POSITION PAPER ON THEORY
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This Position Paper

I see this position paper as an attempt to place our search for a theory in the broadest context. It is meant to raise issues relating to theory in general and our pursuit of a theory in particular. It is not meant to be an evaluation of the merits of one particular theory over against another, but a way to look at what is required to develop a viable theory.

Part 1: THEORY

THEORIES

Types of theory

In the language of Charles Sanders Peirce, theories are "guesses" at what underlies the data of our experience. For our purposes it is useful to differentiate theories of a general kind that attempt to create a vision of the fundamental nature of all reality (metaphysical theories) from those that deal with limited data domains (domain theories).

Metaphysical Theories

Metaphysical theories attempt to explain reality in terms of its most fundamental elements. They must be consistent with all data, from every domain, and with established domain theories (see below). Presumably, metaphysical theories provide explanations on a more fundamental level than those provided by domain theories. A domain theory offers explanations of its own domain data and is not required to explain the data of other domains. Since metaphysical theories must give an account of all data without exception, they attempt to reach the most basic level of explanation possible. However, this means, as James so nicely pointed out in *The Will to Believe* (pp. 68-69), that they turn out to be so general as to seem almost vacuous. Nevertheless, for me there is no doubt that some metaphysical theories are denser and more evocative than others, in that they present greater detail about the hypothesized relationships involved.

William James, when speaking of ``philosophy`` in its most universal scope, lays out the nature of metaphysical thinking:

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The principles of explanation that underlie all things without exception, the elements common to gods and men and animals and stones, the first *whence* and the last *whither*, of the whole cosmic procession, the conditions of all knowing, and the most general rules of human action—these furnish the problems commonly deemed philosophic *par excellence*. (*Some Problems of Philosophy*, p. 5)

And he explicitly defines the word ``metaphysics`` as ``the discussion of various obscure, abstract, and universal questions which the sciences and life in general suggest but do not solve; questions left over, as it were; questions, all of them very broad and deep, and relating to the whole of things, or to the ultimate elements thereof`` (p. 29). There is no specific domain or combination of domains involved. The object of metaphysical thinking is all those questions that no domain theory or combination of domain theories can get itself around.

Data Domain Theories

Domain theories give explanations for the data from a particular area of investigation. For practical reasons and from our evolutionary and social constitution, we carve out objects of experience and areas of investigation that isolate certain combinations of perceptive input. We must do this, because the alternative would be a continual flooding of chaotic impressions. When we carve out areas of investigation from the plenum of experience, we can systematically discover important information about the realty in which we are immersed. Here I will call these areas "data domains."

There is something arbitrary about the domains that we, in this particular culture and at this moment of history, make the object of systematic investigation. In other words, things could very well have been carved up in a different way, and in fact the carving and recarving continues in the present and the boundaries of our data domains are constantly shifting. In addition, we in our culture and time have hit upon what we call the scientific method as a way to carry out our systematic investigations. This has produced "scientifically" identifiable disciplines of special study, such as physics, sociology, biology, sociology, and literary theory, each with its own domain data.

All domain data and all established domain theories are important to our seminar's project. However, some are of greater interest. In addition to those that relate to "rogue phenomena,"(e.g. theories of psi), mystical experiences, and data having implications for the possibility of survival and reincarnation, of great interest are

domain data and established domain theories of psychology and the neurosciences, and domain theories having to do with the nature of physical reality, such as quantum mechanics.

Domain theories are generally considered capable of empirical verification. Because domain theories relate to each other and sometimes overlap, the findings of one domain often have implications for theories being formed within another domain. Thus, the findings of physics have implications for chemistry, biology, and geology; while more indirectly, but just as really, the findings of geology have implications for biology, neurology, and astrophysics. Parapsychology must take into account the findings of psychology, but just as truly psychology must take into account the findings of parapsychology. This demand for consistency must be met because all domains deal with data arising from the unified continuum of the real.

There are certain misapplications of domain theories that are quite common. All domain theories are formed against a complex background of influences to which the theory-maker is subject, not the least of which is the metaphysical theory or vision espoused. Sometimes the metaphysical idea-background is acknowledged, but often it is not. This background-metaphysics influences 1) the data that are paid attention to, 2) the importance given to one set of data over another, and 3) the theory that is formulated. That is why it is crucial to make the background metaphysics explicit.

Peirce points out the importance of this issue. Using the example of zoological classification, he writes:

> Although I am an ignoramus in biology, I ought by this time to recognize metaphysics when I meet with it; and it is apparent to me that those biologist whose views of classification are most opposite to those of Agassiz are saturated with metaphysics in its dangerous form—i.e., the unconscious form,-- to such an extent that what they say upon this subject is rather the expression of a traditionally absorbed fourteenth-century metaphysics than of scientific observation. (EP, II, p. 128)

Sometimes domain theories are mistakenly given metaphysical weight. Here too the metaphysical background it not acknowledged, but simply assumed to be true. Evidence that supports the domain theory is then erroneously presented as evidence for the background metaphysics. An example of this is the case in which the success of a physical theory is interpreted as confirming a materialistic reductionistic metaphysics. Another is a theory of psi in which validating data are taken as confirmation of an idealistic metaphysics. This false move occurs often but can be

avoided by maintaining a clear distinction between domain theories and metaphysical theories.

A Metatheory

In our group we speak about looking for a "general theory," one that will embrace all the data, and particularly rogue phenomena, mystical experience, and data relating to survival and reincarnation. We can only develop such a theory if we become familiar with the valid data and established theories of all relevant data domains. But here is the question: Will such a theory be a metaphysical theory or something else? As we look more and more deeply into all aspects of the kind of general theory we desire, we seem to need to take more and more domains into account. In the end, it seems that nearly all imaginable domains are somehow going to be at least indirectly involved, not merely parapsychology, psychology, physics, neuroscience and the other more obviously involved domains, but also sociology, biology, anthropology, comparative religion, semiotics, hermeutics, and, in some way, history and the whole gamut of the humanities. May it not be, therefore, that a general theory will turn out to be a very broad domain theory, one that embraces a great spectrum of domains, one that could perhaps be called a domain metatheory?

Some questions arise about this sought-for general theory. For one, are we looking for a *parapsychological* theory, one with broad scope and ultimate compatibility with all other domains? In the short run, maybe it is. But I tend to agree with Dean Radin who says that in the long run "parapsychology *per se* is almost certainly destined to disappear eventually, or at least to become absorbed as a psychological subset within newly emerging disciplines based on quantum or post-quantum understandings of the fabric of reality" (personal communication).

Are we then looking for a metaphysical theory? Here is what James says about metaphysics:

> All these special sciences, marked off for convenience from the remaining body of truth..., must hold their assumptions and results subject to revision in the light of each others` needs. The forum where they hold discussion is called metaphysics. Metaphysics means only an unusually obstinate attempt to think clearly and consistently. The special sciences all deal with data that are full of obscurity and contradiction; but from the point of view of their limited purposes these defects may be overlooked....A geologist`s purposes fall short of understanding Time itself. A mechanist need not know how action and reaction

are possible at all. A psychologist has enough to do without asking how both he and the mind which he studies are able to take cognisance of the same outer world. But it is obvious that problems irrelevant from one standpoint may be essential from another. And as soon as one's purpose is the attainment of the maximum of possible insight into the world as a whole, the metaphysical puzzles become the most urgent ones of all. (James 1892, pp. 461-2)

Does this mean that if we attain a totally inclusive metatheory that embraces the great gamut of domains, would we have then arrived at what amount to a metaphysical theory? I do not think so. I do not believe that science at its most comprehensive reaches a kind of vanishing point at which it becomes metaphysics.

It seems to me that construction of a metaphysical theory is a process very different from that of domain theories. Both metaphysical theories and domain theories are "grounded theories" (see below), when looked at from the point of view of their being in constant dialogue with the facts, concrete reality, as they are built up. But what are the differences? Metaphysics examines abstractions we derive from experience of reality, particularly the abstractions that constitute science. As such it produces theories about the nature of the world, but it does not do so in the way that domain theories do. For that reason, no combination or expansion of domain theories can be metaphysics.

True, both might be seen as talking about attaining the "ultimate constituents of reality," but in different ways. Domain theories keep expanding, both in number and in details as they work to encompass an increasing fund of data. A metatheory of domains will say, given these facts, what might underlie them, so that if that hidden reality were of such and such a structure the facts I experience would inevitably follow. This is the attitude that characterizes domain theories and it makes them testable.

As domain theories spread their influence to other domains, they posit more and more basic structures for the underlying reality. Metaphysics, on the other hand, says, given reality as I actually experience it, how can I formulate an explanation of it that is both correct and freest of the emptiness that theories—which are abstractions—inevitably produce.   How can I remain close to and faithful to the concrete richness of the reality I actually experience? For instance, if a metaphysician says, "All is mind," or "All is matter," in what way do these statements remain true to my experience of things and in what way do they betray that experience? This is the criterion for metaphysical theories. The task of metaphysics is not easy, because the abstractness of domain

theories are minor compared to those of metaphysics itself, and metaphysics has to struggle to remain useful—or even of interest--in everyday practical life. This is why the "grounded" aspect of metaphysical theorizing is so important—"Just give me the facts, Ma'am. Just the facts."

Well, then, are metaphysical theories testable? Yes, insofar as our everyday life will sooner or later reveal any theory's inadequacy by its failure to deal with the life experience we actually have. Here failure is made clear by the theory's inability to survive the crucible of lived reality. No, insofar as we cannot set up experiments or perform scientific observations (abstractions in themselves and stripped of the richness of the full concrete) that will show up one theory as true and the other as false.

Domain theories are confirmed by facts as lifted from the concrete, isolated by the abstraction inherent in experimentation or scientific observation, and found to be consistent with theory as abstractly formulated. Thus a domain metatheory is a grounded theory, but its dialogue with, and inspiration by, the facts are always derived from abstraction and bears its marks, and for that reason is always incomplete.

Metaphysical theories are confirmed by their doing no violence to my experience of life. Thus the paradox: metaphysical theories, the most abstract of all theories, are confirmed by the most concrete possible forms of evidence. Whitehead lends support to this idea:

> I hold that philosophy is the critic of abstractions. Its function is the double one, first of harmonizing them by assigning to them their right relative status as abstractions, and secondly of completing them by direct comparison with more concrete intuitions of the universe, and thereby promoting the formation of more complete schemes of thought. It is in respect to this comparison that the testimony of great poets is of such importance. Their survival is evidence that they express deep intuitions of mankind penetrating into what is universal in concrete fact. Philosophy is not one among the sciences with its own little scheme of abstractions which it works away at perfecting and improving. It is the survey of sciences, with the special objects of their harmony, and of their completion. It brings to this task, not only the evidence of the separate sciences, but also its own appeal to concrete experiences. It confronts the sciences with concrete fact. (Whitehead 1926, pp. 126-127)

So one might say that metaphysical theories receive their confirmation by intuition, by conformity with concretely experienced reality. A metaphysical theory succeeds by making pragmatic sense of life as lived.

Given all this, I believe that the theory we are looking for is not a metaphysical theory, but a domain theory, a metatheory that is a super-inclusive domain theory. Through its critique, metaphysics will undoubtedly guide and inspire the search for such a metatheory, but metaphysics will not and cannot provide the theory we are searching for here.

DATA

Nature of Data

"Datum" literally means "what is given." Data (plural form) are the stuff of experience, since everything given to us is given in experience. That being the case, analyzing the concept of "data" can easily lead us in the direction of idealism, since there is nothing we know or can know that lies outside of what we experience or can experience. Every philosophical system must deal with the issue of idealism. Peirce, truly a scientist's philosopher, unhesitatingly called his philosophy "realistic idealism" or "objective idealism," acknowledging that there is no reality outside of experience, but also that what we know is *real* and does not depend on our knowing for its existence.

Looked at from this point of view, reality must include not only the concrete objects of daily experience, but also ideas, systems, theories, mathematical theorems, phantasms, hallucinations, telepathic impressions, apparitions, feelings, emotions, fictitious characters, etc. These are all data. Any specified set of these data can be theorized about in domain theories, and they *all* must be embraced by a metaphysical theory.

No experience can be excluded as data. There is no attempt in this paper to limit or define the possible *modes* of experience, nor is there any intention to equate experience with sense experience. Each domain must determine its criteria for judging what constitutes valid data in its domain. Theory-makers in a particular domain must be vigilant about tendencies to miss or dismiss certain types of data. Thus, a broad spectrum of cognitive psychologists tend to exclude "mind data" from consideration and equate mental activity with brain activity. It is the task of psychologists to look closely at this issue and define what psychological data is and from what point of view it is to be considered. Similarly, it is the task of practitioners

of meditation to define their data and deal with the problems involved in developing a cogent way of investigating and communicating about the phenomena that occur. Significantly, mainstream quantum physicists tend to define their data in terms of *information* derived from observation of physical events, rather than in terms of objective events.

Attitudes Towards Data

When we think of domain theories as dealing with data drawn from limited areas (domains) of interest that an investigator carves out and exercises his power (dominion) over, that is, his somewhat arbitrary organizing power, we see how fluid are the boundaries of these domains. This situation naturally enough creates problems. One domain name may be used to designate domains with different boundaries. This causes confusion. Because a domain is a demarcation of data of a certain type, as the boundaries for the domain shift, the specification of the data under discussion must alter. This in turn affects the parameters of the domain theory developed. The domain of *psychology*, with its shifting boundaries and continually changing data criteria, is a notorious example of this.

This different drawing of boundaries may occur both over the course of the history of the study of the data in question, and also where investigators are contemporary with each other. The drawing of boundaries and the corresponding carving out of data domains for inquiry over time are influenced by socio-political factors as well as factors that are more personal to the investigator. Different periods of the history of parapsychology, for example have had different domain data. For instance, the rogue phenomena for John Glanvil, a seventeenth-century proto-parapsychology investigator, included witchcraft, spirit manifestations, and poltergeist activity, while eighteenth century mesmeric theorists looked into healing at a distance, thought transference, and clairvoyant diagnosis. SPR investigators concentrated on telepathy, clairvoyance, mediumship, apparitions, and psychokinesis, and their laboratory-based successors tested for psi and PK. Since ambiguity of language is the wellspring of confusion, we need to be very diligent in clarifying boundaries and establishing the meanings of terms used in domain theories.

PREDICTABILITY

Theories are conjectures about law or regularity in the data. So to the definition of theory as a "guess" at what underlies the data of our experience, we must add that a

theory tells us how the data will tend to be experienced in the future. The word "tend" shows that we recognize that theories are fallible and provisional. So a good theory will tell us how future experience of the data is *likely* to be, although future experience may show that the expectation fails. This *tendency* to act in a certain way in the future is what Charles Sanders Peirce calls "habit" and equates it with "law" and "generality." This tendency or habit is embedded in reality. In fact, it is what in the end we *mean* by reality (this is the position of pragmatism).

So we take predictability of the future of things to be grounded in the things themselves. We must do so, because the only alternative is to see regularity in nature (law) as something imposed from outside nature by force (a broadly accepted popular belief), but this requires some unexplainable intervention from outside experienced reality, by, let us say, a transcendent God. However, we have no empirical evidence for such a thing, and since by definition empirical means "experienced," we *cannot* have empirical evidence of this kind.

Further, everything in our experience is changing. But change happens according to law, otherwise we would never know from one moment to the next what anything will change into. If nominalism (that there exist only separate things and that relationships are superimposed by minds) were the true explanation of things, there could be no *intrinsic* regularity in nature and we would be compelled to assume the imposition of natural law *from without*. My understanding of law or regularity, on the other hand, is that it is habit. This makes law intrinsic to the things themselves, in their tendency to take habits.

My position is influenced by that of Peirce which was founded on his schema of the fundamental categories of existence (developed in 1878). James adopted this position and expressed it in his final metaphysical formulation which he called "radical empiricism." Space does not permit me to further develop here this important feature of theory.

CHOOSING AMONG RIVAL DOMAIN THEORIES

I have said that a general or metaphysical theory must take into account all established domain theories. However, investigation of a particular data domain may result in a *number* of substantial theories, each claiming superiority over the others. How do we arrive at a decision about which, among rival domain theories, is the most likely to be true? In this connection, biologist Richard Lewontin, in a review of Carl

Sagan's *The Demon Haunted World*, talked about the issue of the *domain expert*. He wrote:

> Carl Sagan, like his Canadian counterpart David Suzuki, has devoted extraordinary energy to bringing science to a mass public. In doing so, he is faced with a contradiction for which there is no clear resolution. On the one hand science is urged on us as a model of rational deduction from publicly verifiable facts, freed from the tyranny of unreasoning authority. On the other hand, given the immense extent, inherent complexity, and counterintuitive nature of scientific knowledge, it is impossible for anyone, including non-specialist scientists, to retrace the intellectual paths that lead to scientific conclusions about nature. In the end we must trust the experts and they, in turn, exploit their authority as experts and their rhetorical skills to secure our attention and our belief in things that we do not really understand.... Conscientious and wholly admirable popularizers of science like Carl Sagan use both rhetoric and expertise to form the mind of masses because they believe, like the Evangelist John, that the truth shall make you free. But they are wrong. It is not the truth that makes you free. It is your possession of the power to discover the truth. Our dilemma is that we do not know how to provide that power. (Richard Lewontin, "Billions and Billions of Demons," *The New York Review of Books*, Vol. 44 (1), January 9, 1997)

Because we are non-experts in many domains of investigation, we need to use the conclusions arrived at by experts. It seems that we cannot avoid exercising a kind of faith in the conclusions of experts because, as is often true, they may be counterintuitive but nevertheless considered well substantiated by other experts.   In the process we may be, and often are, faced with the task of choosing from among a variety of different opinions, each supported by a different group of experts in the domain involved. Not only that, we are often confronted by formulations of theories that are pitches to the public, rhetorical pleas for acceptance.   In this kind of politically charged intellectual environment, theories of the experts in the domain are sometimes mere *assertions*. To again quote Lewontin:

> It is repeatedly said that science is intolerant of theories without data and assertions without adequate evidence. But no serious student of epistemology any longer takes the naive view of science as a process of Baconian induction from theoretically unorganized observations.... As to assertions without adequate evidence, the literature of science is filled with them, especially the literature of popular science writing. Carl Sagan's list of the "best contemporary science-popularizers" includes E.O. Wilson, Lewis Thomas, and Richard Dawkins,

each of whom has put unsubstantiated assertions or counterfactual claims at the very center of the stories they have retailed in the market. (Ibid.)

We can find an example of the role of *assertion* without adequate evidence on the part of experts in the domain of cognitive psychology. There is a school of thinkers in cognitive psychology called "sociocognitive theorists" who make such assertions in areas of significance for our theoretical work. Nicholas Spanos, a principle spokesperson for this group, asserted that automatisms are a fiction and that if an individual says that he can sometimes perform actions that are not done voluntarily, that person is actually retrospectively reinterpreting a voluntary action as involuntary. Spanos provides no proof for this statement, except to gratuitously reframe what experimental subjects say about experiencing involuntariness in terms that fit in with his theory. This negation of the testimony of individuals in favour of a theoretical position is a good example of an assertion that claims an evidential base that does not exist (see my comments in *Irreducible Mind,* pp. 341-345).

When it comes to attempting a metatheory, the theory-maker will have to be a "jack of all trades" as far as knowledge of domain theories goes. Even though he can hardly be an expert in them all, or even very many of them, when dealing with strong competing theories within a domain he will nevertheless often have to make a judgment about which to sign on to. To try to make up for his inevitable deficiencies, the intelligent theory-builder will keep a close eye on the progress of controversies between the experts in the domain involved. These controversies will tend to inform him about the central issues at stake and expose the weaknesses in the competing theories, giving the theory-builder more information about what to take into account in making his judgment. Also, he may want to enlist the advice of experts in those domains that seem most relevant to give him some guidance in his work.

As I have mentioned, in our theory-making we must take into account all well established domain theories. Putting aside for the moment the problem of a mere assertion being pawned off as accepted theory, let us first consider the problem of theory and experts in the broad domain of physics, and let us use the example of something very close to home in our own discussions: the specific domain theory of quantum mechanics.

Well informed physicists recognize that Newtonian physics does not offer an adequate explanation for the data of physics and that quantum mechanics does. But while the theory of quantum mechanics may rightly be considered a well established domain theory, among the experts there are many conflicting interpretations, leading to what

amounts to multiple sub-theories within quantum mechanics. These sub-theories are of interest for our project, for they offer important input into any general or theory.

But how do we choose among these sub-theories? Henry Stapp has an interpretation of quantum mechanics that carries with it implications for the nature of the physical world and the place of mind within that world. It is, in my view, favorable to panexperientialism, broadly understood, in which mind is an elemental aspect of reality. Other sub-theories within quantum mechanics are either not very friendly to such a view or have nothing to say one way or another about the matter. I am inclined to accept Henry's domain sub-theory. But on what basis? I am not capable of going through the steps he has taken to arrive at his conclusions, steps that involve a complex mathematics, extensive knowledge of what is and what is not confirmed by experimental data, and an overall grasp of the principles of physical science that must be taken into account in reaching conclusions. In other words, I am not and cannot become an expert capable of making pronouncements on the merits of a sub-theory on the basis of informed judgment.

How then do I make the decision to accept Henry's sub-theory and make it the one to which I will require my general theory to conform? I make my decision on the basis of my beliefs--especially my metaphysical beliefs--and specifically because Henry's sub-theory confirms my panexperientialist vision of reality. Beyond that, my personal acquaintance with Henry shows me that he is an honest and straight-forward person and a profound thinker who is ready to listen to all comments and criticisms of his ideas and respond to them in a respectful way. In other words, his ideas are not emotionally charged and he requires that they conform to all the relevant data. Because of all of this I have *faith* in Henry as a person, a researcher, and a theoretician. There may be other reasons for my favouring Henry's theoretical interpretation of quantum mechanics, but these will do for now.

But what about those domains that involve data that is psychological in nature in that they deal with special states of consciousness?   I am thinking here particularly about data arising from meditative and mystical states. These data differ in an important way from those of, for example, physics. Here the interior experience of the state is a crucial aspect of the data itself.   It is not simply a matter of observing and measuring observable behavior and physiological responses, because the interior, subjective state of the experiencing subject holds a place of primary importance. Here expertise is quite a different thing from that exercised in the other domains, and it is clear that only those who themselves have had extensive meditative or mystical experiences can make sound judgments about 1) the type of data to be taken into account, 2) the forms in which the data can occur, and 3) criteria for deciding whether or not

particular data are genuine. Experts of this kind are the last word in these matters, and those who are involved in keeping track of the measurable and externally observable aspects of such experiences have only a subsidiary (although important) role to play.   Clear identification of the data is crucial for the development of a domain theory, and in this area only a person who has been personally immersed in such experiences can do that. In these matters everyone else is a non-expert.

In regard to data in the domain of parapsychology, things are similar in that subjective mental states are often involved, but different in that the phenomena can be studied quite effectively though the investigation of observable and measurable aspects of the experiences. Certain data can be reasonably ruled out on the basis of objective criteria, such as the detection of fraud. Through the study of psychologically describable behavior and physiologically measurable data meaningful correlations can be identified. Judgments about the believability of parapsychological subjects can also be made which, although by no means infallible, may be useful in establishing the genuineness of the data.

With regard to the three domains of parapsychology, meditative states, and mystical experiences, expertise on various levels can be determined on the basis of the criteria mentioned above. Once the proper experts are involved in the data gathering and theory-building process, solid conclusions can be reached. Absent the relevant expertise, no credible judgment can be made about competing domain theories.

SPIRITUAL TRADITIONS

Particularly important and useful for our work around theory is the material made available to us in the traditions of spiritual practice.   The place of these traditions in our theory work is, however, complex, and traditions of spiritual practice force us to come to terms with what we mean by theory and the parameters of our search for a general theory.

When we look to the traditions for *data*, we are looking at the material they provide from a specific perspective: that of the scientific paradigm. We treat the information we find there as part of the accumulated data for the scientific theory we are building, data which will either confirm or disconfirm that theory. From this point of view, we find in the accounts of spiritual practice potential data that contribute in a valuable way to theory-making process. I say *potential* data, because when we are looking at the material as data for a scientific theory, we must evaluate the reliability of the data

by applying standards generally accepted among the *experts* in the field. In the case of spiritual practices, these criteria have evolved over time and can be found embedded in the literature. These embedded criteria function as a living filter that separates the wheat from the chaff.

Since the data of the traditions are drawn from a spiritual *practice,* from the scientific point of view are dealing with a *technology* (practical application of a theory).   In the scientific paradigm, the success of a technological application *points in the direction* of the validity of the theory driving the technology.   It does not *confirm* the theory, but says, "It's close enough for these purposes." In the case of texts describing spiritual practices, we attempt to identify the theory behind the practice and make some kind of evaluation of how well that theory stands up.   In the text the theory may not be clearly stated in a form that we demand of a scientific theory, but we may be able to tease out its principle elements and frame them in scientific terms. The theory must be able to stand in the face of a modern, expanded base of domain data and theories. This evaluatory process can be valuable as a stimulus to our theoretical imagination.

In regard to the teachings of the spiritual traditions, there is a further consideration. Successful technologies not only point to good theories, they also make available *more data* that can, in turn, be use in evaluating theories. Even granted these things, the discussion so far still does not seem to do justice to the richness that we feel is embodied in these traditions.   Something is missing in this scientific perspective on their value for our project, a lack that I will discuss below.

LIMITATIONS OF THEORIES

Theory and Life

James emphasized the inadequacy of scientific theories for grasping and conveying the full richness of reality.   The scientific approach is a "monstrous abridgment," said James, "got by the absolute loss and casting out of real matter."   He goes on to say that people are not really moved by these abstractions we call theories, that "the entire man, who feels all needs by turns, will take nothing as an equivalent for life but the fullness of living itself" (*Will to Believe*, p. 69).

Here we are up against the problem of *what we want to accomplish by our theory development.* In our world, in our culture, we look around and see a network of abstract systems called scientific theories that claim to explain our reality. Some of them have developed technologies that work extremely well, and we are suitably

impressed.   As participants in this culture, we may become self-conscious about our thinking and how well it conforms to this seemingly successful explanatory network. We are aware that all the elements of the network must conform to each other and not contradict one another, since they are all abstractions drawn from one reality, one continuum, which must be uniform throughout. And so in our thinking we too must conform to that reality and, when they are sufficiently validated, accept the abstractions, the theories given to us. We want to become competent players in the scientific game that our culture lays out for us. We in the Survival Seminar too are trying to become really skilled players in the game—true athletes of science.

But alongside this well-defined game is something else. No matter how many victories the scientific athlete has, if he is reflective he is forced to recognize that the rich concrete reality of life can neither be exhaustively described by his theories nor fully harnessed by his technologies. He cannot live his life on the basis of the abstract rules of the game he has come to know so well.   In fact, if he tries to do so, he will be out-lived by even the most uneducated of his fellow human beings. James knew this, and so did his colleagues Charles Peirce and Henri Bergson.

Peirce, James, and Bergson

Charles Sanders Peirce saw reality as "a profusion of signs," a continual "spreading of ideas" which over time moves towards greater and greater intelligibility. He devised a cosmology that began with random flashes of "feeling" (for Peirce, mind is at the heart of reality from the beginning) and, by means of the law of habit-taking, evolved into the world we have today (where matter is merely mind hide-bound by habit). He built into the foundations of his evolutionary metaphysics the fact that there is one continuum in which all reality exists and which ensures the total interconnectedness of all things. A continuum of this sort was demanded by Peirce's evolutionary cosmology which had the triadic notion of "sign" at its core.

William James took for granted (or borrowed from) concepts that we see developed (sometimes in astonishing detail) in the evolutionary metaphysics of Peirce, and incorporated them into his examination, presented in brilliant psychological detail, of the nature of our experience.   He writes about what he calls "pure experience...the name which I gave to the immediate flux of life which furnishes the material to our later reflection with its conceptual categories" (*A Pluralistic Universe*, p. 348), a "big blooming buzzing confusion, as free from contradiction in its 'much-at-onceness' as it is alive and evidently there." He affirms that "out of this aboriginal sensible muchness

attention carves out objects which conception then names" (*Some Problems of Philosophy*, pp. 49-51).

Henri Bergson did not so much emphasize the chaotic nature of James's "pure experience" as the richness of what he called "durée."   For Bergson, "durée" is consciousness seamlessly "flowing through time" and creatively manifesting itself within reality (*An Introduction to Metaphysics*, p. 9). He called for the exercise of "intuition" to explore both our inner experience of "durée" and "durée" as it presents itself to us in the world around us—something accomplished by "placing oneself within the object itself" (p. 43). In fact, for Bergson, "intuition" defines metaphysics: "the science which claims to dispense with symbols [concepts]" (p. 9, see also p. 17).

For all three men, reality is one indivisible whole. When we analyze, when we break reality down into units or parts, we suddenly lose the very concreteness of what is real. This is a significant problem, since theory, in the scientific paradigm, has analysis at its heart.   James wrote, "We are thus led to the conclusion that the simple classification of things is, on the one hand, the best possible theoretic philosophy, but is, on the other, a most miserable and inadequate substitute for the fullness of the truth." (*Will to Believe*, p. 68). Bergson echoed, "Let it suffice us for the moment to have shown that our duration [durée] can be presented to us directly in intuition, that it can be suggested to us indirectly by images, but that it can never—if we confine the word concept to its proper meaning—be enclosed in a conceptual representation" (*An Introduction to Metaphysics*, pp. 21-22), and in fact "the real, the experienced, and the concrete are recognized by the fact that they are variability itself" (p. 47).

Since reality, contrary to what we believe, is not carved up into the objects we imagine to be there, since for that reason the data we investigate do not exist as individualized hunks of reality, since no combination of abstractions can ever encompass the richness of the real, and since our manufactured abstractions are at the heart of all theory-making, how do we arrive at satisfying and useful theories about the underlying nature of things?   It was Peirce who had the most telling things to say about this matter. He insisted that all theories are fallible and subject to revision or rejection. The truth is, he said, that we overrate our rationality and ability to fathom the nature of things and because of this we should not blindly rely on our reasoning as a guide for action:

> In the great decisions, I do not believe it is safe to trust to individual reason. In everyday business, reasoning is tolerably successful; but I am inclined to think that it is done as well without the aid of a theory as with it.

But in practical affairs, in matters of vital Importance, it is very easy to exaggerate the importance of ratiocination. Man is so vain of his power of reason!…. Those who we are so fond of referring to as the "lower animals" reason very little. Now I beg you to observe that those beings very rarely commit a mistake, while we------! We employ twelve good men and true to decide a question, we lay the facts before them with the greatest care, the "perfection of human reason" presides over the presentment, they hear, they go out and deliberate, they come to a unanimous opinion, and it is generally admitted that the parties to the suit might almost as well have tossed up a penny to decide! Such is man's glory!

The mental qualities we most admire in all human beings except our several selves are the maiden's delicacy, the mother's devotion, manly courage, and other inheritances that have come to us from the biped who did not yet speak; while the characters that are most contemptible take their origin in reasoning. The very fact that everybody so ridiculously overrates his own reasoning, is sufficient to show how superficial the faculty is. It is the instincts, the sentiments, that make the substance of the soul. Cognition is only its surface, its locus of contact with what is external to it. (*Cambridge Lectures*, pp. 109-110)

Trance

James's emphasis on the role of *interest* in his *Principles of Psychology* has psychological, epistemological, and metaphysical consequences and must be considered closely in our examination of theory-making.   Some years ago, I described this state of affairs in terms of trance states (*Trance Zero*, 1997). I defined trance as a state of absorption in one thing and obliviousness to other things accompanied by an inflow from the subconscious or subliminal aspect of the psyche.   Degree of absorption and obliviousness (depth of trance) varies, creating what James called a *focus-fringe* dimension of experience.

Trance states are part of everyday existence and are necessary for dealing with life, and we experience absorption and obliviousness of some kind at every moment of conscious existence. When we become absorbed: 1) we can thoroughly grasp the object of our focus and deal with it in a practical way and 2) with this concentration of attention we automatically offer an opening for and inflow of the subliminal resources that are appropriate to dealing with the object of our focus. These resources lie below our normal sphere of consciousness, as Myers would say in the subliminal, or as James

would say, beyond the margin of consciousness. The inflow from this energy is a concrete manifestation of our subliminal resources, and allows the creative inner mind to become active at this specific moment of time and in this specific context. Thus a state of trance is necessary not only for the ordinary tasks of life, but also for extraordinary creative actions and productions, everything from the mesmerizing dance of a Nijinsky to the remarkable thought experiments of an Einstein. Trance is also necessary for meditation, with its inflow of special states of awareness and mystical experiences.

While the trance or focus-fringe state of affairs is essential to the process of theory-making it is obvious that by its very nature it will bring with it certain inbuilt limiting factors. That is why theories, no matter how useful, must be considered steps in a much longer journey towards a more complete knowledge of reality, a journey that is characterized by what Peirce call *inquiry*.

Fallibility

A popular writer in psychotherapy, Donald Winnicott, developed the notion of the "good enough mother." The idea was that there are no *perfect* mothers and there never have been any. So all we can hope to have or be is a "good-enough" mother, one who has enough good qualities to get people through childhood with a minimum of damage. Winnicott was not saying that we cannot talk about what a perfect mother might be like, nor that at some future point in evolution a perfect mother will not come into being, only that realistically and for all practical purposes we must make do with good-enough mothers.

Analogously, Charles Peirce said that we have never in the past and cannot now attain the *truth* about the nature of things.   The best we can hope for is to get close enough to the truth to develop "good-enough" approaches to living our lives. He was not saying that there is no such thing as truth, nor that it might not actually be attained in some indefinitely distant point in time to come. But he was making the point that for now, and for the foreseeable future, we will not be able to attain the perfection of truth.

According to Peirce, what we *can* attain is *belief*. Belief is an opinion on which we are prepared to act. We could say that such an opinion is a *good-enough opinion*, one of which we are sufficiently convinced to make it our basis for action and hope that what results is not too bad. If at some point our actions turn out disastrously, our belief is shattered and we are in a state of doubt.   We remain in this uncomfortable state until

we are able to work out a new belief to replace the old one, one that seems to work OK, one that is good-enough.

So it goes like this. Theories are opinions that we form about the nature of things. A theory about which I am convinced enough to take the chance of acting on it, is for me a belief, and such a theory could rightly be called a *good-enough theory*. In the present state of human knowledge, we can never attain the *true* theory, the *perfect* theory of anything. We must be satisfied with good-enough theories. Good-enough theories are imperfect, incomplete, fallible and subject to revision. They can fail and throw us into a state of doubt. When that happens, we may, if we are lucky, discover a new and more successful theory to replace the old one. But no matter how much we revise and improve our theories, they are never perfect, never true. They remain simply good-enough.

What are theories good-enough *for*? First of all they are good enough to encompass the data in question. In this sense, a good-enough domain theory must be *empirically adequate*. This means that it must explain the phenomenological reality being studied, the domain data. This also means that, assuming things are as the theory specifies, future domain data can be predicted. If a theory does this, it is empirically adequate and, in this sense, a good-enough theory. If it does not, it can never become a belief.

But is being good-enough to be empirically adequate sufficient for me to make it my belief? No, it is not. And for two reasons: 1) it may be only one of a number of possible good-enough, empirically adequate theories to explain a set of domain data, and 2) it may be good-enough for the data but not good enough for my intuitional sense of how things are. As will become clear in the following discussion, when #1 holds true, #2 becomes a crucial consideration.

In the case where there is only one presently formulated theory that is empirically adequate, the problem is solved. There is only one candidate for my belief, and I will accept it as good-enough. But where there are two or several empirically adequate theories available, what do I do? I have to make a *choice of belief* based on grounds other than adequacy to the data. That choice will be made in terms of my intuitional sense of how things are. Where does that intuitional sense come from? From all that has gone into making me who I am: the predispositions I was born with, all the influences, cultural and personal, that have affected me, and from my present sense of embeddedness in reality with all the non-local knowledge of reality that somehow is conveyed to me. In this case our intuitional sense of things carries the day.

We never grasp truth, but we adopt a good-enough belief. The formula is simple: #1 (empirical adequacy) + #2 (intuitional sense) = good-enough belief. And thank God there is such a formula; thank God for our intuitional sense of things. In the vast majority of cases empirical adequacy simply cannot decide the matter and without our intuitional sense of things to push us over the edge we would be paralyzed, unable to believe and therefore unable to act.

In what, then, does "verification" of a theory consist? Literally, verification means "making true" or "pronouncing true." From what I have said, we cannot use the word with this meaning in the strict sense, because we do not actually arrive at the *truth* in this dispensation. What we arrive at is a good-enough opinion, which becomes our belief, and we use that belief as our basis of action in the world. This being the case, to verify a theory must mean something less. It must be exactly the same thing as arriving at a good-enough belief, and the theory that is the formulation of that belief must be our good-enough theory.   Therefore, my verification of a theory consists in my determining that it is good-enough for the data and good enough for my intuitional sense.

The fact that we never grasp truth does not mean that truth does not exist and that reality consists in an interwoven web of good-enough beliefs. I am a realist, not a post-modern constructionist. I hold that Hilary Putnam's "miracles" argument for realism is the only way to go. It states that unless scientific theories are approximately true of the reality they attempt to describe, the evident success of science (in terms of its applications and predictions) would surely be a miracle. Or as Peirce would put it, pragmatically our theories are gradually forced to conform to the reality that exists out there (CP 1.417, 336; 5.50, 384, 564). For when we take action on the basis of a theory and reality does not respond in ways the theory predicted, the theory fails and is discarded. On the other hand, if reality responds *as though* our theory were true, the theory stands as good-enough. As our communally developed network of knowledge of the fundamental nature of things is more and more made up of theories that are vindicated by the responses of nature, we converge on a progressively more accurate picture of the real. The real is what it exists regardless of what we think of it; and our thinking about it (in the process of theory-making) is constrained by what it actually is. That is what I call realism.

PROCESS OF THEORY DEVELOPMENT: A COMMUNITY OF INQUIRERS

For Peirce, *inquiry* has as its aim the settlement of opinion, and it centers around the interplay of belief and doubt: b*elief* being an opinion on which we are prepared to act,

and *doubt* being the state of things after the collapse of a belief. Doubt serves a crucial purpose; it is a scavenger that consumes the failed refuse of theorizing that has sunk to the bottom of the pool of inquiry. Inquiry has the task of responding to doubt by establishing a new belief, one upon which we are once more prepared to act, a living thing that will, at least for a time, swim in our pool.

As noted, our theories are necessarily flawed. First, because theories develop out of sets of data that will always be incomplete, though concerted efforts be made to fill in the gaps. Second, because theories arise from particular perspectives from which the data are viewed. No matter what the individual perspective and no matter how many of them are piled up or cobbled together, they can never exhaust the richness of the reality that is being dealt with. Third, because the perspective taken is determined by personal and cultural factors that always have emotion attached. For that reason, theory-convictions are frequently formed that ignore or distort data and do not lend themselves to correction. All of these factors work against coming up with really good theories, while our instinctual *lumine natural* (see section on "intuitional theories" below) works in favour of our making good theories.

Nevertheless, if theorizers were aware of their limitations, they might make fewer mistakes and value their theories more realistically. Ideally, theorists would communicate with each other to promote progress in theory-making and not allow competitive urges to carry the day. It is a pity that many turn a blind eye to this all too human deficiency and instead view themselves as valiant, lone bearers of the light of truth surrounded by the darkness of error. These individuals do not realize that no theory is developed in isolation. Theory building is a community undertaking. Even when people do not *physically* congregate, they gather together in reading each other's books and articles, as well as by experiencing each other's artistic creations and by communicating in the many other ways that are available.

If those who genuinely possess the cooperative spirit and the desire to rise, insofar as they can, above their limitations were to actively band together, they would have a better chance of moving things forward. Luckily, we have a natural instinct to view the search for understanding as a *communal* undertaking. Charles Peirce recognized this inclination:

> The course of [evolutionary] life has developed certain compulsions of thought which we speak of collectively as Experience. Moreover, the inquirer more or less vaguely identifies himself in sentiment with a Community of which he is a member, and which includes, for example, besides his momentary self, his self of ten years hence; and he speaks of the resultant cognitive compulsions of the

course of life of that community as Our Experience. He says "we" find that terrestrial bodies have a component acceleration towards the earth of 980 centimetres per second, though neither he nor many of his acquaintances have ever made the experiment." (Review of Josiah Royce's 'The World and the Individual', *Collected Papers*, 8.101, 1900)

The inbuilt sense of "we" attached to the search is most fortuitous. It is the basis upon which true cooperation is built, and it may even guide us to the formation of an effective *community of inquirers* unlike any seen so far. Peirce believed that the foundation for all understanding is the method of science, putting forth hypotheses or guesses as to the underlying nature of things and subjecting them to empirical verification. For him, the method of science is directed toward the aims of the social impulse, that is, toward the agreement of a *final community of inquirers,* rather than of a limited number of inquirers who agree with one another at some assigned time. Peirce took pains to describe the possible evolution and scope of such a community. After talking about the constrictive, anti-creative state of affairs that arises from giving dominance to limited personal or cultural interests, he pointed out that death soon puts an end to our endeavors and we can ill afford to waste time in activities driven by such motives. He considers this inquiry the great project of humanity.

This vision of a community of inquirers was based on what he saw as a moral drive intrinsically entwined with evolutionary progress.   Peirce believed that reality is teleological, directed towards certain ends, and that each one of us is able to sense them. (See Peircean Appendix #1 at the end of this paper).   Not only can we sense them, we can also choose to make those ends our own and participate in their realization. In fact, for Peirce authentic selfhood is achieved through the freely chosen surrender of the ego's ends to wider ends.

> I can see but one solution of it. It seems to me that we are driven to this, that logicality inexorably requires that our interest shall not be limited. They must not stop at our own fate, but must embrace the whole community. This community, again, must not be limited, but must extend to all races of beings with whom we can come into immediate or mediate intellectual relation. It must reach, however vaguely, beyond this geological epoch, beyond all bounds. He who would not sacrifice his own soul to save the whole world, is, as it seems to me, illogical in all his inferences. Logic is rooted in the social principle....But all this requires a conceived identification of one's interests with those of an unlimited community. (2.654)

This was for Peirce an act of self-transcendence that leads to self-possession. The self grows through a love for what is good for the all, for community, and in that way becomes one with cosmic mind. (see Ventimiglia 2008, pp. 676-677).

Peirce envisioned the *community of inquirers* as a self-correcting source of collective human knowledge resulting from the purifying influence of the cross-pollination of ideas. Such thoughts are driven not by an empty idealism, but by a vital engagement with something that is very much a part of human experience and that is a source both of everyday excitements and everyday disappointments. We do not have the luxury of ignoring these issues. But if our attempts to understand the nature of things, our theory makings, are necessarily fallible, what should our search for the broad, deep vision look like? That is the question before us.

I am going to conclude with a quote from Peirce that is as provocative as it is informative and a challenge to keep pushing forward in our attempt to understand theory-making:

> All this requires a conceived identification of one's interests with those of an unlimited community. Now there exist no reasons, and later a discussion will show that there can be no reasons, for thinking that the human race, or any intellectual race, will exist forever. On the other hand, there can be no reason against; and, fortunately, as the whole requirement is that we should have certain sentiments, there is nothing in the facts to forbid our having a *hope*, or calm and cheerful wish, that the community may last beyond any assignable date. It may seem strange that I should put forward three sentiments, namely, interest in an indefinite community, recognition of the possibility of this interest being made supreme, and hope in the unlimited continuance of intellectual activity, as indispensable requirements of logic. Yet, when we consider that logic depends on a mere struggle to escape doubt, which, as it terminates in action, must bring in emotion, and that, furthermore, the only cause of our planting ourselves in reason is that other methods of escaping doubt fail on account of the social impulse, why should we wonder to find social sentiment presupposed in reasoning? (2. 654)

The project of our group falls nicely into the great project of the ongoing and evolving community of inquirers that Peirce describes, and I believe that in our quest for a general theory we should keep this in mind. Looking further abroad, to the larger work of the Center for Theory and Research, we can very well see ourselves as investigators of precisely how to promote this exciting endeavor.

PART TWO: SCIENCE

As I have mentioned, both metaphysical and domain theories are conceived as the result of a *scientific* process understood in the broadest sense: data are observed, explanatory hypotheses proposed and (to whatever degree possible) tested, and a theorie formulated. In this part of the paper I intend to talk about the meaning and import of the word "science" In this context. It seems to me essential to do so, since the term is used in common speech in our culture and there is a tendency to think that when we employ commonly used words we all mean the same thing. This, of course, is not true, and it is particularly important that in our group we have a shared understanding of the central terms of our discourse, at least to the point that even if we do not agree on one meaning, at least we can identify and appreciate the various usages found among us.

MEANING OF "SCIENCE"

As a basis for our discussion, I suggest we use this definition from the OED: "A branch of study which is concerned either with a connected body of demonstrated truths or with observed facts systematically classified and more or less colligated by being brought under general laws, and which includes trustworthy methods for the discovery of new truth within its own domain."

Considered as an activity, we might use Peirce's view of science as the collective and co-operative activity of all persons and any group of persons whose lives are animated by the desire to find the truth (Kent 1987, p. 81)

SCIENTIFIC EXPLANATION

It is a truism that it is one thing to say *that* something occurs, and quite another to say *why*. Scientific explanation is about *why* and its central issue is what constitutes a legitimate statement of *why.* It is clear that scientific explanation is not the mere observing and reporting of facts. The mapping of areas in which a certain species of bird may be found, would not constitute an explanation interesting to biologists, whereas a theory about the reason for certain behaviors of a species of bird would. If scientific explanation is not mere description, neither is it the mere tabulation of correlations that exist between certain sets of facts (such as brain events and mental events). But what, then, qualifies as a scientific explanation?

Most recent literature on the matter presumes a certain likeness between scientific explanation and explanation found in more ordinary, non-scientific contexts. Part of the work of exploring scientific explanation has come to be the discovery of what is common between the two forms. This is why discussion of scientific explanation are peppered with examples, from the "hardest" of sciences to the most prosaic events of ordinary life, and everything in between. But even though we possess and continually exercise an intuitive idea of explanation in our everyday experience, scientific explanation requires something more.

The aims of science are prediction, control, and explanation. Explanation seeks scientific understanding. Some have thought that explanation would mean arriving at knowledge of the essential nature of things, which, according to Kant, for example, is not possible. This pessimistic view was discarded in the 1940s when a novel attempt to describe what would constitute an explanation in science was initiated by Carl Hempel (see Hempel and Oppenheim 1948). He simply proposed to describe the kind of things scientists offer when they claim to have an explanation. This move removed scientific explanation from the category of metaphysics. It shaped it as a kind of sociology of scientific practice, rather than an attempt to establish a set of transcendental norms. This meant that the framework for defining scientific explanation was to identify the idea of explanation that scientists themselves hold.

Hempel arrived at a model of scientific explanation that he called the deductive-nomological or DN account. He believed that his model would capture the form of any explanation of any individual event, such as the expansion of an iron bar when heated, the extinction of a species of dinosaur, or the outbreak of the First World War. In Hempel's model, the explanation always involves the deduction of the occurrence of the event from a set of true propositions, at least one of which is the statement of a scientific law. For example:

1. This container with mercury was placed in hot water
2. Mercury expands when heated

    Therefore, this sample of mercury expanded

where #1 gives us the boundary conditions and #2 states a relevant law. The relevance of the law consists in its covering the behavior that is being explained, and for that reason this model of explanation is frequently called the *covering law* model.

For quite some time Hempel's model of scientific explanation was generally accepted, but eventually serious objections were raised. Wesley Salmon and others gave this

example of a situation that meets Hempel's criteria, but fails as a scientific explanation:

> This teaspoon of salt was hexed (hand gestures were made over it)
> The salt was placed in water
> All hexed salt dissolves when place in water
>
> Therefore the salt dissolved

Some tried to show that Salmon's example does not invalidate the DN model, but he disagreed and said that it is wrong to think of explanation in terms of an expectability that follows from a logical argument. He asserted that the relationship between the factors involved in an explanation and what is explained is not epistemic but *ontic*, that the relationship is one of *causal* relevance. This is shown by another example: the fact that a barometer reading is indicative of the approach of a storm front. Because storms fronts are always preceded by such readings, a law is involved. The problem is that one could put an argument in the DN format—barometer readings explain the approach of storms—which is clearly not true. For that reason, Salmon insisted some inclusion of *cause* much be involved in scientific explanation—and cause is a one-way thing.

There is a great divide in approaches to scientific explanation: that between the *realist* and *antirealist* understanding of our knowledge of things. There are, Salmon said, causal mechanisms at work all around us, but seldom do we actually observe them directly. So our efforts to find causal explanations take us beyond the realm of observable phenomena, into the realm of the unobservable. It is Salmon's contention that our knowledge of causal mechanisms that lie in the unobservable is true *empirical* knowledge. For the realist, "description" only includes descriptions of observables, whereas 'explanation' provides knowledge of underlying mechanisms that produce the phenomena we are attempting to explain.

> It involves descriptive knowledge of the hidden mechanisms of the world, but it does go beyond descriptive knowledge of observable phenomena. There is no *logical* necessity in the fact that causal mechanism involve unobservables; that is just the way our world happens to work. (Salmon 2006, p. 133)

J. Alberto Coffa took a similar stance. His theory of explanation is that it is a set of objective facts and relationships (Coffa 1974). The linguistic entities that we call "explanations" are statements reporting on the *actual* explanation, which exists whether it is discovered and communicated or not.

According to Salmon and Coffa, the actual mechanisms that operate in our world are often hidden. This position is unacceptable to those who call themselves "instrumentalists." Instrumentalism is opposed to realism. In physics instrumentalists recognize the usefulness of theories, but deny that they refer to actual existing realities, like molecules or atoms. In psychology instrumentalists see theories as dealing with relationships between observable stimuli and observable responses. Instrumentalists say that our descriptive knowledge of the world is confined to knowledge of what is observable and refuse to appeal to unobservables for explanations (Salmon 2006, p. 134).

Somewhere between realism and instrumentalism is the account given by Bas van Fraassen. He calls his position "constructive empiricism" (van Fraassen 1980).   While the instrumentalist denies the reality of unobservables, the constructive empiricist neither affirms nor denies their existence. Van Fraassen asserts that accepted scientific theories are *accepted as empirically adequate*, but are not necessarily *true*. For him, if we formulate a theory that refers to unobservables, we are committed to claiming that it yields true statements about observables, but we are not committed to the truth of what it says about unobservables. Neither are we committed to the position that statements about unobservables are false. We must, he say, be agnostic in this regard. Van Fraassen says that the word "constructive" in "constructive empiricism" indicates that scientific activity is not discovery but construction— construction of models adequate to the phenomena, not the discovery of truth about unobservables (see Salmon 2006, p. 135). For Salmon the battleground for disputes concerning realism is the issue of our knowledge of unobservables. Relying, among other things, on the analysis of microscopic observation by Ian Hacking, Salmon develops strong arguments (to lengthy to include here) "to the effect that we can have indirect observational knowledge of objects and properties that are not directly observable" (Salmon 2006, p. 153).

Let us now turn to other early ideas about scientific explanation proposed by Hempel and taken up by Salmon and others. Besides his DN model, Hempel also developed a model for the *probabilistic* explanation of events, called the inductive-statistical or IS model. This model also involves the presence of a law of some sort which gives good reason to expect a certain event to occur. However, in this case instead of a deductive argument, an inductive one is employed. For example there is a certain probability (say 0.9) for a swift recovery from pneumonia if penicillin is used, and a much lower probability (say 0.1) if it is not used. If John Jones has pneumonia and is given penicillin, he therefore has a high probability for a swift recovery. This kind of

explanation required what Hempel called a *maximal specificity*, so that if the strain of pneumonia involved is penicillin-resistant, that fact needs to be taken into account.

Objections were raised to this model, however, including the fact that maximal specificity is relative to what the explainer knows or does not know (e.g. that there are penicillin-resistant strains of pneumonia). So that if Jones were to be given penicillin and then rapidly recover, it would be false to explain his rapid recovery by the high probability of that occurring because penicillin was administered, since the explainer knew nothing of penicillin-resistant pneumonia and did not take it into account. Hempel's formulation makes an explanation's validity dependent in an essential way on the explainers epistemology. But surely, says Salmon and others, the validity must be dependent on the actual state of affairs, not on the state of knowledge of the explainer. Salmon says that to arrive at a true probability for the occurrence of an event all statistically relevant factors must be described. He sees these statistical factors as having an *objective relation* to the event to be explained, not depending on the explainer's background knowledge. This model is called the statistical-relevance SR model (Salmon 2006, pp. 61-83).

In another account of scientific explanation, the *unification* model, an event is explained in terms of its being an instance of a broad pattern of similar phenomena. This model says that to understand something is to fit it into a wider pattern. Here the event is explained by the system of subsuming laws that best unifies all the phenomena involved. The unifying power of a theory is proportional to both the number of phenomena that can be subsumed under the theory, and to its simplicity. Although a fully unifying theory has full explanatory power, this does not preclude the possibility of partial explanations by more weakly unifying theories.

Another approach to scientific explanation is the *causal* model (already indirectly discussed). This model holds that an explanation should do something more than talk about exceptionless regularities; it should also give information in regard to causes. Obviously this understanding of explanation is ontic rather than epistemic. The causal model has the advantage of providing a direction, a one-way movement, in explanation: A explains (is the cause of) B, but this does not mean that B explains (is the cause of) A (remember the barometer reading and the storm front). This model also has the advantage of being able to deal with the "hexed salt" example, for there is no reason to say that the hexing *caused* the dissolvability of the salt. In this model, the force of the explanation is dependent on the aptness of the cited cause. Today this approach seems to be dominant in the philosophy of explanation. The causal approach to explanation seems have the advantage of allowing for a description of both higher lower level causes. Thus, when asking why the house window shattered,

one could say that it was because it was bit hit by a batted baseball, or one could give a description of the way a pane of glass shatters when a force is applied to a particular point on its surface. Both explanations are valid ones, but they operate on different levels. Another strength of the causal model is that it seems to be quite good at explaining probabilistic events. A weakness is that it is not clear how it may be used to explain laws. In this regard, it is usually said that a causal explanation will point to the law's "underlying mechanisms," but not every law explicitly concerns causes and effects.

There is a massive literature on scientific explanation. It is clear that while some progress has been made in arriving at a serviceable model for scientific explanation, there is yet a long way to go. One of the remaining questions is why science treats explanations as pre-existing facts to be discovered rather than as entities created in the act of communication. Another question is whether there is a single standard for evaluating scientific explanations that has remained constant since the beginning of modern science; the discussion so far seems to lack a substantial historical dimension. Yet another question relates to the problem of scientific models, which assume fictional ideal entities in nature, such as formulas that give information about the "ideal" gas which are assumed to explain the behaviors of real gasses. This state of affairs seems to contradict the idea that explanations should contain no false representations of reality. A fourth question is that it is unclear how to assess the significance of our *intuitive* judgments about the goodness of various explanations and determine what accounts for our choosing one judgment rather than another.

Finally, it important to point out that although some would say, for example, that explanations in physics seems to have nothing to do with explanations in biology or history, this does not intuitively feel correct. What seems to be needed is the development of models of explanations that are more sensitive to disciplinary differences. Such models should be able to explain both commonalities and differences in explanation across various disciplines and describe the significance of these variations.

The implications of this discussion for our search for a general theory are not easy to formulate. There is a great deal of continuing discussion of virtually all the issues involved, and no clear sign that anything like general agreement is in sight. Two things, however, do stand out. One is that the on the great issue of realism vs. antirealism, it seems clear to me that our approach must come down on the side of realism, with its emphasis of an explanatory approach that accepts that there are such things as causes and causal mechanisms which for the most part are not observable and which a general theory will attempt to identify. This means that, putting it in

Coffa's words, we make explanatory statements about explanations that really exist, whether we actually discover them or talk about them or not. In other words we need to be realists: accepting that there is a reality with its causal mechanisms that does not depend on us for their existence. The second thing is that although the realist and antirealist positions are truly incompatible, other theoretical formulations concerning the nature of explanation are not necessarily mutually exclusive, and in that regard, we may very well profit from a study of the unification model of scientific explanation that says that explanation amounts to placing an event or set of events within a broader pattern, which in turn is subsumed by higher level patters. This approach might make help with our search for a "metatheory" that will presumably subsume a large number of lower level theories.

CLASSIFICATION OF THE SCIENCES

There are a number of possible ways to classify the sciences and distinguish one kind from another. Charles Sanders Peirce's writings contain the most thorough and comprehensive classification yet attempted. His ideas evolved over several decades and it would require a paper on its own to detail his final presentation (see Kent 1987). For now I will take a simplified approach, one drawn from contemporary discussions.

One of the more common contemporary methods of classification is to divide all sciences into Natural Sciences and Social and Behavioral Sciences. Natural Sciences are the study of the universe, understood as obeying rules or laws of natural origin. Social and Behavioral Sciences use the scientific method to study human behavior and society. Both categories are considered empirical, based on observable phenomena and capable of being tested by other researchers working under the same conditions. Another method of classification divides the sciences into Observational and Experimental. An observational science is one employed when it is not possible to construct controlled experiments in the area under study. Examples include astronomy, botany, paleontology, and the social sciences in general. The observational sciences can sometimes be confirmed, or at least supported, by experimental work, so that experiments in high-energy physics, for instance, may contribute to the study of astronomy and neurological experiments may elucidate certain aspects of sociology.

Among the observational sciences are those that use a natural history approach, involving the systematic study of natural objects or organisms through observations made *in situ*, that is, in their natural context. Here too the findings of experimental sciences may be useful, stimulating speculations in certain directions, or supporting

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some hypotheses and ruling out others. The natural history approach normally involves observation, collection, categorization, and comparison.   The "comparative sciences" compare a range of objects or facts in a particular domain, with the aim of discovering the fundamental laws or systems of relation pervading.

SCIENTIFIC INFERENCE

Charles Peirce writes that all of our reasonings fall into one or the other of two categories: 1) explicative, analytic, or deductive, and 2) amplificative, synthetic, or inductive. In analytic reasoning, conclusions are drawn from premises, making explicit what is already implicitly there; here there is no gain in real knowledge. In synthetic, the facts summed up in the conclusion are not among those stated in the premises; here we have an increase in real knowledge (EP, 1, p. 161).

For our purposes I am going to concentrate on type #2.   Peirce says that there are two kinds of synthetic inference: "induction" and "abduction" (which he also calls "hypothesis").   He restates Kant's crucial question: How are synthetic judgements possible? How it is that a man can observe one fact and straightway pronounce judgment concerning another different fact not involved in the first? (p. 167) Abduction, by forming hypotheses, accomplishes that amazing feat, and induction is part of the process that confirms the hypothesis that is invented. It will be useful to spend some time investigating these modes of inference.

First induction. For Peirce, induction is a process of *sampling*. He tells us that induction may be thought of as an argument that assumes that what is true of a whole collection will also be true of a number of instances taken from it at random (p. 33). This is a *probable* inference which moves from the part to the whole. It is *probable*, since sampling, not being an examination of the whole collection, can only tell us of the probability that what the sample tells us will be true of the whole; it cannot give us certainty (p. 78). He gives as an example a bag of black and white beans. As I proceed to sample the bag, I might discover that my samples taken together indicate that approximately 4 out of every 10 beans are white. By induction I conclude that if I could actually count out all the beans in the bag, I would probably find this to be the actual proportion of black to white in the whole bag.

Peirce also says that induction consists in starting from a theory, deducing its predictions of phenomena, and observing those phenomena to see how nearly they agree with the theory. On what is this procedure based?

The justification for believing that an experimental theory which has been subjected to a number of experimental tests will be in the near future sustained about as well by further such tests as it has hitherto been, is that by steadily pursuing this method we must in the long run find out how the matter really stands. (EP 2, p. 216)

Because we take this way of proceeding so much for granted, we do not think about how extraordinary it is that we can conclude one thing from another, the whole from the part. It is so philosophically surprising, Peirce tells us, that one philosopher counted it a "miracle" produced by God. While Peirce does not agree with this explanation, he does credit that philosopher with recognizing that any true explanation of induction will in the end have to be one that says something about the *fundamental structure of reality itself* and that no mere mathematical analysis of probability will do it. His own explanation is that the continuity of reality (synechism, as he calls it) makes it possible to say what will probably happen in the future (what future samplings will reveal), and that although no given number of samples will ever provide the final truth of the characteristics of what is sampled, over an indefinitely long period of investigation the human community of inquirers will be able to move closer to the truth of the matter, because there is a *given reality* that *constrains the results we attain from our probing efforts,* and as our investigation is sustained over longer and longer periods of time, our knowledge gradually converges on the truth.

Peirce compares induction and abduction this way:

> Induction is where we generalize from a number of cases of which something is true, and infer that the same thing is true of a whole class....Hypothesis (abduction) is where we find some very curious circumstance, which would be explained by the supposition that it was a case of a certain general rule, and thereupon adopt that supposition.... Fossils are found, say, remains like those of fishes, but far in the interior of the country. To explain the phenomenon we suppose the sea once washed over this land. This is...hypothesis. (EP, 1, p. 189)

In abduction (hypothesis), says Peirce, real new knowledge is obtained. The scientist observes the data, notes various relationships among them, and in mulling it all over comes forward with a hypothesis. But, Peirce asks, why does the process turned out to be so successful, since there is no necessity or compulsion to form this particular hypothesis?

> Consider the multitude of theories that might have been suggested. A physicist comes across some new phenomenon in his laboratory. How does he know but

that the conjunctions of the planets have something to do with it, or that it is not perhaps because the dowager empress of China has at that same time a year ago chanced to pronounce some word of mystical power, or some invisible *Jinny* may be present. Think of what trillions of trillions of hypotheses might be made of which one only is true; and yet after two or three or at the very most a dozen guesses, the physicist hits pretty nearly on the correct hypothesis. By *chance* [my emphasis] he would not have been likely to do so in the whole time that has elapsed since the earth was solidified....Man has not been engaged upon scientific problems for over twenty thousand years or so. But put it at ten times that if you like. But that is not a hundred thousandth part of the time that he might have been expected to have been searching for his first scientific theory. (EP, II, p. 217)

Peirce sees in both abduction and induction something "magical":

When we see precisely what the procedure is, we wonder how such a process can have any validity at all. How magical it is that by examining a part of a class we can know what is true of the whole of the class, and by study of the past can know the future; in short, that we can know what we have not experienced!...Is this not an intellectual intuition! Is it not that besides ordinary experience which is dependent on there being a certain physical connextion between our organs and the thing experienced, there is a second avenue of truth dependent only on there being a certain intellectual connection between our previous knowledge and what we learn in that way? Yes, this is true. Man has this faculty, just as opium has a somnific virtue, but some further question may be asked nevertheless....What would enable the mind to know physical things which do not physically influence it and which it does not influence? The question cannot be answered by any statement concerning the human mind, for it is equivalent to asking what makes the facts usually to be, as inductive and hypothetic conclusions from true premises represent them to be? Facts of a certain kind are usually true when facts having certain relations to them are true; what is the cause of this? That is the question." (EP, 1, p. 75)

Elsewhere, in answer to his own question, Peirce writes:

The possibility of science depends upon the fact that human thought necessarily partakes of whatever character is diffused through the whole universe, and that its natural modes have some tendency to be the modes of action of the universe. (1. 351)

He summarizes the difference between induction and abduction (hypothesis) in this way:

> By induction we conclude that facts, similar to observed facts, are true in cases not examined. By hypothesis, we conclude the existence of a fact quite different from anything observed, from which according to known laws, something observed would necessarily result. The former, is reasoning from particulars to the general law; the latter, from effect to cause. The former classifies, the latter explains....The great difference between induction and hypothesis is, that the former infers the existence of phenomena such as we have observed in cases which are similar, while hypothesis supposes something of a different kind from what we have directly observed, and frequently something which it would be impossible for us to observe directly....The essence of induction is that it infers from one set of facts another set of similar facts, whereas hypothesis infers from facts of one kind to facts of another. (EP, 1, p. 194, 197 & 198)

For Peirce the classificatory sciences, such as botany and mineralogy, are purely inductive. In physics, however, an induction is sometimes stretched beyond the limits of observation. When it crosses that line, it is a hypothesis. Physics, in fact, involves a kind of mixture of induction and hypothesis, each supporting the other.

GROUNDED THEORY

A more recent discussion of some of these matters centers around the issue of "grounded theory." This is an approach to theory making introduced into sociology by Barney Glaser and Anselm Strauss. In *The Discovery of Grounded Theory: Strategies for Qualitative Research* they describe grounded theory as "the discovery of theory from data systematically obtained from social research" (p. 2) Although grounded theory arose from a need to deal with theory generation in sociology, there are features that be generalized to theory-making in other fields.

The originators of grounded theory were concerned about the fact that in sociology there was a lot of research going on that did not seem to lead anywhere. Some researchers were compiling masses of data and using it to construct more and more refined categories, but were not arriving at any new and helpful broader theory. Other researchers were simply piling up more and more data confirming already formulated theories, again not introducing anything really new.

Grounded theory is described as one that is "inductively developed." Glaser and Strauss state that

> generating a theory from data means that most hypotheses and concepts not only come from the data, but are systematically worked out in relation to the data during the course of the research. *Generating a theory involves a process of research.* (p. 6)

Grounded theory often makes use of comparative analysis in theory-generation. Comparative analysis of data produces conceptual categories with their conceptual properties, as well as hypotheses or generalized relations among the categories and their properties (p. 35). Attention is drawn to similarities and differences among data, and this leads to the formation of abstract categories. From these arise hypotheses that in term may be contribute to the formulation of an emerging theory.

The idea was to create guidelines for working with data to generate new hypotheses and theories. These guidelines keep the researcher going back and forth between data collection and categorization, and producing theoretical constructs that embrace the evolving mass of data. Grounded theory was devised to ensure a continual cycling back and forth between working the data and dreaming the theory—each contributing to the other. The purpose was to keep close to the empirical data, and yet allow theory and inspiration an early place in the process.

Grounded theory can arise from the investigation of "qualitative data," as well as "quantitative data." Those who see qualitative research as important in theory-making permit the description of concrete objects or situations. Qualitative research is particularly important in gathering data about social life not amenable to a quantitative approach. In their book, Glaser and Strauss hoped to promote

> the systematization of the collection, coding and analysis of qualitative data for the generation of theory. We wish particularly to get library and field research off the defensive in social research, and thereby encourage it. (p. 18)

Although the researcher is allowed the leeway to use descriptions of situations and stay close to concrete events in their original contexts, rather than simply looking for easily quantifiable bits of data, yet quantification of a kind does occur through the isolation of conceptual elements in the accounts being examining and comparing them in a quantified form.

All this sounds very close to a tried and true approach to complex data called "natural history."

NATURAL HISTORY

There was a time when it was commonly accepted by both the wise and the population at large that stones cannot fall from the skies. This seemed to be a truth as self evident as any we live by today, and those who believed the contrary were scoffed at. But eventually, with the assemblage of various pieces of evidence from nature, it became possible to think that perhaps stones can fall from the sky. That evidence included finding small stones that had a peculiar mineral composition, speculations about streaking lights across the heavens, the realization that certain seemingly natural formations were in fact impact craters made by very large stones, etc. Bringing all these data together made the case that not only can stones fall from the sky, but that they regularly do so, and that some of them have had catastrophic effects. This is an example of why we should not hold too dearly any preconceived idea of impossibility. It also illustrates the importance of natural history in the formation of significant hypotheses and even theories of great import.

Those who write about natural history agree on three things: 1) that it is a classificatory science, 2) that it involves induction, and therefore is based on sampling, and 3) it can result in the formation of hypotheses. This may seem clear enough, but in fact it is not such a simple matter, for there are choices to be made about how one decides what to sample and which characteristics to compare. What elements are going to be compared is not necessarily self-evident. What the sampling will be is affected by, among other things, the theoretical orientation of the naturalist. And the findings that result will affect both how the scientist views the raw data available (what is picked out for notice or emphasis) and the hypothesis that is arrived at.

It might seem quite natural that sampling would be based on the data's availability for observation or ease of categorization. But that is not good enough for the naturalist; completeness is more important than convenience. Although there are instances of important discoveries made in one's own back yard, the great naturalists are not satisfied to examine a few obvious species close at hand or varieties that seem to exemplify the theoretical guesses they begin with, or the hypotheses that have been so far formed. They continually looked to widen their collections and make more subtle comparisons. If Darwin and company had too early limited their observations of data, they could not have accomplished what they did.

I believe it is safe to say that most sciences have had a strongly natural-history orientation at the beginning, even though that beginning may now be lost in the mists of time or obscured by the overlays of experimental activity that has intervened. Peirce says that "there is...a well-marked tendency for a science to be first descriptive, later classificatory, and lastly to embrace all classes in one law" (EP, II, p. 127). Scientists arrive at working classifications from a kind of distillation of categories over time. They boil them down to a limited number that become commonly accepted as the important and most fruitful ones. These accepted categories, along with their unifying theories, powerfully influenced consequent thinking in the field.

Scientists tend to orient their observations according to established categories. Those data that do not fit in may be either ignored, bracketed, or considered unimportant for various convenient reasons, such as that they might be simply complex examples of the categories already accepted. Classification of this kind can lead on the one hand to great scientific and technological advances, but also to subsequent narrowness of thinking and rigidity of theorizing. That is the penalty of freezing the categories too early, of making certain generalizations, which may be true enough as far as they go, the dominating point of view in the science. The limitations of these frozen conceptions may be detrimental to future research. Peirce tells us that for the zoologist or the botanist, for instance, the more specimens available for observation the better, that it is "much safer to have a large number of individual specimens before him, from which he may get an idea of the amount and kind of individual or geographical variation to which the given species is subject" (EP, II, p. 126)

Peirce said that naturalists are the "great builders of conceptions." Their inductive, classificatory, comparative approach helps us form generalizations concerning the interrelationships between the specimens being observed:

> When a naturalist wishes to study a species, he collects a considerable number of specimens more or less similar. In contemplating them, he observes certain ones which are more or less alike in some particular respect. They all have, for instance, a certain S-shaped marking. He observes that they are not *precisely* alike, in this respect; the S has not precisely the same shape, but the differences are such as to lead him to believe that forms could be found intermediate between any two of those he possesses. He, now, finds other forms apparently quite dissimilar—say a marking in the form of a C—and the question is, whether he can find intermediate ones which will connect these latter with the others. This he often succeeds in doing in cases where it would at first be thought impossible; whereas, he sometimes find those which differ, at first glance, much less, to be separated in Nature by the non-occurrence of intermediaries.

In this way, he builds up from the study of Nature a new general conception of the character in question....It is by taking advantage of the idea of continuity, or passage from one form to another by insensible degrees, that the naturalist builds his conceptions. Now, the naturalists are the great builders of conceptions; there is no other branch of science where so much of this work is done as in theirs; and we must in great measure, take them for our teachers in this important part of logic. (p. 143)

What Peirce is saying is that if you are going to have good science and good theorizing, you have to have done a good job collecting, comparing and classifying beforehand. Inadequate conceptualizing and categorization will be a severe handicap.

PART THREE: MEANING

IT IS MORE THAN JUST THE MIND-BODY PROBLEM: THE PRESENCE OF MEANING

H. H. Price addressed the issue of how people respond to the theories of psychical research in this way:

> The theoretical side of psychical research has lagged far behind the evidential side. And that, I believe, is one of the main reasons why the evidence itself is still ignored by so many...highly educated people. It is because these queer facts apparently 'make no sense'...that they tend to make no permanent impression on the mind. (Quoted by Mundle in *Philosophical Dimensions of Parapsychology*, p. 76)

Price was certainly right in a general sort of way. But in another way his perspective on the role of theory is limited by conditionings from the very scientific tradition that he speaks for. What is missing is the awareness that the scientific tradition itself, with its roots in dualism of mind and matter, needs revamping. To bring about that transformation is it not enough merely to reintroduce mind in a convincing way into physical theory and do away with pernicious dualism. It is not just the mind-body problem. Nor is it merely a problem of getting a killer theory or even a good-enough theory that will express a monistic position in a convincing way. Rather there is a prior problem, one that has dramatic repercussions for theories. That problem is *the methods we use for identifying what constitutes the data to be explained*. Our methods for identifying what are data are still strongly influenced by the tenets of the scientific tradition from the 17th century with its irreducible dualism. The reason for the truth of Price's statement that people are so unmoved by the evidence and theories of psychical research is that the evidence itself has been identified on the basis of *a hidden but still lively dualism*, and in the process the most important real life concern for most people has been missed. That concern is *meaning.* Dualism removed meaning from the physical world and gave it to mind. Although I believe that it is safe to say that much of the distortion of reality that resulted from this dualism with its tendency to materialistic reductionism, has been removed or is on the way to being removed by quantum physics, yet the mere state,emt that the world has mind-like qualities leaves the issue of meaning almost totally untouched. The failure to put meaning front and center needs to be recognized and our efforts with theory must put meaning in its proper place. It is my belief that where people really live is not in the hope for a vision of a world with mind-like qualities, but in the desire to understand

how this world got so full of meaning and why it seems to be determined to work itself out in terms of meaning.

Charles Peirce had plans to write a book that would lay out his comprehensive theory. He wanted to call it "A Guess at the Riddle" and used the image of the Sphynx as the frontispiece. John Sheriff notes that "Peirce understood the question of the Sphinx to be not only about the relation of mind and matter...but also the purpose and meaning of human life" (Sheriff, p. xvii). Peirce wrote: "And this book, if ever written, as it soon will be if I am in a situation to do it, will be one of the births of time" (1.354n). For Peirce it was to be written as much from the point of view of the humanities as from that of science.

I agree with Peirce's analysis and statement of the problem in his development of the notion of sign and in his description of evolutionary metaphysics. For Peirce, reality is intelligible and intrinsically meaningful. He went so far as to say that all reality is a "profusion of signs" and that in the end there is and can be no unintelligible real, no residue of the unknowable. I say "in the end" because he did not mean to say that this intelligibility is now fully available to us; in fact, as I have pointed out, he postponed the attainment of complete intelligibility to some point in the unimaginably distant future with the arrival at a *final community of inquirers*. Be that as it may, reality, in so far as we have experience of it, is intelligible and meaningful. For Peirce, signs are the very stuff of reality and are not the exclusive property of intelligences. Signs involve meaning, and that meaning is at work everywhere in the world, whether we recognized it or not, through a "spreading of ideas" which goes on everywhere and indefinitely.

An examination of consciousness reveals that we constantly harvest meaning from experience. This occurs not only in those more obvious instances in which we *know* we are seeking the meaning of something (such as of a statement or a story), but in *every* aspect of experience at every second of our existence. Meaning is always happening and because we are intelligent beings we sometimes become aware of that fact. So the question is: How fundamental is meaning? Any truly comprehensive theory must say something useful about this.

One may well ask: How does an examination of meaning assist us in our search for a general theory? I believe it holds the promise of a theory of reality that can accommodate all the data we are most interested in within a single intelligible framework. Such a theory would begin where, in my opinion, all successful mind-body focussed metaphysical theories end—with a form of panexperientialism—and go on from there. It begins with panexperientialism not because that is the way to solve the

mind-body problem (although it does that too), but because all reality must be understood as *feeling* that enters into relationship with *feeling* and in the process creates meaning.

INTUITIONAL THEORIES

Although it is undoubtedly true that any general theory must be compatible with the data and theories of the various domains, I believe it is a mistake to make that compatibility the central concern.   The central concern should be presenting the general theory that most effectively expresses the essential nature of things. Just as in the West a preoccupation with the mind-body problem has impoverished philosophical and psychological research , becoming fixated on compatibility with current science can do the same for our project.   We must be ready to move out of the shadow of science-obsession and develop a freer, perhaps truer approach to theory. It is in that spirit that I take up the subject of intuition and its role in the development and presentation of theory.

We can make this move because in fact there is a way to talk about theories that is more inclusive than that deriving from the scientific perspective. In its broadest meaning, a theory can be said to be a scheme or system of ideas or statements held as an explanation or account of a group of facts or phenomena (OED). Taken in this widest sense, the word "theory" refers to any suggested explanation for an event or class of events. An intuitive explanation is not a scientific explanation, but this does not diminished its legitimacy and importance when we are attempting to provide a full account of explanatory theories.

Of course the broad OED definition applies to both metaphysical and domain theories as I have discussed them, but I believe it can also legitimately be seen to encompass a kind of theory which, while satisfying the criteria of the definition, does not fall under the scientific paradigm. Let us call theories of this type "intuitional theories." These theories too are based on data, data which are encountered within domains of interest or which, viewed from a metaphysical perspective, embrace the full data of reality. In other words, there are both domain and metaphysical intuitional theories.

The form taken by an intuitional theory and the basis for its justification are very different from what conforms to the scientific paradigm. Intuitional theories are expressed through stories, poetry, descriptions of visions, or other artistic media, and their justification or validation consists in the resonance felt by those who are exposed to them.

There are several reasons for paying attention to this kind of theorizing. The first is that it embodies one of the principle ways that we come to our personal beliefs about the important realities of our lives. Few of us base our vital beliefs on scientifically verified hypotheses. Rather we "sense" the way things are and express that sense to ourselves and others through creative images and narratives.

This type of knowing is very close to "gnosis" as described by Jeff Kripal in *The Serpents' Gift.* He argues for using the term "gnostic" to refer to the kind of knowing that is neither religious belief nor rational analysis, but "a form of intuitive, visionary, or mystical knowledge that privileges the primacy of personal experience and the depths of self over the claims of both faith and reason" (p. 4). Gnostic knowledge, says Kripal, views the universe as "a living poem, a cosmic epiphany" (p. 6) and "claims to know things that other forms of knowledge and experience (like traditional faith or pure reason) do not and probably cannot know, even as it submits its claims to public review, criticism, and renewal" (p. 12).

Intuitional theorizing also relates closely to Peirce's view of the evolutionarily compiled knowledge that we carry with us from birth. Peirce talked about this kind of knowing as our principal source of guidance in action and emphasized the generally superior reliability of this evolutionary stockpile of ideas over speculative thought. In fact, Peirce made a surprising connection between this type of knowing and the development of theory in the scientific paradigm. As I said in the previous part of the paper, the "guesses" we make in the process of sorting through possible scientific hypotheses for a particular set of data, are correct much more often than should be the case, given the vast number of possible hypotheses that might apply. This is because our "guessing" is based on the felt guidance of instinct, on our existential immersion in the very reality we are speculating about, and on the fundamental unity of all reality (which he termed *synechism*). He called this the "interior dimension" of ideas, by which ideas can be felt even when they cannot be articulated. He talked about our guessing instinct as *il lumine natural*, a felt sense of appropriateness which we use both in devising our scientific theories and in practical matters. (Ventimiglia 2008 , pp. 670, 676; see also Peircean Appendix #1at the end of this paper)

Despite the indisputable importance of intuitional theories for conducting our lives, and because of the hegemony of the scientific paradigm in our culture, there is little discussion and exploration of this kind of theory-making. I believe that our group should be ready to acknowledge the legitimacy of intuitional theories, especially considering the fact that they are very much in evidence in the texts of the great spiritual traditions.

I think we must acknowledge the legitimacy and importance of this approach to theory. Whitehead indicated as much, saying that philosophy is the critic of abstractions, "complementing them by direct comparison with more concrete intuitions of the universe." He believed that these intuitions are to be found in the work of the great poets, "penetrating into what is universal in concrete fact" (Whitehead 1926, p. 126). Whitehead said of modern science that "its methodological procedure is exclusive and intolerant, and rightly so. It fixes attention on a definite group of abstractions, neglects everything else, and elicits every scrap of information and theory which is relevant to what it has retained" (p. 288). But, says Whitehead, "true rationalism must always transcend itself by recurrence to the concrete in search of inspiration. A self-satisfied rationalism is in effect a form of anti-rationalism. It means an arbitrary halt at a particular set of abstractions. This was the case with science." (pp. 288-289). That is why he looks to the completion of science in engagement with art, literature, religion, the humanities, and ordinary common sense. These experiences provide essential sources of evidence needed for a full interpretation of reality, one more faithful to the complexity and diversity of our actual experience. Whitehead insists that these sources of knowledge must be honoured because "the rejection of any source of evidence is always treason to that ultimate rationalism which urges forward science and philosophy alike." (Whitehead 1962, p. 61)

HERMENEUTIC ISSUES

Getting back to meaning, we cannot discuss theories and theory-making without examining the problem of meaning: meaning both as found in our experience of the world and as expressed in our statements about the world, and more specifically in our theories. Whenever we form hypotheses about our experience in everyday life, we are assuming meaning and creating a communication about meaning. Experience is first, but we can only understand our experiences by expressing something about them, whether in concepts (which include hypotheses that in some way conform to the scientific paradigm) or in some creative expressive action.

The very existence of the "human sciences" (and the very ambiguity of such terminology) points to the inadequacy of defining reality in terms of the natural sciences. The truth is that we exist in a pre-conceptual world which is nonetheless characterized by meaning. We have an intuitive grasp of the world—it is intelligible to us in an immediate way. When we then reflect on what we know, we perform what has come to be called an interpretation, and that reflection is the basis for all creative

communication of meaning about the world, whether in conceptual language or creative expressive actions. By interpreting we enter a new level of alertness to the world, we do what James expressed as focussing on limited aspects of our experience and making them into objects or things that we can then communicate about as such. By this first step of interpretation we recognize a meaning that is there. By a second step we recognize the world *as a whole* as having meaning and expect to find it wherever we look.

A PERSONAL INTERLUDE: THE SUPREMACY OF MEANING

I ask the indulgence of the reader for a personal statement. There are two experiences I have had that I believe can be useful in exploring the place of meaning in our quest for a theory. They are both instances of what may be called meaning-packed coincidences of events, although these two stand at opposite ends of the scale of momentousness. In what follows I will use the term "synchronicity" (coined by Jung to represent "meaningful coincidence") to designate such happenings.

RFK

In 1968 I was living in a house on Admiral Road in Toronto with other psychotherapists. We each had our own room and shared the living facilities. A little after three in the morning on June 5, I suddenly woke up, instantaneously going from a sound sleep to complete waking awareness. I couldn't figure out what was happening. As far as I knew there had been no noise, I felt no pain or discomfort. Why had I awakened—and so suddenly? I turned on the light and, not knowing what else to do, reached for the transistor radio beside my bed. I flicked the "on" switch. It was tuned to a local station that I habitually listed to during the day, but, because it was the middle of the night and the AM band is subject to those strange late-night bounces, now a distant station had supplanted the local one. It was a California station. The radio voice, a newsman it seemed, was saying that Robert Kennedy had just finished a speech in some hotel. The newscaster was walking with Kennedy and his entourage and said that Kennedy was just passing through the hotel kitchen on his way to a press conference. As I listened, I heard sounds of mayhem. When the newsman was able to get his wits together, he said, with uncontrollable emotion, that Kennedy had just been shot. I was stunned. I could hardly believe what I was hearing. For the next hour or so I remained glued to this distant station, listening as the bits and pieces of news were put together to construct a picture of what had happened, and finally hearing the sad word of Kennedy's death.

I was devastated. I was an admirer of Kennedy and impressed by his campaign. I had seen him at the Exhibition Grounds in Toronto the previous fall and had even shaken his hand as he left the area. I felt his election as president would rekindle a sense of optimism and purpose that had been missing from the government since his brother's death. Now he had himself fallen the victim of an assassin.

Later, when I reflected on what happed to me in those few minutes that night, I began to realize that something truly extraordinary had occurred–for several reasons: 1) the fact that I had never before (and have never since) gone instantaneously from a sound sleep to total wakefulness, 2) the fact that when I reached for the radio it was tuned to a position on the dial that would give me that particular California station, 3) the fact that the broadcasting of the events of the assassination occurred within five minutes of my sudden awakening. Was this coincidence? I simply could not bring myself to accept that explanation. Could it have been some kind of ESP, some kind of telepathic communication from Kennedy picked up perhaps at random? At first sight that may seem possible. But a little thought showed me that this explanation could not stand. For what I was experiencing was not a mental impression or vision, rather I performed specific *actions* that were perfectly timed to hear that particular broadcast. Also, the events of the assassination were being broadcast not as I was awakening or just before I had awakened, but *after* I had awakened. In other words, when I was suddenly roused to alertness, *nothing had yet reached the public.*   This would seem to indicate that, whatever the explanation, I was responding to something yet to occur.

Let me add one more dimension to this very personal account with its very personal interpretation. Although the event was at the time extremely meaningful for me, there were some loose ends. For years I could not understand why, even given the paranormal dimensions of this experience, it was me to whom it happened. Then in the early 1980s I had occasion to study the traditional magico/spiritual system of the Hawaiian Islands, called "Huna."   In his exposition of this fascinating doctrine, Max Freedom Long described the Huna belief that when people have some kind of meaningful contact with each other, a "sticky thread" comes into existence that connects the two and continues to connect them wherever they go for the whole of their lives. Without going into the implications of this belief, I would just like to say that when I read this I suddenly remembered that night in 1968, but also, and especially, my handshake with Robert Kennedy. I recalled that handshake very vividly. That day I was, of course, very moved to be shaking the hand of a man who so greatly impressed me. But something else, something very odd also affected me. It was how his hand felt. It was a strange impression that I could not get out of my mind at the time. Without realizing it, when I reached out toward Kennedy, I had expected to feel

the warm moist hand of a young man, but what I felt instead really puzzled me. His hand felt like that of an old man, very dry, almost like leather. I was taken aback by the feeling, because it was so different from what I was expecting. (I believe this unusual impression burned the memory of that handshake into my mind.) Now, as I read Long's words about those "sticky threads," that contact with Kennedy's hand came back vividly to me. Viewing the experience in terms of the Huna picture of the world, for the first time a bit of light seemed to be cast on "why me?"   A vibrant thread of connection was there, and it was along that thread that the events of June 5, 1968 were strung.   Even though this new insight did not remove the mystery of the event, I seemed to feel a little more understanding. Somehow the significance of this man for me produced the impossibly intricate sequence of events in my Toronto bedroom that made possible one of the most extraordinary experiences of my life.

Now is the Hour

The following event happened to me quite recently. I had just entered the Christie Subway Station in Toronto and was headed toward the stairs leading down to the subway platform, when my mind was suddenly seized by a barrage of thoughts about a song I had sung with my friends as a youth. It was called "Now is the Hour" and we would sing it at parties or on busses headed for football games at the neighboring towns. Suddenly my imagination was taken over by this song. First I began wondering where I had first learned it—was it at school, was it at home? Do I remember the words correctly now? Could I sing the whole song through? I couldn't get these thoughts out of my head as I reached the top of the stairs. I was possessed by the song and as I began descending the stairs I felt compelled to sing it mentally, verse after verse. The verses go*: Now is the hour when we must say goodbye, Soon you'll be sailing far across the sea, While you're away O then remember me, When you return you'll find me waiting, Dear.* I was compulsively singing the song in my mind as I descended. When I reached the bottom of the stairs, and began to turn the corner onto the platform, I was beginning to mentally sing the verse: *While you're away...* and I looked to my left and saw down the platform a digital advertising sign with these words moving across its electronic space in mobile red dots: *While you are away....* I was, of course, stunned.

I immediately began reflecting on what had just happened. I had experienced a kind of possession by this song from the time I entered the station. I could not get rid of it, and I actually thought it ridiculous that I was letting it monopolize my attention.   But it was forceful, insistent. When I began singing the song mentally, I felt I had no choice but to see the blasted words through to the end. Then I reached the platform and

turned and the sign down the platform became visible, sporting the same words as those which at that moment were singing their way through my mind. An incredible coincidence? No, I did not feel that way about it. It was not blind chance; the circumstances of timing and the insistent force of it did not make that view credible to me. Rather it was a matter of "synchronicity." But what a stupid synchronicity! How silly can you get? "Synchronicity"—meaningful coincidence—but what a trivial meaning! As I pondered this, waiting for the subway, it struck me that it was precisely because it *was* so trivial that it was important. It said to me: You think you are so smart and know so much. But there is a lot more to this world than you think. Everything is connected in ways you cannot even imagine.   If such insignificant things as a song in the head and a chincy sign with a moving electronic line of lights can be put in synch, think of what other more profound connections must be at work in this seemingly pedestrian world of ours.

These synchronicities do not involve ecstatic visions or mystical feeling or materializations or any such thing, and yet are of extreme significance. That is because to me they flash: *MEANING!* and *CONNECTION*!

These incidents have certain striking characteristics. First of all, as I experienced them, they came with a force and a compulsion that swept me along. I felt I was being pushed or pressured somehow to carry out very specific actions or think about very specific things. Also, they did not in any way involve altered or unusual states of consciousness. But most importantly, they were suffused with meaning, a meaning that was immediately obvious (although further dimensions of that meaning may have come to light later), and a meaning that compellingly pointed to an irreducible and undeniable interconnection of all reality.

MEANING AND SYNCHRONICITIES

Synchronistic events are absolutely unique and unreplicable, and from a purely scientific point of view can at best be considered oddities. So in the search to develop scientific theories that make understandable phenomena that have previously been considered anomalous, these events must remain outsiders. Yet many of us find such events much more convincing than any mass of scientific evidence.

Something very basic is at stake here: the coextensiveness of meaning and reality, the universal presence of meaning in reality, whether that meaning is reflected on by intelligent beings or not. That is why we should not get lost in the mind-body problem, in our preoccupation to identify the action of mind in the world and to

ensure that its tie-in to the physical is unshakable and its acknowledgement as a constituent aspect of reality is assured. This preoccupation can distract us from the equally important task of finding out what the reality=meaning equation is all about. It is my contention that, take away meaning from the constitution of the world and we are left with the dead atoms of Democritus and micro-planets of Newton, and that when quantum mechanics introduced mind into the physical, it also smuggled in meaning at the same time. Having been smuggled in, it needs to be unpacked.

Thomas Nagel, in a brief essay (Nagel 2006), says the original scientific revolution, because of its inherent dualism could not actually provide a "theory of everything" and must be seen as a stage on the way to a more general form of understanding. The next stage will involve "a major conceptual revolution" of equal moment to that of the first revolution. I believe it is possible that the new revolution, although entailing a type of panexperientialism, will be much more, involving seeing reality and meaning as coextensive.

APPENDICES

Appendix #1
SPONANEITY AND CHANCE
The cosmology of Charles Sanders Peirce lends something particularly interesting to our perspective on the meaning of intuitional theories. According to Peirce, at the beginning of the cosmos that we see around us today there was an unlimited pool of potentiality. By chance there were flashes of *feeling* that came and went at random. Eventually two flashes occur together and the sense of distinction and relationship is generated. This happens more and more and relationships, which are triadic signs, complexify and these "ideas" spread. As they did, they tended to take on habits, repeated patterns of being which contain the notion of generality (as opposed to pure individuality and pure spontaneity). The spread of ideas meant a spread of generality and of intelligibility (only the general is intelligible). Habits maintain what has been, while chance is the ongoing source of the new in the cosmos.

According to Peirce, spontaneity and chance is constrained by teleology in this way: once habits (repeated ways of being) occur in the universe, those habits will affect consequent acts of chance that occur. "Cosmic ideas, in their capacity as final causes, will affect spontaneity and will therefore compromise its independence," writes Michael Ventimiglia (Ventimiglia 2008, p. 670). So new cosmic possibilities are *guided,* but not *determined.* Ventimiglia writes,

> We see this at work in the guidance of *il lumine naturale* in science or in sentiment in practical matters. At the cosmic level, this implies that new cosmic possibilities will be guided though not determined by their teleological context. At their most pervasive and gentle, cosmic habits exert their influence primarily through the lure of final causation. In their more habit-ridden manifestations these general ideas shade into matter itself, so habit-ridden that their mode of causality approaches, but does not reach, the limit point of efficient causality. Recalling once again that "[t]he existence of things *consists* in their regular behavior" (*EP* I, 278, c. 1890), we see that even the least mind-like levels of the Peircean cosmos can be understood to be ideas or habits of action infused with feeling and operating through some level of final causality. Even in matter, the limit point of actuality, cosmic feeling is not perfectly extinguished (cf. *EP* I, 349, 1892). Thus general ideas, for Peirce, remain living feelings or, as Robert Corrington puts it, "concresced moments within the life of feeling." (p. 670)

For Peirce there is a sensual aspect of human abduction (guessing at the hidden nature of things, or theory-making), and searching for the proper abduction depends to some

degree on a felt self of appropriateness. For that reason, the expressions of the felt sense of the creative soul, in poetry, painting, writing, etc., leads the person who encounters that expression toward that broad felt sense of cosmic ideas as developed up to this point. The person who encounters a creative production experiences a resonance with his or her own unconceptualizable felt sense. In this way we affect and influence each other, and in my intuitive experience of a piece of art I share a felt sense available to all, but activated and reinforced by this particular artistic piece.

Appendix # 2

PEIRCE ON HABIT AS VEHICLE OF ACTION:
NOTES ON SOME IMPLICATIONS FOR THE NOTION OF *EMBODIMENT*

"I endeavored to show what elementary ideas ought to enter our view of the universe. I may mention that on those considerations I had already grounded a cosmical theory and from it had deduced a considerable number of consequences capable of being compared with experience. This comparison is now in progress, but under existing circumstances must occupy many years." (EP*,* 1, p. 298)

Part 1: Regularity

1. Regularity, not chance, is the riddle of the world that requires explanation (EP,1I, p. 288) This is the great task of philosophy, and Peirce's answer is what he calls his "guess at the riddle" (EP, 1, p. 277).   His answer is that there are three elements active in the world: chance, law and habit-taking.   Chance exhibits the spontaneity associated with mind. Habit-taking provides intelligibility.

2. Regularity requires a *cosmological* explanation. It much be shown by philosophy how regularity in general *came to be;* it is regularity, not chance that needs to be explained. (EP, I, p. 276)

3. The fundamental element of the universe is mind; matter or the physical is secondary, a modification of mind. Psychical law alone is primordial; physical law is derived. (EP, I, p. 292)

4. Regularity and continuity derive from the Law of Mind, which makes a given feeling more likely to arise. This is the tendency for habit-taking (EP, I, p. 292)

5. The one intelligible theory of the universe is that of objective idealism, that matter is mind hide-bound by *habit*, inveterate habits becoming physical laws. "The main element of habit is the tendency to repeat any action that has been performed before" (EP, I, p. 223). The physical is *mind* so habitualized, regular, and predictable that it ceases almost entirely to exhibit the spontaneous qualities we typical associate with mind. (EP, I, p. 293)

6. So lawful behavior in nature is not eternal but the result of a gradual tendency toward the increasingly more regular behavior displayed by nature. Peirce talked about a *habit-taking* tendency, on analogy with the habits formed by organisms. For Peirce the tendency to habit-taking forms a kind of loop in which that tendency itself becomes more and more a habit.

7. Physical "laws" are regularities that have evolved and hold good at the present stage of evolution. Our knowledge of these "laws" is necessarily only an approximation, however, and must be continually revised. That physical laws are absolute is an impossible position to defend. It rules out mental action, free will, and evolution. (EP, I, pp. 298 ff.)

8. The principle of habit-taking as a tendency in all of reality is the basis for evolution. "Systems or compounds which have bad habits are quickly destroyed, those which have no habits follow the same course; only those which have good habits tend to survive" (EP, I, p. 223

Part 2: Substances and Embodiment

1. For Peirce, substances are bundles of habits. They are bundles that have, over time, taken on habits of persistency and become less and less likely to disappear. In this way they get to be relatively permanent. (EP, I, p. 279.

2. Our experience shows us that our world is made up of substances in this sense. These bundles of habits become vehicles for action; they provide the wherewithal to act and they persist long enough to allow action to occur.

3. *Physical* substances (such as iron atoms) are mind hide-bound with habit and almost nothing really new occurs in regard to their properties and actions. But living

things as substances, as bundles of habits of a particular kind, introduce a greater degree of chance and more free choice. They go beyond the more hide-bound bundles and allow a weakening of the bastions of habit to free up action and experience. As free they exhibit the spontaneity associated with chance and are both less predictable and less intelligible than hide-bound substances.

4. Living substances, as vehicles of action, are what we call "bodies."   All of reality is mind. Bundles that persist and provide a vehicle for action will be "physical" to the degree that they are habit-bound. The more habit-bound, the more they partake of those qualities attributed to "matter."

5. From a different perspective, Peirce says that some logicians imagine that an idea must be connected with a brain, or has to inhere in a "soul." He insists: "This is preposterous: the idea does not belong to the soul; it is the soul that belongs to the idea. The soul does for the idea just what the cellulose does for the Beauty of the rose; that is to say, it affords it opportunity" (EP, II, p. 122). He further states that

> ...ideas are not all mere creations of this or that mind, but on the contrary have a power of finding or creating their vehicles, and having found them, of conferring upon them the ability to transform the face of the earth. If you ask what mode of being is supposed to belong to an idea that is in no mind, the reply will come that undoubtedly the idea must be embodied (or ensouled; it is all one) in order to attain complete being, and that if, at a any moment, it should happen that an idea,--say that of physical decency,--was quite unconceived by any living being, then its mode of being (supposing that it was not altogether dead) would consist precisely in this, namely, that it was about to receive embodiment (or ensoulment) and to work in the world. (EP, II, p. 123)

6. In my opinion, an analysis of bodies and possible kinds of embodiment must take this state of affairs into account. As I see it, there may be any number of "levels" of embodiment, in the sense that degree of embodiment is simply the degree of habit-boundness. It is true that we can roughly talk about levels of embodiment as though there were a few clearly distinct types of bodies. This has been the traditional way to approach the problem, as Poortman shows, and as Eric exemplifies.   But I consider this merely a convenient practical way to discuss the matter. It does not shows us *why* levels exist; neither does it provide justification for positing only a limited number of levels of embodiment. On the other hand, Peirce's evolutionary metaphysics actually gives the problem of embodiment a solid explanatory framework.

7. I believe we must look at embodiment as fluid, always evolving, never fixed and set. Existing bundling of habits can change, take on new modes of freedom which will have effects on the "physical" aspect of the evolving being. In fact, the new bundling will *necessarily* create a new physicality, because, like all of reality, the physical is mind acting in heavily habitual ways. The mistake all along has been to think that the body of a living thing (or anybody) is made up of particles of "matter." In the view I present here, embodied substances are bundles of habits, thoroughly mentally based realities, that are not characterized by the degree of fixity of 'material' things as conceived by classical physics. They present as material insofar as they have elements that are hidebound by habit, but even in this more "material" aspect of the body of a living being, freedom is never completely excluded.

8. The view I present in #s 6 and 7 above are not found as such in Peirce, but I consider them the natural elaboration of his ideas.

Part 3: The Necromanteion

1. The view I have been presenting has evolved over the past years and has affected how I see the world. The world is mind--living, evolving, exhibiting habits of all kinds, constantly transcending old habits to take on new ones. It is a world in which chance and freedom (which are the same thing in the end) come first and habit and intelligibility follow.   It is a fluid world with untold possibilities.

2. I believe the task of human understanding, of true philosophy, is to show how this state of affairs came about and what the implications are. We most effectively carry out this task by exploring the edges of experience where old habits are being transformed into new. I believe that the arena in which this exploration takes place is what Mike means by a "necromanteion" as he uses that term in his book *The Kingdom of Shivas Irons*.

3. There Mike indicates that for him a Necromanteion is more than just a place to communicate with the dead and receive their counsel, as described in the ancient literature. It is a threshold to the depths of the reality we live in. That depth is always there but in our present state of development we are only aware of it and experience it under special circumstances. *The Kingdom* says that a Necromanteion is not always some place that has been designed for the purpose, some room or cavern constructed for this special activity. Rather a Necromanteion can come into existence in any situation in which extraordinary concentration is applied. Yes, it may be a special room, but it may just as well be a golf course or the playing field of any sport. Or a

place of meditation.   Or a situation of intense sexual exchange. Or a concentrated study of some subject. It is where one can actually undergo, at least in some initial way, the transformation of old habit into new.

4. Necromanteion—yes indeed we need a new branding.   Originally "necromanteion" meant a place of communion with and instruction by the dead.   Our group originally got together to talk about survival of death, and such things as whether we can communicate with those who have passed on. But this perspective is inadequate as a description of our work at present. It has evolved into something bigger, and how we understand ourselves and how we make ourselves known to others must now take on the broadest scope. Our passion is surely not just finding out whether we will survive in some other reality. We want more. Besides, the truth is that there is no world of the dead that we go to or communicate with. There is only one reality. It is all here, now, and there isn't anything else. A Necromanteion, as Mike describes it, takes us far beyond mere communion with the dead.   A Necromanteion is a place of focussed attention and action that serves as a threshold that opens onto the More beyond ordinary experience.

5. I believe that scientific research can also be a Necromanteion.   Surely in its best form, science should be a focussed work that opens a door to what is beyond our immediate knowledge. At least, this should be the nature of the science our group is doing, and the rebranding of our seminar should reflect this. Certainly Sursem has been this for me. It has been a threshold experience of great significance in my life.   It has contributed to my seeing *all* experience as a potential Necromanteion.

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