

PSI AND ALTERED STATES OF CONSCIOUSNESS:
NECESSARY METHODS IN PHYSICS AND
PARAPSYCHOLOGY

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“It is of course the merest truism that all our experimental knowledge and our understanding of nature is impossible and non-existent apart from our own mental processes. . . .”

P. W. Bridgman

“It is the theory which decides what we can observe.”

Einstein

“Whatever is fact was first in theory.”

Goethe

Impossible events do not occur. Therefore, if a scientist is faced with the fact that an impossible event has occurred—our daily fare as parapsychologists—the paradox must be resolved. This can only be done by redefining reality in such a way that what was previously impossible now becomes possible. If the theory must bow to the brute fact, we must be clear as to what is the theory and what is the fact. Our definition of reality which decides for us what is possible and what is impossible is the theory. The laboratory experiment in which the paranormal event was demonstrated is the fact.

This is an absolutely critical point in the study of the paranormal; a point that has, in the past, received scant attention from parapsychologists. The question is—where do we get our knowledge of what is possible, and what is impossible and therefore paranormal? We have ignored the point that a definition of “paranormal” comes from a definition of reality and that such a definition is a theory, not a fact.

The view that our definition of reality is a fact, and that we *know* what reality is and how it works, is a view that would make both science and philosophy tautological, as they are a questioning and exploring of

reality. Technology uses common sense; it is an accepting of a particular view of reality and doing the best we can with it to accomplish our ends. Science, as Robert Oppenheimer once put it, uses uncommon sense; it is a search for new definitions and understandings. Technology takes the locally accepted definition of reality as a fact: science takes it as a theory.

The kind of uncommon sense, of daring and questioning of basic definitions needed in science, the kind we need in parapsychology, is shown by a remark of the great mathematician Hilbert. He had, at one time, mentioned a new student of his who seemed to show great promise. Some time later Ernst Cassirer asked him what had happened to this student. Hilbert replied, "Oh, he did not have enough imagination to be a mathematician so he became a poet!"

As parapsychologists our tendency has been to hold our imagination in check and to accept the common, everyday definition of reality which made the facts we observed in our work impossible. We have kept trying to show that these facts occurred anyway and when we tried to explain *how* they occurred we generally tried to find the explanation within the common-sense definition. Only occasionally have we been aware that this definition was a theory, not a fact.

Hume was in error in his famous argument on disbelief in miracles and similarly the countless arguments against parapsychology stemming from it are in error. The error lies in the fact that Hume defined his interpretation of how-the-world-works as a fact when it was a theory. As a *fact*, and given the faith of philosophy and science in the consistency of reality, it was blatantly impossible for it to be contradicted by another fact (the paranormal occurrence) and therefore the paranormal occurrence logically never happened and the observers were mistaken or lying. The chain of logic is unassailable so long as the definition remains unquestioned. Once, however, the definition is examined, it becomes clear that it is a theory not a fact and that, therefore, when opposed by a fact it must be given up as inaccurate or incomplete.

We can see the problem clearly when we think about the colleagues of Galileo who refused to look through the telescope. They refused because it was unnecessary to look; they had confused their theory about reality with facts. As far as they were concerned, they knew the facts and there was simply no point in observing a contradictory fact; the telescope's view was necessarily false as it contradicted known facts. At this distance we can see their reasoning and their confusion clearly. It is, however, harder to see when the modern scientist, not looking at the facts of parapsychology, simply dismisses them as necessarily false

and therefore unnecessary to examine as—for him—they contradict a known fact. He is as confused as were Galileo's contemporaries, but it is a lot harder to see close up.

Let us talk about one aspect of theories of reality. A theory about reality, a conception of how-the-world-works, which is so real to us that we perceive and react as if it were true, as if it were a fact, can be described in two ways. From one viewpoint it is a state of awareness, a state of consciousness, a way of being-in-the-world. From this viewpoint, the one we have when we are *using* the theory personally, we are responding to the truth about reality. This is how things and we are. From the other viewpoint, it is simply an integrated set of hypotheses concerning reality and is judged by its effectiveness in attaining whatever goals seem relevant to whoever is doing the judging. It is a theory of metaphysics to be compared with other theories of the same kind.

These two descriptions—a state of consciousness and a metaphysical theory—are the opposite sides of the same coin. When using them, we are talking about the same thing from two different angles. They are the same phenomena experienced in two different ways.

This has definite implications. It indicates that there is no such thing as a generally “correct” or “normal” state of consciousness, but various states that can be compared in the way they succeed in aiding us, permitting us, to solve our problems, arrive at our goals.

What are these problems? What are these goals? In a dream, we have a specific and coherent metaphysical theory, we are in a specific state of consciousness which is different from our ordinary, 20th Century, Western state of consciousness (the state we generally consider the “normal” or “correct” one). Dreaming is necessary for us; we suffer negative personality changes when it is prevented. It helps us attain some goal which we can apparently not attain (at least as well) in other known states of consciousness. We have thus two states of consciousness (normal—waking and dreaming) each appropriate to certain of our human goals. The mystic trains himself to attain still other states and believes that these are also essential to full human development, to solving certain of our needs.

From the viewpoint of modern science, the physicist takes the other side of the mystic's coin. He believes that certain theories about reality are necessary to solve certain problems and other theories are necessary to solve other problems. His theories are certainly related to, and are compatible with each other. For all the relations, however, between the theories about reality that the physicist posits as necessary, they are very different and have very different entities and laws in

them. (They demand, on the reverse side of the coin, very different states of consciousness to respond experientially to them.) What is possible in one metaphysical theory is impossible—paranormal—in another. I might point out, for example, that what is perfectly normal on a subatomic level—for an electron to jump from one “orbit” to another without crossing the intervening space—is teleportation on a molar level and is, to say the least, paranormal. The theories about reality that the physicist posits and uses in these two domains are that, and far more, different.

We could find many more similar examples. For example, that an electron can pass through two separate holes of a plate at the same time without splitting is perfectly normal in the theory used to deal with problems on a quantum level. In the theory used in everyday life, this is bilocation—a paranormal phenomenon. Or in another theory about reality, the theory used by the relativity physicist, we have the normal phenomena of Event A occurring before Event B from the viewpoint of one observer, the two occurring at the same time from the viewpoint of a second observer, and Event A occurring after Event B from the viewpoint of a third observer. It is literally impossible with many events to say whether they occurred simultaneously or in sequence. From the “commonsense,” everyday theory about reality, this would lead to precognition and retrocognition—paranormal phenomena. Further, since it is also frequently meaningless in relativity theory to try to determine whether two events occurred at one and the same place, we have on the everyday theory—the easy possibility of clairvoyance. The theories about reality—how it is and how it works—that the physicist finds it necessary to use are so different that what is impossible and paranormal in one frequently is perfectly possible and normal in another.

Even when the same words are used to describe events within different metaphysical systems, they are no more than inviting booby traps, since their meaning is completely different. We learn that an “electron” has “spin.” “Spin,” we know, is the movement an object describes on itself like the rotation of a planet upon its axis. It is a simple, familiar concept and we have all seen tops spinning away and understand the term. We come to the intuitive and clear belief that an electron is a small, round object (God only knows why “round,” it might equally be a cube or pie-shaped) that spins rapidly as it moves. But then we find out that in whatever position the observer places himself, he is always in line with the axis of rotation of the spin. It becomes clear that the word has acquired a completely new meaning in this system. Further, we find out that our small round object can have no color or

absence of color and that it cannot have a temperature. It becomes obvious to us that our intuitive and clear understanding bears no relationship to the phenomena of an "electron." We have interpreted events and terms from one metaphysical system, one way of construing reality, into another and, following this invalid procedure, arrived at complete confusion.

We are led here to a revolutionary understanding. This is that a number of metaphysical systems—states of consciousness—are equally valid in any overall sense. None is closer to any "true reality" than any other and, if it were, we should never have a way of knowing this since all we can ever perceive is reality *after* it has been construed and shaped by our consciousness: after Husserl's "enormous *á priori*." The question "Which metaphysical theory is true?" is a vacuous question. It cannot *ever* be answered. A question we can deal with, however, is "What can we accomplish with one metaphysical theory and what can we accomplish with another?" Henry Margenau has stated this clearly when he wrote: "The question then, is not whether matter is continuous but how theories succeed when they regard as a continuum the construct which they take to be their system."¹

Similarly the other side of the coin. We no longer ask "Which state of consciousness is the correct one in that, when using it, we are perceiving and reacting to reality?" We can only ask which state of consciousness is most effective in helping us attain which goals. The concept of a "correct" or "normal" state of consciousness is one we will have to put on the crowded and dusty shelf marked "Outmoded ideas: Ingest at your own risk." We can, however, ask "Which state of consciousness is most useful to solve certain needs and goals?" and "Which state of consciousness is statistically most prevalent in which cultural situations?"

This comprehension is the most staggering and least understood insight of modern science. It is that we no longer search for what reality *is*, but rather for ways of usefully construing it; ways to define it that will help us achieve our goals. It is that there is no "right" metaphysical system, but only a number of ones of limited usefulness. There is no "correct" state of consciousness that will reflect "reality," but only a number of states useful or useless for specific human purposes.

The next step follows naturally. If there are a number of different, equally "right" metaphysical systems—states of consciousness—and these are quite different in the entities and laws they contain, we can do certain things with some of them that we cannot do in others. What is "normal" in one of them is "paranormal" in another. For something to be "paranormal" in a particular construction of reality means that it is

forbidden by the "Basic Limiting Principles" of that construction and it does not happen when we are using it. It cannot be "explained" in that metaphysical theory since it does not happen in it. One cannot explain impossible events within the metaphysical system (theory about reality) in which they are impossible.

This *must* be kept clear. It is central to the problem we parapsychologists have had in "explaining" or "understanding" psi phenomena. If a system of reality ordering forbids certain events from occurring (as, in our everyday system, an effect preceding its cause in time), you cannot explain that event within the system. It is like trying to explain parallel lines meeting within the system of Euclidean geometry. You can try all you want to do it, but you simply can't. If the event occurs (as in laboratory demonstrations of precognition) you simply have to explain it within a system in which it *can* occur. You can explain the parallel lines meeting within the system of Riemannian geometry. You cannot in the Euclidean system. It is not that it is difficult to explain or complex to explain, it cannot be done.

There is an old story about the lost traveler who asked the countryman how to get to Salisbury. The farmer replied "You go north 5 miles and then turn west . . . no, that's no good. You go west 3 miles and take the first road north . . . no, that won't do it. You go east and then . . . By God, you can't get there from here!" We parapsychologists have tried and tried to get from here to there on the solid appearing roads of our ordinary theory about reality. It can't be done. In our ordinary construing of reality we can do certain things and we can't do others. We can travel to Yankee Stadium, Waterloo Station or the Place d'Etoile. We can't travel to the day before yesterday or to the Land of Oz. You can perceive something with your senses or extrapolate from known data. You can't be clairvoyant or precognitive. Certain things cannot be done and we had better learn to accept this. You cannot explain events forbidden by a system within that system. That's just the way things are and we are going to have to learn to live with it. We need to listen to Thomas Carlyle's response when he heard Margaret Fuller's bravura statement "I accept the universe." Carlyle said: "Madame, you'd better."

We thus bring this revolutionary understanding of modern science to our problems in parapsychology. This is that events occurring in one state of consciousness, one metaphysical system, cannot always be explained in terms of another. It is not that they are difficult to explain, or complex to explain, or need an added insight to explain, they cannot be explained. The definition of impossible (paranormal) is that within a given system an event not only cannot occur, it cannot be explained. Psi

events, being paranormal (impossible) in our everyday, commonsense metaphysical system (what I have called elsewhere the "Sensory Reality")² cannot be explained in terms of it and we might as well stop trying. Otherwise we are going to go right on chasing our tails as we have been these past ninety-odd years.

From the viewpoint of this comprehension the spiritualists and theologians were more correct than we "scientists" when they tried to explain paranormal events by saying that spirits produced them or that God produced them. They were taking entities from another metaphysical system to explain phenomena that you can't explain in this one. They were thereby implying that what you needed for the explanation of paranormal events was a different metaphysical system, a different state of consciousness, while we tried to hold on to our usual metaphysical system and explain them in it where the events were forbidden and therefore their explanations forbidden.

I say that the spiritualists and theologians were "more correct" than we were, not that they were "correct." The situation is similar to that of the little boy who came home and told his mother he had gotten first prize in an examination. The question asked had been "How many legs has a horse?" He had answered "Three." When his mother asked how he had gotten the first prize, he replied that all the other children had said "Two."

If an event is a major violation of our theory about reality, a major revision is necessary. The scope of the revision of our theory has to be related to the scope of the violation. If the violation does not touch Basic Limiting Principles, only minor changes may be indicated. The inverse-square law (that the intensity measured by a constant instrument from a source declines by the square of the distance between the measuring instrument and the source) can be modified when we invent the laser or when we differentiate the intensity of a signal and the amount of information carried by it, but the law remains valid although its domain has been somewhat reduced.

We need here to find out what sort of a position we are forced into by our data. Is it that only a small modification is necessary, as in the case of the inverse-square law? Or is a larger modification necessary; one that will say in effect: "The old basic structuring of reality remains true and valid, but its domain is now seen as limited, and different laws apply in certain other domains"? This is what happened to Newtonian mechanics with the Einsteinian revolution. It is also what happened to Euclidean geometry after Lobachevsky and Riemann. Euclidean geometry is still valid, but its domain has been reduced. Other equally valid geometries with different axioms and theorems apply in other

domains and are necessary to solve other problems. In Euclidean geometry, a straight line is the shortest distance between two points. In other geometries it is not.

What sort of revision in our theories about reality is necessitated by the existence of psi events? Since, as C. D. Broad and others have shown, they violate Basic Limiting Principles of our theory, the revision must be a major one. We cannot solve this problem with band-aids. Clearly also, however, the called for revision must include the fact that our theory about reality is valid in large and important domains. We operate too effectively in most cases, predict too well what effects will follow from what causes, to suspect that our usual theory is invalid. We must beware of babies and bathwaters. Our views about reality have not been lightly arrived at and cannot be lightly discarded. The problem does not demand we throw out our basic theory about reality, but rather that we find out how much we must reduce its domain and devise a theory to fit the new as well as the old data.

Not only must we beware of babies and bathwaters, we must also beware of solipsism. (This is the belief that I am the only person in the universe and the creator of everything and everyone in it.) A woman once came up to Bertrand Russell after a talk he gave and she said that she was glad he was a solipsist because she was one too and she hoped that there were a lot more of them! We can construe reality in a variety of ways, organize, perceive and react to it according to a number of different patterns, but we are still construing, organizing, perceiving, reacting to *something*.

Something is "there." There is more than just "me." The "something" may be mysterious and—in principle—unknowable, but it is real and will only bend in a number of ways in our attempts to organize it into useful patterns. What the laws and limits of this bending are, we do not yet know, but we can be sure that they exist. We cannot make the universe into anything we wish; we can only organize it into a number of functional patterns. If there are 437 schizophrenics in a mental hospital, this does not mean that there are 437 legitimate and valid ways of organizing reality. It simply means that there are 437 schizophrenics in that hospital.

Perhaps we must come ultimately to an understanding of reality similar to the comprehension we came to in the "nature-nurture" controversy on the development of personality. After a long period of insisting that it was nearly all nature or nearly all nurture, we have come to the conclusion that nature sets the outside limits of possibility, but that within these the individual person is such a combination, such an integration of both that we can never separate out how much each

played in forming the end product, in forming the person at the time we are examining him.

Radhakrishnan, in his *Eastern Religions and Western Thought*, stated this viewpoint clearly: "The objective world exists. It is not an illusion. It is real not in being ultimate, but in being a form, an expression of the ultimate. To regard the world as ultimately real is delusion."³

The only way out of the predicament posed by the occurrence of psi events is to say that our usual theory about reality is valid, but that there is *more*; that our usual theory applies in certain situations (which includes most of our life, tying our shoelaces and buying airplane tickets and designing the shoes and the airplanes) but that there are other situations which indicate that *all* reality cannot be dealt with by this theory. We are, in science, used to this procedure. We no longer try to predict the behavior of subatomic particles by the same cause-effect theories with which we predict the behavior of molar masses of material. Nor do we try to predict the behavior of molar masses moving, relative to us, at close to the speed of light by the same ordering of reality by means of which we explain and predict the behavior of molar masses moving, relative to us, at speeds of a few dozen or a few hundred miles per hour. We have not thrown out our usual concepts of what reality is and how it works, but rather limited them to a more restricted domain. We have said, in effect; "They are true and valid, but there is more. And the more is very different."

Paranormal means impossible by the laws of a particular system of construing reality, in terms of our usual *theory* about what reality is. Part of this theory is that it is the *only* valid theory. As we have seen, we had had to give this up in many areas, to limit its domain. Instead of continuing to say, "This is the true way reality is and works, it is the only valid theory and all other ways are nutsy," we now say, "This is a fruitful way to construe large parts of reality—by and large the parts that are accessible to our senses—and it is also isomorphic to a state of consciousness that enables us to achieve many of our goals."

Faced with the paranormal events that simply could not happen in our usual metaphysical system, we are forced to limit the domain of this system. We have done this elsewhere in science; we must do it with psi events. There is simply nothing else to do, nowhere else to go. *Impossible events do not happen*. If they do, then your definition of impossible (and therefore your theory of reality which gives you that definition) is wrong. Wriggle as you like, you can't get away from that and God only knows, we parapsychologists have tried.

We have, as parapsychologists, demonstrated the occurrence of impossible events. We can now do one of two things. We can change

our definition of what is possible and impossible (and this can only be done by limiting the domain of our usual definition of reality), or we can go right on proving the existence of these events. Maybe if we go on proving them long enough, someone else will point out to us that they inexorably indicate that our usual theory of reality must be limited in its validity. Maybe this outsider will even do our work for us by showing us where and how it is limited. Or we can do the job demanded of us by our science and explore its limitations and the alternative metaphysical system we need to explain our data. This will necessarily lead us to exploring the state of awareness needed to permit psi events to occur and we might finally arrive at a somewhat coherent and acceptable field of science. We have kept demanding (unsuccessfully) that non-believers in psi shift their approach and start believing in impossible facts. Perhaps our real task is to so shift our own approach as to make the impossible facts possible and therefore believable. We can only do this by exploring and changing our definition of reality which decides what is possible and what is impossible.

The only groups that have accepted the idea that you have to change the system of reality ordering you are using if you wish to solve certain problems are the physicists and mathematicians. They have overcome some apparently insuperable obstacles in this way. We parapsychologists have just as impossible-appearing problems as they did; we can learn from their example.

If we seriously go forward to determine what new organizations of reality are demanded by our psi data, we must expect to have to break with established ideas and with beliefs that have seemed self-evident. There are no sacred cows in real science and almost every idea that human beings like us have, in the past, believed to be a basic truth about reality has been overthrown. Up to the 20th Century, for example, every model of the universe had as a cornerstone *NATURA NON FACIT SALTUS*—there are no leaps in nature. This is now regarded as false.

There is, indeed, no greater bigotry and rigidity of mind than the demand that all possible knowledge be of the same type as that with which we are already familiar and that explanations on the horizons of our present-day knowledge have in them only the structure and elements familiar in our everyday experience.⁴

There is a large but generally ignored sign over the doorway that all must pass who wish to enter the cathedral of science. The sign reads:

DANGEROUS AND UNSTABLE STRUCTURE.
UNDERGOING MAJOR RENOVATION.

MAY BE TORN DOWN AT ANY MOMENT
FOR COMPLETE REBUILDING.

Petrarch, at the beginning of the Renaissance, wrote: "Do not believe the common statement that there is nothing new under the sun and that nothing new can be said. True, Solomon and Terence said that: but since their time, how much is new."

If this were true in Petrarch's time, how much more true is it in ours?

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3. Quoted in Fuller, J., *The Ghost of Flight 401*. Berkeley, Cal., Berkeley Publ. Co., 1976, 87.
4. This paragraph is a paraphrase of some comments of P. W. Bridgman in his *The Logic of Modern Physics*, New York, Macmillan, 1960, 46.

DISCUSSION

TART: I agree a hundred percent with you, Larry. I couldn't have said it better. Now, let me make a suggestion for implementing the results of this. We all know that, at least theoretically in science, data is what is primary over theory. We also know that people get attached to theories, unfortunately. Probably the biggest psychopathology of our time is that the map is believed to be more real than the territory: after all, it's neater and clearer! But we might do something to correct the problem with this attachment in our own field, and that is to drop the word "paranormal."

If you think about it, "normal" has two common uses. One is prescriptive—normal is what *ought* to be—but scientists are supposed to primarily talk about what *is*, rather than what ought to be. So we certainly don't want to use the prescriptive definition of normal. Secondly, normal refers to what is common. We certainly know from survey material that people have paranormal things happen to them all the time, so psychic experiences are hardly paranormal. I would really like to see us drop the word entirely and talk about studying *paraconceptual* phenomena, to remind us that we're studying things that do happen, but they don't fit in, they are "para" to any of our readily available conceptual systems. Now realistically, I have great doubts that we will be able to get rid of a venerable word, but I'll put in a plug for replacing the term "paranormal" with "paraconceptual."

LESHAN: I like that.

EHRENWALD: I always greatly enjoy listening to Larry LeShan's papers, and whatever he says, he says it brilliantly and persuasively. Today he gave me the impression that he was talking on both sides of the issue. One side of the issue was that he said "all realities are equal," and he didn't even consider the possibility that some realities may be more equal than others. For instance, if we go so far as to claim equality, let's say, for both Euclidean and non-Euclidean geometry, for Riemannian geometry, etc., then we are losing the only compass we have to navigate the waters of our conscious experience. I believe that despite the fact that there are many "realities" (whatever LeShan means by realities), there is only one which is more "normal" than others, simply because, in the course of the revolution of this planet, we have become accustomed to the here-and-now type of experience. We know that Euclidean geometry is more valid in a vastly greater number of cases than non-Euclidean geometry. Now, I am talking as a psychiatrist and I ask myself: Where would we find ourselves if we were to accept the schizophrenic's experience of his schizophrenic reality as equal with the experience of the pedestrian, here-and-now oriented, commonsense experience of the non-schizophrenic? Would we consider that a paranoid system is just as good as the magic system of thought? We have found in the long run that preliterate man's outlook—that magic mentality—is only a very crude approximation of pragmatic reality with which we have to cope. Trying to do so would be counterproductive. Claiming equal status for such diverse approaches may be a challenging, paradoxical statement from the philosophical point of view, but it would conflict with a practical, empirical, here-and-now experience of reality. On balance, it is only one which serves us best in the rough and tumble of our daily experience. I was pleased to see that Dr. LeShan conceded that "the shortest way to go to the airport is still Euclidean."

LESHAN: You know, I'm really surprised by this comment. That's partly because I learned so much from Dr. Ehrenwald, and would have thought that his viewpoint was that when you made the existential shift, which has been one of the major concepts in the development of this kind of thinking, you were dealing with a completely valid world, but for different purposes, and when a psychoanalyst says that the magical world has no purpose, it's a primitive approximation, you are ruling out play, art and the dream, all of which have tremendous values for very real purposes. The common sensory reality works very well for accomplishing certain biological purposes. It does not work very well

for certain others. If you wish to achieve certain kinds of personal growth, inner serenity, being at home in the universe, if you wish to understand what Bruno meant when he said, "Out of this world we cannot fall,"—a statement that had a tremendous impact on Freud, for example—then you need other viewpoints about reality, not just one. They are equal for their own purposes, but each has its own set of purposes and I think this is how it has to be judged. For a physicist, for example, to say, "Yes, if I want to find out how long a lever I need to move a two-ton block of marble three feet, I will use relativity theory." He might be able to do it, but it will be complicated as hell. He'd be crazy! But if he wants to explain the behavior of light as it passes around the sun; if he wants to explain the failure of the Michaelson-Morley experiment—then he needs a completely different organization of reality. It seems to me, Dr. Ehrenwald, that it's not that they're equal, but that they must be related to human problems if the real compass we search for is the compass of human growth. It's how can we best fulfill our potential—our full potential as human beings. Just as the physicist found to solve the full range of his problems, what he needed were quite different systems of order and reality, so do we. At night, I need the magical system; I need the dream. I don't think any of these really are more real than others.

SERVADIO: Those who have read some of my papers, particularly the most recent ones, know how much in agreement I am with Lawrence LeShan's ideas and so I am one hundred per cent in agreement with his paper of today. But I must express quite frankly my concern about something that I'm seeing on the other side of the coin. It seems to me that there are some dangers on the other side of the coin. For instance, I think that several parapsychologists of today are obsessed with what I would call the "repeatability complex." This morning we heard a reported statement by Dr. Beloff, whom I admire very much, saying that Rhine succeeded in giving parapsychology everything it needed to become an accredited science except the essential—the know-how to produce results when and where required. Is this an absolute requirement of a respectable science? I'd say "no." There are several quite respectable sciences, such as astronomy and seismology, that simply do not plan repeatable experiments. I don't know why this should be an essential aspect for parapsychology.

On the other hand, it seems to me that nowadays apparently the only respectable aspect of parapsychology is the experimental—as if nothing else existed. Now, we know only too well that those phenomena in parapsychology which are called spontaneous, are not

very spontaneous, really, but, nevertheless, they exist. There is a historical side to parapsychology. There are phenomena that are reported and assembled. I think that you neglect all this in order to make more and more experiments, as if this was the only aspect possible, seriously, for parapsychology. This is the opposite side of the coin to what Larry LeShan has presented today.

LESHAN: Dr. Servadio has said he is much in agreement with me. I can only say this goes both ways. I am both in agreement with him and an admirer of his.

SERVADIO: Thank you.

TART: I once gave a lecture leading up to my idea for the creation of state specific sciences and to illustrate a point I manipulated my audience at the beginning. I reached into my jacket pocket and pulled out a wrench and a screwdriver, and I said, "How many of you think the wrench is the superior tool?" About half the hands in the audience went up. And then I said, "How many people in the audience think the screwdriver is a superior tool?" The other half of the hands went up, and then they started going down as the realization began to dawn on people: "Superior for what?" I think this applies to the exchange that's taking place between Dr. LeShan and Dr. Ehrenwald here. What state of consciousness is superior for what particular task? A certain meditative state, for instance, may be highly superior if you're interested in finding basic values to live by, as compared to an ordinary state of consciousness. But the ordinary state of consciousness might be highly superior for crossing the street without being run down. I think the question of what state of consciousness is superior in any absolute sense doesn't mean anything. It's what good is it for what tasks? How do you learn to intelligently choose which state to approach specific tasks from? What do the results come down to in the end?

Now we don't have much data on making intelligent choices at this point. We know there are various altered states of consciousness. We know that a lot of people have claimed that some states are superior. Probably what we're getting mostly at this stage of our knowledge is a contrast effect. Somebody doesn't like his ordinary state; he takes a drug and/or he meditates and then achieves some altered state in which things seem different. By contrast, it seems wonderful. You get enthusiastic and propose that everybody should live this way, but we don't really know scientifically what altered states are good for in particular respects. We suspect that some of them would be very good for promoting psi, but that's what we have to learn. Which of them is

suitable for promoting what kinds of psi and when do you drop them because they're not good for promoting other kinds of psi? We just have to learn this by trial and error.

LESHAN: Well, I certainly would be very much in agreement with this and the concept of the tools is a very good one. It reminds me of a statement Abraham Maslow once made—that if you only have a hammer, you have to treat everything as a nail. We certainly need other tools. As to the business of examining psi with different states of consciousness, I have to tell very briefly a story that some of you know very well. It's the story of an experiment we once did at Le Piol, where the conferences used to be held, trying to find out if psi could be promoted by the use of psychedelic drugs. And it was the most disastrous experiment I've ever been in. It was marvelously automated. We all had walkie-talkies. Up on the second floor of the villa was a command center. There were three of us; we had pads strapped to our legs; we had stop watches, sequences of envelopes in each pocket—the whole *shtick*, and three excellent psychics. Out by the pool was Douglas Johnson having a marvelous LSD trip. And there was Walter Pahnke who organized this whole thing . . . and Douglas Johnson was saying to Walter, "What's in the envelope, Walter? The world's in the envelope . . . the envelope's in the world . . . the world's in the envelope." And there was Pahnke talking to his walkie talkie, saying, "This is Experimenter I switching to sequence 4 . . ." and there was I in the villa itself with Eileen Garrett who had taken psilocybin. We had Hoffman brought down from Switzerland to administer and handle the drugs and Eileen was saying to me things like, "What's in the envelope, Larry? Larry, don't be silly. Deal with important things. Look how green the grass is . . . how blue the grass is. Give me the envelope, Larry." And tearing it up. I think, with Charles, that some of the states certainly are much closer to the psi receptive states, and that this will be a vast field and a very important one. I think it's only in a different metaphysical system that you can have the paranormal effect, and, therefore, to be using it, you need to be in a different state of consciousness.

PARKER: First of all, I'd like to come to the defense of John Beloff in reply to Dr. Servadio. It's about the usual comparison between parapsychology and astronomy. In fact, I've argued in the paper that we do, obviously, need more repeatability in parapsychology than in a subject like astronomy simply because of the issue of rationality. Astronomy can explain why things only occur once. Parapsychology can't.

Now, I'd like to make a couple of comments about Dr. LeShan's lecture. I find myself more or less in total agreement and, in fact, I've made similar statements myself, but I have one or two reservations. First of all, I think you can take the point too far. The point is about Einsteinian physics and Newtonian physics. They are not actually in contradiction; they require different principles, but they can also justify why different principles are needed. Parapsychology can't as yet. As for different realities having different status—ordinary, everyday reality in terms of physiology, can explain why we dream, for example. If we can come up with a theory during our dreams as to why ordinary reality exists, then that's fine. It doesn't work the other way around. So that they do have different status because of that. They are mutually (to some degree) explicable and that one reality can explain why altered states of consciousness exist, but that's not to deny the experience itself. So, what I'm saying is, I think you can take the point too far. Just one final point—something of a more positive nature. Can I ask Dr. LeShan where he sees us taking parapsychology? As I understand you, I think you mean the emphasis should be more on practical applications, on utility, on pragmatism. Is that right?

LESHAN: Oh, no! As a matter of fact, I was quite disturbed by some of the discussion this morning, where suddenly we seemed to be taking the study of basic science and basic knowledge and approaching it as if we were time and motion study experts in a factory. We're beginning to wonder how many bits of information you get per manhour in this and it seemed to me we were suddenly putting it on a completely wrong basis. This is a tremendous quest we're on. It's a quest for the Grail, a quest for the basic knowledge, the basic understanding of what human beings are, and I don't think that this can be studied by efficiency experts. Certainly I'm not in favor of a utility kind of approach. But, generally speaking, we have tried to explain it within a system in which it's impossible to explain it because the system forbids the data. It forbids it's happening. It's paranormal. That's why we're interested in it—why we're here, and why we have to go further. The physicist has done this. In some systems that the physicists use, you can go quite explicable. You can say why one shifts to a relativistic approach. In others, we simply have to accept the fact that there are other systems. If you want to really explain why you cannot use cause and affect on a subatomic level, you find yourself in one of the worst shambles in philosophy—a shambles that we haven't been in since the medieval period. We have to use statistical prediction on a subatomic level as to whether or when a particular electron is going to jump amid a burst of

radiation. We cannot use cause and effect theory here. We have to look at them quite differently. If we try to look or even try to make decent comparisons between subatomic phenomena, the system of reality there and a normal one, we're in trouble. For example, we take the Rutherford model of the atom—little tiny atoms scattered around vast empty spaces like a dozen marbles on the floor of an airplane hangar—and then we say we'll make a chain reaction by throwing a few of the marbles in and hitting them. It's ridiculous. Your electrons do hit each other, but that's because an electron isn't in one place—it's scattered all over a probability distribution. It just has a tendency to exist. This is a completely different way of looking at reality. In order to explain certain data we need the same kind of daring in trying to explain our data that led to quantum mechanics.

SARGENT: I agree with you that we do need a reformulation of reality. I also see that you, as do most other people who point this out, appear to be completely incapable of suggesting what revision we need. However, I would like to support you in the discussion with Dr. Ehrenwald. I heard him say, for instance, "Is there no way in which we can say that the schizophrenic way of looking at reality is not superior to the normal?" or "Can we not differentiate between the paranoid and the mystic?" It seems to me that not only are you right in saying we must have different conceptual schemes for different ends, but even if we have a given end, we will be very foolish to discard one of a range of conceptual schemes. If a man had come up to us in the 1950s, and said, "The CIA is poisoning our water with mind-controlling drugs," we'd have said that this man is paranoid. Now we would know a lot better and we should reserve judgment on people whose conceptualizations of what is going on appear to us to be ridiculous.

LESHAN: I agree very much with what you said. But I do want to pick up one small point that you said—I was unable to suggest the concept that we should use—a concept of reality. I didn't mention it here, but I've written two books on the subject as to what conceptualization of reality we should use.

HONORTON: I think it's really very important to recall that physiology cannot explain what a dream is; that neurophysiology cannot account for the simplest fact that we must all acknowledge, and that is our own experience. We really have a long way to go.

EIRENWALD: My first experience of paranormal phenomena happened in my office with patients, and there I came face to face with the potentially maladjusted consequences of a view of reality which is

totally committed to a parapsychological interpretation. We have to make a distinction between the empirical, pragmatic validity for one approach to life—one by which a person can go on successfully with the business of living—and the lure, or mirage of “different realities” which we may wish to explore. I am in no way disparaging their philosophical significance. On the contrary, I have been fascinated for many years by the same things that have fascinated all of you. But I have come to the conclusion that in the end we are left with the question, not whether the wrench or the screwdriver is the better instrument, but whether Geller effects or poltergeist phenomena are just as valid expedients as a wrench or screwdriver in trying to cope with the mechanical exigencies of life. The question is: Which of the two is the more productive, more dependable approach in terms of its survival advantage?

LESHAN: We do have to differentiate, I agree, Maimonides once put it, “Danger can never be overcome without danger.” I think we’re very much in agreement—you and I.