CHAPTER 13

Perspectives on LSD and psychotherapy: the search for a new paradigm

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INTRODUCTION

This paper offers interdisciplinary perspectives, with the purpose of introducing a new paradigm to study the effects of psychedelics on human consciousness. Prior scientific work has been affected by paradigms that are not inclusive of sufficient factors to logically account for all the observed objective and subjective phenomena induced by psychedelics in humans. The proposed new paradigm would encompass previous partial understanding of the effects of psychedelics on human consciousness and offers a super-ordinate view.

HISTORY

Fifty years ago Albert Hofmann discovered LSD, the most potent psychoactive compound known to humanity*. This revelation gave Western medicine and science a substance as unique in its power as it is startling in its mind-altering effects. The modern pharmaceutical laboratory where this epiphany occurred gave no clue as to the long cultural history of humanity's relationship with the botanical relatives of LSD. These plants had been used since prehistoric times (documented as long ago as 8000 BC[2]) and were usually sacred to the cultures that

* Until very recently, LSD's reign as the most potent psychoactive substance was unchallenged. Nichols and Hoffman of Purdue University have produced several compounds which, when tested on a group of rats trained to discriminate the effects of intraperitoneal injections of saline from LSD (a method held to be reliable), seem to have greater activity. Two LSD analogs ('ETHLAD' and 'ALLAD') appear to be more potent than LSD[1].

used them. The journey in consciousness that Hofmann began, as he bicycled home, was the outcome of a profound new discovery, yet its roots were as old as human history. LSD, Hofmann's 'problem child', was born – a new drug, the precocious offspring of modern science, without knowledge or connection to long-lost human traditions and cultural contexts[3].

The relationship of human beings, mystical experience and psychedelics had not merely been forgotten. Wherever the veil of secrecy around such rites had been lifted, they had been ground into repression under the boots of conquerors. In the New World, when the Spanish found the peoples of Central America using psychedelic mushrooms and cacti in sacramental rites, they violently opposed this as devil worship. The distorted accounts of Spanish priest-historians reflected their horror and revulsion at a powerful alien culture. Tales of cruelty and satanism were based on projection, fear and hearsay. These lurid accounts were themselves buried in history[4]. In the West, the secret of the 'wine' used for the mysteries at Eleusis had long been forgotten and the rites themselves remained truly mysterious[5].

SOCIAL MOVEMENT AND LEGISLATIVE RESPONSE

Cleansed of past condemnations, LSD was born into a brave new world. Mid-twentieth century science was just beginning to question the limits of its new frontiers of prediction and control. Uncertainty had been postulated as a principle in quantum physics. This principle held that attempts to measure the sub-atomic realm would be so intrusive as to disturb the outcome. The notion that there might be a limit to what could be known through science was revolutionary. The recent discovery of antibiotics had given medicine 'wonder drugs' to cure infections that otherwise killed. Surely scientific scrutiny of something as powerful and unique as LSD would yield a deeper understanding of the brain and its relation to the mind.

Fifty years later, LSD and all other psychedelics are beset with repressive government regulations in most of the world. Perhaps the greatest problem stems from portrayal of psychedelic drugs in the mass media. In the confused atmosphere of fear, propaganda and social controversy there is an educational vacuum. Most psychiatrists and psychologists know more about psychedelics from television, newspaper articles and drug-abuse propaganda than from the scientific literature. Many of the best and brightest among professionals are, unfortunately, as full of misinformation about this powerful family of compounds as is the public at large.

We live in the polarized wake of a social movement that brewed the power of LSD and the authority conflicts of two early researchers with free love, sexual revolution and a youthful rebellion against US military involvement in the Vietnam War. The United States reacted to these events with a repressive stance

taken out of fear – fear of losing the country's youth to a 'tune in, turn on and drop out' movement; of losing future generations to chromosome damage or madness, and perhaps any government's deepest fear, that of losing control. The chromosome damage scare has subsequently proven to be unfounded[6] and the fears of madness and mayhem seem to have been grossly exaggerated[7].

The potential of psychedelics to change belief and alter behavior, even to propel social movements, so alarmed the governments of the world that possession became a crime. The strategy of prohibition curtailed legitimate research by qualified investigators severely and had little effect on the ill-advised abuse it purported to eliminate[8]. In contrast to this horrified panic, when our forebears and Neolithic contemporaries found similar properties in certain plants, they named them with reverence: semen of the sun, vines of the serpent, the tracks of the deer, plant of the tomb, vine of the soul, mainstay of the heavens, herb of divination and flesh of the gods[9].

Such an extreme contrast in attitudes among human beings living on the same planet can be understood by examining the cognitive framework that underlies both the powers of scientific thinking and of world views.

HERMENEUTICS OF SCIENCE

The culture of science, indeed the way we think about what we are studying, has played a limiting role in our understanding the effects of psychedelics on human consciousness. In *The Structure of Scientific Revolutions*, Thomas Kuhn described the power of certain fundamental ideas to open up new vistas in science[10]. One example is the revolution from Newtonian physics to Einsteinian physics, which led to the creation of the atomic bomb and atomic energy. A paradigm organizes the process of thinking by exerting Hermetic influence on the perception of the investigators in the field defined by that paradigm. For this reason the paradigm itself is most clearly seen for what it is only when replaced by another, usually more encompassing, view (a concept beautifully explained in mathematics by Gödel's theorem[11]). Until a revolutionary breakthrough takes place, the all-encompassing principle goes unseen or unquestioned in its definitive role. Most investigators in a field of study do not concern themselves with the paradigm they are using or with paradigmatic perspectives at all. Instead they conduct research that concerns itself with logical nuances within a paradigmatically defined view.

SHAMANIC PARADIGM

The first paradigm applied to psychedelics represents the oldest healing strategy adopted by human beings, the shamanic paradigm. Although not scientific, the shamanic paradigm has many of the elements of a scientific paradigm.

In tribal societies, the spiritual leader of the group is usually referred to by anthropologists as the *shaman*. This individual serves the society in a multifaceted role that encompasses much of what we consider to be the separate, if perhaps related, provinces of the psychotherapist, the clergyman and the physician. The shaman is at once the myth bearer, myth maker, ecstatic mystic, spiritual guide and healer for the social group.

Among many native groups in the Americas, shamans employ plants that are regarded as having spiritual power or as sacred. Most of these plants fall into the pharmacological category of hallucinogenic, psychedelic or 'mind-manifesting' substances. The shamans, however, prefer to conceive of these unusual plants as powerful in a spiritual sense[12].

The attitudes or perceptual paradigms of cultures using psychedelic plants include the following elements. First, the plants are held to be sacred. Second, they are used in specific ceremonies or rituals that support and renew the world view of the culture. Third, there exists a world apart from this one to which the plants give access. Useful experiences take place in this hidden realm of existence and valuable knowledge may be gained there. Fourth, the use of these substances is an acknowledged part of membership in the group or some significant subgroup, for instance the shamans. Fifth, and finally, these plants can be used by those adept in their application to heal and to effect other changes in the ordinary world.

The ritual in which sacred plants are used provides a psychosocial framework for experiencing healing and mystical effects. The shaman is charged with using the available technology of the culture to create the most effective environment possible for the culture's collective ends. A variety of stimuli may be employed: candles, drums, chants, various forms of art, etc. The stimuli are used, ingeniously, to enhance and guide the experience along an accepted or desirable course.

With great sensitivity, the shaman uses much practical knowledge, the validity of which has only recently been confirmed by scientific research. The ethnocentric view suggests that shamans are 'witch doctors' using superstition to influence their 'patients'; yet they exhibit sophistication on every level of clinical practice with psychedelics, except in the application of the scientific method. We miss a great deal when we judge other cultures prematurely. What seems simple-minded may be elegant. What at first glance seems primitive emerges as a beautiful summary of centuries of practical experience.

THE DRUG PARADIGM: EFFECTS ON RESEARCH

The fundamental paradigm that has been applied to LSD is the drug paradigm. This way of thinking about the effect of a substance fits well for compounds that have an unambiguous chemotherapeutic action. An important factor in the drug

paradigm is that a drug's effects occur independently of the expectations of *both the doctor and the patient.*

PSYCHOTOMIMETIC PARADIGM

Since LSD was discovered in a drug laboratory, scientific methods were applied to quantify and characterize its effects. LSD produced such a profound upheaval in mental functioning that it was thought to induce a toxic psychosis. This suggestion led to the resurrection of the endogenous psychotogen hypothesis and, ultimately, to the conclusion that the effects of LSD mimicked psychosis.

This psychotomimetic paradigm allowed researchers to study the 'properties of the LSD state' objectively. Many apparently excellent research studies ignored important subjective factors, but employed quantitative and qualitative measures. Researchers in laboratories, wearing white coats and other badges of cultural authority, told subjects both directly and indirectly that they would be experiencing madness. This suggestion influenced and, in fact, usually determined the subjective response to LSD. The insight that the madness might be at least as much a product of the frame of investigation as of the substance under study eluded many serious researchers.

The psychotomimetic paradigm for the actions of psychedelic drugs remains a seductive belief because it assumes we are dealing with a drug known to produce a major effect – psychosis. The origin of the model psychosis may be pursued on the molecular level or on the psychodynamic level. If LSD were simply psychotomimetic it would offer us much as a tool to understand the biochemical concert of brain function and its relationship to consciousness. LSD *can* be psychotomimetic, but it is so much more!

PSYCHOLYTIC PARADIGM

The psycholytic paradigm emerged from the psychotomimetic view of LSD. In 1950 this new experimental paradigm began with the publication in the United States of an article by Busch and Johnson[13], who suggested that LSD might help in psychotherapy. They had observed that psychotic patients in a delirium were sometimes able to verbalize repressed components of their conflicts. Such a delirium might be provoked by a high fever. They interviewed patients under the effects of sodium pentothal and amytal, during recovery from insulin shock and electroshock therapy. A few dramatic successes, amid many failures, led them to investigate new drugs that might induce a temporary state of delirium. Sandoz offered LSD as a possibility. Bush and Johnson reported:

> On the basis of this preliminary investigation, LSD-25 may offer a means for more readily gaining access to the chronically withdrawn patients. It may also serve as a new tool for shortening psychotherapy. We hope further investigation justifies our present impression[13].

In 1953 Frederking published one of the first European articles on LSD as an adjunct to psychotherapy[14]. He used low doses of LSD (30–60 μg) or mescaline (300–500 mg) to shorten the course of therapy, ease feeling or memory blocks and to promote emotional catharsis. When combined with ongoing psychoanalytic treatment, this approach produced positive results. In 1954 Sandison and his group in England published an article emphasizing the abreactive qualities of LSD for therapy with neurotics[15]. Therapists began to notice that most patients had a clear memory of their experiences under the effects of LSD. The recall of the altered state experience was crucial for the therapeutic integration of new insights into normal consciousness. This unclouded recall is *not* a characteristic of delirium. In this light, LSD seemed the perfect adjuvant to psychotherapy. Researchers were slow to recognize and describe the difference between the effects of LSD, psychosis and delirium, because of the effects of the psychotomimetic paradigm on their thinking.

Sandison, Frederking, Leuner, Alnes, Arendsen-Hein and others in Europe formed an association of psycholytic therapists. *Psycholytic therapy* is the use of LSD and similar substances in low to moderate doses (generally 30–200 μg) with the aim of shortening and facilitating psychoanalysis and psychoanalytically oriented psychotherapy. This involves multiple (2–100) drug sessions within the framework of an ongoing therapeutic relationship.

The psycholytic paradigm gained considerable support in Europe in the late 1950s and acquired some adherents among therapists in the US in the early 1960s[16–24].

PSYCHEDELIC PARADIGM

An interesting transition occurred in Canada when large doses of LSD were given to alcoholics. The hope was that the ensuing psychosis would be frightening. Use could be made of such a terrifying encounter with madness in an aversive therapy. It was suggested to these persons that if they continued to abuse alcohol they would surely enter once again the realms of madness that LSD had shown them, only this time it would be due to delirium tremens. In this study, the persons able to change their lifestyles were motivated, not by experiences of madness in the horrific sense, but instead by experiences of transcendent beauty and meaning. The patients described insights reminiscent of accounts from mystical prophets and teachers. It seemed to be contact with a divine dimension of being that persuaded them to change their destructive addiction and inspired them to live more noble lives[25]. Humphrey Osmond eventually coined the term 'psychedelic' to characterize effects that he felt were excluded by the psychotomimetic view. Osmond found that LSD, mescaline and psilocybin were useful, not only in studying psychopathology, but also in that they shed new light on the greatest philosophical enigma of human existence: the purpose and meaning of life:

> Our subjects, include many who have drunk deep of life, authors, artists, a junior cabinet minister, scientists, a hero, philosophers, and businessmen . . . Most find the experience valuable, some find it frightening, many say that it is uniquely lovely. If mimicking mental illness were the main characteristic of these agents, psychotomimetic would indeed be a suitable generic term. It is true that they may do so, but they do so much more . . . I have tried to find a more appropriate name[26].

In the psychedelic paradigm, there is a decisive orientation toward the production of a mystical-religious experience. Large doses of LSD are used to facilitate dramatic changes in consciousness that have an overwhelming quality, and to bring subjects into transpersonal and collective dimensions of awareness. The physical environment is prepared to be aesthetically pleasing and music that has been carefully selected for its evocative and religious qualities may be used. The therapist's communication to the subject is weighted in a mystico-religious direction.

Unfortunately, the term psychedelic, literally 'mind manifesting', quickly became associated with the hysteria of the Harvard drug scandal, the chromosome damage hypothesis and the 'hippie' movement. Psychedelic became synonymous with wild colors, flamboyant art, irreverent dress and outrageous lifestyle.

In the vastly different claims and aims of the shamanic, psychotomimetic, psycholytic and psychedelic paradigms we can see the effects of each and notice that our point of observation is separate from what we observe. This points to the need for a new view that integrates insights from these past efforts.

A new paradigm must include the drug paradigm but be more encompassing by including both objective and subjective phenomena. In addition, this new paradigm would also integrate the pragmatic knowledge of shamanic cultures, whilst making use of burgeoning new technologies for measuring and recording responses at new levels.

The fundamental pillars of the scientific endeavor are objectivity and impartiality. Respect is accorded to the researcher who designs and conducts studies objectively that cleverly unlock the underlying principles of the phenomenon under study. This investigation is to be accomplished with neutrality and objectivity. Psychedelics present a powerful lens through which we may observe the effects of a scientist's belief upon his or her investigation. The belief that psychedelics create certain effects seems to maximize the occurrence of the expected effects! Beliefs affect perception. Beliefs can direct attention away from the mechanisms by which scientists unwittingly influence their subjects and, hence, their results. The assumption that the researcher must be unbiased is a virtual impossibility that has led to hidden and denied biases. The very posture of denial and fear gives unconscious attitudes unbridled power to influence perception and results. The proper investigation of the effects of psychedelics on human consciousness challenges scientists to become more revealing of their beliefs, more humble about their objectivity, and more humanitarian toward their subjects.

LSD presents a challenge to science. It challenges the assumption of easy progress – that current scientific methods *will* lead us to unlock the secrets of the universe, without themselves changing in the process. The effects of LSD on humans challenge our subject–object dichotomies not only because of its subjective effects, but also because of its remarkable susceptibility to experimenter effects.

Switzerland is unique among the advanced countries of the world in its liberal traditions concerning medical research. In the field of psychedelics, its authorities have issued permissions that support the importance of naturalistic research through individual practitioners. It is only within a healing relationship that informed consent for this kind of research can take place and individual well-being be safeguarded. The often strangling grip of prematurely rigid methodologies is avoided by this enlightened attitude toward qualified physicians. The ethical safeguards of having clinicians whose focus is on healing their patients as front-line practical researchers will lead to enhancement of our clinical understanding of psychedelics.

When approaching a new frontier (and use of psychedelics in humans remains a scientific frontier) it is not possible *a priori* to determine what are the important variables. Instead we must perform the demanding task of meticulous description and recording, not only of our subjects and their experiences but also of ourselves, our own experiences and the surroundings of the experiment. Although some literature exists describing the importance of set and setting, almost no reports have been published in which the experimenter divulges his or her own assumptions and beliefs about the subject and field of study. We assume that personal biases, likes and dislikes, loves and hates are abolished in their potential effects by the impartiality of our method, but past research with psychedelics has illustrated that this is simply not true.

Rather than completely invalidating the methods of science, it seems to me that psychedelics call upon researchers to be both open and cautious in their application. Uncertainty is a scientific principle applicable to attempts at measurement when instruments are unwieldy and of an inappropriate scale for their task. The premature characterization of LSD's drug properties has produced confused results. When its properties are characterized more appropriately, what emerges is a clear understanding and flexibility, an intellectual framework that encompasses and understands salutary effects and how to achieve them. This could replace a rigid, judgmental narrowing of perception. The proper scientific study of psychedelics requires tools and methods to account for a wide range of variables that lead beyond the existing drug research paradigm. The creative solution to this problem may truly expand our science and our consciousness[27].

I have the privilege of representing the group with the longest tradition of scientifically studying psychedelics as adjuncts to psychotherapy in the USA. At Spring Grove and the Maryland Psychiatric Research Center we have given

psychedelic sessions to over 750 subjects in over 30 years of research. Most of the sessions involved LSD. The patients and subjects ranged from severe alcoholics and heroin addicts to neurotics, professionals and terminal cancer patients. There have been no reported long-term complications or negative effects in our subjects[28-49].

My own patients included: an electrician, a nurse, a physician's assistant, a miner, a short order cook. In their therapy there were times when they journeyed deeply into their lives and took me with them; crying in the pain and trauma, raging at the helplessness, laughing joyously at the fulfillment. Some enter a timeless realm, one beyond the usual ken of human experience; a place beyond time and space, of stunning beauty, where they feel both loved and loving in a deep reverence for life. They tell me that this domain is more real for them than any previous experience. Here they find inspiration and motivation to give all they can; to be the best and most complete people they can possibly be. I have been told that our feeble language can never contain the beauty, awe and love of these moments - their effects are felt for a lifetime.

The great Swiss analytical psychologist Carl Jung saw modern man as searching for lost soul. Through the efforts of another great Swiss pioneer an ancient factor has been rediscovered. The question is how to regard this wonder?

In my country psychedelics have been labelled as without recognized medical use, although there is compelling evidence that they can heal people in despair. What does this attitude - that healing of the soul is beyond the boundaries of medical practice - say about our profession and my country?

I pray that our science and medicine have not painted themselves into a corner where there is no place for this kind of wonder and meaning.

Profound uncertainty surrounds peak experiences. It has often played havoc with attempts at measurement. Yet when these numinous moments occur there is great healing. To meet the challenge of understanding this potentiality, we need a broader frame of analysis, a new paradigm, one that forces us to describe all the variables in the clinical situation to understand what the relevant ones are.

We do not yet know when or whether peak experiences will occur, or with whom, but we do know that this is the highest order of human experience, as testified by the greatest sages and mystics of all religious and philosophical traditions throughout history. We must safeguard the potential for this kind of experience among our subjects as we continue careful scientific work on every level possible, from the molecular frontiers of understanding the brain and its relationship with consciousness to the philosophical and scientific study of the mystical, as pioneered by Walter Pahnke[50].

We cannot now, and may never, be able, to predict and control perfectly the effects of psychedelics in humans. Yet, they are gateways to such precious and forgotten realms that I do not believe any culture that aspires to full humanity can afford to shut them out.

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