METHODOLOGICAL POSTULATES FOR SCIENCE AND THE PARANORMAL

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Contemporary science, on the one hand, has topological characteristics that give it the power to explain, predict and control that aspect of the world called physical. On the other hand, it works by limitation and methodological exclusion and, for that reason, cannot be all encompassing. It is, however, uniquely self-correcting and potentially self-extending. Reasonable, therefore, is the hope and even the expectation that science can become a true scientia of reality.

My purpose, in this presentation, is to gather threads provided by many thinkers and investigators, to illustrate how I think science should be extended to deal with the "something more" so adequately betokened by paranormal phenomena. After these introductory remarks, I shall define terms, state the problem formally, and present my suggestions as methodological postulates with short discussions of their relevance to the current stage of the development of parapsychology.

Normal science most clearly shows its limitations with respect to three classes of related problems. These I will call "winding" or evolutionary processes, anomalies, and interactions. Let us examine each of these problems.

"Unwinding" processes are those in which there is an increase in entropy, whose final states are more probable than the initial, and for which "time's arrow" (Blum [1]) points from the past into the future. With respect to "winding" processes, evolutionary as in contrast to devolutionary, much yet is in confusion. Evolutionary tendencies are apparent at various levels: cosmic, atomic, molecular, and organismic. In physical science, the only way to explain evolution of a system is to say that it draws energy, or information,* from another system that is entropically degraded through the interaction. Finally all energetic

* Information is defined as negative entropy or as a measure of organization. It is also that which passes between two systems when the state of the recipient system resulting from the interchange is less probable than its initial state.

systems come to equilibrium and thermodynamically defined time ceases. Is evolution, then, just a quirk in cosmic time due to the odd circumstance that the cosmos was originally "wound" so that energetic equilibrium between sources and sinks has not yet arrived? How did it get "wound" in the first place? Could we be looking at "half a cosmos" in which "time's arrow" points forward, that resulted from, or is continuously resulting from, another half in which it points backward? At the level of organismic evolution, one can understand the genesis of new species through natural selection of adaptive genes from a population pool. In light of the fact that genetic mutation is basically an "unwinding" process, from sense to nonsense, by what mechanism does adaptive variation, ultimately sufficient for evolution of man from a primordial coacervate, accumulate? Bergson, Teilhard de Chardin, and the geneticist Edmund W. Sinnott [2] clearly recognized that the problem is not one of genetics but of a fundamental difference between "winding" and "unwinding" processes. Psi interactions, from the point of view of the apprehending consciousness, specify a state from a set of possible states. They exemplify "winding."

With Thomas Kuhn,[3] we define an anomaly as a situation that cannot be explained using the accepted paradigms of science. In physics, discovery of the independence of the velocity of light from that of the reference coordinate system was an anomaly that led to a major revolution, that of relativistic mechanics. More recently, discovery of violation of right-left spatial symmetry in beta radiation of cobalt 60 is an anomaly that implies anisotropy of both space and time. Psi phenomena are anomalous in that they appear to contradict established paradigms. Whether we are dealing here with principles, such as that of causality, or with laws, such as that of entropy increase in closed systems, is not yet clear, but a science of the "something more" can meet either eventuality.

The general principle of reductionism, taken heuristically or methodologically, is very fruitful in science. In accordance with the notion of "nothing but-ism," using mathematics as the language of relationships, one reduces psychology to biology, biology to chemistry, and chemistry to physics. Reductionism is the usual answer of science to complexity and problems of interaction. Another tendency called systems science (Bertalanffy [4]), attempts to deal directly with complex and organized systems in their own right. General systems theorists regard the unit of nature as the system and define parametric characteristics of systems (as machines) to generate laws of relatedness among systems at various levels of organization. For example, the notion of emergence as a relation between laws applicable for systems

at one level of organization and those of another, wherein the more general cannot be derived from the more specific, but between which there is no logical inconsistency, is very useful. Laws applicable to living systems are emergent to laws pertaining to random collections of their components. Surely laws of psi connectedness are emergent to laws of simple and organized * physical situations. Unfortunately, because the systems science approach is new, it is not clear how to apply systems insights to specific problems in parapsychology, but that it is heuristically applicable should be evident.

It can be noted that these three types of problems are related when one sees that anomalies usually arise when there is no method to explain "winding" and "unwinding" interactions at various levels.

DEFINITION OF PSI

To define psi phenomenologically, by use of the terms *extrasensory perception* and *psychokinesis,* may be descriptively adequate but methodologically closed-ended. The following open-ended definition is proposed:

Psi phenomena exemplify modes of connectivity presently unstudied by science and result in entropy decrease in the apprehending mental state.

Suppose, as suggested by Iniushin [5] and other Soviet workers, that all psi phenomena result from interactions between ordinary and a hypothesized fourth state of matter called bioplasma? Suppose also that the laws which govern these interactions are emergent to known physical laws. Finally, suppose that the mode of connectivity is not causal, but, as hypothesized by C. G. Jung,[6] acausally synchronistic.† Many phenomena, including those not apprehendable to human

* A very good approach to every kind of problem that arises in science uses the notions of complexity and organization. A situation is simple if its laws can be expressed with two or three variables, complex if more are required. Organized situations imply nontrivial relationships among the variables as illustrated in explicit equations. The tool for study of simple and organized situations is the differential equation. Reductionistic science operates best in this realm. Statistics is a technique for reducing complex and unorganized situations to simple and organized by defining parameters (such as average and standard deviation) on distributions of variables and comparing these parameters. Information theory, group theory, cybernetics, etc., are attempts to mathematically describe complex and organized systems. As yet it is not highly successful.

† Logically, the notion of causality is post hoc. Only by first accepting its existence, can one derive it from basic logical relations. There is no a priori logical reason that non-causal connections can not exist.

beings in ordinary states of consciousness, could be included under this umbrella. This is what I mean by the definition being open ended.

To say that psi phenomena decrease entropy in the apprehending mental state, whatever mental may mean, is to say they are manifestations of "winding" processes. This is one reason why these interactions are anomalous.

Lawrence Le Shan [7] made an excellent methodological suggestion when he said that psi connectivity can be apprehended in what he calls the clairvoyant individual reality (C-IR) but must be explained using the categories of sensory individual reality (S-IR) or commonsense consciousness. There are, as I will discuss later, both existential and methodological reasons for ordinarily adhering to this dictum. To play the S-IR game fully with our definition, it is necessary only to note that psi phenomena involve entropy decreasing connections which have not been shown to be causal. The science of parapsychology becomes the science of "something more."

ONE COSMOS

A metaphysical, rather than methodological, postulate for a scientia of reality is that of "one cosmos":

There is but one cosmos and this is governed by a set of hierarchically organized natural laws.

To hypothesize strict metaphysical dualism is to assert that there is absolutely no commonality between the proposed dualities. But is not existence itself a commonality? Scientifically, we recognize no absolute isolation although it is hypothesized ideally (as in closed thermodynamic systems) for the sake of formulating laws of real systems.

Monism does not preclude the notion of dual aspects of reality such as matter-energy-information, relations-relata, and life-non-life. Such S-IR defined dualities are useful. From whence do they arise? I suspect they are cognitive artefacts from: (a) the linguistic necessity to categorize concepts using the Aristotelian dualities "A" and "not-A," and (b) the screening and data-reducing capabilities of the central nervous system for adaptive distinguishing between biologically threatening and non-threatening stimuli.

Law-like statements are hierarchically organized when they are related to each other by emergence or in some parallel way. Systems are hierarchically organized when information flow downward is executive and state-of-system information flows upward and laterally. At a given

level of organization or state of consciousness the only fundamental logical inconsistency is that of simultaneous assertion of a thesis and its exact antithesis. Upon this basis experimental procedures, eliminative in intent, and statistical null and non-null hypotheses are generated. But does thesis-antithesis inconsistency hold for statements made at different levels of organization or, more important, insights gained through altered states of consciousness? A scientia of reality, I think, must question this as an absolute principle. With respect to apparent inconsistencies in explanatory statements it should ask: what is the experiential and/or experimental basis for the assertions? Investigation, by whatever means, of all alternatives, even those designated antithetical, may yield undreamed-of fruits. In a precautionary vein, on the other hand, one should be alert to inconsistencies and know that a science built upon absolute inconsistencies is no science at all.

STATEMENT OF THE PROBLEM

Given the definition of psi and the "one cosmos" postulate, the task is to state directives by which science can progress toward a scientia of reality in which anomalies can be encompassed (without revolutions) and, for *all* of experience,* provide a uniform hierarchically organized explanatory scheme. A scientia of reality speaks to man. Of course, only the beginning of this task can be accomplished here.

For two reasons, I present my suggestions as methodological directives rather than as metaphysical presuppositions. Neither I nor the scientia of reality I envisage has yet sufficient wisdom to pronounce on the nature of reality. In practice, science is process; our interest therefore should be in methodology. Should this science ever become complete, a metaphysic implied by it is at least as valid as the matter-energy-causality monism of contemporary science.

Postulate 1:

Fraud is the only basis for a priori rejection of an observational statement.

An observational statement is the reporting of an experience. Fraud exists when either the experience did not occur or facts about it are willfully misrepresented. "Accidental" misrepresentations, miscountings or misreadings of an instrument, are experiences and significant

* By all of experience, I particularly make reference to everything not apparently causal but humanly highly significant. This includes religious experience.

in their own right. Our extended science asks of an observational statement, how is it related to other observational statements and to explanatory structures? I hasten to point out that if we know, or suspect, an accidental misrepresentation in an experiment, it should be corrected.* The point of the postulate is that experience, and only experience, is the basis for science and, in some way, always reveals the nature of things.

Postulate 2:

Consensus is simply agreement upon experience.

If I say the reading on the dial is .9 and you say the same thing, our agreement is consensus. If, on the other hand, I say, regarding an out-of-body-experience, that a bioplasmic energy body is spatially separated from the physical body, and you say that it is a projected hallucination, do we have consensus? In S-IR categories, certainly not. Ordinary scientific procedure would devise an experiment to reject all but one explanatory hypothesis. In part, this is what I mean by saying science is S-IR bound. In our framework, both hypotheses may be good explanatory statements. The procedure now is not elimination but correlation. Ultimately, the answer must be to exhibit relatedness between the two statements and show that the kind of relatedness is legitimate between the two levels of organization or states of consciousness to which the original statements are attached. This correlative activity may not be possible yet, so we must be content with gathering information about levels of organization and states of consciousness in the hope that one day such relations can be specified. Note again that consensus, however used, refers to private experience. There is no guarantee that what I experience under the designation "x" is what you experience under the same name.

A serious difficulty that arises when a procedure allows for even apparently antithetical statements is that nothing is disallowed. Could it be that any explanation we can compose actually exists in reality? The boldest answer to this question is: perhaps so! Under an omnipotent and omnipresent God, it could be viewed as heretical to suggest otherwise! Cognitively bound to the S-IR, as we usually are, it would be unwise to operate, even in the name of an all-encompassing science, without restrictions and a base in ordinary consciousness; this is Le Shan's dictum. I therefore propose two subpostulates which can be used to deal practically with this problem:

* The reason for this is because an experiment is an eliminative question. Is such and such the case? A factual misrepresentation inhibits the aim of the procedure.

Reconcile apparently antithetical statements by carefully designating to what level of organization or state of consciousness each refers.

Explanatory statements should be open ended but conformal with principles already established for the requisite level of organization or state of consciousness. Reckless extension statements, both existentially and methodologically, are to be avoided.

Human beings are so constructed that to accept the extremes either of rigid dogmatism or of wild speculation transcending their usual state of consciousness is to invite mental pathology.*

Postulate 3:

Experimental results show exactly what they are supposed to show.

This is the familiar, but seldom followed "there is no unsuccessful experiment" postulate. A related statement, facetiously called Murphy's law, says: "Everything that can possibly go wrong with an experiment, will." Both say that we do not know all the preconditions, or parameters, that determine an actual result. In the S-IR frame, in simple and organized situations, science assumes that only the primary variables, initial conditions, and parameters determine the results. Secondary effects are interpreted as departures of the system from ideality.† Actually, the very departure of an experimental result from the ideal shows that there are connectivities not encompassed by our theoretical explanations. Suppose, as in psychokinesis, the departure from ideality is not trivial? This should alert us to the operation of an (unknown?) law. The point is, given correct conditions, manifestations of unknown connectivity laws will appear. The failure of psi to appear in a parapsychological study must be due either to: (a) failure to create

* Jung was profoundly aware of this when in his famous preface to *The Secret of the Golden Flower,*[8] he warned against internalizing the thinking of the ancient Orient. We must "westernize" these concepts before the possibility of their understanding reaches us.

† No experiment produces ideal results. Because the function, $y = Ce^{-kt}$, for radioactive decay of a nuclide to a stable daughter product, approaches zero asymptotically, it implies that decay never ceases. Yet there is a finite time in which the last atom decays. No experiment is repeatable because never are all conditions identical. Failure to get much repeatability in psi science reflects greater ignorance of conditions. The criterion of simplicity (Occam's razor) used to distinguish rival hypotheses often boils down to that of familiarity relative to the S-IR frame. In the last analysis, there are no random errors although they are so called when distributed normally. This can be summed up by saying there are no simple and organized situations; there are only those that approach this condition because of constraints, S-IR frame based, that we place on the experiment to make departures from ideality appear trivial.

right conditions, or (b) prevention of the effect. Study of such failures, then, may be as significant as study of "successful" experiments.

Postulate 4:

In living organisms physiological correlates of psi necessarily exist.

This is insured by the definition. Statement of this postulate assures us that recent efforts to uncover these correlates is not out of place. They not only exist but they tell us something about the nature of psi connectivity. The problem is to find correlates that give us a maximum of information. Unfortunately, and to a degree necessarily, instrumentation used in this field is determined largely by other considerations such as scientific paradigmatic design, convenience, cost, and "state of art" technology. We can attempt to assess any instrumental approach from two points of view. These are: (1) A measurement that is predicted by, or at least is commensurate with, theory, is preferable to one done for the sake of scientific verisimilitude, and (2) an attempt to actually construct, or use, equipment whose design is based upon findings about psi connectivity.

Increasingly, parapsychologists are using these approaches. This is one reason why their findings are gaining more respect in scientific circles. I consider work on brain waves, particularly alpha and theta, to be promising because they are already known to be associated with different states of consciousness. In the non-parapsychological literature, much interest in states of consciousness is exhibited. Fischer's [9] study on the cartography of meditative and ecstatic states is an excellent example. By showing that such variables as sensory-motor ratio, I-self feelings, and peripheral parasympathetic-sympathetic balance potentiation, change in states approaching samadhi, or the other extreme, ecstasy, one gets hints concerning what to look for in a physiological experiment. A promising one might be the study, by thin-layer chromatography of blood or urine, of the kind and distribution of catecholamines in association with psi-sensitive and normal states in mediums. Another approach I find exciting is the use of "psi machines." These include filters, made with pinnacyanol or dicyanin dyes, to condition the eye to see the "aura" (Bagnall [10]), what Moss and Johnson [11] now call radiation field photography, and Adamenko's [12] tobiscope. Would it be altogether out-of-order to reexamine such things as Reich's [13] "orgone boxes" or Hieronymus [14] machines?

Finally I suggest that efforts to create psi-conducive states are valuable. This may be through meditation, sensory isolation, yogic training, or through the use of recently developed biofeedback techniques. This last is based upon the fundamental concept of the whole auto-

mation revolution, that of regulation by feedback of output information to the input. Another possibility lies in inducing physiological correlates, such as hypoxia or hypoglycemia, to create the altered states of consciousness associated with psi.

All the foregoing postulates are concerned with psi connectivity as seen from the S-IR frame of reference. Any real extension of science toward a scientia of reality must also view the cosmos from the point of view of altered states of consciousness. I introduce now some general remarks about this approach and follow them with postulates germane to science so extended.

May I make one of my two strongest and controversial points in a more personal vein? During the writing of this paper, Charles Tart's [15] excellent article called "States of Consciousness and State-Specific Sciences" appeared in *Science*. He "scooped" me in his approach to knowledge gained in altered states of consciousness (ASC); an approach with which I have come to thorough agreement through my work in parapsychology, observation of the American "submarine culture," and experience with such states, limited though it is. With Tart, I think that relegating insights gained through altered states of consciousness to the limbo of imagination and hallucination is as inimical to a true scientia of reality as denigration of any experience whatever. These are *things to be explained, not explained away!* Tart's argument is that conventional science is a science of *one* state of consciousness (the S-IR), but that state-specific sciences can be constructed using, relative to a given state, criteria of experimental repeatability, consensus on observations and explanations, and logical consistency. While he does not, perhaps cannot, specifically mention psi in his article, it is evident that his position has real cogency with respect to such phenomena, as here defined. The whole notion that there can be state-of-consciousness-specific sciences is a breakthrough of first significance. I will go so far as to say that this principle along with that of interactionism in experimental design will distinguish the science of the future from the reductionism and S-IR bound "constructionism" of the past. This is my central argument.

What, then, is an altered state of consciousness? Tart defines it operationally as a change in "the overall patterning of psychological functioning." This is good methodology but I think it should be modified for our purposes. My definition is:

An altered state of consciousness is one in which one or more of the categories of understanding, such as that of space, time, or causality change.

A category of understanding is to be taken in the conceptualistic sense of a concept by which we order experience. Categories are a priori to a given state and are state-specific, they are not universal.* Herein lies a major departure from conventional thought. At present we have no criterion whatever by which we can say that one state of consciousness is more veridical than another. For as long as there have been records, reports have been made of ASC in which the very way of experiencing is different. From the parochialism of the S-IR our science must escape.†

No longer, in parapsychological work, should we operate under the assumption of non-involvement or detachment of the experimenter. If, as here suggested, psi phenomena betoken the "something more" in the cosmos and involve altered states of consciousness at the recipient end, then the state of the experimenter is at least as important as that of the subject. Non-recognition of this principle may be why repeatability is so uncommon. Experimental psi manifestation is almost accidental in the sense that accidentally all the persons are in a psi-conducive state. By methodological interactionism I mean that experiments should be so designed as to take advantage of experimenter-subject interaction rather than to try to minimize it. Concerning interactionism, and its implications, more will be said under the forthcoming postulates.

Postulate 5:

Expect that observational and explanatory statements made by observers in different states of consciousness will be different.

In all honesty, how could it be otherwise? In psi-science, this is what I mean by "taking the psychic seriously." Genuine psychics live in two worlds, that of the S-IR in which they communicate with parapsychologists, and, as so often said by Eileen Garrett, another: the

* After clairvoyantly describing a sealed target object as it appeared during an experiment and its original appearance, a psychic (R.G.) I trained by the Ryzl[16] hypnotic technique, said he "saw" the object as it was, is, and will be, spread out in a continuum. Here the temporal category became spatialized. This is an example of a category of understanding change. To such "tidbits" of information about how a person "sees" in an ASC we must be continuously more alert.

† A science of religion, for example, must not simply be a reductionism of religious categories but should take account of the possibility that religious experience takes place in stages: dogmatic, existential, and esoteric. At the dogmatic level, religion is assent to theological propositions; it is S-IR bound. Existential religion emphasizes "how" rather than "what" one believes. It is process. Esoteric religion, if it exists, is knowledge through experience in ASC, perhaps by the aid of a "school" or "teacher." Religious categories, such as faith, prayer, the "holy," may have quite different meanings at different stages of the religious quest.

C-IR. To them as explorers and our guides, we owe at least consideration for their burden, for so to live, in our society, is suspect. Our business is not to reject explanations, such as that of "spirit guides," but to understand and correlate such explanations with whatever corpus of principles we have established. To be alive may be to incorporate "spirit" so that telepathy (and/or precognition) from the living and "spirit communication" (even from the dead) could be consensual statements. This does not mean that, from the S-IR point of view, survival is a pseudoproblem.

Postulate 6:

In an experiment the set of every participant and the setting are very important.

I am using the standard psychological terms, set and setting, to formally state the methodological interaction postulate. Restating this postulate, one could say set and setting in experiments involving altered states of consciousness in humans are primary variables. Why, for example, is the sacramental use of peyote in the Native American Church so often different from "bad trips" reported by users of mescaline in an illegal setting? What is the role of a "guru" or "guide"? Sitters in spiritualistic circles know full well the dictum that a skeptic or disbeliever can inhibit results. We view this dictum with suspicion for it opens the door to chicanery and wishful thinking. For the sake of getting on with a psi-science it seems wiser to allow for this possibility, and it does exist, than to destroy an appropriate setting and set through initial overcontrol. See first, and then attempt to develop control through rapport and actual experience with the requisite state.* Time spent with psychics, to understand their problems, particularly their own fear of states of genuine psi connectivity, is worth as much as, perhaps, at this stage, more than time in hastily conceived and over-controlled experiments. Real progress in parapsychology depends upon investigators getting existentially involved in psychic states. Control is not necessarily lost in such involvement; rather, as state-specific sciences develop, the means for genuine control become

* Fear of what this implies is the basic, but often hidden, motive behind the thinking of parapsychologists, scientists who overreact to the data of parapsychology, and psychics. This is quite natural in a society which places a premium only on the validity of S-IR consciousness. To this fear, the careful development of a "something more" science can provide an antidote. Once again, methodological caution in an experiment is not to be confused with fear.

better understood, directed, and cogent to the situation. These means may be quite different from those imposed by an outsider.*

Postulate 7:

State-specific sciences are not isolated.

In his aforementioned article, Tart suggested that between two ASC, it might not be possible to get consensus concerning content or relatedness. I think he said this for completeness, to pose a possibility, but with it I do not agree. I draw again upon the "one cosmos" postulate. There must be relatedness between all ASC and the business of a scientia of reality is to find it. From a pragmatic point of view, descriptions of ASC may be so "far out" as to leave one totally nonplussed as to how to correlate them with views according to commonsense consciousness. Here the best approach is to record such information with an eye to the fact that as we learn more about state-specific sciences, it may become valuable data.

I hope that readers do not confuse state-specific sciences based upon insights gained in ASC with levels of organization of systems. The last notion is entirely S-IR bound and refers to conventional science. I brought it up to illustrate a model of relationships between laws that might be extended in analysis of relationships between state-specific sciences. It is with respect to the formulation of laws of ASC and delineation of relationships between states that a *scientia of reality* must ultimately deal. That these super-relationships may transcend emergence, or anything we can cognize in the S-IR, is a possibility. An exciting, but perturbing, prospect this!

Postulate 8:

Psi-science is an existential commitment as well as a dispassionate inquiry.

When "ex-biologists," "ex-physicists," and "ex-scientists" in general do psi experimentation, there is little wonder why they so often fail to elicit phenomena. In so far as contemporary science deals with the personality of young workers under training, it is to engender detachment; this is called the scientific attitude. This is why science, as ordinarily practiced, has little to say to man. The world we experience, even in the S-IR, is one of involvement and interconnectedness. In an extended science of the "something more," detachment must be tem-

* Here again, fear may be the basis for denying this point. I can vouch, from experience, that if one approaches an ASC with the conviction that one has a "nucleus of connectivity," analogous to Wilhelm's [17] "center in the midst of the conditions," to the S-IR, the possibility of both control and comparison exists.

pered with involvement. This involvement is more than desire to understand; any researcher experiences that. From John Lilly,[18] in his honest and significant book, *The Center of the Cyclone*, comes the ethical principle that an experimenter must be willing to be subject to any experiment he would impose on another. I see this also as a methodological principle. How can one really study altered states of consciousness unless one has experienced them? To argue that only gifted individuals, psychics and mystics, can have these experiences, and therefore experimenters must remain "outside" is increasingly belied by testimony from people like Lilly, Carlos Castaneda,[19] and others. We have to face the real reason for reluctance to cope with state-specific sciences existentially. Aside from "loss of objectivity" (based, I think, largely on loss of familiarity in the S-IR), the real reason is fear. One must get rid of negative programming, so endemic in our society, before one dares enter ASC without trepidation. Here is a cue to training of parapsychologists of the future. They should be trained not only in science but also in special states of consciousness. Some, by heredity or previous conditioning, simply cannot extend their experience beyond the S-IR. Just as there are few who are temperamentally suited to be productive theoretical physicists, so those who are unable to "move in different spaces" without excessive negativism should not attempt serious psi-research.

The essential point here was made by Lilly as a motto: "In the province of the mind, what is believed to be true is true or becomes true, within limits to be found experientially or experimentally. These limits are further beliefs to be transcended." The interactionism here suggested between "mind" and physical reality, implies that we do not just believe what we see but also *see what we believe.* This last point, controversial as it appears to the S-IR which thinks of reality being what it is quite independent of our experience of it, can be taken two ways: (a) our mental state determines how *we* experience the world, and/or (b) our mental state actually determines what the world *is,* at least to a degree. It is a commonplace to recognize that, even in ASC, our framework of understanding determines how we interpret raw experience. This accounts for different ways of expressing noedic religious experiences by persons in different religious traditions. But what about the second point? Is it possible that, *because* he believes in an "agency" operating through him, a healer can bring about a "miraculous" cure by "laying on of hands"? In the C-IR two-way physical-mental interactionism may be as characteristic as, to the S-IR, only one-way physical to mental interaction. Psi, interpreted as mental to physical interaction (using the notion that the brain is the physical

substrate of the mind), is indeed a "spilling over" of C-IR connectivity apprehendable in the S-IR mode. No wonder it is anomalous! We may find that in psi-science the belief system of the investigator is the most, or one of the most, essential variables. In anticipation of this, concern with the existential in the training of parapsychologists is vital indeed.

CONCLUSION

I propose here the possibility of a systematic, but cautious, development of science which departs from reductionistic, eliminatively "constructionistic" contemporary science toward a scientia of reality which deals with anomalies indicating the "something more" (equated here with psi) by introduction of methodological postulates of state-specific sciences and interactionism. This is possible without loss of the criteria of experimental repeatability, observational and explanatory consensus, or absolute logical consistency. The basis for a scientia of reality lies within contemporary science. This extended science envisages one cosmos, under hierarchically organized natural law which, above all, answers to man. Such a science may be, for mankind, a "Journey to the East" (Hesse [20]) and the meaning of human evolution.

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DISCUSSION

TARG: I am familiar with LeShan's paper and of course have read Charlie Tart's paper. My take-off point is that of a logical positivist, or at least that is my training, and I think it is probably a good beginning for someone working in parapsychology. That is, if the experiments I am doing do not lead to something that is inherently verifiable, I do not think it will lead to a useful answer at all. Now in LeShan's discussions of reality, it seems to me that a parapsychologist looking into a clairvoyant reality wants to know what does a clairvoyant see in his reality that is verifiable in my reality? The clairvoyant sees a beautiful world that is, for some reason, inherently not explainable and not verifiable to me; I am not really interested in it. If he, in his reality, is able to describe an event across the world and I learn that it occurs or has occurred and that he has seen something that exists in my reality, then that is very interesting. I will verify it and I will spend my life in trying to understand what it is that he perceives and that I can verify. That seems not an individual reality but a kind of objective and verifiable reality.

Now, in an altered state of consciousness, a person who has changed his perception through drugs or alcohol is going to see little green men, which have an existence only in his mind, and he might have seen God, also. This is inherently non-verifiable within our conventional reality. He will assure me that there is no experiment I can do to see God as he saw it. So it is not within any meaning of the term *science* that scientific experiments are performed in an altered state of consciousness, where a group of people alter their consciousness and see God. I do not see why I should be interested in that. There is nothing, in principle, that I can do except by manipulating my brain as they have done, to perceive the thing that they have perceived. There is no experiment within our conventional reality that interacts with these things that the other people have seen in their altered reality.

CAHN: You have indeed taken the position of logical empiricism and all I can say is: How do we know that reality, that is, the state that we are in now, is necessarily any more commensurate with ultimate reality than some other state, whether we use LeShan's notion of C-IR or whatever it may be. I think the point here is really very basic. Which reality are you interested in? From a kind of operational standpoint, since we are mostly conditioned to the reality that we are in, it seems reasonable to say: Let us try to tie it down here, in this reality or in this state of consciousness. There is nothing wrong with it. I certainly do not disagree with it. However, if on the other hand we are interested in other possible states, then it may not be possible for us to completely apply—although I think it can be done partially—the methodology of our own state of consciousness, our commonsense state of consciousness, to such a reality. And I think it really boils down to the question: What are you, theoretically, interested in?

ROGO: I agree entirely, in principle, with what Dr. Targ said. It is an old criticism, that, since an altered state of consciousness cannot be verified, it is worthless as a point of discussion. However, I think that there is another way of looking at it. Although it cannot be objectively evaluated or objectively proven, you can get a good idea of the reality by collecting cases and analyzing them through content analysis. You can then even put the content analysis on a statistical model. As a very good example of this when Crookall collected about 3,000 cases of out-of-the-body experiences, he found patterns and Hornell Hart tried to put it on a statistical model to prove that these patterns could not be due to chance. I think you can do the exact same thing with cases of mystical experience or peak experiences. I think on that basis you can verify the reality, if you want to use that word, of an altered state of consciousness even though it cannot be proved through an experimental process.

CAHN: Those are two different kinds of things you are speaking about. You lump together two different kinds of experience. A peak experience is something inherently individual. The person enjoys a particular experience that he can describe, can communicate to other people, and the other people may enjoy the same kind of personal experience with regard to their own body and psyche. The out-of-the-body experience is verifiable in quite a different way, in that a person may travel to another place and come back with a verifiable piece of evidence he picked up along the way.

ROGO: I agree completely with that. However, unfortunately most cases of out-of-the-body experiences usually do not have a veridical element. And in most cases you have to work only with a descriptive

case and evaluate the patterns of all experiences. It is probably the most successful way of looking at the problem also in regard to an altered state of consciousness.

BRIER: What are the reasons for rejecting observational statements?

CAHN: I do not mean rejection in the sense that you are applying it. I do not mean to say that one accepts a statement as being true. My only point is that, if you say "I am wearing a blue suit," and if you are not lying about your experience, you are having an experience. The question is, what is the nature of the experience that you are having that brings about that statement of what you see. It is perfectly clear I am not wearing a blue suit, supposedly. But, if that is the way you see it, in other words, if you are not fraudulent in your statement, then this is something to be explained. What *is* the nature of your experience?

BRIER: You say there is no question of having an experience. This is true of people who are lying, also. They are having experiences too. The question is, what kind of experiences are they having? What you are trying to do is to use certain words as success words, e.g., if I say "I see green men," then it follows that I see green men, whether or not they are there in an objective sense. But this is not even true. If I say, e.g., "I see you wearing a blue suit," it does not even follow that I see blue. I could be using the word wrongly. That is not fraud. That is another reason for rejecting the observation statement. When I say "I close my eyes and imagine a square circle," you might say "no, you cannot" even though you know I am not lying. But certainly I cannot even imagine a square circle. That is another reason for rejecting an observation statement. From the fact that I say "I see blue" and the fact that I am not lying, it does not follow that I see blue. I may see brown, I may not use the language properly. Even if I say, e.g., "I see a square circle," I think we would think I did not understand the meaning of "square" and "circle," because it is impossible to even mistakenly think one is seen. It is a logical impossibility to see a square circle.

CAHN: All I am trying to say is that if a person says he sees a square circle and he is not lying, then he is having an experience. What is the nature of the reality that he is experiencing, such that it leads him to say that this is the nature of his experience.

POYNTON: I would now like to get back to this point of verity that you have been talking about. This relates to something I was saying at the last conference, when a person said "I saw a room and it was a bright light," yet it was happening in the middle of the night. Now what I want to say is that physical verifications make it possible that

the room was illuminated. Was the person having an hallucination? I think one has to bear in mind the fact that if one is dealing with some C-IR conditioning, in other words, actualization of some potentiality that is not connected with physical actualization, if there is no direct verification in S-IR terms, one cannot necessarily say that this was a wrong perception. I think one has to think very much in terms of other forms of reality, in other forms of actualization.

BELOFF: May I, at this point, put in a protest against talking about other forms of reality when one really only means psychological subjective experience. It seems to me to be placing a tremendous metaphysical weight on something we have all been familiar with—the fact that, subjectively, we can have all kinds of experiences that do not correspond to reality. To talk of other kinds of reality is, it seems to me, a very dangerous step.

POYNTON: I do not think we should close our minds to the fact that, if a person sees a room illuminated, while it is in actual fact physically dark, he is necessarily having a hallucination. It might be that he is, in fact, actualizing a scene that is not physically actualized. If he says "I saw my wardrobe was open," then he is making one observation that is physically verifiable and another that is physically non-verifiable, because the room was in darkness.

BELOFF: So he had a partially verifiable hallucination. The fact that the room is dark and he sees it as light means that he is hallucinating. It may be a clairvoyant hallucination, admittedly.

BRIER: I think too much is being packed into this altered state of consciousness that has a sort of metaphysical import. A person can have an altered state of consciousness without involving alterations of the notions of space, time and causality. I can have a dream in which everything is very ordinary: spatial relationships are the same, as in ordinary waking states, temporal relations are the same, causal relations are the same, nothing is altered. But it is still an altered state of consciousness if one is dreaming. A definition of altered states of consciousness does not hinge on any inside inter-reality, or anything like that.

TROMP: I should like to come back to the definition of science and the scientific approach. I wonder why one should simplify it, actually, because it is a question of systematic observation, either subjective observations or experiments that are carried out on the basis of these observations. And if they are done in a systematic way, I think you are dealing with scientific work, with science. Whether it is important, whether you can base classifications on it, whether you can develop laws out of it, whether you can start to predict, I think this is the

degree on which level this science is. Are there any verifiable observations? It may be that if you observe systematically a large group of people, e.g., those using a certain drug who always see green men, it may be that if they use something else they see red men. If you go into the chemistry, it may be a certain compound; it is still a scientific study. If you study people in different states of mind, of consciousness, I think each of these studies can be scientific. Therefore parapsychology is a science. If you do systematic studies of observations, you may say later on: it is a poor science, because it cannot predict, but still it is a science.

BELOFF: People talk about this as playing with words. Words are what we think with and words have associations. If you use the wrong word for describing something you will associate it with the wrong things and you will upset all your thinking. No one with any psychological training has any business overlooking the importance of verbal associations; hence the importance of getting the word right. Now, one case of getting the word wrong is to speak of "my" reports, or "my" private experiences, "my" observations. They are not. If the kipper is not there, I do not see the kipper, I "see" it. To confuse this absolutely fundamental distinction, to confuse my experience of God when I am reporting how I feel, with my experience of God when I am claiming that I am in contact with the Creator is, in fact, the stock-in-trade of contemporary Protestant apologetic, but it is something we should get clear about. There is an absolutely fundamental difference. Of course, my private experiences are a legitimate subject for science. The things I see are a legitimate subject for science. But, they are two different things. I think that most of what has been said in the last half an hour is based on a constant confusion between these two, a constant tendency to want to report on private feelings as if they were ipso facto informative about the world. Something that is important to report on can be studied, but we must distinguish my claims to observe something from my reports of my funny feelings and how it seems to me. Both are legitimate subjects of study, but not the same one.

CAHN: How do we know, if I say "I am observing the glass," in what way my experience of observing the glass on the table is anymore verifiable about the state of reality than the statement made by a person who says "I observe an auroch" or something of that kind. I am not a professional philosopher, but let me ask you how do we know, to start with, any more about the objective existence of the glass other than through the reports, or maybe through consensus.

FLEW: It is a mistake to ask for a distinction within the experience

considered as a private experience. The crucial difference between your having an experience of a glass in the subjective sense of experience, an experience of a glass in the way that someone has experience of computer programs, is that when you have an experience in the second sense, the thing is there. When you have an experience in the first sense, it is not necessarily there.

BRIER: I think you will agree that when somebody gives a report about his subjective experience, this is also part of the world. As Russell said there is only one world, the real world. Subjective experiences are part of the world. There is no question about that. But the question is are they the same kind of things as glasses? They are not. And when somebody gives us a report of an objective impression, he thinks he is doing something very different from when he is giving a report of what he says is out there. For example, when I say I was drunk and I saw a green man, it is different from when I say there is a green man there. When I say "there is a green man there," I am making the claim that you will be able to see it too.

CAHN: That is the point I was trying to make. We agree that the glass is here, yet the only experience we have of the glass is our subjective experience. The agreement is called consensus.

MEERLOO: Under special circumstances, this completely subjective experience can be transferred to somebody else, so that the consensus can be suggested under hypnosis. And this is one of the fundamental things about telepathy. There are people who accept serious telepathy only because they have to accept it from other people. So when somebody speaks about this aura, somebody else can believe there is an aura, and sees it too. And this was the thing we experienced in psychology, and the moment we experience it in other people we have to verify it. And we can verify it. But for that we need elaborate psychological methods.

ROGO: I would like to go back to something Professor Flew said. He explained that one of the main problems is isolating observation from interpretation. And I agree that, unfortunately, most people who have out-of-the-body experiences or mystical experiences or the like, automatically interpret instead of making observations. But I think you have a large enough body so that you can make a clear dichotomy between what is an interpretation and what is an observation. And that is my main argument about LeShan's monograph. LeShan bases his entire monograph on a criterion of what is an altered state in Bertrand Russell's sense of an altered state. And I feel that Bertrand Russell's four points are actually interpretations, not evaluation of the

experience. And I think if you use something like Stacey's seven points, which I think is a much more valid criterion of what is an altered state, you have a much better criterion for judging such experiences as altered states and out-of-the-body states.