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NOTES TOWARDS AN ESALEN SPACETIME LECTURE
February 27, 2009

I. Introduction
   A. Why a theory of the subtle worlds is necessary
   B. Why an analysis of spacetime is necessary
   C. My experience: "liberate spacetime so God can shine in it."
   D. The problem: our ideas of space and time are inextricably intertwined with our notions of matter, energy, cause, consciousness and so on, so that understanding the spacetime of the subtle worlds requires a complete metaphysical and cosmological revolution.

II. We are accustomed to imagine that actuality is somehow contained in spacetime – that spacetime is a neutral container, characterized only by geometrical properties, and that everything real happens in that container. What I hope to do in this first part of the lecture is to demonstrate that it is both intelligible and plausible to imagine that that factor in nature which actually contains actuality is *not* some neutral, outer spacetime, but rather it is something that is inextricably connected to consciousness itself.
   A. The first thing I'd like you to notice is that there is a bifurcation in our ordinary, scientifically informed common sense notion of spacetime.
      1. On one hand, there is the mathematically defined space of physics.
         a) We imagine this space to be objective – in the sense that it would still be there even in the absence of any consciousness whatsoever.
         b) Even in a relativistic framework, where the curvature of space is determined in important ways by moving masses within it and where, therefore, spacetime, matter and energy are shown to be intrinsically interrelated, there is no mention of consciousness per se.
      2. On the other hand, there is an 'inner space,' the space that we perceive, or, rather, the space which contextualizes our perceptions of various individual entities.
         a) Let us examine that space:
            1) It is strictly bounded by outer edge of what we can directly experience. The space of physics has no outer boundaries, and is either infinite or closed.
            2) It is subject to misinterpretation, as when we see a small close thing as a large distant thing. There can be no such confusion in the space of physics.
            3) In the space of perception, we are always dead center, always at the origin of our own set of coordinates. In the space of physics there is no privileged point in this same sense.

B. Now, what is the relationship between these two spaces – the smooth, geometrical, infinitely extended, homogenous space of physics, and the rough, bordered, sometimes illusive space of perception, with its privileged center?
C. It is usually assumed that the space of perception is, through some mysterious process (the "hard problem" comes up here) *generated* by causal processes in the outer spacetime of physics. The major efforts of cognitive science are directed at producing some plausible way in which energy and matter operating in mathematical spacetime can generate a representation of themselves in perception and consciousness. The idea is that the "real thing," the ontologically privileged domain, is "outside" in mathematical spacetime, whereas perception is either epiphenomenal or derivative.
D. I want to suggest that this approach is strictly backwards. That is, if we are going to be empirical in our explanations, we have to stat with what we actually experience. And what we actually experience is the 'inner' world of perception.
E. In terms of quantum physics, as Von Neumann teaches us, there is Process 1 which is the psychological experience of the experimenter, then there is process 2 and 3 which are, respectively, the Schrödinger wave equation and the measured collapse of the observed quantum events. Operating under the influence of several hundred years of reductionism, physicists customarily assume that the probability wave and the quantum events are the *real* thing, and that the experience of the experimenter is, ultimately derivative. Von Neumann, suggests that Process 1 and, in particular, the free choice of the experimenter, are an irreducible reality that is also a necessary factor in actuality. I want to point out that the only empirically observed reality is Process 1, the domain of psychological experience. Process 2 and Process 3 are *deduced* from, or abstracted out of, experiences that occur in the domain of Process 1, but they are never empirically observed.
    1. This is the basic premise of Alfred North Whitehead's philosophy of science. He begins from Process 1, and shows how the conceptual structures that characterize scientific structures can be abstracted from that. This is, it seems to me, the only way to show the empirical validity of scientific constructs.
F. This approach has many implications, but in this lecture I want to stay with a consideration of what this means for spacetime.
G. Let us return to our examination of this perceptual world:
    1. Experiential space is a mandala
        a) It is always centered around a privileged point
        b) It is always intrinsically coherent
    2. We imagine the nature of outer space in terms of geometrical structures. We imagine the nature of perceptual space through the mandala structure.
    3. The mandala structure places a conscious perception at the center of a coherently ordered array of phenomena.
H. Let us examine this mandala structure right now. Each of us is at the center of his or her own experience. This experience is an experience of a variety of entities, and these particular *experiences* would not be at all if I were not experiencing them. We cannot, by definition, imagine an experience that is not being experienced. And the kind of experiencer that we are is one which

necessarily contextualizes its experiences in terms of a mandala-like structure – which is the spacetime of experience.

I. What I want to suggest is that *this mandala-like structure of experience is the actual spacetime in which the creative advance is unfolding*. In other words, I want to suggest that perceptual space is not something derivative from events in outer, geometrical space. Rather, perceptual spacetime is spacetime itself, and geometrical space is just an abstraction which allows us to describe certain features of the perceptual space from which it is an abstraction.

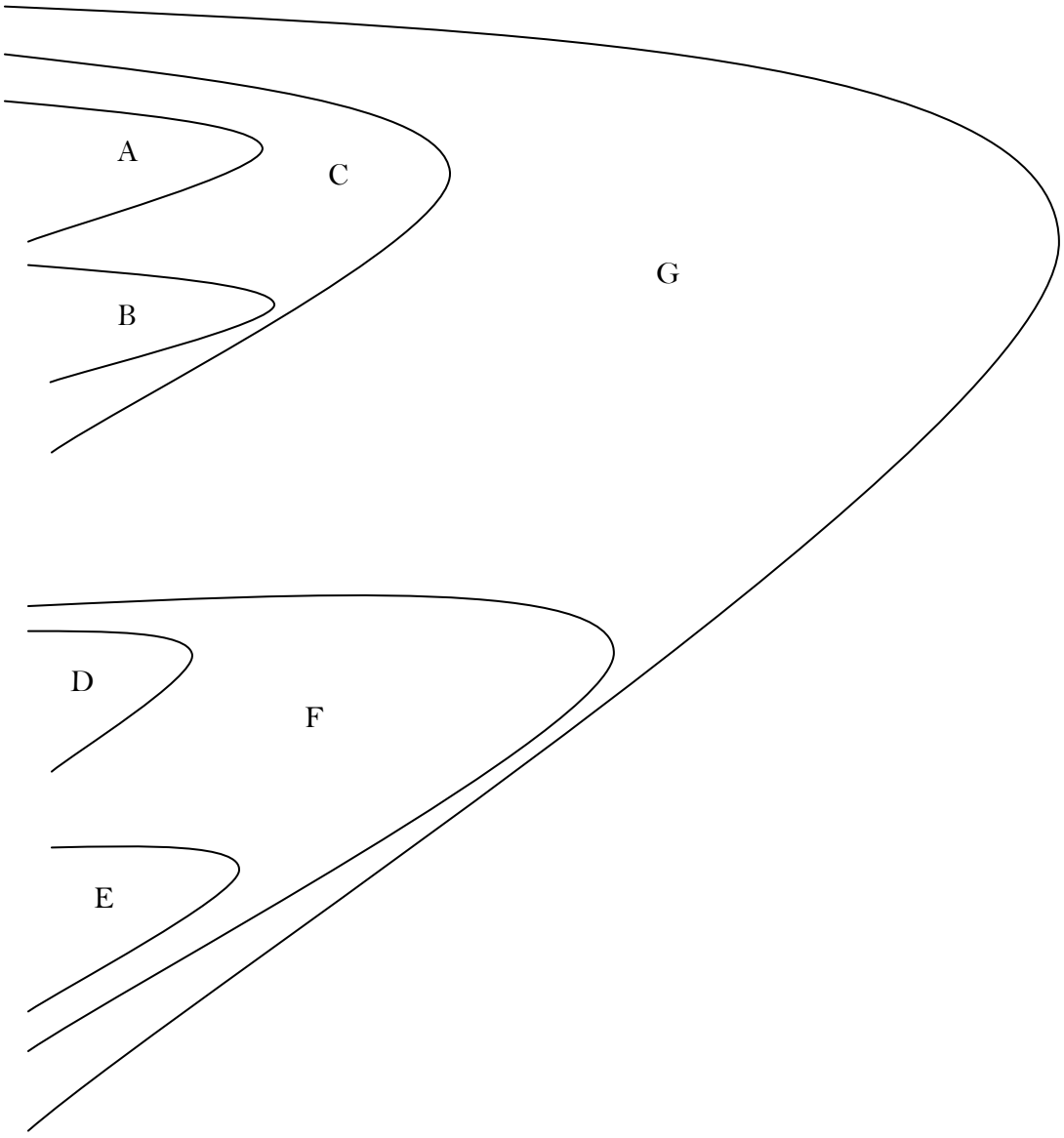

FIGURE 1: Each parabola represents an actual occasion. The past is on the left, the future is on the right.

J. Let us now move from phenomenology to metaphysics.
   1. See Figure 1
      a) Each parabola is an actual occasion
      b) Each actual occasion contains, or "houses" the entirety of its causal past
      c) It may look as if these actual occasions are in spacetime, where the paper itself represents that neutral container, but if we draw enough of these actual occasions, we can see that eventually they will swallow the paper whole
      d) The unity which the actual occasion derives from its causal past is a function of the mental pole, the conscious pole of the occasion
      e) The space inside the parabola is mandala space
      f) Each occasion houses the entirety of its causal past and is, in turn, housed by subsequent occasions. As Whitehead says, outside of these occasions there is "nothing, mere nothing."
      g) Each of these actual occasions is just what James called a "thinker." Whitehead, carrying out James program, envisions all of reality as causally interrelated "thinkers"

K. Now lets' come back to experience. Each of us, in every moment, is a thinker, an actual occasion. Each of us houses the entirety of our past. Thus, each of us *is* an atom of spacetime. The entirety of the past is contained *in our experience.* Our experience is not a representation of the past, it is the actual past causally expressing itself in our present moment of experience/existence.

L. When we imagine our experience to be a mere representation of the outer world, then it is as if we are in a glass bubble, and some outer reality is being selectively represented on the surface of that bubble. But in the way of understanding that we are exploring today, there is no bubble. Our experience is the real thing.

M. Finally, if every moment of our experience is an atom of spacetime, and if the unity of that experience is predicated on the existence of the mental, conscious pole of the occasion that we are, then actual spacetime is inseparable from consciousness. This is one of the key points that needs to be understood if we are to grasp the spacetime of the subtle worlds.

N. Note that relativity already suggests that space, time and energy are inseparably intertwined. Quantum theory suggests the existence of irreducible mind. This theory demonstrates the inseparable intertwining of space, time energy and *consciousness.* I would suggest that any unified field theory has to integrate consciousness into its formulation, and this conceptualization provides a way to do that.

O. Of course, our *mentally conscious* experience is not just the raw experience of the reality around us. There is a considerable element of interpretation involved. This is because our experiences of the world outside of our bodies is transmitted to us through the occasions making up out bodies. Thus we have two different modes of experiencing the world.
   1. First, we experience the world in the mode of causal efficacy, which is to say that every actual occasion in our past has some, however negligible, causal effect on the structure of our experience.

2. Secondly, we experience the world in the mode of presentational immediacy, which is to say that our experience is dominated by the causal efficacy of those occasions in the bodily hierarchy which are, in some important sense, closest to us.

P. This does not change the general principle, which is that what is in our experience is the real world. Even the occasions of our own bodies, the objectifications of which dominate our everyday perception, are other occasions in the real world.

III. Break for discussion

IV. In this second part of the lecture, I just want to sketch out some of the other elements of the theory that I am developing.

A. The connections between actual occasions.

1. We have seen that actual occasions are just an elaboration of what James called "momentary thinkers." It is obvious that what I thought a moment ago has a causal effect on me, and so forth. Also, if all events in the actual world are, like me, thinkers, then understanding the causal interaction among these thinkers, among actual occasions, becomes crucial for understanding reality.
2. We can translate Whitehead's word "concrescence" as James "momentary thinker," and we can translate Whitehead's word "prehension" as causal connection among concrescences (or actual occasions). This is entirely consistent with James' program in "Essays on Radical Empiricism," where he suggests that relations among entities, as well as entities themselves, are actual.
3. Let's go back to Figure 1.
   a) Occasion D contains, houses, or is extended over occasions A, and B, and Occasion D is causally affected (efficiently) by occasions A, and B.
   b) Thus we can say that containment (which we have identified as a crucial element of spacetime), or extension (another word for containment) and causal effect (in the sense of efficient causation) are aspects of the same relationship.
4. Now, let us consider the relationship between occasions from another point of view.
   a) According to process theory, to be the subject of efficient causation is to have an experience. What I am experiencing is the objectification – or causal expression - of the experiences of past actual occasions. I receive those experiences into myself, I interpret them, sometimes I modify them, and then I transmit them to future occasions. Thus, the transmission of energy is always simultaneously the transmission of experience.
   b) In this sense, all objective experience is the experience of past experiences.
   c) But experiences of past experiences are, in a general sense, memories. All of my experiences are experiences of past experiences. Some of those experiences are experiences of occasions that I now identify as having been "me" in the past. We often reserve the word "memory" for those particularly intimate experiences of past experiences. But, in principle,

those experiences are no different from my other experiences of past experiences – they differ only in that they are more intimate, and that I identify the occasions which had those experiences as having been "me." The point is that efficient causation and memory are, at this level, one and the same thing.

5. Stepping back, then, we can see that prehension, or the primitive relation that joins occasions one to another is a relationship out of which can be abstracted:
   a) Extension or containment
   b) Efficient causation
   c) Memory.
6. This way of regarding the primitive relationship among occasions has two huge advantages:
   a) It allows us to abandon any attempt to explain memory by a trace theory. There is no need for any physical record in the brain to explain memory. Memory is just the objectification of a past occasion in a present occasion. Because all of the past is causally effective in the present, there need be no special route of transmission to connect a memory to a present occasion.
   b) Memory is a direct sharing of experience. Empathy and telepathy are direct sharing of experience. What is suggested here is that the basic causal relation among occasions is just the kind of causal relation studied in parapsychology. It is not that we have to construct some elaborate theory to account for parapsychological phenomena in terms of physical causes, rather we have to construct an account of how intrinsically parapsychological relations are limited and restricted so that they function as physical causes in the inorganic world.

V. The structuring function of spacetime. In this third part of the lecture, I want to discuss the structuring function of spacetime.
   A. To explore this topic adequately would take several more lectures. So what I want to do is just to give you a very high level sketch of how these ideas that I have presented can figure into an understanding of spacetime in its structuring function.
   B. Spacetime/consciousness contains the past, but it does not order the past. The past, as a nested set of concrescences, is already ordered. Going back to our figure, we could say that occasion C contains A and B, F occasion F contains D and E, and G contains all of the others.. This nested set of occasions is prehended and, in high grade concrescences, the pattern (the eternal object) characterizing this nesting can, itself, be prehended and elicited into conscious relevance.
   C. In this sense, the ordering relations characterizing spacetime are *a posteriori*, they are learned from experience.
   D. Also, when we realize that memory, just like perception, is a direct causal relation among actual occasions, and that direct causal relations among occasions define spatial spatiotemporal proximity, we begin to realize that the actual spacetime that we inhabit is much more complex than we usually realize.

E. Let's say, for example, that one of you was to ask me a question that I couldn't immediately answer, and that reminded me of some disastrous occasion in the past when I gave a bad lecture, and suddenly I became very insecure. That disastrous past experience would be having a direct causal influence on the present moment. That past moment is much further away in mathematical spacetime than, say, the experiences that I had today at breakfast. But it is much closer to me in the intensity of its causal effect.
F. I want to suggest – this is just a suggestion because to develop this idea fully would take a long time – that our perceptions are ordered in terms of the mathematical space of physics, but that our memories – which are also direct causal interactions among occasions, are ordered in terms of a spacetime in which distance is defined by morphic resonance. I remember, or I am causally effected by, or I extend over an experience in the past insofar as that past experience has a morphic resonance with the present moment.
G. This spacetime, a spacetime in which distance is defined in terms of morphic resonance instead of being defined in terms of mathematical distance, is the spacetime of the astral world, or of that trans-physical world which is closest to the physical.
H. When we die, we withdraw from the mathematical spacetime of the perceptual world, but we continue to exist in the subtle spacetime which we already glimpse in the ordering of our personal memories.
I. I hope that this gives you just a glimpse of how a world of actual occasions, in which spacetime is inseparable from consciousness, and in which memory, efficient causation and extension are intimately interrelated, opens up the possibility of defining a spacetime structure within which afterlife experiences can take place.