words, but the meaning of what was said progressively escaped me. I felt more and more detached from the environment. Voices seemed louder, perhaps due to a hyperacuity of my senses. Then there is a blank.

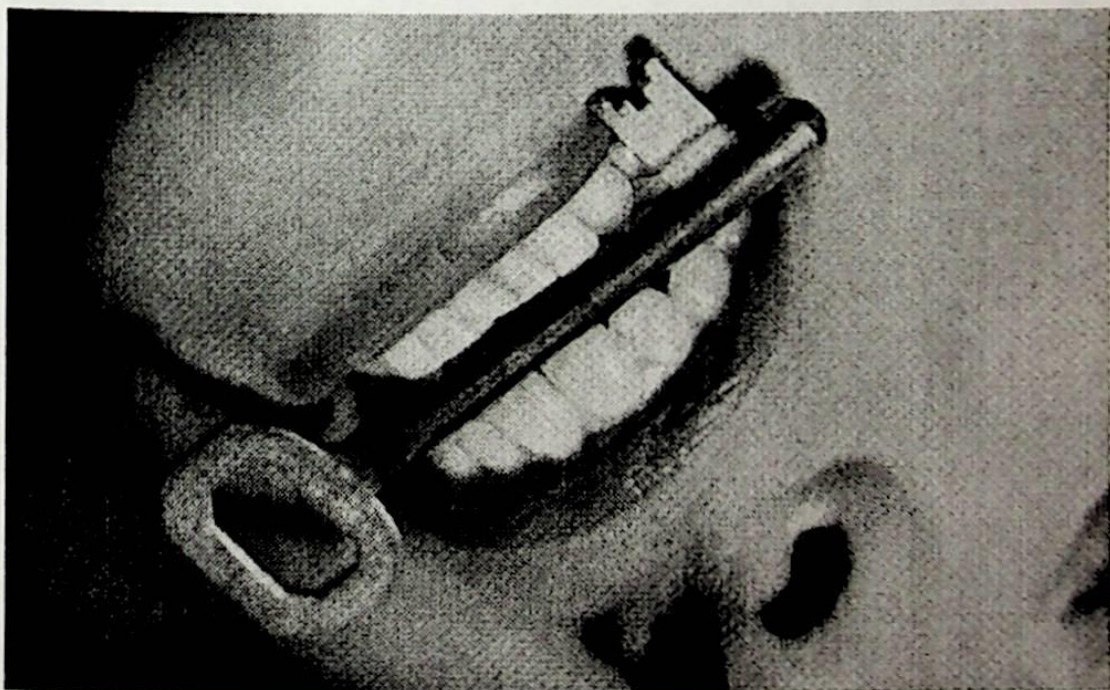
While talking, I felt as if I were waking up from sleep. I tried to describe, with some difficulty in wording, the images which appeared to me. I remember having spoken of "Arabian architecture" but I don't remember its ornamental designs at all. I remember very well, on the contrary, the pattern entirely covering a vault. (After the experiment I tried to draw it.) I said pattern, because there was some symmetry in it, but it was something smooth, alive, swaying. One could compare its shape to that of a big octopus with its body sticking to the ceiling and the tentacles hanging down, alternatively closing and opening widely like an umbrella, with a slow and even rhythm. The things which I compared to tentacles bore pale colored concentric stripes,



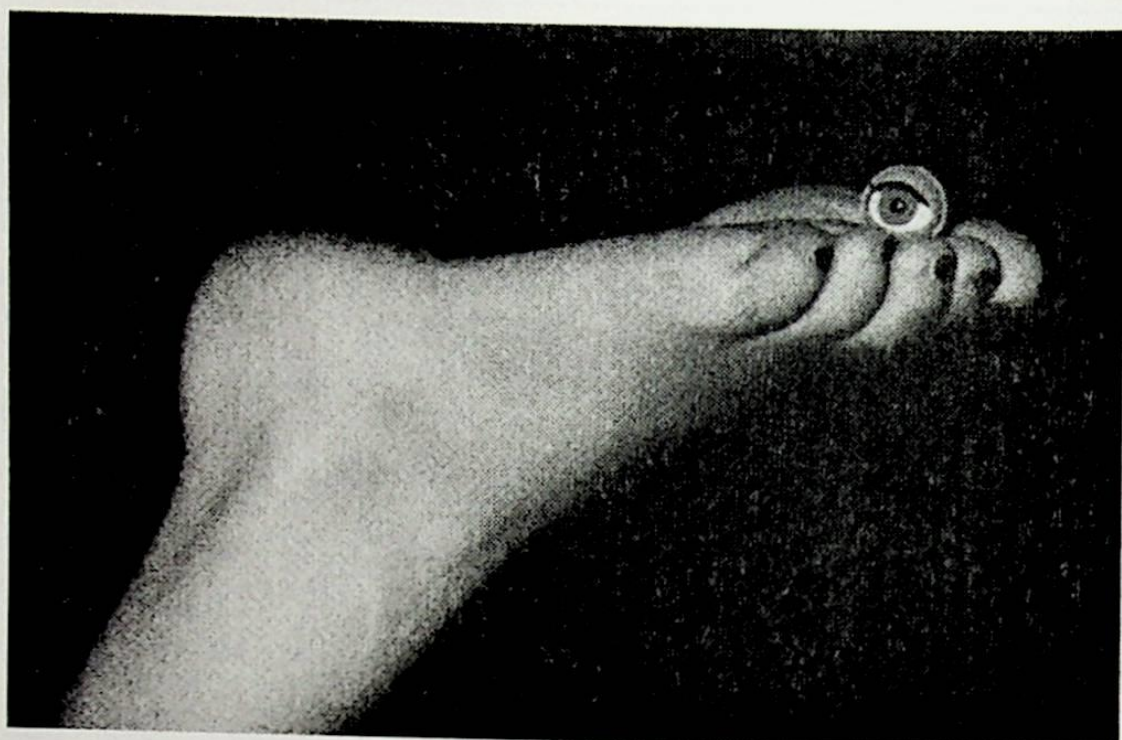
Target No. 5, Series A



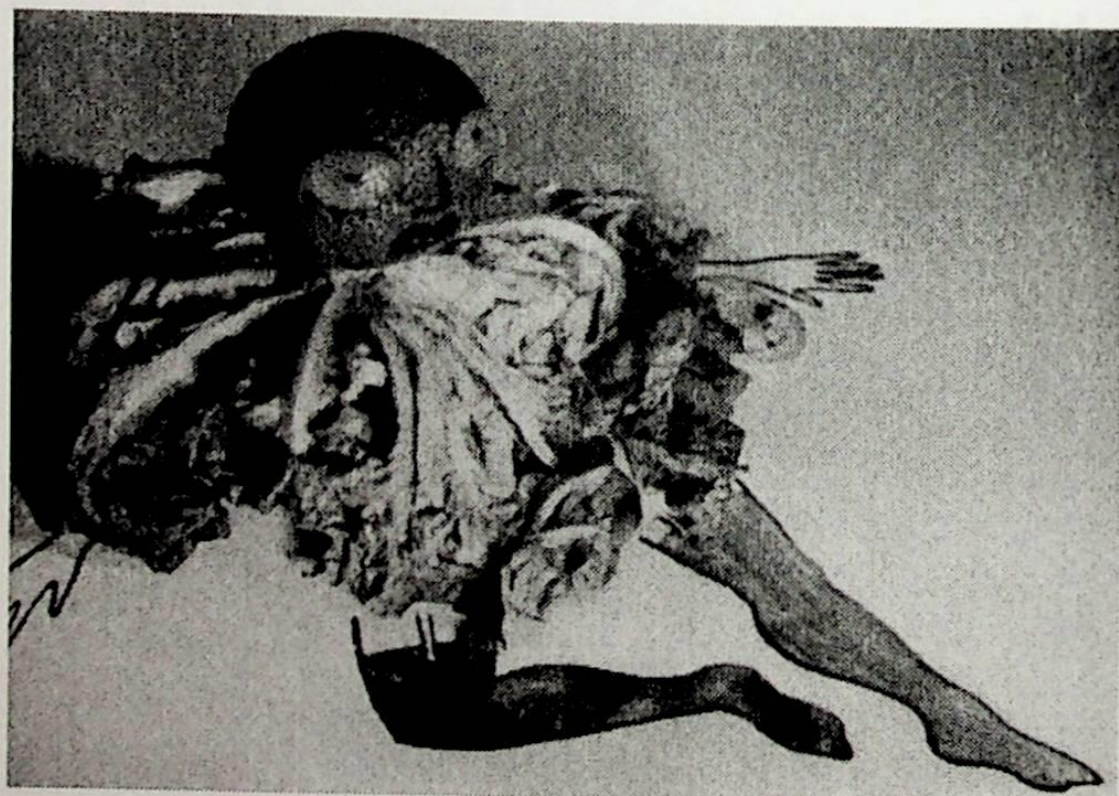
Target No. 8, Series B



Target No. 4, Series C



Target No. 9, Series B



Target No. 6, Series A



thus reminding of the pattern of a finger print. There was nothing beastly or frightening in the picture. Perhaps I used the term "pattern" just because it didn't look like anything animal or vegetable.

Another image seemed to be anatomic: an opened human belly with the bowels well in sight. The colors were soft, like those used in some anatomy books. There was movement in this image too, it seemed as if the bowels were trying to come out, like a flower in bloom, with a soft and slow movement. I remember clearly that I intended to tell the doctor that this vision, which naturally ought to have been unpleasant, had instead a sort of harmony and artistic value: there was no disagreeable impression. Another image consisted of various terraces full of flowers. Then a mountain side sloping in steps down to the sea, with flowers, flowers, flowers everywhere. Colors are all soft, images sway and change shape, still showing the same things.

Presumably at this point the air-conditioner was put on. Its hum evidently provoked a basic change in my imagery. Now the images were all technical, I would say mechanical, nearly colorless, mostly grey. The metal framework of a railway bridge seen from underneath, a large revolving disc, seen in perspective, a long metal drum, striped in black and white, rotating in perspective, several small frames of black iron rods, like those used for supporting shelves, continuously changing, not in their structure, but by replacing one another. I don't remember anything else.

I have the impression that during this first phase I alternated spells of sleep with periods during which I was awake, though in a very detached way. My head felt empty, a feeling of being dizzy, not ill. I can't say whether I was asleep or awake, I think I even enquired as to this, and my uncertainty lasted for quite a while. More than once during this first phase I was aware that I had to examine the envelopes, but my head full of images prevented me from doing so. I was then offered a snack which I enjoyed, and asked for a cup of coffee, which I got. A record was then put on. I thought that the effect of the active substance was over.

On request I could recognize shapes and colors exactly: persons and environment looked quite normal.

But evidently the effects had not worn off: while listening to music, I was stricken with a feeling of physical illness. I felt an indescribable sense of pain in my heart. The ill feeling was increasing, and I alerted the doctor, who checked my blood pressure: I think it was 200. I felt an increasing anxiety grasping me. At this moment there is a black spot. I remember that I felt very sick and thought I was about to die and asked for air. Then I don't remember anything else. I came back to my senses and was still sitting in the armchair. Someone had covered me: I was perspiring abundantly and feeling exhausted, but I wasn't suffering any longer, apart from some nausea. I was conscious of still being alive. A renewed checking of pressure gave 130 or 140, I think. I sat quietly for some time, gradually recovering.

As far as I can remember this was the worst and most worrying experience in all my life. Later the same evening I had a strong headache and a certain difficulty in coordinating my thoughts. I passed the night well and slept soundly. Next morning my brain was still sluggish and I experienced some spells of anxiety, which had definitely never happened to me before. On Monday morning I began to feel myself again for the first time. No experiment with the envelopes was performed. As I tried to explain at the end of the session, it seems that the active substance produced such an effect as to fill my mind completely, preventing it from entering a state of receptiveness.

## ❖ Chapter 5

# Discussion and Conclusions

### *General*

During the course of the experiments we became aware of some shortcomings in our methods. As we believe that there is room for considerable improvement in the type of methodological approach that we outlined, which nevertheless retains its full heuristic value after this introductory experimental work, we shall briefly report here our own critical impressions of this pilot study, together with plans for future research along the same lines.

The methodology which we tentatively established makes no specific reference to a particular class of psychotropic compounds to be preferentially used for ESP experiments. We started with the best known psychodysleptics, as the features of their impact on the dynamic structure of human personality approached most closely what we were looking for. It is obvious that a very large amount of experimental data has to be collected on single drugs under the same conditions, before anything can be said about their usefulness in parapsychological research. And such drugs have to be studied with particular regard to their influence, in a given experimental setting, upon interpersonal relations between subjects and experimenters. Undoubtedly, this is the most important factor which emerged in all our experiments, and we think that many more drugs, or combination of drugs, have to be tested on many more subjects, and their impact on emotional interactions duly recorded and examined.

For what concerns the "sensitivity" of the subjects, we do not believe that this will ever be a primary factor, compared

to the just-mentioned emotional interplay between subject and experimenters (or within a team of subjects, purposely chosen). From an extensive screening of potential subjects and drugs, some basic information could be collected, which would help us to orient subsequent research.

Regarding the targets, we think that they ought to be made stronger emotionally, though still retaining their character of simplicity and incongruity. A few pictures which we used in this first work were too weak in this respect. Targets might be fashioned to fit particular character traits of subjects, as emerging from their personality assessment.

### *Critical Points*

Another methodological shortcoming which appeared during this first cycle of sessions was the fact that the presence of the Authors, who had prepared all the targets, could interfere with the subjects' perception of a given target (unconscious telepathic effect), with resulting jamming and blurring. We checked this eventuality by cross-evaluating and scoring each answer versus all targets in the same series, but we did not observe any noticeable spreading of results. In order to obtain additional clarification on the mechanisms involved in telepathy at various levels, we undertook two experimental sessions in which one of us (E.S.) brought to his own conscious attention one target at a time, while the subject concomitantly tried to verbalize his feelings. These experiments provided interesting results (see Appendix A), which placed additional emphasis on the role of interpersonal relations in the conditioning of ESP phenomena. This was just a confirmation of evidence clearly emerging from telepathic occurrences between analyst and patient, or between other pairs of individuals emotionally involved with each other.

These considerations bring us to the main discrepancy in our methods, which lies in the fact that while all our work rests on psychodynamic assumptions, in the final evaluation of our results we applied strictly positivistic criteria. Our main problem was the assessment of the significance of

subjects' mentation, however expressed, versus the targets' meaning, overt or symbolic. One way to tackle it would have been to apply psychoanalytical interpretations to the free-association material produced by the subjects, and to score it against the total meaning of the target, similarly interpreted. This implied the need of an objective definition, in terms of psychodynamics, of both targets' content and subjects' reactions, which would be hardly possible at the actual state of psychoanalytical theory, and might be difficult to attain, short of mastering all the variables in the personality equations of the individuals involved. We purposely refrained from introducing the additional complication of a partial interpretation, which would in no way contribute to establish clear and unequivocal methodological bases for this research.

We would be better able to cope with this difficulty if another weak point in our experimental procedure could be eliminated, that is, if the subjects could be given the chance of expressing immediately and directly the feelings they experienced in connection with the targets. Unfortunately, their verbalization, even under drug, was still by far too logically organized in a conversational form directed to the experimenters, and in that way a lot of free-association material was presumably lost. In this connection another improvement seems necessary, and that is the need to establish an easily reproducible and clearly outlined routine to occupy the subject's time before the substance has reached its peak impact and the experiments can start. The non-committal conversation, as applied in this first cycle of sessions, proved too distracting and definitely inadequate to the purpose.

### *Results*

We insist on the purely orientative value of our limited experimental observations, collected in the course of a pioneer work with a few individuals. Some of the results we obtained might be indicative of ESP, but there is one main limitation which made us very cautious in evaluating them,

namely the fact that most of our targets contained or made reference to parts of the human body, and that the subjects (especially our best one, F.S.) appeared to be basically concerned with such type of imagery, independently of the targets. This was striking in session FSB 2, where we decided to score answer 4 lower than it might have deserved, as the subject consistently mentioned the same image, contained in the target corresponding to answer 4, in connection with all the envelopes he considered. It is worth mentioning that the control observers didn't share our reserve.

The imagery experienced by the subjects during our sessions was evidently affected by the drink they had been given: with plain water there was little if any production and the results were negative throughout; with psilocybin there was considerable confusion and some recurrency of circular movement, presumably an expression of the subjects' giddiness, but there were a few interesting results; the best condition was obtained with the use of low doses of LSD 25, in spite of some difficulties in verbalization, probably due to withdrawal. Much more experimental evidence is needed to validate these first observations.

### *Conclusions*

A main point emerged from our experimental work, and that is the role of interpersonal relations in the conditioning of ESP phenomena. We think that all efforts should be aimed at integrating this most important factor in any modern methodology in this field, especially if concerned with drug experiments. It is a variable which cannot possibly be eliminated, so it will be most rewarding from the heuristic point of view to give it the consideration it deserves. This obviously implies the need for an accurate assessment of the personalities involved.

Actually, we did not find any direct correlation between personality data on one side and the outcome of our ESP experiments on the other. Nevertheless, confronted with a system containing so many unknown parameters, potentially relevant for its conditioning, we considered it

advantageous to gather a wealth of pertinent observations on the subjects, even if we can not, for the moment, assess their proper relevance and show their ultimate correlations. Another main question which remained open to discussion is the intrinsic difficulty of objectively evaluating the significance of targets and answers. We shall note briefly a refinement in experimental techniques, which might help to overcome this serious difficulty, and could lead to better defined and more objectively controlled results.

Telepathy experiments ought to be attempted, with the need for conscious verbalization by the participants reduced to a minimum. The experimental setting could be the following: the two subjects (or more than two) should be located in different soundproof rooms, out of sight of each other, so that any communication between them could be excluded, the only possibility of contact being through the intermediary of the experimenter. The experimenter would keep the participants under continuous visual and hearing control, an arrangement similar to that in a broadcasting studio. Every subject would receive a series of sealed envelopes, indistinguishable from one another, each containing a different target image, unknown to all persons present.

By common consent a subject would choose one of his envelopes, mark it with his initials, plus a progressive number, and then open it. Upon considering the target, he would try to verbalize his thoughts, feelings, imagery, etc., which would be duly recorded, while the other subject (or subjects), alerted by a signal at the start of the experiment, would try to express their own sensations, which would be concomitantly recorded on the same tape.

One or several of the subjects could be under drug, in order to be brought in less cortically controlled states; all of them should be comfortably accommodated. It should be noted that in drug experiments the assistance of an attending nurse for each subject might be necessary. For evaluating the results, independent observers, unaware of the targets used for triggering the telepathic reaction, would analyze the material obtained as described, and by

discovering possible concordances between parallel transcripts, be able to make an objective validation of the results.

In case of positive results, the subsequent evaluation of the target used versus the free associative material obtained, could shed light on the mechanisms involved in its production. Identical twins (or other deeply emotionally involved pairs of individuals) could be good subjects for such experiments, as this rather rigid experimental setting would presumably have less inhibitory effect on their reciprocal empathy than in the case of others.

At any rate, only individuals able to associate freely, or trained to do so, should be tested, as the value of this procedure lies in the spontaneity of the material produced. The methods applied for collecting this material are going to intrinsically simplify the evaluation procedure. Nevertheless, too extensive symbolic interpretations should be avoided, and all passages of dubious significance rejected.

All interpretation attempts shall be clearly motivated in detail, to permit cross-checking and criticism. Of course it would be advantageous to select the teams on the basis of previous knowledge of the personality traits of the single individuals, and to adapt the targets to their personal and interpersonal features.



## ❖ Appendix A

### Experimental Sessions in Telepathy

In order to compare ESP phenomena at different personality levels, it was felt advisable to perform some exploratory sessions in pure telepathy, according to the modality already described. After completion of the planned series of experimental sessions, and before starting the final evaluation and scoring of results, the same volunteers (C.M. and F.S.) were asked and willingly accepted to try telepathy experiments with one of the Authors ( E.S. ), in the same setting and with the same targets.

Two sessions were performed, one without drugs with the "sensitive" C.M., using series C targets, and one with a low dose (40 micrograms) of LSD 25 given to the control subject F.S., using series A targets. No subject was available for the B series. In both cases the experimental arrangement was as follows. A secluded space had been prepared for the senior Author (E.S.), who took his seat in front of a writing desk, out of sight from the rest of the gathering. The rest of the staff remained in the room near the subject. Microphone No. 1 was located so as to pick up all subject's words, while the No. 2 was in front of E.S., who wore earphones connected to the first channel, in order to hear the subject distinctly.

The procedure, as explained to the subject at the beginning of the session, was the following. E.S. would open the envelopes (according to the modality described previously; see page 28) at the time and in the sequence wished by the subject, and he would inform the subject every time he

started looking at a chosen picture. The subject would say all that came in his mind in that connection, and was free to decide when he had said enough: only then would E.S. stop looking at the picture. The attitude of E.S. in considering the targets was one of blank receptiveness, with a definite attempt to avoid conscious concentration on the image or on its details. The sessions are described below.

### *SESSION No. 13 - CMCX*

#### *Summary*

This session lasted one hour, i.e. half an hour for introductory instructions and preparation, and half an hour for the telepathy experiment with the ten envelopes. No beverage at all was given to the subject, in order to avoid unnecessary complications of setting. The imagery experienced was rather limited, but well defined. There were no changes in the state of the subject throughout the session.

| SUBJECT: C.M. |                         | SESSION: C X   |                 | SUBSTANCE: None        |                  | DOSE: =  |              | DATE: June 9, 1962     |                     | STAFF ATTENDING: G.L., E.S., R.C. |  |  |
|---------------|-------------------------|----------------|-----------------|------------------------|------------------|--|--------------|------------------------|---------------------|-----------------------------------|--|--|
| EXPERIMENTS   |                         | TIME           |                 | SUBJECT'S OWN FEELINGS |                  | STAFF'S OBSERVATIONS ON SUBJECTS CONDITION AND REACTIONS |              |                        |                     |                                   |  |  |
| File C Env.   | Time (Min.) Hold. Paus. | Clock Hr. Min. | Progr. Hr. Min. | Physical Symptoms      | Psychic Symptoms | Pul.   | Blood Press. | General Condition      | Autonomic Reactions | Psychic Reactions                 |  |  |
|               |                         | 15 00          | 0 00            |                        |                  | %<br>rhythm  | 165 / 100    | Instruction to Subject |                     |                                   |  |  |
|               |                         | 15             | 15              |                        |                  |  |              | Good                   |                     |                                   |  |  |
| 2             | 3                       | 28             | 28              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 1                       | 31             | 31              |                        |                  |  |              |                        |                     |                                   |  |  |
| 1             | 1                       | 32             | 32              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 1                       | 33             | 33              |                        |                  |  |              |                        |                     |                                   |  |  |
| 3             | 3                       | 34             | 34              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 1                       | 37             | 37              |                        |                  |  |              |                        |                     |                                   |  |  |
| 4             | 3                       | 38             | 38              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 1                       | 41             | 41              |                        |                  |  |              |                        |                     |                                   |  |  |
| 5             | 2                       | 42             | 42              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 0                       | 44             | 44              |                        |                  |  |              |                        |                     |                                   |  |  |
| 6             | 2                       | 44             | 44              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 1                       | 46             | 46              |                        |                  |  |              |                        |                     |                                   |  |  |
| 7             | 2                       | 47             | 47              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 2                       | 49             | 49              |                        |                  |  |              |                        |                     |                                   |  |  |
| 8             | 2                       | 51             | 51              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 1                       | 53             | 53              |                        |                  |  |              |                        |                     |                                   |  |  |
| 9             | 0                       | 54             | 54              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 1                       | 54             | 54              |                        |                  |  |              |                        |                     |                                   |  |  |
| 10            | 3                       | 55             | 55              |                        |                  |  |              |                        |                     |                                   |  |  |
|               | 1                       | 58             | 58              |                        |                  |  |              |                        |                     |                                   |  |  |
| 9             | 2                       | 59             | 59              |                        |                  |  |              |                        |                     |                                   |  |  |
|               |                         | 16 01          | 1 01            |                        |                  |  |              |                        |                     |                                   |  |  |
|               |                         | 03             | 03              |                        |                  |  |              |                        |                     |                                   |  |  |
|               |                         |                |                 |                        |                  |  | 165 / 100    | Good, END OF SESSION   |                     |                                   |  |  |
|               |                         |                |                 |                        |                  | 102<br>rhythm  |              |                        |                     |                                   |  |  |

## Experiments

File: C

| Experiment No. | Envelope No. | Verbatim literal translation of original recording   | Matching Target | Scoring Staff Control |                      |
|----------------|--------------|--|-----------------|-----------------------|----------------------|
| 1              | 2            | Undulating horizontal lines, not black, but something like it, dark blue, blood-colored, red cube, a jarring element, fishes.  | C 7             | 0                     | 0                    |
| 2              | 1            | Train, mostly white, a piece of railway track.   | C 4             | 0                     | 0                    |
| 3              | 3            | Childish drawing of a puerile vase with a puerile little flower. Funnel, something spherical, round and a third object, near to each other, they seem to be on a little table, a sun, a multi-colored ball.  | C 10            | 0                     | 0                    |
| 4              | 4            | <i>A figure cut out from a book [said before the envelope was opened]. Reproduction of a very dark painting, contrasts of light, it looks like a Caravaggio, the figure doesn't take up the whole page, it is in the middle of the page, there are no colors, a bearded old man, with a bowed head, at least another figure which I don't see clearly.</i> | C 2             | 2<br>F=0.50<br>(4/8)  | 1<br>F=0.37<br>(3/8) |
| 5              | 5            | Printed words, that's all, some seen through a magnifying glass, (as reading) House, through the lens, the rest is too small for me, I am short-sighted.   | C 3             | 0                     | 0                    |
| 6              | 6            | A huge hand, like one in an advertisement, grey, white background, an ear.   | C 9             | 0                     | 0                    |
| 7              | 7            | The jungle, in color, a print, cut out, white border, in the foreground a leaf, large, long, trees.  | C 8             | 0                     | 0                    |

|    |    |  |     |   |   |
|----|----|--|-----|---|---|
| 8  | 8  | A cartoon, a dog, and in the distance two male figures with hat and coat, silhouetted.   | C 1 | 0 | 0 |
| 9  | 9  | White page [said before the envelope was opened.].<br>White page.  | C 6 | 0 | 0 |
| 10 | 10 | Figure, Negroes, not black, chocolate-colored, one seated low down on the right, a child almost in the middle, other figures behind further off, trees, something like a drinking-trough on the right. | C 5 | 0 | 0 |
| 11 | 9  | No, nothing.   | C 6 | 0 | 0 |

### SESSION No. 14 - FSAX

#### *Summary*

The session lasted three and three-quarter hours. The subject experienced a moderate reaction, with few visual hallucinations and some restlessness. He could concentrate on the targets while they were opened and considered by E.S., and described a rich imagery, with some repetitions. No after-effects.

| SUBJECT: F.S.  |                            | SESSION: A X      |                    | SUBSTANCE: LSD 25           | DOSE: 40 micrograms                           | DATE: July 15, 1962                                       |                | STAFF ATTENDING: G.L., E.S., R.C. |                     |                   |
|----------------|----------------------------|-------------------|--------------------|-----------------------------|---|---|----------------|-----------------------------------|---------------------|-------------------|
| EXPERIMENTS    |                            | TIME              |                    | SUBJECT'S OWN FEELINGS      |   | STAFF'S OBSERVATIONS ON SUBJECT'S CONDITION AND REACTIONS |                |                                   |                     |                   |
| File A<br>Env. | Time (Min.)<br>Hold. Pres. | Clock<br>Hr. Min. | Progr.<br>Hr. Min. | Physical Symptoms           | Psychic Symptoms                              | Pul.  | Blood<br>Pres. | General Condition                 | Autonomic Reactions | Psychic Reactions |
|                |                            | 15 00             | - 08               |                             |   |   |                |                                   |                     |                   |
|                |                            | 08                | 0 00               |                             |   |   |                | Good, INGESTION OF<br>SUBSTANCE   |                     |                   |
|                |                            | 47                | 39                 |                             |   |   |                |                                   |                     |                   |
| 2              | 2                          | 16 08             | 1 00               | Headache, tingling in hands |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 5              | 3                          | 12                | 04                 |                             |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 7              | 4                          | 16                | 08                 |                             |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 4              | 5                          | 27                | 19                 |                             |   |   |                | Good                              |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 6              | 5                          | 3                 | 26                 |                             |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 3              | 4                          | 17 05             | 57                 | Restlessness                | Anxiety, detachment, visual<br>hallucinations | 72  | 145 / 110      | Good                              |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 8              | 5                          | 10                | 02                 |                             |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 10             | 7                          | 17                | 09                 |                             |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 9              | 6                          | 26                | 18                 |                             |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
| 1              | 8                          | 32                | 24                 |                             |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
|                |                            | 43                | 35                 |                             |   |   |                |                                   |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
|                |                            | 55                | 47                 |                             |   |   |                | Good                              |                     |                   |
|                |                            |                   |                    |                             |   |   |                |                                   |                     |                   |
|                |                            | 18 50             | 3 42               |                             |   |   |                | Good, END OF SESSION              |                     |                   |

## Experiments

File: A

| Experiment No. | Envelope No. | Verbatim literal translation of original recording   | Matching Target | Scoring Staff Control |                      |
|----------------|--------------|--|-----------------|-----------------------|----------------------|
| 1              | 2            | [Remains silent.]  | A 4             | --                    | --                   |
| 2              | 5            | Dune, <i>horseman</i> , desert, far off, <i>motionless bedouin</i> , red, volcano, X-shaped marks, <i>black colors</i> , ovals, dark red background, colors, no, patterns, <i>black</i> , dark red background.   | A 1             | 3<br>F=0.43<br>(3/7)  | 2<br>F=0.29<br>(2/7) |
| 3              | 7            | Sort of woman, something white and flowing behind, hair?, violet arabesques, colored patterns, black, flaming red, the image of horseman and desert comes back, oval shapes, faces, visages, I can't make them out, colors, bright violet, black, patterns flashing down and vanishing into nothingness, rather gloomy background, hats.   | A 9             | 0                     | 0                    |
| 4              | 4            | Thousand lire a month, weeping cat. [Said before envelope was opened.] White horizon, dark grey, globe revolving and tilting, colors, transversal marks, white and red sparks, whip cracking and giving off sparks at the tip, they are wheeling (he describes colors again), the front, field, wheat stirred by the wind, colorless little flags, they are colored though, but they can't be made out, caravans, lines of marching animals, pines, branches, stirring leaves, something like waves of grass, colors that can't be made out, hats, white and grey. | A 2             | 0                     | 0                    |

|   |   |  |     |                       |                       |
|---|---|--|-----|-----------------------|-----------------------|
| 5 | 6 | <p>Forest, huge pine-trees in flames, in the background grey, black mountains, it isn't fire, pine trees, cypresses, laden with snow, lake, mountains, lake, gorge, grey-blues, black lines converging from a bright spot in the background, they are black with pink and red reflections, cypresses, on the left a large mountain with rocks, caves, in the background gorge with a torrent running through it, cypresses, man on horseback racing, prancing horses, horse-tamers, manes flying in the wind (he repeats), train going round and round, many-colored (he repeats), green valley.</p> | A 3 | 0                     | 0 <sup>(11)</sup>     |
| 6 | 3 | <p>Faces dancing before me, they lengthen, man with a heavy beard, he disappears, waving arms, they dance, hands, bright red colors (he repeats), an Indian figure, a goddess on one side, and on this side the dancing arms, <i>a body with fishscales, I can't see the legs, the head of a Pharaoh, of an ancient Egyptian (he repeats), pale pink.</i></p>  | A 5 | 1<br>F=0.20<br>(2/10) | 3<br>F=0.60<br>(6/10) |
| 7 | 8 | <p>A building, the wing of a building, a work of masonry, greenish faces, green, which meet and fuse into each other, green, dark violet and black backgrounds, visages, S-shaped streaks going upwards, launching ramp for satellites rotating round a wheel, colored, many colors, launching platforms for airplanes, they cross each other (he repeats), colors</p>   |     |                       |                       |

<sup>11</sup> From the symbolic point of view there is a certain pertinency.



|    |    |  |     |   |                       |
|----|----|--|-----|---|-----------------------|
|    |    | green red, S-shaped cloud coming down, splits into two question marks, sparks, clouds, a spider, black marks come out of it, L-shaped lines, on a bright blue background, a submarine, meets others.   | A 6 | 0 | 0                     |
| 8  | 10 | A big face in the background, enormous, I don't know whether a man's or woman's, it is looking, on one side a sort of little pink flame revolving, maybe a little cloud, or a torch, light searching, (he repeats) many faces signalling, leopard's and tiger's paws, widening, a crocodile, hands, claws, black, ash-colored background, cat's heads, a winged dove, a lighthouse illuminating the ocean fades in the darkness of the ocean, colored rain streaming upwards, a crater, no a whirlpool, a vortex, washing stones, (he repeats the image of a face in the background, from which everything originates) man racing on horseback, trees, vegetation. | A 8 | 0 | 1<br>F=0.15<br>(2/13) |
| 9  | 9  | Glow, white blinding light, dimmed by fog, colored, grey, pink, red with yellow in the middle, sort of bats dancing, millions, (he repeats) a rotation, a round dance, a sort of cloak, large bat covering everything in the background. More like witches than bats (said afterwards).  | A 7 | 0 | 0                     |
| 10 | 1  | A cave, many grottoes, a long passage dark at the end, grotto, valley, a little bit of something on top, they are struggling with their hands to get out of this   |     |   |                       |

snow, *they try to put out hand, arm*, but there is a foot which dominates and pushes back, *cackle*, a toothy smile, harpoons, to constrict something all round, clasp, all colors come out like water bubbles, waterfalls, tunnel, comes down from one dot, *arm protruding from something oppressing it*, but now it isn't a foot, water flowing down in tunnel, all dark down there, completely, grotto, high tide by night, almost reaching the ceiling of the cave, strange birds come out, colored dark blue, black, violet, they form faces, black hoods with two eyes as if for a fancy-dress party, dance of birds, goes up and up, black, widening, cloak, arms stretching up, above a sort of dome emanates a light-blue-black glow, glow becomes black towards the base, arms being raised, clad in huge cloak, as if they wanted to embrace the dome, they fall back and fade away.

|      |        |        |
|------|--------|--------|
| A 10 | 3      | 2      |
|      | F=0.18 | F=0.21 |
|      | (4/22) | (6/28) |

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## ❖ Appendix B

*Before starting the experimental sessions the Authors sent a circular letter to each subject, informing them that they were expected to participate in at least three sessions, that the drugs to be used were harmless, and stating the sum they would receive as remuneration.*

*Enclosed were (a) an instructions sheet and (b) a blank form for a statement of their willingness to volunteer. These are published below, as well as instructions given to the experimenters in their last memorandum before the sessions.*

### **INSTRUCTIONS TO SUBJECTS**

At the beginning of the session you will receive a glass of cold tap water containing an active substance.

In front of you a large envelope marked A, B or C will then be unsealed and you will be presented with a folder (marked Series A, B or C) containing in its numbered sections ten sealed envelopes undistinguishable from one another, each concealing a target image. A facsimile of the wrappings, envelopes and stamp used will be left with you the whole time. You can at any moment take any one of the envelopes and consider it at leisure: you are allowed to do with it whatever you like, such as looking at it from all sides, touching it, placing it in contact with any part of your body, but on no account must you open it or deface it.

When you feel so inclined, you may express in words, or by drawing, anything entering your mind in connection with the target you are considering. You shall limit yourself

to describing only your immediate, genuine and spontaneous feelings without trying to please the audience by organizing your thoughts. In order to avoid interference with your own verbalization, you are strongly advised to refrain from clarifying the meaning of your words.

Further precision about details should be postponed until the flow of feelings is exhausted. It has to be considered that in no case and by no means will the attending staff interfere during the actual performance of experiments except for possible medical control. All your words are recorded and your drawings collected and protocolled. If you wish to clarify some points after having finished considering an envelope, you may well do so by explaining them to the staff. You are quite free to consider an envelope whenever you desire: it is wished that you work on as many different envelopes as possible, no matter in what order. There is no objection to your considering the same envelope more than once, but on no account shall you take more than one at a time.

Once the experiment is terminated upon general agreement, you may freely converse with the staff about what you experience psychophysically during the rest of the session. You are requested not to make social engagements for the evening of the day during which the session takes place. A written account of the session is expected from you within the following week.

#### *Form for Volunteer Subjects*

The undersigned . . . , resident in . . . , declares that he/she accepts willingly and spontaneously to participate in the experiments that Prof. E.S. and Dr. R.C. will perform with his/her collaboration. He/she therefore discharges Prof. E.S. and Dr. R.C. of whatsoever responsibility in connection with any possible event occurring during or after the above-mentioned treatment. He/she renounces herewith to any future request of compensation for possible psychic or physical damages, supposedly related to the said experiments, which he/she volunteered to undergo.

The undersigned undertakes not to divulge in any way and by any means whatsoever confidential information directly or indirectly coming to his/her knowledge during or in connection with the performance of the said experiments.

(Signature)

### ***INSTRUCTIONS TO ATTENDING STAFF***

The attention of the experimenters is drawn to the great importance of standardizing and of objectivizing all interventions made during a session. These shall be confined to objective observations on the general condition and reactions of the subject or to particular clarifications requested by the subject in the process of verbalizing feelings and sensations brought about by his unusual state of personality.

The subject will receive separate instructions on the modality of the experiment. All necessary equipment for the experiment will be laid out before him at the beginning of the session and left with him throughout the experiment. It is above all most important that the subject should not receive suggestions or hints referring to states of personality similar to those he might enter during the course of the session. Any conversation on theoretical or practical matters connected with such experiences shall be avoided. From the very beginning of experiments, conversation shall be restricted: each time the subject takes an envelope, complete silence shall be observed until he has finished describing the spontaneous images appearing in his mind. Even then, clarification of details should be attempted only at his request and only as far as is strictly necessary for better definition and easier scoring.

### ***ADDITIONAL DATA ON SUBJECTS***

#### ***SUBJECT: M.G.***

*Personal History:* No information about birth and childhood, except menarche at 10. Married at 48. Had a miscarriage of

twins in the 5th month of pregnancy at 49. At 29 appendectomy. From the age of 30, gallbladder disorder with recurrent attacks of colicky pain without fever or jaundice. From the age of 39, menorrhages and metrorrhages. From the age of 40, attacks of paroxysmal tachycardia. Involved in several car and flying accidents, she suffered from various fractures: left zygomatic bone, ribs, sternum. Sciatic pain on left side: X-ray showed spina bifida. Smokes twenty cigarettes a day.

*Physical Examination* (May 1960): Weight: Kg. 65, Height: m. 1.65. Excellent general condition, well-nourished, no clinical evidence of anaemia, normal muscular development. Osteoarticular system: no clinical evidence of results from above-mentioned fractures. Lymphnodes: no abnormal findings. Cardiovascular system: no abnormal findings, blood pressure 125/85 mm. Hg., rhythmic pulse rate 100. Respiratory system: no abnormal findings. Abdomen: slightly distended, colon tender and palpable, tenderness in the right hypocondrium. Nervous system: both pupils equally and normally reacting to light and accommodation, brisk tendon reflexes, moderate red dermographism. Fluoroscopy of thorax: aortic shadow of slightly increased size and density, heart shadow of normal form and size, normal transparency of pulmonary fields with slight accentuation of hilar and broncovascular shadows.

*Laboratory Findings* (June 1960): Blood. Erythrocytes: 5.100.000/cu.mm., Leukocytes: 7.900/cu.mm., Polymorphonuclear neutrophils: 52 %, Lymphocytes: 36 %, Monocytes: 7 %, Eosinophils: 5 %, Basophils: 0, Platelets: 320.000/cu.mm., Hemoglobin: 16.6 g/100 ml, Color index 1.01, Glucose: 95 mg/100 ml; Nonprotein nitrogen: 28 mg/100 ml; Urine: No abnormal findings; Liver Tests. Cephaline-cholesterol flocculation t.: (++) positive, Thymol turbidity t.: (+) positive, Takata-Ara: (+) slightly positive.

*Follow-up Examination* (May 1961 ): In July and December 1960, gallbladder disorder with attacks of colicky pain in right hypocondrium radiating to right shoulder.

Colecystography (March 1961 ) showed defective filling of gallbladder, suggestive of a calculus. Amenorrhea from 1961.

### PSYCHOLOGICAL TESTING

*Formal Behavior During Test Sessions.* The subject always arrived slightly late, accompanied by her husband. She was polite and easily overcame her slight initial insecurity in her relationship with the investigator. Without any encouragement on the part of the investigator, she was very ready to talk about her work, showing an intense emotional involvement with her clients' problems. She described with self-complacency her lack of interest in money, which people took advantage of. She was less talkative about her personal and family problems: she seemed satisfied with her marital life but she complained about her mother-in-law's domination. She was preoccupied with fraudulent practices in her field, and in this connection she expressed her dislike of another subject (C.M.), with whom she was previously acquainted. She described the project as very important. She said that the subjects had been asked to declare that they would not employ the active substances for ulterior uses (in fact this request was not put to them); these substances, she said, make you see things. She was often tired, and her loquacity seemed to stem more from weariness than from her need to impose herself. However, the sessions were carried out in a relaxed atmosphere in spite of her latent insecurity.

*Wechsler-Bellevue Intelligence Test.* Good intellectual and logical capacity. Good visual perception and recognition, with sufficient ability to pick out essential details. Good memory and learning capacity. Very deficient common sense, due to overvaluation of personal point of view. The subject was critical and bored during the first interview, contented and cooperative during the second one. I.Q.: 110.

*Rorschach Test.* Good intellectual standard, very strong affectivity with apparently good controlling power. The

subject seems to be dominated by the need of immediate satisfaction of her impulses, and of acting out her emotions, especially when not hindered by her need of appreciation. She seems to have sufficient internal resources to achieve a certain degree of equilibrium. On a deeper level there is a strong need of affection, which is consciously either denied or rationalized. The subject is able, thanks to a certain introspective power, to respond to environmental stimuli in a socially acceptable way. But this is an effort for her, which creates tension in human relationships and makes it difficult for her to establish stable links. She is ambitious beyond her capacities, but can occasionally reach the desired levels at the cost of other important achievements. Her grasp on reality is not always secure: she is able to differentiate, but is often unaware of practical problems. The subject revealed a hysterical personality with strong narcissistic elements, and furthermore her basic lack of contact and her uncertain grasp of reality suggested schizoid tendencies.

*Thematic Apperception Test.* The plots basically lacked action, the subject usually describing her own impressions or the emotions of the protagonists. This points to emotional lability. The characters have no contact with each other, unless based on deceit. There are strong aggressive elements mainly aimed at female images, presumably indicating self-aggressiveness, more noticeable from the subject's behavior in the test situation than from the plots. She seems to be unable to accept her feminine role, unconsciously imputing her failures to her sex. Female images are deceitful, lying, incapable of true feelings, ungenerous, and therefore despicable, or dominated by men, and therefore to be pitied. She denies any possibility of understanding whether between parents and children or between a married couple. Happiness consists of solitary fantasies about possible success in an undetermined environment. To sum up: schizoid traits underlying a more advanced hysteria.

*Rosenzweig Frustration Test.* The subject's reactions to frustration are sharply differentiated from the standard



collective defences. Under stress there is a collapse of her defense mechanisms, which are mainly hysterical and usually conceal the serious fragility of her ego. Marked masochistic impulses and a tendency to cling to persistent infantile needs emerge under stress. The protocol is pathologic.

### PSYCHODYNAMIC INTERVIEWS

*Formal Behavior.* M.G. arrived extremely late for both interviews, one-and-a-half hours the first time, and forty minutes the second time. Although a definite appointment had been made and she seemed well-disposed, it was necessary to telephone her each time, otherwise she would never have appeared. She seemed to understand the aim of our interviews and emphasized her personal interest, persistently defining herself as very abnormal. This appeared to be a clear defense-mechanism, self-reassuring but slightly exhibitionistic, against the fear of passively undergoing investigation. Her technique consisted of spontaneously bringing up screen material. From the point of view of formal logic, M.G. seems sufficiently coherent in spite of her evident and marked tendency to elaborate fantasies, in this way contaminating true memories of real facts. This inclination almost arrives at pseudo-logical thinking and confabulation, without ever actually reaching this point. In fact, her self-criticism functions sufficiently well, although she seems to have difficulty with her recognition of reality. Her voice and gestures emphasized a spontaneous offer of insight into her superficial defense-mechanisms, with the air of hiding strong exhibitionistic needs. Even the softer passages of her conversation had a clear histrionic value. Her personal contact with the interviewer was apparently easy and fluent, but in fact was only superficial, because M.G. immediately realized the impossibility of establishing a dependent relationship.

*Personal History.* Mrs. M.G. is 51 years old. She was an only child. Her father was a rich industrialist dealing in

agricultural machinery. Her parents separated when she was aged 4, and M.G. lived alternatively with each of them. She was hostile towards her mother, and much preferred her father. Her upbringing was left in the hands of some Jewish relations who owned a clinic for mental cases, which was also their residence, and where M.G. spent a large part of her childhood and adolescence. M.G. says that these relations died under mysterious circumstances, during the war. The parapsychological experiences which M.G. started to have at the age of four seem most unlikely. They are contaminated by later fantastic elaboration, and show strong aggressive impulses. Together with all subsequent events of the same type, they seem to be determined by the psycho-pathological environment in which she lived. Her father committed suicide when she was 18 years old. At approximately the age of 18, she was put into a mental hospital and underwent electroshock treatment, her extrasensory perceptions having been considered as psychotic symptoms as they were strongly charged with exhibitionistic and hysterical components. (This part of the story seems rather unlikely. ) M.G. escaped from the hospital and went voluntarily to a psychiatrist in Innsbruck for consultation. This professor understood the parapsychological nature of her manifestations, and kept her for one year in his clinic, allowing her to practice as a medium. After the war and the disappearance of her relatives, she lived for some years with her mother who was strongly religious, and with whom she never got on. (It may be noted at this point that the chronology of her narration is extremely confused.) During the war, M.G. lost all her family fortune, which she had been actively administering. At this point she decided to take advantage of her psychic powers, and she started to work at a hairdresser's as a fortune-teller. Subsequently, she shared an office with an obstetrician, paying him a large portion of her earnings. This arrangement was terminated when M.G. realized that the doctor was performing illegal abortions. She then set up her own practice. At the age of ten M.G. witnessed a sexual scene which she feels was a fundamental shock, and which she has never

wanted to speak about to anybody. By not doing so she has loaded this episode with additional emotional components. It is interesting to note that this insurmountable secrecy which she defiantly exhibits and utilizes in an aggressive way, contrasts with the magical resolving power which she attributes to a possible revelation. Such a mechanism is presumably fostered by pseudo-psychoanalytical explorations which she underwent with a defiant attitude. At the age of 22 she broke off a sentimental attachment because of an attempt at sexual relations. She showed a strong escape reaction and realized how serious her frigidity problem was. For a long time afterwards she avoided any involvement. She says she suffered from vaginismus, as diagnosed by a gynecologist. While the symptoms appear plausible, the medical confirmation does not seem clear. When she met her present husband, who is a radio announcer, she accepted sexual relations only after some time. But she succeeded in overcoming her escape reaction, only after having revealed to him her terrible secret. Their sexual relationship is still not satisfactory. The husband is described as an anxious, submissive and passive personality, with sexual problems. She married him reluctantly, only because she wanted to regularize their position. She has found it very laborious to transfer her professional activities from one town to another, because of subjective conflicts, and for a long time she practiced in both towns. When she became pregnant, this gave rise to serious disagreement with her husband who wanted her to interrupt the pregnancy-while she consciously wanted a child. She was expecting twins and because of the worry and continuous travelling (at least these are the reasons she puts forward) she miscarried one twin. After a few hours, in spite of medical advice, she started a train journey during which she lost the second child. The mechanism of this twin miscarriage appears to be clearly neurotic from the way in which it has unconsciously been brought about. At present M.G. lives with her husband and her mother-in-law, towards whom she is particularly hostile and unaccepting. The major part of her social life is centered on her work.

**SUBJECT: C.M.**

*Personal History:* Normal birth, seventh child in a family of eight, normal development. At 5 or 6, suffered from a recurrent intestinal disorder, about which no further information is available. At 8, clavicular fracture required reduction. At 14, pleurisy, he does not know whether there was effusion: recovered in one month. At 15, measles. At 32 in North Africa paratyphoid fever, followed by intestinal amebiasis with hepatomegaly. At 50, obstruction of nasal respiration, resection of nasal septum. At the present time suffers from colitic disturbances resulting from previous amebiasis. He describes also sudden crises with fall of blood pressure to less than 100 mm. Hg. and sensory troubles. Occasional episodes of anginal pain. He is heavy smoker: over 40 cigarettes a day.

*Physical Examination* (May 1960): Weight: Kg. 66, Height: m. 1.70. Good general condition, well nourished, no clinical evidence of anemia, normal muscular development. Osteoarticular system and lymphnodes: no abnormal findings. Cardiovascular system: no abnormal findings, blood pressure 125/85 mm. Hg., rhythmic pulse rate 92. Respiratory system: increased resonance, low pulmonary bases showing decreased excursions, harsh breath sounds and scattered rales. Abdomen: soft, not tender, liver moderately enlarged and tender. Nervous system: both pupils equally and normally reacting to light and accommodation, slightly decreased tendon reflexes, immediate white dermographism followed by a weak but prolonged red one. Fluoroscopy of thorax: aortic shadow of increased size and density, heart shadow of normal form and size, increased transparency of pulmonary fields, little movement of diaphragm on breathing, accentuated hilar and broncovascular shadows.

*Laboratory Findings* (May 1960): Blood. Erythrocytes: 5.200.000/cu.mm., Leukocytes: 18.200/cu.mm., Polymorphonuclear neutrophils: 52%, Lymphocytes: 40%,

Monocytes: 6%, Eosinophils: 2%, Basophils: 0, Platelets: 290,000/ cu.mm., Hemoglobin: 16.8 g/100 ml, color index 1, Glucose: 95 mg/100 ml, Non-protein nitrogen 45 mg/100 ml; Urine. albumin: present (+), urobilin: present + + +, a few leukocytes in the sediment. Liver tests. Cephalin-cholesterol flocculation t.(+ + +): positive, Thymol turbidity t.: (+ + +) positive, Takata-Ara: (+ + +) positive.

*Follow-up Examination* (January 1961): The subject had no treatment but reduced smoking and followed a diet with benefit. Suffers from nausea especially in the morning and after meals. An incomplete X-ray examination of the digestive tract showed increased folds of gastric mucous membrane and hyperkynesis of duodenal bulb.

### PSYCHOLOGICAL TESTING

*Formal Behavior During Test Sessions.* The subject, meticulously neat, always arrived very punctually and emphasized it. He often showed off and was slightly histrionic. He never let slip an opportunity of drawing attention to details apt to procure him gratification. He was never quite at his ease, but tried to conceal it by looking carefree, which sometimes led him to make impertinent comments and put himself on a level with the investigator. He often made derogatory remarks about himself, insisting on his limited intellectual capacity. By this means he also hoped to prove his self honesty and demonstrate his readiness during the test sessions. In all the tests he showed involvement and his production was rich, but he was insecure and over-anxious, asking unnecessary questions and criticizing his own efforts. On each occasion, he was given a generally reassuring reply. The need to impose himself, and his insecurity, made him give ready-made answers during the Rorschach: in the final checking, when invited to localize, he admitted to having cheated. He smoked heavily and often stared fixedly at the investigator. More than once he tried to start a discussion

on his personal problems, centered upon his failure in life; he was kindly but firmly brought back to the tests.

*Wechsler-Bellevue Intelligence Test.* High intellectual capacity, with good balance between the two scales. His particularly good performance in the comprehension subtest is to be correlated with the subject's desire to obtain recognition of his intellectual capacity. The comparatively low score in the digit span is sufficient and complies with the subject's age. I.Q.: 129

*Rorschach Test.* When reading the following interpretation, one should consider that the test was applied in spite of the fact that the subject had studied Rorschach for two years. Our intention was to check the subject's ability to give spontaneous answers even though he knew many of the possible ones. His performance showed his desire to achieve "normal" and "rich" results, but this richness was more quantitative than qualitative. The subject has good intellectual capacity, with fair associative power. His impulses seem to be so inhibited as to produce lack of spontaneity (but this could be due to this particular test situation). He represses and even denies his need for affection, though he is aware of it, because he fears to become passive and dependent on others. The subject responds adequately to environmental stimuli, but lacks spontaneity and is sometimes superficial and conventional in his responses. He could be emotionally responsive, but represses his reactions by means of rationalization and by emotionally withdrawing from his surroundings. He is imaginative and has creative potentialities often unutilized due to self-criticism. The subject cannot dispense with gratification without feeling frustrated, but since this implies a dependency on other people, which he is unable to accept, he reacts with criticism in personal relations, or even with hostility. A certain difficulty in adaptation might stem from the fact that the subject has turned most of his energy towards self-realization rather than towards mastering reality. However, the subject

seemed sufficiently compensated to be socially adjusted, thanks to his good intellectual level, his capacity for self-criticism and his perfect compliance with the cultural standards of his environment.

*Thematic Apperception Test.* Production was quantitatively poor: the subject did not build up well defined plots, but described his characters' emotional state or their momentary mood, which never led to definite action. Even when the image suggested a definite environment, he never described it: lonely characters stand out against a vague background. Human relationships are very weak, and on a deeper level clearly conflictual. The subject shows ambivalence towards the mother image, with emphasis on the need of emancipation and self-realization. On a conscious level he sees the father image as protective and supporting, accepting its authority and his own dependence. On a deeper level there is violent repressed aggressiveness, projected on the other male images. Heterosexual relationships are characterized by the man's need to escape from a possessive or emotionally loaded female image, and are more easily accepted if fraternal. The attitude of the subject towards other social manifestations, such as work, friendship, etc., is rather disphoric: the characters never positively commit themselves, but seem to be crystallized in an often unpleasant emotional situation. The general impression was that of an individual lacking in initiative in human relationships, and showing a need of dependence on a protective father image. The subject seems unable to face up to and resolve unpleasant situations in a mature way: his main defense mechanism is escape, and he breaks off relationships justifying his action by a process of sublimatory rationalization. This capacity for sublimation makes normal adaptation possible for him.

*Rosenzweig Frustration Test.* The subject's level of adaptation to the reaction patterns of his social group is decidedly insufficient. His endurance of frustrations is very low, due to excessive inflexibility of defense mechanisms. His aggressiveness

is very strong and his ego is equally rigid under momentary or prolonged frustration as well as under stress. Altogether the protocol points at a character neurosis.

### *PSYCHODYNAMIC INTERVIEWS*

*Formal Behavior During Interviews.* C.M. had remarkable difficulty in relaxing his defenses in order to make contact with the interviewer, and tried to conceal a strong feeling of insecurity which could largely stem from the immediate situation. He dissimulated his interest in the meeting but his insecurity was clearly revealed towards the end of the first interview, by his evident difficulty in leaving without reassurance. Once the tape recorder had been switched off he spoke with more spontaneity and for the first time showed some emotion. Although professing to know himself well, he wanted to know the interviewer's impressions. The interviewer gave reassurance both about the aim of the research and the need of collecting additional information. In spite of the interviewer's kind but firm dismissal, C.M. insisted on talking about his researches on dreams, asking that this should be recorded. Once this was done the leave-taking was cordial. One got the impression that C.M. was able to participate emotionally only in this last part of the interview, after having relaxed his over-strict defenses. These had been influencing his behavior throughout and had made him extremely detached and rational. All the time, this detached attitude masked a certain feeling of hostility towards the interviewer, which though well controlled, was at times clearly marked. This hostility, which appears to be connected with some recent experience, is mainly of a defensive nature. It is clear that the contact requested during the personal interview was for him anxiety-producing and blocking, owing to its unconventional character. C.M. was accurate but at the same time concise in his statements. He exhibited an ostentatious modesty which could be analyzed as follows: (a) wish to obtain gratification from contradictions by the interviewer; (b) increase of self-esteem by enumeration of his



positive character traits, which in his mind ought to compensate for the lack of others; (c) devaluation of those positive traits of character which he felt were lacking in himself.

*Personal History.* C.M. is 51 years old. Seventh child in a family of eight. His father, who died in 1928, when C.M. was 19 years old, was employed by a private company, and is described as rich in every virtue, domestic, moral and civil. The mother died in 1958, and is described as a very active woman, full of understanding for her children and entirely dedicated to home and family. Of the eight children, four female and four male, one sister died at 36 from a heart attack, the remaining three are all living and married. One of the brothers is also married, while the other two are bachelors and still live at home. C.M. has close family ties. C.M. is a state-employed qualified accountant, and holds a position of responsibility. After the war he married a concert pianist, who then gave up her career to teach music. She is described as a very serious woman and is considered a good wife. The conjugal relations are described as very satisfactory, but C.M. emphasizes the fact that his wife is rather nervous, and he feels he has to show understanding. After the birth of their only child the wife suffered from troubles of the genital system. There were long periods of sexual abstinence, but C.M. rarely had extra-marital sexual contacts. It might be of interest to note that his first sexual experiences were with prostitutes at the age of 18. His son is studying Biology at University, and already earns a small income from laboratory work. C.M. has a number of absorbing self-taught hobbies which keep him up until all hours of the night. Some of these are lucrative, which was advantageous during wartime. Each of these personal occupations have been of long duration, but have never overlapped. They are: mechanics, electro-mechanics, micro-mechanics, carpentry, the making of wooden toys, phonology, micro-photography, radio and pottery. At present his chief interest is pottery. At 20, during some hypnosis experiments with student friends, he discovered that he had some parapsychological powers.

He has never exploited this professionally, although he has remained actively interested in parapsychology. The subject, who contracted a serious illness in Africa during the war, still suffers from intestinal troubles, and follows a moderate diet.

**SUBJECT: L.K.**

*Personal History.* Born of twin delivery, twin miscarried, first born of four children, breast-fed, normal development. Menarche at 13. Married at 22. Had two full-time pregnancies with normal deliveries, breast-fed her two children (a girl now 14 and a boy, 8). In addition to usual childhood illnesses she underwent tonsillectomy at 5. At 18 and 31 suffered from an emotional disorder, in both cases precipitated by emotional trauma, with insomnia, loss of weight, nocturnal anxiety and BMR increased up to +31: spontaneous recovery followed in both cases.

*Physical Examination* (November 1960): Weight: Kg. 65, Height: m. 1.69. Excellent general condition, no abnormal findings in the clinical examination of the various systems. Blood pressure 110/65 mm. Hg., rhythmic pulse, rate 84. Fluoroscopy of thorax negative.

*Laboratory Findings* (January 1961): Blood. Erythrocytes: 5.000.000/cu.mm., Leukocytes: 4.000/cu.mm., Polymorphonuclear neutrophils: 56%, Lymphocytes: 36%, Monocytes: 8%, Eosinophils: 0, Basophils: 0, Platelets: normal amount, Hemoglobin: 16 g/100 ml Color index 1, Glucose: 100 mg/100 ml, Non-protein nitrogen: 25 mg/100 ml; Urine: No abnormal findings. Liver Tests: Cephalin-cholesterol flocculation t. (+): slightly positive. Thymol-turbidity t.: (-) negative. Takata-Ara: n.p.

**PSYCHOLOGICAL TESTING**

*Formal Behavior During Test Sessions.* The subject always arrived slightly late and apologized excessively. She

emphasized her interest in the results of the psychological investigations and explained that her participation in the project was only prompted by the possibility of gaining better insight into her own personality. She said that she had always wished to improve her knowledge of herself but never had sufficient motivations for justifying the high expense of a consultation. The subject spoke easily and showed some frustration at the lack of cooperation by the investigator, and at being requested to keep her descriptions for the interviews. A few conflictual elements were patently disclosed through the subject's anxiety, because she tried to master them by facing them: dissatisfaction, the sense of being inadequate to her tasks, emotional frustration in her childhood, failure to realize her wishes, ambivalence towards her husband. However, the verbalization in the test sessions, shorter and less coordinated than in interviews, allowed her to bring into the foreground the more positive aspects of her personality, and to master the situation. She showed concern for her children and her own educational role, satisfaction in her husband's professional status, wish for a deeper cultural life. One could gather her tendency not to overvalue her substantial contribution to the family budget during the first years of marriage, and her willingness to adapt herself in order to preserve family harmony. Altogether, a rich personality in search of balance between emotional and intellectual needs.

*Wechsler-Bellevue Intelligence Test.* Very high general intellectual capacity. I.Q.: 134.

*Rorschach Test.* Good intellectual capacity, considering the subject's disturbances in expression, due to inhibitions and repressions. Strong affectivity, prevailingy egocentric and aggressive with a trend towards projecting on to others whatever aggressiveness she does not succeed in inhibiting or sublimating. The inhibition of aggressiveness accounts for the disphoric reactions shown, and its projection might explain the troubles in communication. Human relationships are felt by the subject either as aggressive or passive,

with a continuous swinging of her attitude between these two extremes. Emotional contact with other people is ambivalent: she feels the urge to communicate but refrains from doing so presumably through fear of frustration. Nevertheless, positive elements prevail in her personality, supported by evident narcissistic traits and by rationalization as her main defense mechanism. By sublimating aggressive impulses into a dynamic life the subject keeps a sufficient balance in her relationship with her environment.

*Thematic Apperception Test.* The main characteristic is the lack of contact among the characters. The material is rather poor, considering the subject's intellectual standard and her capacity for verbalization. She often described the plates instead of building up a story. The richest and best constructed plots are those in which she described a conflictual situation between parents and children. Parents are frustrating, unable to understand and gratify their children, who are thus frustrated in their expectations. The subject identified herself with several female images, most of the time undervaluing herself. As a mother she fails to establish communication with her adolescent daughter, who escapes her and refuses help, offered more as a friend than as a mother. As a daughter, she feels misunderstood, lonely, in conflict with an egocentric and dominating mother, who is basically unable to offer protection. The subject reacts at first with passivity, then by escaping. At the end she attains success but at the cost of her femininity. Heterosexual relationships are not so important. As a lover she is happy only in a state of anticipation. The realization of love is a source of frustration, neglect and disappointment: the subject considers the male image as basically weak and not very efficient. The only plot in which a married couple was described is trivial and superficial, and was evidently devised through a concealing mechanism. Family environment is always felt as negative and limiting, engendering a need of escape. Social environment is often represented as hostile and dangerous: others are unable or unwilling to help. Aggressive impulses are

evident in all the plots, even if not always clearly expressed. The subject's aggressiveness is either inhibited or sometimes projected onto other persons, especially males: hints are also present of self-aggressive tendencies, immediately repressed. The subject seems to be emotionally disturbed, especially in family relationships. Her good intellectual capacity and her use of rationalization and repression as main defense mechanisms allow her to maintain a certain balance, at least in her behavior.

*Rosenzweig Frustration Test.* The degree of adaptation to collective defense mechanisms is sufficient. However, the subject shows a certain tendency to balk at obstacles, too often trying to minimize the frustrating situation and even to deny its existence. Adaptation and social integration are achieved thanks to a certain elasticity of ego defense mechanisms, mainly rationalization and repression. These traits, which are of an average degree in normal environmental conditions, become considerably emphasized under prolonged stress, bringing about a decrease in her threshold of endurance of narcissistic frustrations, a diminution of self-criticism and of awareness of her own responsibilities, and an increase in her tendency to scotomize the situation. The protocol cannot be considered pathologic.

### PSYCHODYNAMIC INTERVIEWS

*Formal Behavior During the Interviews.* L.K. is evidently apt at making rapid and frequent personal contacts. She mimes and gestures with remarkable ease, has a pleasant voice and can modulate it at will. However, she did not succeed in concealing a certain feeling of insecurity. This was most evident at the beginning and at the end of the interviews. Her uneasiness stemmed more from the type of relationship than from the subject of conversation. One got the impression, considering the defense mechanisms she put into operation, that L.K. feels the need of more intense personal relationships with more overt gratification and

reassurance of her self-confidence. The contact with the interviewer seems to have mobilized conflicts between an exhibitional need at an intellectual level, and the need of being not only accepted but welcomed. We could say that L.K. has not in actual fact a real ease in establishing personal contacts, but that she immediately brings into her relationships an abundance of transference elements. In any case, the following mechanisms of adaptation were mainly operated during the moments of particular unease: (a) overt attempts at personalizing the relationship, felt as too frustrating or at least not sufficiently gratifying; (b) emphasized verbalization of her uneasiness in order to obtain reassurance; (c) well-articulated anamnestic narration with a slight literary tinge; (d) trying to impress by suddenly relating in an inconspicuous way matters felt as particularly significant; (e) attempts at intellectualizing common beliefs drawn from collective-type defenses, approaching them with some feeling for paradox; (f) marked repression of aggressiveness; (g) slightly regressive attitude. The intellectual level was very good, with a wide scope of interests, brilliant capacity of understanding, of logical thinking and verbal fluency.

*Personal History.* Mrs. L.K. is 38 years old. First born of four children. Her father, living, a government official, is described as very severe and overbearing in the upbringing of his children, with particular emphasis on his daughter's moral behavior. The subject is suspected of slight deformation of the memories of her father's severity, which she recalls with a feeling of gratification. On the contrary her mother, still living, is not recalled with importance, and is described as a background image. There are memories of unpleasant contrasts and quarrels between the parents, stemming from the difference in the status of their families. L.K. graduated in pharmaceutical chemistry, but soon after became announcer on the national radio, as she had a pleasant voice and good diction. Her sentimental student life had been very superficial. The first affair was kept on a rather

literary and unrealistic plane and more or less ended with the shock of the first kiss. A suitable engagement with a young man whom the family liked did not seem to involve her emotionally. Social life in general and relations with the other sex in particular, were severely limited by the father's restrictions. The situation changed when L.K. not only started earning her living but even helped her family economically; she rejected the paternal imposition and for some time she even left home and went to live with a girl friend for a few days, evidently to show her rebellion. She then met her present husband and soon after married him against the wishes of her family. During the first period of marriage she worked not only as an announcer, but also as a research worker in a scientific institute. After a certain time she left both these jobs for industry where she found better employment and remuneration. During the whole of this period the husband was unemployed. He is described as full of ingenuity, but rather lacking in sense of reality. For some years L.K. supported them both. The situation has now changed: her husband's talent having been recognized, his income is sufficient for the family, and L.K. has gradually discontinued working. After a year of marriage she gave birth to a daughter who had to be breast-fed by a nurse and brought up by the paternal grandparents due to L.K.'s working-life and economic difficulties. The child re-entered the family when the father started earning a regular income, but her behavior then became a serious problem to which L.K. is intolerant in spite of her apparent concern. L.K. seems over-anxious about her daughter's sexual life. Altogether the relationship of L.K. with her daughter seems very ambivalent; difficult and probably frustrating for both. The second child, a boy, was born when the parents' roles were more balanced. The mother feels, with satisfaction, that he is like herself. L.K.'s husband is an Italian-born Russian; his twin brother died when already adult. His father died a few years ago, and he has no contact with his mother, who is described as a psychopathic personality. Very good connections are maintained with L.K.'s own family who meanwhile have

changed their attitude, and helped the daughter during the difficult times in her marital life. L.K. described her relationship with her husband as good. She does not regret having supported the family and even thinks that it stimulated her husband to assume his active role. When he started earning, their relationship deteriorated because of his open unfaithfulness which L.K. described as due to a feeling of revenge and affirmation of his virility. The situation is now described as satisfactory in all respects. L.K. has a brother and a sister; a younger sister born one and a half years after her, died at the age of three and a half. Immediately afterwards another girl was born to whom the name of the deceased was given.

While L.K. has a very affectionate relationship with her younger brother, her contacts with her sister are extremely difficult because of her sister's hostility, due to feelings of inferiority. This sister had shown serious neurotic troubles at an early age, which exploded after a sentimental frustration. She was then hospitalized and underwent shock therapy. She is now married with 2 children, still showing some disturbances and is totally frigid. She has started psychotherapy with a psychoanalytically untrained psychiatrist.

**SUBJECT: F.S.**

*Personal History.* Normal birth, only child, breast-fed, normal development. The usual childhood illnesses. At 18, in Albania, vivax malaria.

*Physical Examination* (December 1960): Weight: Kg. 76; Height: .n. 1. 70; Excellent general condition; no abnormal findings in the clinical examination of the various systems. Blood pressure: 125/95 mm.Hg., rhythmic pulse; rate 85. Fluoroscopy of thorax: negative.

*Laboratory Findings* (December 1960): Blood. Erythrocytes: 5.200.000/cu. mm., Leukocytes: 6.400/cu.mm., Polymorphonuclear neutrophils: 64%, Lymphocytes: 24%, Monocytes: 10%, Eosinophils: 2%, Basophils 0. Platelets: normal amount Haemoglobin: 17 g/100 ml Color index 1.02,



Glucose: 100 mg/100 ml, Non-protein nitrogen 42 mg/100 ml. Urine: no abnormal findings. Liver Tests. Cephalin-cholesterol flocculation t.: (++) positive, Thymol turbidity t.: (++) positive, Takata-Ara: (++) positive.

### PSYCHOLOGICAL TESTING

*Formal Behavior During Test Sessions.* The subjects arrived punctually. He was mildly obsequious, did not put questions and made no comments. He felt slightly embarrassed during the tests, regarding them as trials of his ability, and apologized for his performance when he thought it was inadequate. In general, however, he mastered the situation: his attitude was that of a subordinate content in his relationship with a benevolent superior. Praise gratified him and prompted him to relate frustrating situations, such as that of his family. He would have talked if he had been given the chance. He did not fear the drug experiments but said his wife might worry on his account.

*Wechsler-Bellevue Intelligence Test.* Average intellectual capacity. The subject's relative scores were higher in the information and picture completion subtests, probably owing to his compliance with the stereotype of his profession. I.Q.: 107

*Rorschach Test.* The subject has average intellectual capacity, with a certain weakness in concentration, and varying analytical faculties. His type of intelligence is mostly derivative, and he has limited interests: he accepts uncritically the cultural patterns of his environment. He has limited resources, but keeps his aspirations well within his capacities. His emotional world seems rather dull. His relationship with his environment is characterized by flaccidity, due to repression of impulses and predominance of passive-receptive traits in his personality. His responsiveness to external stimuli is excessively controlled by conformism even when he could have produced adequate responses. The subject has attained a certain balance through a pseudo-acceptation

of himself, the ego being tolerant of impulses, trying to integrate them or to repress them if necessary.

*Thematic Apperception Test.* The plots were rather poor in details but sufficiently well constructed and related to the stimuli. The subject often confined himself to describing scenes and emotions without building up plots in the true sense of the word. He always described the present action and did not develop it further. Generally his characters do not act but wait to be influenced by external pressures. The subject identifies himself with male images much younger than himself, often with boys. The other male images, never clearly identified with the father image, have no particular age and are present in the stories where no family situation is involved. The subject's interests are very limited and, like his conflicts, are confined to his family. The mother image is of little importance, at least on a conscious level: the subject conceives it as protective and is dependent on it. An important conflict is that with the father image, an unresolved oedipus: the subject renounces competition from fear of paternal aggressivity, presumably felt as castrating. On a superficial level the conflict with the father is denied and resolved by accepting his authority in the form of advice rather than coercion. But on a deeper level the conflict is overt: the father is conceived to be authoritarian, aggressive and not gratifying. The subject seems not to have overcome the problems connected with the triangular situation, and to have counteracted his castration fear by regressing towards an infantile attitude of passive dependency, renouncing the competition necessary to achieving maturity. In the role of a child he is helpless and can receive help and protection from others, without having to commit himself. Besides, he feels that in this way he can obtain affection and gratification from his father. Moreover, by projecting his aggressiveness against his father onto a boy image, which is not fully responsible for its impulses, he liberates himself from guilt feelings. Heterosexual relationships are not clearly outlined.

The subject seems to accept the female image passively, leaving it the initiative. When the male takes the initiative he feels guilty. Social environment is poorly represented. The subject's attitude to other people seems one of veiled aggressivity: other people will be protective and gratifying only if he looks helpless. However, his anxiety is not neurotically constructed, and he has a certain amount of control over his impulses, so that he seems to have achieved, at least in behavior, a measure of balance which permits him a *modus vivendi* sufficing for social integration.

*Rosenzweig Frustration Test.* The subject's mechanisms of adaptation to frustrating situations are both in quantity and quality those of the majority of his ethnic and cultural group. Passive traits are revealed by a certain tendency to yield to obstacles and by a slight difficulty in rationalizing frustrations. Intrapunitive reactions tend to increase under stress, and the subject is drawn still further towards a passive type of adaptation. However, none of the tendencies shown is pathologic.

### PSYCHODYNAMIC INTERVIEWS

*Formal Behavior.* The attitude and bearing of F.S. showed spontaneous and cordial sociability, without any signs of insecurity but was shaded with a slight obsequiousness and feeling of dependency. This attitude is expected in a person accustomed to working for people superior to himself in social class and education. He shows an amiable readiness to be helpful, and is satisfied when he receives benevolent approval. His capacity for verbal communication is good.

*Personal History.* Mr. F.S. is 38 years old. He is an only child. Both parents are still alive, in domestic service—his father is a cook, and is employed by upper-class families. He is described as an exacting authoritarian, expecting from the son traditional respect and the use of the personal plural. His

pedagogic systems were very primitive and the child, although feeling his influence, generally reacted by escape instead of rebellion. Only now does he express criticism of his father, and describes his mentality as too conservative. In fact he has never expressed this in front of his father, and one has the impression that F.S. shares many convictions with him. His mother has always been more easy-going and over-protective, and F.S. has always clearly felt protected by her image. After successfully finishing the elementary school, his father sent him to a secondary school. Due to a feeling of inadequacy and fear of his father the child pretended to go to school for several months, and instead worked in a stable for pocket money. When the father realized this, his schooling was terminated, and he was sent for technical training. His father was able to help him, as he had contacts, due to his work, with influential people. His first job was of short duration because he was dismissed on account of indiscipline. In fact F.S. deserted his work to attend courses and examinations to become a fireman. We note here his keen interest in wearing a uniform. His aspiration was to become a gymnastic instructor, and he had started practicing sports unusual in his social sphere in Italy, rugby and hockey. Perhaps this was due to the fact that his family lived near some playing fields. At the age of 18 he enrolled as a volunteer, and was sent to Albania. Shortly before he arrived, fighting had ceased, but the troops remained there until they were taken prisoners by the Germans. In all the events which followed one is struck by the remarkable capacity of F.S. in avoiding the worst without committing himself in any special way. He was sociable and useful and able to establish strong ties of comradeship. Thus he succeeded in escaping from the Germans before being sent to Germany. He joined the partisans in the mountains, but avoided taking part in any fighting and managed to leave them as soon as he felt the bands began disintegrating. He then gave himself up to the Germans and was sent to a work camp. He found the work too hard and the food insufficient, and therefore malingered and was taken to a hospital. By personal contacts he succeeded in becoming a

waiter, and subsequently chief cook, to a high commanding officer. This of course placed him in a materially comfortable situation: but when, due to political changes, he was told he must wear the German uniform, he refused and therefore was re-imprisoned and sent to Yugoslavia. During an air-raid attack, he escaped with several others. He reached Tirana where a priest kept him in hiding. The Germans retired, and the Communist regime was established; F.S. who was already working as a chauffeur for an engineer, gave a false name when a census was taken, pretending to be a pop-singer. In actual fact he did some singing in small variety shows. In this way he managed to get himself repatriated. Once back in Rome, his father found him a job as a laborer. F.S. soon found the work much too heavy, and succeeded by personal contacts in becoming a crane operator in the same firm. Then he improved his situation by becoming a chauffeur to private families. When he was 28 he succeeded in entering the police corps as a motorcyclist, and this he soon found was too heavy in its duties. He was transferred to a garage as driver, where the work was lighter; in fact he spends most of the time reading crime stories in the garage. He does not read newspapers, has no political opinions, but has attempted to read novels. He owns a very old and small second hand car; which he keeps in perfect condition. He is in the national hockey team, and for that reason is allowed extra free time for training and resting. He retains good connections with some upper-class families for whom he acts as part-time chauffeur and does odd repairs. He prefers not to wear uniforms. He refused the opportunity of becoming an under officer, because he was entirely satisfied with his status. F.S.'s sexual life seems quite normal in the framework of his social group. After a few youthful experiences, which were possible because of his sociability and also because the war removed him from the surveillance of his father, he became engaged to his present wife. F.S. prolonged this engagement for several years because he was perplexed about this bond which excluded other experiences, and also because he preferred to establish himself on a more solid economic basis.

The marriage was eventually encouraged by his parents. His wife is described as a nervous person, affected by bad health especially of the genital system. An ovariectomy made her sterile, much to their regret. It is possible that her endocrine disturbances are the cause of her tendency to obesity. She is anxious and hyper-protective, but F.S. says that he is satisfied in his relationship with her. In fact he shows this, by being patient, conciliatory and basically gratified by her concern.

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## ❖ Summary

After a brief survey of the cerebral mechanisms possibly involved in ESP phenomena, an analysis was undertaken of the main methodological questions arising when experimenting in parapsychology, with emphasis on the use of drugs for inducing particular personality states in human volunteers. Four conditions were outlined, to be met if parapsychological experimentation were to be scientifically significant, namely: objectivity of recording, substantially and formally; thorough psycho-dynamic assessment of subjects' personality; evaluation of the investigators' role in the conditioning of the phenomena; choice of emotionally loaded targets.

The application of these methodological principles to four subjects, two "sensitives" and two controls, was described, including extensive data on their personality, as resulting from clinical and psychological testing and interviews.

The setting for experimental sessions was described and shown in photographs, as well as the targets which consisted of original color pictures of two incongruous elements, the resulting images being endowed with a definite emotional significance.

The recording arrangement was of professional standard. The drugs used in the total of fourteen sessions performed with the collaboration of three subjects (one had to be discarded due to serious personality disturbances) were LSD 25, psilocybin and water as placebo. The events in each session



were reported schematically in chronological order, as observed by the attending staff and described by the subject. The results obtained were evaluated and scored according to an arbitrary scale, with a significance factor attached to each positive mark, to define the relative amount of material relevant to that particular scoring. The whole scoring procedure as carried out by the staff was later independently repeated by two outside observers.

Two additional telepathy experiments under the same modality were reported in appendix.

The methods used and the results obtained were discussed, and extension and improvement of future work was outlined, as resulting from the conclusions drawn after completion of this pilot investigation.

### *RESUME*

Après une brève revue des mécanismes cérébraux qui entrent probablement en jeu dans la production de phénomènes de perception extrasensorielle, on a analysé les principales questions méthodologiques qui se présentent quand on aborde l'expérimentation parapsychologique, particulièrement en rapport avec l'emploi de drogues pour provoquer des états psychiques particuliers chez des volontaires humains. On a énoncé quatre conditions à remplir si l'on veut que l'expérimentation parapsychologique ait un sens scientifique, c'est à dire: objectivité substantielle et formelle de l'enregistrement des données expérimentales; évaluation psychodynamique scrupuleuse de la personnalité des sujets; considération du rôle des expérimentateurs dans le conditionnement des phénomènes; choix de buts chargés d'une signification émotionnelle.

On a exposé l'application de ces principes méthodologiques sur quatre sujets, deux "sensitifs" et deux contrôles, rapportant d'amples données sur leur personnalité, tirées de tests cliniques et psychologiques, et d'interviews personnels.

L'ambiance expérimentale et les buts ont été décrits et reproduits en photographie. Ces derniers consistaient en photos originales en couleurs de deux éléments incongrus entre

eux, donnant comme résultat des images douées d'une valeur émotion elle définie.

L'équipement pour l'enregistrement répondait à des standards professionnels. Les substances employées dans les quatorze séances réalisées avec la collaboration de trois sujets (on fut obligé de renoncer à l'un des quatre à cause de graves dérangements dans sa personnalité) étaient LSD 25, psilocybine et eau comme placebo. Les événements de chaque séance ont été rapportés schématiquement en ordre chronologique, comme ils furent observés par les expérimentateurs ou décrits par le sujet.

Les résultats obtenus furent évalués et on leur accorda une note selon une échelle conventionnelle, avec un facteur de significativité pour toute note différente de zéro, de façon à définir la quantité relative de matériel significatif dans chaque réponse. Tout le procédé d'évaluation et de distribution de notes fut répété indépendamment par deux observateurs externes.

Deux expériences de télépathie, réalisés selon les mêmes modalités, ont été l'apportés en appendice.

Les méthodes appliquées et les résultats obtenus ont été discutés, et on a esquissé des extensions et des amendements en vue de recherches ultérieures, en se basant sur les conclusions qu'on a pu tirer après avoir complété ces premières recherches.

### **ZUSAMMENFASSUNG**

Zunächst wird ein kurzer Ueberblick gegeben über die zerebralen Mechanismen, die wahrscheinlich bei Phänomenen der aussersinnlicher Wahrnehmung beteiligt sind. Anschliessend werden die grundlegenden methodisehen Fragen diskutiert, die sich bei parapsychologischen Experimenten erheben, wobei die Verwendung von Drogen zur Induktion besonderer Persönlichkeitszustände bei freiwilligen Vpn. betont wird. Vier Bedingungen, die für die wissenschaftliche Durchführung parapsychologischer Experimente notwendig sind, werden entwickelt: Objektivität der Protokollierung in Inhalt und Form; Gründliche dynamische

Erfassung der Persönlichkeit der Vpn.; Auswertung der Rolle des Versuchsleiters in Bezug auf die Phänomene; Auswahl emotional geladener Zielobjekte.

Die Anwendung dieser methodischen Prinzipien bei vier Vpn., zwei "Sensitiven" und zwei Kontrollpersonen, wird beschrieben, ausführliche Daten über die Persönlichkeit auf Grund klinischer und psychologischer Tests und Befragungen werden einbezogen.

Das Verfahren für die experimentellen Sitzungen wird beschrieben und durch Photos illustriert, ebenso wie die Zielobjekte, die aus Farbphotos bestehen, welche zwei inkongruente Elemente umfassen, die mit spezifischer emotionaler Bedeutung ausgestattet sind. Fachgemasse Tonbandaufnahme war vorgesehen. Vierzehn Sitzungen wurden insgesamt mit drei Vpn. durchgeführt (eine Vp. musste wegen starker psychischer Störungen ausgeschlossen werden). Als Drogen wurden LSD 25, Psilocybin und Wasser als Placebo verwendet. Die Vorgänge bei jeder Sitzung werden auf Grund der Beobachtungen der Versuchsleiter und der Beschreibungen der Vpn. in chronologischer Folge berichtet.

Die Ergebnisse wurden ausgewertet und nach einer Zufallskala signiert; jeder Skalapunkt über Null wurde mit einem Bedeutungsfaktor ergänzt, der den relativen Betrag der verschiedenen Abschnitte der Aussage in Bezug auf die Auswertungsmethode kennzeichnete. Die von den Versuchsleitern vorgenommene Auswertung wurde später von zwei unabhängigen Personen wiederholt.

Im Anhang werden zusätzlich zwei telepathische Experimente nach demselben Verfahren dargestellt.

Methode und Ergebnisse werden diskutiert, Verbesserungen für zukünftige Experimente werden vorgeschlagen, die sich aus den Schlussfolgerungen dieser ersten Untersuchungen ergeben.

### **RIASSUNTO**

Dopo una breve rassegna dei meccanismi cerebrali probabilmente coinvolti nella produzione di fenomeni di percezione

extrasensoriale, sono state analizzate le principali questioni di metodo che sorgono quando si affronta la sperimentazione parapsicologica, con speciale riferimento all'uso di farmaci per indurre particolari stati di personalità in volontari umani. Sono state enunciate quattro condizioni da soddisfare se si vuole che la sperimentazione parapsicologica abbia un senso scientificamente, e cioè: oggettività, sostanziale e formale, nella registrazione dei dati; esauriente valutazione psicodinamica della personalità dei soggetti; considerazione della parte degli sperimentatori nei condizionamento dei fenomeni; scelta di bersagli carichi di significato emozionale.

E' stata descritta l'applicazione di questi principi metodologici a quattro soggetti, due "sensitivi" e due controlli, e sono stati riportati ampi dati sulle loro personalità, emergenti da prove cliniche e psicologiche e da visite e colloqui.

Sono stati descritti e riprodotti in fotografia sia l'ambiente per gli esperimenti che i bersagli, i quali consistevano in fotografie originali a colori di due elementi incongrui tra loro, che davano come risultato immagini dotate di un deciso significato emozionale.

L'attrezzatura per la registrazione rispondeva a requisiti professionali. Le sostanze usate in un totale di quattordici sedute effettuate con la collaborazione di tre soggetti (uno fu scartato a causa di gravi disturbi della personalità) furono LSD 25, psilocibina e acqua come placebo. Gli avvenimenti di ogni seduta sono stati riportati schematicamente in ordine cronologico, come furono osservati dagli sperimentatori e descritti dal soggetto.

I risultati ottenuti sono stati valutati ed è stata data loro un voto secondo una scala arbitraria, completata con un fattore di significatività per ogni voto diverso da zero, allo scopo di definire la quantità relativa di materiale significativo in ogni risposta. Tutto il procedimento di valutazione e votazione fu poi ripetuto indipendentemente da due osservatori estranei.

In appendice sono stati riportati due esperimenti di telepatia, effettuati con le stesse modalità.

Sono stati discussi i metodi applicati e i risultati ottenuti, e sono stati indicati miglioramenti ed estensioni per ricerche future, basandosi sulle conclusioni tratte dopa aver completato questo lavoro introduttivo.

### *RESUMEN*

Después de una breve sinopsis de los mecanismos cerebrales posiblemente implicados en los fenómenos ESP, se emprendió un análisis de los principales problemas metodológicos que surgen en parapsicología cuando se experimenta, poniendo particular énfasis en el uso de drogas capaces de inducir estados especiales de personalidad en sujetos voluntarios. Se enunciaron cuatro condiciones que se consideraron necesarias para que la experimentación parapsicológica fuera científicamente significativa, a saber, las siguientes: objetividad en la transcripción de los datos, tanto en forma como en contenido; valoración psicodinámica cuidadosa de la personalidad del sujeto; evaluación del rol del investigador en el condicionamiento de los fenómenos; elección de blancos con carga emocional.

Se describía la aplicación de estos principios metodológicos a cuatro sujetos, dos "sensitivos" y dos controles, incluyendo extensos datos sobre su personalidad como resultado de las entrevistas clínicas y de los tests psicológicos.

Se describía el montaje de las sesiones experimentales y se lo mostraba en fotografías, asimismo los blancos, que consistieron en fotografías en colores de dos elementos incongruentes cuyas imágenes resultantes eran portadoras de un definido significado emocional.

El método de enregistrement tuvo un standard profesional. Se usaron las drogas LSD 25, psilocibina y un placebo de agua en un total de 14 sesiones ejecutadas con la colaboración de 3 sujetos (uno hubo de ser descartado por serias alteraciones de personalidad). Se hizo un resumen esquemático y en orden cronológico de los hechos, tal como fueron observados por el personal experimental y descritos por el sujeto. Los resultados obtenidos fueron evaluados y computados de acuerdo a

una escala arbitraria que contenía un factor de significación ligado a cada resultado positivo, que pudiera definir la cantidad relativa de material significativo en cada respuesta. Todo el procedimiento de computación usado por el personal experimental fué más tarde repetido independientemente por dos observadores extraños.

En el apéndice se dió cuenta de dos experimentos adicionales de telepatía efectuados con esta misma modalidad de examen.

Se discutieron los métodos usados y los resultados obtenidos, esquematizando la ampliación y mejora del trabajo futuro a efectuar, como resultado de las conclusiones a que se llegó después de haber terminado esta investigación piloto.

## ❖ About the Authors

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