

# Primary Knowing: When Perception Happens from the Whole Field

*Conversation with Professor Eleanor Rosch University of California, Berkeley, Dept. of Psychology October 15, 1999*

**COS:** Eleanor Rosch, what underlying questions does your work address? And what was the context in your own life that gave rise to that question in the first place?

**Eleanor Rosch:** Well, I don't actually work with explicit questions, but rather with inexplicit questioning.

**COS:** Okay.

**Eleanor Rosch:** That has probably directed everything I've done. So it's like a compass that points to an open area, but I'm not sure what it is that the questioning is going towards.

**COS:** Can you share a little bit about your life, where your folks come from and where you were born?

**Eleanor Rosch:** I was born in New York. My father was an English teacher and actually from England, came over when he was a child. And my mother's family came from Russia as refugees.

**COS:** When was that?

**Eleanor Rosch:** Right before the Revolution. They barely escaped.

**COS:** Really? And then they met in New York?

**Eleanor Rosch:** Yes. They were both teachers. They left New York when I turned seven, migrated west, and ended up in California after a year in Arizona. I grew up in San Fernando, California.

**COS:** Where is that?

## I. Learning To Read In A Single Day

**Eleanor Rosch:** It's in Southern California; it's part of Los Angeles. I was sick a lot and was one of those late bloomers in terms of school; in fact, I didn't learn to read until the summer before the fifth grade.

**COS:** Really?

**Eleanor Rosch:** Yes, I was a non-reader, in fact a non-learner. And then magically I learned to read in about half a day. It just got to the point where something turned in the mind, and I was tired of being read to. I picked up a book and struggled with it and could read by the end of the day. I would go to the kitchen and ask my mother, what is this word and what is that word? When she started looking really annoyed, I'd back away. By the end of three days, I was reading everything. Thereafter, to escape San Fernando, I lived in books.

**COS:** Isn't that interesting?

**Eleanor Rosch:** Yes. So I thought I was going to write as a career, because my life was reading novels and stories. I went to college assuming that I'd major in literature. I went to Reed College, which is a little liberal arts college in Portland, Oregon, that produces people who go on to graduate school. It had its own very innovative sort of learning. The whole college was about 500 students, and the classes were very interactive with the teachers. Students were challenged to talk. The content of classes was organized rather untraditionally. It only had two literature teachers, and you weren't supposed to take classes from them until your junior year, but because I was so sure of what I wanted to do, I convinced them to let me take the poetry class as a sophomore. It was just horrible. I didn't understand a word the teacher was saying. We didn't read any poet I'd ever heard of before or since, and the teacher had entirely his own take on everything which certainly wasn't mine. At the same time I was quite fascinated by philosophy and psychology, so I switched into philosophy and psychology.

**COS:** What was it that got you interested in philosophy? What sort of questions or books or encounters?

**Eleanor Rosch:** Here in philosophy were all those questions had been so striking to me in literature, but now in their pure form. It's as though I had been getting little bits of a drug from food and then discovered the drug.

**COS:** What sorts of questions, for example?

**Eleanor Rosch:** We started out by reading Plato, which immediately hits you with: What makes anything what it is? How can you know anything?

**COS:** Isn't that a graceful experience, to be reading Plato?

### **Suddenly I Was Cured From Philosophy**

**Eleanor Rosch:** Yes indeed. I was also very interested in psychology and sociology and anthropology, and kind of everything. I ended up doing my honors thesis on Wittgenstein's Philosophical Investigations. But you know how he says he's going to cure you of doing philosophy? -- well I'm the only person I've ever met whom he cured. So there I was, a senior, and it was terrible, because suddenly, what was I going to do? I had gotten as far as applying for a Marshall fellowship. I was one of their finalists. I had been flown down to San Francisco to be interviewed. I knew exactly what I wanted to study; and they were all looking very sympathetic when I outlined why I wanted to go where, with whom I wanted to study -- and then suddenly, I didn't want to study it; I was cured.

**COS:** What's behind it? What happened, really?

**Eleanor Rosch:** I think now I'd say that philosophy isn't the way to get at deep things, particularly our philosophy. I'm not sure we have a philosophy. Philosophy's degenerated over the centuries, and modern philosophy is just terrible. When I was wondering whether to stay in it, I would read current journals and say, No, this is nonsense! I still feel that way. Cognitive science philosophers are renowned because they're clever and say bon mots that are quotable, not because they have any ideas. If philosophers were once advisors to kings, now they're court jesters. And the serious ones are of the arcane how-many-angels-dance-on-a-pin variety who can talk only to each other. So there I was.

**COS:** That was in what year?

**Eleanor Rosch:** Oh, the early '60s.

**Eleanor Rosch:** I hung around for awhile in Portland, working as a case worker in the welfare department, and thinking about what I was going to do.

**COS:** So you made contact with real reality, in other words.

**Eleanor Rosch:** Yes, and I started taking classes in modern dance and --

**COS:** Really!

**Eleanor Rosch:** -- various things. Yes, that was a dose of reality. Working as a welfare worker made me say, my God, this is going nowhere for anybody: the recipients, the welfare workers, the government. I had to do something else, and I didn't know what else to do. I'll tell you the real truth about how I ended up in psychology. I was madly in love with this guy, and in his view there were only two legitimate things that you could do in the world. You could either be in theoretical physics like he was, or you could be a psychiatrist like his mother. Actually his mother was also a wonderful person and a role model.

## **Harvard and the Quest for Empirical Epistemology**

The idea was that I would apply to graduate school in clinical psychology and get a degree in that. From there I'd be trained as a psychoanalyst at the William Alanson White Institute, which is where his mother was. By then he would be doing fantastic theoretical physics, and we'd get married and live in New York like human beings did. My exile would be removed; I'd have moved back to the center of civilization. I did end up going to graduate school in clinical psychology, but chose Harvard because I wasn't all that keen on clinical psychology in its own right, and in the Harvard program, clinical psychology is part of what was called the Department of Social Relations, an interdisciplinary department of sociology, anthropology and psychology.

**COS:** Yes, I've heard about that.

**Eleanor Rosch:** It looked quite fascinating. So I was there, but of course my relationship and I broke up. So now with him gone, what was I doing in psychology? But I was also unhappy, and that isn't the frame of mind to switch majors, so I ended up getting a degree in psychology. Actually, I was already writing my dissertation on language use under Roger Brown when I first encountered the then-new field of cognitive psychology. Aha! Here was what I'd wanted all along from philosophy, empirical epistemology. Or so it seemed then. Then I got married to an anthropologist, and we went and did field work in New Guinea.

**COS:** When did you graduate? So that was after you graduated?

**Eleanor Rosch:** I think it was in '69, but it might have been '68. We did two periods of field work, and the first one was before I graduated. I'm not sure exactly when I actually got the degree.

**COS:** Okay.

## **II. Categorization**

**Eleanor Rosch:** I guess it was so miserably uncomfortable in New Guinea that I figured what I was doing had to be important. I was doing work on Dani color and form categories and on their child rearing (lots of event recording of mothers and children interacting). I've never actually written up the child-rearing material, but the Dani color research was the beginning of my work on categorization. What I'm best known for isn't *The Embodied Mind* or this new primary knowing material you heard me talk about, but concepts and categories. By challenging the prevailing view of concepts and categories that we'd had since the Greeks (the problem of universals, as it's called in philosophy), my work founded the current field of categorization research. I don't know if you've come across any of that.

**COS:** Yes, a little. But could you describe the core topic of that?

**Eleanor Rosch:** Well, categorization is one of the most basic functions of living creatures. We live in a categorized world -- table, chair, male, female, democracy, monarchy -- every object and event is unique, but we act towards them as members of classes. Prior to my work, categories and concepts were simply assumed, from philosophy, to be something explicit and formal, that is, to be arbitrary logical sets with defining features and clear-cut boundaries. This is what is now called the classical

view of categories, which comes down from Aristotle through Locke and the British empiricists. In a nutshell it's **the idea that categories and concepts are matters of logic; they are clearly bounded sets; something either is or is not in the category. It is in the category if it has certain defining features, and if it doesn't, then it's outside the category.** When psychologists did research on concept learning, they used artificial concepts and sets of artificial stimuli that were constructed so that they formed little micro-worlds in which those prevailing beliefs about the nature of categories were already built in. Then they'd do their learning experiments. But what they found out in terms of the nature of categories was already a foregone conclusion because that was what they had already built into it.

**COS:** Okay.

**Eleanor Rosch:** So my work said, stop! Is this what real-world categories are like? Let me show you an example. Think of the color red. Think of your idea or image of red. Okay, now, how good an example of red is this [holds up bright red object]?

**COS:** Pretty good, yes.

**Eleanor Rosch:** And this [another object], less good, or better?

**COS:** Less good.

**Eleanor Rosch:** Yes. And how about this?

**COS:** Less good.

**Eleanor Rosch:** Yes. Okay, well, you can't have that in a set defined only by its logical criteria.

And not only that but, let's see, is this red? This thing here.

**COS:** It has red, it is not red, I would say.

**Eleanor Rosch:** Yeah, and it took you a long time to say that, right? Whereas, is this red?

**COS:** Yes.

**Eleanor Rosch:** Okay. So actually the boundaries of what is red are not clear-cut. There are categorizations that people disagree about, and that the same person disagrees with himself about at different times. And not only that but you could see from your own reaction time that it takes you a lot longer to decide --

**COS:** I had an internal debate.

**Eleanor Rosch:** Right, exactly, yes. And again, it can't be one of these logical set things. So this started a long research project. My basic idea, in its most general form, was that concepts and categories form to mirror real-world structure rather than logic. (Real-world structure includes perception and life activities). The first thing I studied were the color and form categories of that New Guinea people, the Dani. For color categories, real world structure means human perception combined with the physics of light. At that time, anthropologists assumed that color categories were arbitrary and were very different in different languages and cultures. But two anthropologists at Berkeley had argued that for basic color terms like red, blue, green, yellow; speakers of different languages agreed on which colors were good examples of the color name even if they varied a lot on category boundaries. I argued that because of the way the perceptual system works, certain areas in the color space are more salient than others, and that those salient colors are first noticed, most easily remembered, and become prototypes around which color categories form in cultures (and are the way colors are learned by children). The Dani had only two basic color terms, dark and light. So they were ideal for testing the hypothesis. I could test their memory for colors and could teach them color categories structured in various natural and unnatural ways (natural and unnatural according to my hypotheses). It worked very well. The Dani remembered the supposed universal prototype colors better than other colors, and it was much easier for them to learn categories structured around those colors than categories structured some other way. Good forms like circle, square, and distorted forms worked the same way. The specific results had partly to do

with color categories and their universality. But my theory was about categories in general. It was that categories form around and (or) are mentally represented by salient or information rich or highly imaginable stimuli which become prototypes for the category. Other items are judged in relation to these prototypes; that's the way they form gradients of category membership. There don't need to be any attributes which all category members have in common -- no defining attributes -- and category boundaries don't need to be definite. This is exactly counter to the view of categories as logic.

Whether or not, or in what way, color categories are universal isn't actually relevant to basic issues about the nature of concepts and categories. For most categories nobody would argue that there's a clear physiological basis, and you wouldn't expect the **content** of the categories to be universal.

**What is universal, I argued, was the structure of categories and the processes by which category systems are formed.** Categories have what I called a graded structure of better and worse examples, and many categories have unclear boundaries. Categories have prototypical best examples which get formed in various ways, but for any category, absolutely any category, and for people in all cultures where this has been done, if you ask them if X or Y is a better example of their concept of Z, they will cheerfully tell you which is better, just as you did for the color red. And those ratings of how good an example of the category an item is predict and correlate with every dependent variable that anybody has ever used in a psychological experiment.

**COS:** What does that exactly mean?

**Eleanor Rosch:** Well, we already had a little demonstration of reaction time, which is often said to be the royal road to understanding cognition.. If you're to identify true or false, an apple is a fruit, you're fast. A boysenberry is a fruit? A bit slower (for American norms). A kumquat is a fruit? Pause, uuuh I think so. A carrot is a vegetable? Yes! A pickle is a vegetable? Hmm, maybe.

**COS:** Okay. So, what is the practical implication of this?

**Eleanor Rosch:** I probably have a different view of what practical means than you do, but actually it is a knowledge implication: that even at the level of just ordinary categories, they are not really processed as logical sets at all. They're processed in terms of very concrete information rich images that you get for the good examples, which you generalize to other examples. Think of it as though you're navigating in the world of concepts (and after all, if you're not operating out of primary knowing, it is a world of concepts and categories for you). Your navigation chart is not a grid of rectangular streets, like say the city of Omaha, but of streets radiating from central points, like navigating from square to square in Boston. You know where Copley Square is and you know where Harvard Square is and where Watertown Square is, and so on. That's somewhat the claim about the way your cognitive architecture is. That's the way people think unless they're very explicitly asked to give a classical type definition.

**COS:** Okay, I see that.

**Eleanor Rosch:** The second part of the category work had to do with the principles by which categories are formed in the first place. Think about what determines the level of abstraction at which things will be categorized. My claim was that there is a basic level of abstractions which mirrors the correlational structure in the object's real world perception and use. For example, if somebody asked you what is that [points to a chair], what would you say?

**COS:** A chair.

**Eleanor Rosch:** Yeah. Now, you wouldn't say right off, an office chair, but it is.

**COS:** Yes.

**Eleanor Rosch:** You wouldn't say a piece of furniture right off, except in a special context. And you would not say a material object, again except in a certain context, although it certainly is all that.

**COS:** A piece of art.

**Eleanor Rosch:** A piece of art, whatever -- needs a special context. The fact is it feels as though the real name of that object is chair. This is important because what categories do is map out pieces of meaningful lived reality. Material objects are the props that you use in performing the basic life activities and events that you go through every day.

**COS:** So what did you learn about that?

**Eleanor Rosch:** That you really do seem to have an agreed upon basic level in taxonomies. We just did chair here as an illustration. Again I and my research group did lots of experiments to show the basic level, all kinds of experiments with different methodologies that converged on the basic level. I'll give you a reprint on that. I'm talking about this after prototypes and graded structure only because I did the basic-level categories work later, and we're going in historical order here, but I think it may be even more central to an understanding of how categorization actually works. -- All right, so there I was with this program of categorization work. I was getting known, and there was all this fierce debate.

**COS:** And that was when? What year are we now?

**Eleanor Rosch:** That was in the late '70s.

**COS:** Okay.

### III. Becoming Aware of a Deeper Journey

**Eleanor Rosch:** It struck me that that's what I would be doing for the rest of my life. And I said, so what is really important about it? I began to worry that I was clever with these experiments, but that what one gets out of experiments is what one puts into them. You can do experiments that show categories as classical if you just make up artificial sets of stimuli that have classical categories in them. By then there were a lot of academics who were enthusiastic about the whole categorization debate. But was that what was really important to people -- or to me? I began very unhappily poking around asking is there any other way to do psychology? Again, the questioning. Here I was in Berkeley, so there were lots of things to poke around in. I went to readings and workshops and read a lot -- and didn't find anything. Then I met up with meditation, and there was almost an instant oh! this is important; this is really about something.

**COS:** Do you remember the beginnings of that?

**Eleanor Rosch:** Yes. There are all these meditation centers right around the campus. I did a weekend at one Tibetan Buddhist center that's just up the hill from here. I thought the Lama was a blithering idiot; I didn't understand a word he said, but there was something about it that hooked me. At one point he told us to think of something painful, and then to expand it, and expand it, and expand it, which is not what you usually do with pain. Something clicked; what on earth is this? It seemed really meaningful. But I didn't like him, and I didn't like the center. I went to another Tibetan Buddhist group and got meditation instruction, and I went home and "meditated." I had no idea what I was doing, and I didn't understand what the instructions were. What do you mean follow the breath? But something deep inside knew this was real and meaningful.

I had gotten divorced and was having boyfriend trouble, that sort of thing. It was approaching summer, and I said, I'm just going to go away and do something about meditation. I went to Naropa Institute in Boulder, Colorado, and took a "Buddhist practice intensive module" where we sat for four hours a day and had classes and read books. Afterwards I went up and did two weeks of meditation at a center in the Rocky Mountains. I came back thinking, this is it; this is really about something. I don't know what it's about, but it's about something truly fundamental to people, and I am going to pursue it and find out what it's about, and I know it's going to remake psychology. Now I'll have something worthwhile to do, and not only that, but it's going to remake me. I won't be this neurotic fool; I'll be a superman of some sort. Good luck with those kinds of thoughts! Well, it's been a l-o-n-g time slugging away at it. I still feel it's the most important thing. I'm getting enough of a glimmer that I can start talking about it, and trying to make it relevant to cognitive science. But it's not been simple, and I have no idea where it's going. I'm not even sure, frankly, that it's worthwhile doing it in this academic way.

**COS:** What do you mean by this academic way?

**Eleanor Rosch:** As opposed to going off and practicing and teaching meditation from inside a particular tradition, a particular lineage. But I seemed to have stayed here and to be doing this. I hope that there's some way that trying to do it this way is worthwhile. I'm not sure it is, but I seem to have my energy up for doing this right now.

#### **IV. Science Needs to Be Performed with the Mind of Wisdom**

**COS:** That's what you meant when you said that our sciences need to be performed with the mind of wisdom, right?

**Eleanor Rosch:** Yes, exactly. What scientists do, yes, and what business executives do, is maybe not that fundamentally different from what artists do. I think artists actually tend to -- I mean great artists -- they do naturally operate from this other level --

**COS:** Yes, all the great artists.

**Eleanor Rosch:** -- and always have. Actually bringing primary knowing into understanding the arts is something I'm also working on. There was a conference on the arts and evolution this past August at U.C. Santa Barbara where I talked about that. People seemed to respond very well until they started thinking about it. And clinical psychology really needs therapists who can tune in to this, because that's what actually helps troubled people.

**COS:** Now we are really entering the core space. What you are describing is these two streams, what you came up with, is the proposition of the unity of mind and world as a radical way to look at the topic of cognition. Could you share a little bit of the context that led you to that proposition?

**Eleanor Rosch:** Well, people were saying things like that in the meditation context, even at the beginning, but I had no idea what they were talking about.

**COS:** They were saying things like what?

**Eleanor Rosch:** Buddhism has no self built into it. Mahayana Buddhism starts by talking about emptiness. One of the meanings of that is that **you don't have independently existing selves or objects; they're interdependent, codependent.** To have that actually mean something takes a long time. Having it mean something in one's state of being, having any ability to talk about it in anything other than a traditional meditation context, that just took really starting to see it in various ways.

**COS:** I heard you saying that you also did some research on meditation groups and how that changed patterns of awareness. Could you share about that?

**Eleanor Rosch:** I was doing the meditation stuff because I was interested. My first naive idea was that it was going to give me all kinds of research ideas, but it didn't. It just isn't that sort of thing. So I was doing it for its own sake. It occurred to me about 13 years ago that I could actually study people who were meditating. There were academic disciplines that studied people in natural contexts. Here were people learning the Eastern traditions and learning about their own minds; so how was that working; what was going on with them? And from the point of view of sociology and anthropology and history, here we had all the meditation traditions that had developed separately in the world for thousands of years, suddenly coming together in one place and meeting each other. What an opportunity for study! So I started studying different groups and talking to people. I wanted to see what people in different groups were doing. I also sat in on religious studies classes and other academic disciplines that study religions to see how they did that and what they had to say about it. I also began doing interviews with people in meditation groups and following them longitudinally. It was easy to study different groups. I could just go there and talk to people in a natural way, and take notes in classes. It was perfectly reasonable to walk around with a notebook and be unobtrusive. It was easy because I wasn't really an external researcher, but an internal researcher. But once again there's a problem in communicating with

the various academic disciplines. Anthropology may talk about participant observation, but nobody really wants to listen to someone they might suspect of having "gone injun." More importantly, I feel that those fields are asking all the wrong questions and gathering the wrong kinds of data. So I haven't written about any of this from the external social science point of view.

One of the things that was very inspiring to me about your presentation and about the conference was that there were questions you could ask about the group level that were actually interesting. A sociologist might want to know what is the socio-economic status of people in a meditation group, and are they downwardly mobile or not? But to ask how can a group function that is actually trying to get people into their wisdom, that's interesting. What would you recommend to an organization that wasn't Buddhist or Taoist, say to a business, that would make all their employees more alive? Now that's very intriguing.

**COS:** So what did you observe and experience that you consider significant or important, and that challenged your key assumption?

## **V. Source: The Heart of the Heart**

**Eleanor Rosch:** Just saying that mind and world are not separate is only part of it. All those lists of attributes that I had in the paper I sent you, I attributed to Buddhism actually all go together as one thing. That one thing is what some Tibetan Buddhism calls the natural state and what Taoism calls the Source. It's what is at the heart of the heart of the heart. There is this awareness and this little spark that is positive -- and it's completely independent of all of the things that we think are so important, that we think we need to have to get value. It's independent of achievement, or not achievement, or of being awake or asleep, or even being alive or dead. This supposed world actually radiates from that. This is the way things happen, and in the light of that, action becomes action from that, action that includes everything and does everything that's needed. And lacking that, or being ignorant of it, we just make terrible messes -- as individuals, as nations, and as cultures.

**COS:** I know exactly what you mean, so it's the realm where the words end. One of the notions that you used is the notion of field, right, and of relationship? Can you elaborate a little bit on that?

## **VI. When Perception Shifts to Happen from the Whole Field**

**Eleanor Rosch:** You could say that the path to that is that things become more and more integrated; **intention, body, and mind come together**, rather than being scattered all this way and that. And you start to **be aware of perception happening as it actually does happen from the whole field, not from within a separated perceiver**. The notion of field was the closest thing I could come to this sense of integration in our current sciences.

**COS:** You say, you can have a perception that looks from the whole rather than out of an individual consciousness, right?

**Eleanor Rosch:** Yes.

**COS:** Could you elaborate a little bit from that? What is it, from where are you actually viewing or gazing, or what is that exactly, this --?

**Eleanor Rosch:** Primary knowing has no location. So there isn't really a where or from where.

**COS:** But?

**Eleanor Rosch:** So it's from nowhere or everywhere.

**COS:** But it's a different type of perception.

**Eleanor Rosch:** Yes.

**COS:** And how would that differ?

**Eleanor Rosch:** From our regular perception?

**COS:** From our regular perception.

**Eleanor Rosch:** It's related to the field knowing itself.

**COS:** How does that relate to and differ from Kurt Lewin's notion of field?

**Eleanor Rosch:** You probably know more about that than I do. I think that Lewin had an intuition about field as I'm talking about it, but when he described it, he made very clear that it was the field as known to a given individual at a given time. What he meant by knowing and the individual seemed to be the individual locked inside his skin looking out through his eyes that we take for granted. And certainly that's how other people have taken him and how he has been used in education and in therapy systems. So that's one difference. And the other point is that in the experimental work that he did, he couldn't really take field seriously. As I was saying in the paper, he had to pick things out of the field and treat them independently to do experiments on them.

**COS:** Yes. So the field that you described is not a thing, it's not an it, it wouldn't be outside.

**Eleanor Rosch:** Right. That's right.

**COS:** But what is it rather than?

**Eleanor Rosch:** Think of everything happening as presentations, moment by moment presentations from this deep heart source, that has a knowing dimension to it. Tibetan Buddhism talks about emptiness, luminosity, and the knowing capacity as inseparable. **That knowing capacity actually is the field knowing itself, in a sense, or this larger context knowing itself.**

**COS:** So your own activity is to help the field knowing itself.

**Eleanor Rosch:** I just said it in Tibetan Buddhist terms, let me now say it in some other terms. If you follow your nature far enough, if you integrate and integrate, if you follow your nature as it moves, if you follow so far that you really let go, then you find that you're actually the original being, the original way of being. **The original way of being knows things and does things in its own way. When that happens, or when you get even a glimpse of it, you realize that we don't actually act as fragmented selves the way we think we do. Nothing you do can produce this realization, can produce the original way of being. It's a matter of tuning in to it and its way of acting. It actually has a great intention to be itself (so to speak) and it will do so if you just let it.**

**COS:** Yes. So what would be the difference from an experiential point of view of the field that knows itself and the field that doesn't know itself? Would that have a different texture?

**Eleanor Rosch:** Well, a field that doesn't know itself is just us, this little unidimensional consciousness which is what we think we are, which is the way most people live most of the time.

You know, subject, object, consciousness -- that's the way we go galloping about the world. All the while there's this sneaky little awareness down there that isn't ever totally lost.

**COS:** If you talk about the transformation from the subject-object-separation consciousness, toward this field consciousness that knows itself --

**Eleanor Rosch:** Right, this awareness.

**COS:** -- this awareness. How does your experience of time and space change?

## VII. Transformation of Time and Space

**Eleanor Rosch:** Ahh, okay. That's when you actually realize timelessness. This whole universe has never actually happened in the way that we think it does. That's one way you get a sense of the emptiness aspect. That's where you get Tibetans talking about it **being unborn**.

**COS:** Can you say more about that?

**Eleanor Rosch:** Well, time actually doesn't exist.

**COS:** So you would get to an experience of where you don't have the sequence of time, so before and after. But rather a sense which would be timelessness or beyond?

**Eleanor Rosch:** Well, where before and after is part of timelessness. To perform powerful actions you have to understand time.

**COS:** Okay.

**Eleanor Rosch:** You can call it timelessness or present time or, as the Tibetans do, presence or the fourth moment.

**COS:** Or synchronicity.

**Eleanor Rosch:** Yes, it could be something like that, although then you get into Jungian ideas about it.

**COS:** So that would be the time aspect of this. How does the space aspect, the experience of social and physical space transform?

**Eleanor Rosch:** From a certain point of view, it feels as though the knowing actually is extended in space, it occurs throughout the whole space. One of my interviewees is a coach. He kept trying and trying to get his kids on the team to tune in to this. **Martial arts teachers normally will pummel their students to tune in to this aspect of the sense of panoramic knowing. The knowing that knows your whole team, the whole opponent team, your martial arts opponent** or whatever your --

**COS:** Yes. You're one with the space.

**Eleanor Rosch:** **Or the whole space is knowing all at once. Rather than your being one with it, it's all happening at once.** The only reason I'm quibbling is that you get a certain bloated ego state of people saying "I am one with the space." That means something else; that's a kind of ignorant extending of your self. When we walk around we don't look at our feet. It's ordinary. Knowledge is built in, and the foot and the ground are adjusting to each other very happily.

## VIII. Heart Intelligence

**COS:** How does that dimension relate to what people at the HeartMath Institute call heart intelligence?

**Eleanor Rosch:** The body isn't what we take the body to be either. The body is a kind of energy system that can actually serve as a bridge to wisdom knowing. The heart may be the best access through the physical system to this kind of wisdom. It's directly connected with channels through the eyes, so that's one reason why vision is a very important sense, and an important space sense. I was actually thinking of going and doing a program at HeartMath until I read their two books. I think they've managed to get some people, at least, to have glimpses of a little bit of this wisdom by focusing on their hearts. I suspect it could be very helpful. But the books were disappointingly slick and formulaic. I was suspicious about follow-up; occasional glimpses of something at a program doesn't mean people are able to integrate it or use it.

**COS:** What does it take?

**Eleanor Rosch:** I don't know; that's something I'm working on in my own life. I don't integrate this very well, but I would like to. It seems to take a long time. I think it would be very helpful for the world to have institutions that fostered it, which we don't have.

**COS:** In what way does what you talk about relate to Csikszentmihalyi's work on flow?

### **Wisdom awareness and the concept of flow**

**Eleanor Rosch:** Here's another concept from Tibetan Buddhism. They talk about the co-emergence of wisdom with neurosis. Neurosis and wisdom are actually the same thing, but they co-emerge and appear to be different. So people have an intuition about their wisdom all the time, but it's very easy to get off the point. I think flow is a combination of little glints of the real thing which becomes an absorptive imitation. You're goosed by a hit of wisdom maybe but then get absorbed in the activity that went with it. You get into an ignorant absorption state where times passes. You're absorbed in your artwork, your e-mail, busy with your prayers, your great ideas, but you actually are...

**COS:** Busy with your happiness.

**Eleanor Rosch:** Yes, right, but you've actually gotten away from what the source of it was.

**COS:** Whatever the "it" is. So what does it take to pay attention to or reconnect with the source?

### **Reconnecting with the source**

**Eleanor Rosch:** I think it's patience and a continual willingness to realize what the issues are, which is not all that simple. A willingness to fail, to really fail in all of the achievements to the point where the original way of being can actually assert its intention and take over. It helps to have formal meditation and have meditation teachers. There actually is a mind to mind transmission, and I would not have a glimmer of this if I had just sat down by myself and tried to meditate all this time. Having teachers who are able to connect and kind of spark you is very helpful. There aren't that many. A lot of these meditation groups are just wandering, are doing imitations which is pretty sad. People can get off on the peopleness of it, of being in a group with people. And they can get off on energy, chi, power. In this country that's been the route that a lot of martial arts have taken. And they can get off on just spacing out or going into trances or sitting and waiting while time passes. So it's really helpful to have teachers who will manage to cut through or redirect those tendencies, or at least point them out, teachers who can actually get across even glimmers of the real thing. Then you realize that things seemed ungenueine or phony because they were. But they don't have to be.

**COS:** What were other things that your teachers taught you that were really helpful?

**Eleanor Rosch:** I'm not a good meditator. I'm one of these basket cases who can't really get all that much from the "bottom up" things that are supposed to help you along the path. I'm one of those people who have an intuition about basic truths and a real problem with everything in the world. So without teachers giving me glimpses of those truths, I would have been lost. However -- and this is the virtue of having talked to lots of other people -- people who meditate may well become more friendly to themselves, or more tolerant and patient with their own faults and those of others, more caring for the welfare others, more concentrated and clear-minded --

**COS:** I didn't mean, what you get out of it, but what sort of practices or guidances did you receive that were really helpful in your own journey?

**Eleanor Rosch:** The fact that teachers to whom you're attuned can actually point things out to you with their mind. I've had two primary teachers. There's a lot of neurosis and pain around dealing with teachers, because they're very difficult to deal with. They're not interested in your ego and its problems,

and you are. I think that kind of double-edged bonding has helped my ability to get anything good from them. And I've done a lot of mostly foolish ignorant sitting meditation and a lot of the Tibetan formal practices, working with the Tibetan deities (at least "a lot" for an American who's employed). My first teacher also started a program called Shambhala Training, and I worked with that. I can't claim any of the virtues that are supposed to come out of it, but I plan to do more of it in the future. So those are the kinds of things I did, as well as slogging around in groups with other students of my teachers. Supposedly when you go through all of your neurotic things in such a group, it's more helpful than when you're doing it outside.

**COS:** What are the practices that you are doing in order to stay on that journey yourself?

## IX. Personal Practices

**Eleanor Rosch:** The teacher I'm working most with now, the second of my two main teachers, combines Taoist and Buddhist practices. Once a month I go to a weekend where we sit all weekend and he gives periodic talks. Three to four times a year he has week-long retreats. In two of them we do a Chinese practice called dao yin, plus sitting. Plus another Chinese practice called the elixir. The dao yin is a brilliant combination of an internal yoga practice with sky-gazing. When you asked about space, I was talking about one aspect of space. The other aspect is that there's something deep in you -- the original way of being has its own space. **Actually gazing into physical space can connect with that intuition. Sky-gazing is one of the things that helps that happen. My teacher's particular dao yin practice consists of a very rapid movement part where you're striking and stimulating points all over the body with your hands which opens the various channels** (according to the Chinese system). You go thump, thump, thump, and then sit perfectly still sky-gazing. (Or gazing in other ways if you're doing it indoors). Then repeat the motion and the stillness. The other Taoist practice we do is an internal energy circulation which my teacher presents in a rather ultimate sense. He emphasizes tuning in to it as a non-dual practice as much as you can. His retreats work with those, in combination with basic chan sitting. The Tibetan practices, well, I remember my teacher each morning; I have a little ritual that I invented using a vial of some of the salts that his body was packed away in when he was given his traditional burial. It only takes a few seconds. I do that regularly. In addition, there are a bunch of Tibetan practices where you evoke a deity and say a mantra and get in touch with the energies, the particular enlightened qualities, represented by that deity. There are also long rituals in which you work with things like that. I have not been doing those recently. I do occasional group things at my old center. I honestly don't know what my future relation will be to the Tibetan practices or to my old group. When I was active in that group, I actually taught there a lot, which is a practice all its own. What kind of daily practice I do at home varies a lot. And, of course, the ideal is to make every movement of daily life and one's practice the same thing, but good luck on that.

## Two levels of meditation

**COS:** Jon Kabat-Zinn said meditation is really about paying attention. Then he described two levels of experience: one is concentration, and the other one is when you drop underneath the surface and get into direct relationship with the essence of things. Would that also capture your experience, or would you use different terms to describe these levels?

**Eleanor Rosch:** Concentration is a trap, because you hear concentration, or you teach concentration, and what people do is they take their dualistic conceptual mind and they say, we're going to concentrate! That never gets anywhere. So you have to be careful with concentration. Talking about paying attention has the same problems. It leads to mental gymnastics of various sorts. You have to find techniques that the **whole being** can start to do, not just --

**COS:** The head.

**Eleanor Rosch:** -- not just the head, and not just the body, and not just the conscious mind or conscious intention, but the whole thing.

**COS:** What is the nature of this whole, of this being? That is particularly significant for us in our organization work, because there we are talking about organization transformation where you have drastic transitions of the identity and the embodiment of that organization. The question really is **what is the whole**, and is it just a machine, or is it a living being? And so what is it's ...?

**Eleanor Rosch:** You mean the organization?

## **X. How To Connect to the Whole? "Through the Heart."**

**COS:** Yes. We have this notion of the organization as a community, as a living system or a living being. What really is its nature and how can we connect to it? How can we nurture it, and so forth? That's where my question comes from. So what is the nature of this whole, and how do you connect or relate to it, or nurture it?

**Eleanor Rosch:** Through the heart.

**COS:** Through the heart.

**Eleanor Rosch:** It's assumed that in the new economy people are going to be highly mobile and go whooping from one organization to another. I think this leaves out the bonding factor, that **one of the manifestations of wholeness is connectedness**. So much of people's crazy, neurotic behavior comes from their wanting to be connected. If that is not nurtured properly or is bashed, then they do all kinds of desperate things. The term samaya in Tibetan means the relationship between a student and the Tibetan teacher, but also ideally the relationships in a family, and in couples, relationships between children and parents, between siblings.... I think a lot of the reason why Japanese organizations can do the things that they do is that the organization fosters this bondedness, this samaya, actually with the organization, and that can be a marvelous thing. One of the things that Tibetan teachers do is a kind of shape-shifting, a pulling of the rug out from under you. If you think your relationship with your guru is one thing, suddenly it's another thing. **But this little heart connection stays, and if organizations were allowed to do that, they could move mountains and nurture people at the same time.** We think in Japanese companies it's just a matter of job security, but this bonding doesn't happen usually on campuses, even though we have tenure, so security is not...

**COS:** The only factor...

**Eleanor Rosch:** The only factor at all. I honestly don't feel that kind of connection to U.C. Berkeley. But in Japanese companies I understand that many people do. That's not just because of the way mothers treat Japanese children, I'm sure. So that's one form of the "what is it" that might be usable in organizations. It may not even be that you necessarily stay with one organization forever. The people I know who are in the new dot.coms, working like mad at all hours, feel this kind of bonding with the teammates that they're working with, and it is really important to them. The feeling of they're all doing it together. Even though they may assume that they'll soon move on.

**COS:** What is the nature of that bonding, is that the field? Is that an embodiment of the field?

**Eleanor Rosch:** **At its best it's your connection to the Source**; the way most people feel that connection is by these bondings to groups and people and ideals and ideas and so on. Romantic love can give you the same thing, or great works of art, or religion, or just going about your daily life with full presence and integrity.

**COS:** Thinking about the implications of the unity of mind and world, that means we conceive of reality as whole. World and mind would be two aspects of the same --

**Eleanor Rosch:** Thing. Yes --

**COS:** Phenomenon.

**Eleanor Rosch:** Right.

## Field qualities of wholeness

**COS:** How do we then account for the different phenomena of the world or in these fields?

**Eleanor Rosch:** That's where very interesting questions for scientists could come in. Maybe if you get a bunch of scientists that ask that question from the right point of view, if they really taste the unity and then they say with a child's wonderment, hey, well, how come it splits up into all this stuff? Then they could ask, does my science, be it physics or psychology or whatever, have anything to say about that? I think you might get some interesting things happening.

**COS:** For example? What would that mean for your own field?

**Eleanor Rosch:** I don't know yet. It's this that I'm now questioning. The traditional things that are said in Taoism like the One becomes the 10,000 things -- as soon as you make a distinction, the 10,000 things are there. The instant you shift a hair's breath away from primary knowing, it's solid frozen distinctions and categorizations all the way down. There may be a real role for science; science might be put on track to discover things that are actually useful to learn.

**COS:** In your work you describe two different field qualities, which are fragmentation and unity, right? But probably, if one went further, one would find other forms of field qualities in between.

**Eleanor Rosch:** Yes, this is a really big topic. We could do a whole interview from the point of view of that question. In a sense, it's what's behind centuries of debate between the sudden and the gradual schools of enlightenment. I and meditators I've talked to tend to live on these in-between experiences. What I was trying to do in the paper you have, in a way, was to lay out a series of intermediate categories: wholeness, interdependence, timelessness, value...all of them. For example, in the description of the visual field **with knowing coming from all around, that's actually an intermediate kind of experience**; that's not the heart of the heart, but it is something that everybody has occasional glimpses of and that people, if they practice enough in the right way as the whole being, can really get into. On the other hand, there's a kind of clicking into the original way of being knowing things and doing things in its own way that can feel like an either/or. You approach it and approach it and approach it, because you've meditated and various things have happened, and you're going along, and you're being integrated, and you're being mindful, and then, oh, yes, the universe is really this whole thing that knows how to do it of itself, and it's really quite different. So it's graded up to a point, but then it's as though your wisdom takes over for a moment -- and wouldn't it be nice for a lifetime? That's my present take on it, that there actually is a discontinuity. But at the same time intermediaries are very helpful. Practices can be intermediaries; relationships can be intermediaries; art, religion; organizations can be intermediaries.

**COS:** I heard you saying that the whole is not a thing, but something that's related to the relationship, right?

## How does fragmentation come into being?

**Eleanor Rosch:** There aren't any things. Thingness is one of the delusions of our constricted conceptual mind. Primary knowing knows that, but saying it gets easily misinterpreted. The whole has always been there. The question is how does the fragmentation come into being? You can ask that as just another speculative head trip, or you can ask it as a real practitioner's question where what you mean is, how can I find where it fragments so that I can get back to its original state (which I've actually never left)?

**COS:** And what does the knowing of this add to the universe?

**Eleanor Rosch:** Tapping into it brings an end to insanity and desperation. That may be the only way we'll ever be able to preserve this world. The tricky part is that really touching it involves this discontinuity.

**COS:** The discontinuity of?

**Eleanor Rosch:** There's a leap -- that's another Tibetan phrase. You go up to the cliff, and then you just have to jump off. The source, your wisdom doesn't ever come into being, and nothing that you do ever can bring it into being. This is so frustrating. You glimpsed it, were there, and you said whoopee, and then you're not there anymore. You want to get back, and you know that trying and struggling just takes you further from it. That's the nature of the path.

**COS:** But that's only one aspect of this, right?

**Eleanor Rosch:** Yes, because, of course, the struggle never took place. You've always known that. The struggle is just a manifestation of already being there.

**COS:** Well, and also, of course, you cannot impose anything, but you can create conditions that allow certain things to evolve.

**Eleanor Rosch:** Various things happen to you that you can use to trigger it, or to try and trigger it. Trigger meaning the trigger doesn't cause it, and there's a leap, but at least it seems to trigger the leap.

## **XI. Wholeness and Living Systems Theory**

**COS:** Well, I guess the last topic I would like to address is again, this nature of the whole; how does your notion of the whole relate to the notion of living being and the work of Varela? You wrote the book together but I guess there are also some aspects where there would not be a full overlap.

**Eleanor Rosch:** Right, but also, of course, that was a long time ago. So I've changed, and I haven't seen Francisco [Varela] lately, but I'm sure he's changed. I'm sure Evan has changed.

**COS:** So the nature of that whole, if one would call that "living being," would that be an appropriate or not appropriate term?

**Eleanor Rosch:** I'm not sure what Francisco would mean by that now. Living being can mean different things. In Taoism, living being is specifically getting in touch with the energy level of the universe. In Chinese thought, that's what Taoism was supposed to specialize in, just as Confucianism was supposed to deal with the human and social realm. Oh, I just had a thought. We tend to ignore Confucianism in this country because we think it has to do with children obeying their parents and women being subordinate to men. But in fact it's a whole teaching about how social groups can live in accordance with the Way and foster Humanness. Confucianism may be a good source of ideas for your question about how to build good and genuine business organizations. Yes, Confucianism had 4,000 years of development and spread through a lot of cultures. Interesting. Okay; sorry for the digression. Living being in the Taoist sense is not per se a self-organizing system as we used it in *The Embodied Mind*.

**COS:** So in what way would it differ?

**Eleanor Rosch:** Living being in Taoism is a highly experiential term; self-organizing system is theoretical. If you say self-organizing, you'd have to ask what is the self that's organizing what? It isn't a self in the limited organismic sense. Taoism is very good about asking, what is this organism that you think is flesh and bones? When you approach it that way, you're going into it and seeing it in a different way, starting to know it in a different way. As you get more and more into the body, the body changes into an energy system which then becomes empty, which then becomes part of the spirit, which then becomes -- . So it's really quite a different approach. Self-organizing systems, as described by Maturana and Varela, are really biological systems. They're self-organizing in the way the cells and parts interact with each other and with the environment.

**COS:** I see. So it's lacking that dimension of transcendence

**Eleanor Rosch:** Yes, that's an important part of it.

**COS:** Thank you so much for this conversation.

**Eleanor Rosch:** Sure.

**COS:** I have many more questions but --

**Eleanor Rosch:** Yes, I think we will have to talk more later about lots of things.

**COS:** Yes, and I hope that this is the beginning of a longer conversation and collaboration.

**Eleanor Rosch:** Yes, it should be, yes. I think, by the way, in terms of your thinking about organizations, your own autobiography is a really good starting place, because you had the good fortune of being in very good, nurturing, uplifting types of organizations -- a farm to begin with, then school, then other schools. It sounds to me as though they had a profound influence. Think about what the properties of those places were that got you to be able to understand all this stuff, which is very rare. What things in any of those organizations might be relevant to...

**COS:** Interesting, I never thought about it that way.

**Eleanor Rosch:** You don't know how rare you are, because you're you. But I've seen lots of meditation groups where people are spending their lives explicitly trying to understand ideas like these, and they still just say blah blah blah and can't hook into anything meaningful. Whereas you have a real feel for what this is. I've seen you -- when people say confusing things to you, when they say, don't you just mean blahblah, you just say, no! You're very clear about it. Your sense of what the thing is, that had to come from somewhere. People could talk about who you were in your past lives, but --

**COS:** That's true for all of us.

**Eleanor Rosch:** Yes. But also the environment of this life, there were things that fostered that intuition, or at least didn't step on it. So you could think about it; what was that?

**COS:** Thank you.

**Eleanor Rosch:** Well, thank you. This whole thing, you've been very stimulating. I'm sure I will go on thinking about this.

**COS:** So will I, and so will we.

## **XII. Summary**

The focus of Eleanor Rosch's more recent work is on how to broaden and deepen the analytical notions of cognition in the cognitive sciences by relating them to other ways of knowing that have been cultivated through various meditative practices in many cultures around the world. The following summary is based on her presentation at the 1999 Berkeley Knowledge Forum, where she had an astonishing impact, and on a paper that is still uncirculated and in draft form. All of the following quotes are from this paper.<sup>1</sup>

Rosch distinguishes between two types of knowledge: analytical knowledge (cognitive science) and what she terms "wisdom awareness" or "primary knowing." Says Rosch: "The analytic picture offered by the cognitive sciences is this: the world consists of separate objects and states of affairs.

The human mind is a determinate machine which, in order to know: isolates and identifies those objects and events, finds the simplest possible predictive contingencies between them, stores the results through time in memory, relates the items in memory to each other such that they form a coherent but indirect representation of the world and oneself, and retrieves those representations in

order to fulfill the only originating value, which is to survive and reproduce in an evolutionarily successful manner.”

In contrast, “Awareness is said to [be knowing] by means of interconnected wholes (rather than isolated contingent parts) and by means of timeless, direct, presentation (rather than through stored representations). Such knowing is ‘open,’ rather than determinate; and a sense of unconditional value, rather than conditional usefulness, is an inherent part of the act of knowing itself. Action from awareness is claimed to be spontaneous, rather than the result of decision making; it is compassionate, since it is based on wholes larger than the self; and it can be shockingly effective.”

Rosch distinguishes the two types of knowledge and knowing along the lines of the following eight dimensions (see also table below):

**“Wholeness.** There is a powerful intuition of wholeness which goes beyond conceptual analysis into isolated units. Analytic detail is included but must be seen in proper perspective.

**Causality.** Humans bear the suspicion that causality (and/or contingency) is not the one-on-one relationship between separate units which the conceptual mind finds it easy to imagine, but rather a basic interdependence of phenomena.

**Time.** There is the sense that time may not be merely the linear flow we take for granted. Instead, supposedly lasting objects and experiences may be made up of the momentary, and the momentary can have a sense of timelessness. This sense of time is most developed in the arts, where evocation, rather than proof, is the medium of communication.

**Realness.** Humans can be haunted by the intuition that experience can be real and direct rather than an abstraction filtered through representations, and they can spend a lot of time confusedly trying to “get real.”

**Action.** Humans have the experience of action that appears to arise without intention, effort, self referential motivation, or conscious control or even without the sense of “me” doing it. In fact some of the most valued of actions appear thus. Recent neurophysiological and psychological research also suggest that action should not be viewed in terms of conscious agency. Such phenomena very directly challenge the assumed sense of oneself as actor.

**Value.** The intuition that to be alive and mortal and have experience has some inherent value is basic to human life and art. This issue is generally bypassed completely in all of our sciences.

**Knowing.** There is a strong sense that there is a kind of knowing not captured by our models, a fundamental knowing not explicit or graspable. This is the kind of knowing that senses wholeness, interconnectedness, and so on, in fact, all of the other intuitions. Our psychology and culture have attributed this knowing to a variety of sources (such as the unconscious) which may actually be sidetracks, rather than aids, in exploration of knowing.

**Sense of oneself.** All of the intuitions challenge the sense of oneself as knower, oneself as actor, and any other assumed sense of the self and its world that one might take for granted.”

Table I: Two modes of knowledge and knowing (from: Eleanor Rosch)

Dimension	In Cognitive Science	In Primary Knowing
Mode of Knowing	Representational (mind & world separate)	Participatory (mind & world not separate)
“Location”	In surface habits	Underlies both conscious and unconscious knowledge

Units of Knowledge	Separate things and events	Wholes
Causality	Contingencies between events; Phantom causes	Interdependence
Temporality	Storage: memories, plans	Present time – or timeless
Content	Representations: abstractions	Presentations: real, concrete
Phenomenology	Conscious (or unconscious); Homunculus	Unspecifiable awareness
Action	Product of habits and of self-referencing decisions	Spontaneous product of whole
Determinacy	Determinate	Open, unmitigated freedom
Value	Conditional usefulness; Facts and values separate	Unconditional; Cognition and value inseparable

The implications of this view for psychology and the cognitive sciences are so sweeping as to be almost unthinkable. Says Rosch: "Mind and world are not separate. All of our cognitive science is based on, rooted in, and set up to deal with separateness. All of our private folk psychology is too. But that is not because it is reality; it is because it is our metaphysics. Can we do our science based on a different metaphysics or on none at all?"

"Since the subjective and objective aspects of experience arise together as different poles of the same act of cognition (are part of the same informational field) they are already joined at their inception. They do not need to be further joined by a representational theory of mind. The fact that we know in mind-world wholes has radical implications for the nature of the senses and the nature of concepts. If the senses do not actually perceive the world, if they are instead participating parts of the mind-world whole, a radical re-understanding of perception is necessary. The one work which even approaches such a consideration is Skarda (in press). Likewise, concepts (red, chair, afraid, yummy, armadillo, and all the rest) do not represent the world in the mind, but are a participating parts of mind-world situations and events. Both perceptions and concepts inextricably bind, in many different functioning ways, that sense of being or having a mind to the sense of the objects of mind."

"We need a fundamental reorientation of what science is... Our sciences need to be performed with the mind of wisdom."

### **XIII. Bio**

Eleanor Rosch is a Professor at the University of California at Berkeley, in the Department of Psychology. Having finished her Ph.D. at Harvard, Rosch demonstrated in a series of experiments during the 1970s that when people label an everyday object or experience they rely less on abstract definitions than on a comparison with what they regard as the best representative of the category designated by that word. Rosch also showed that the Dani tribe of New Guinea, although their language lacks words for colors except black and white, still distinguish among other colors. This finding contradicted the Sapir-Whorf hypothesis, which holds that language determines thought to the extent that people cannot understand a concept for which their language has no word. Rosch extended her conclusions to universal statements about language, claiming that people in different cultures tend to categorize objects in similar ways. She argued that basic objects have a psychological import that transcends cultural differences and shapes people's mental representations of them. Her more recent research focuses on wisdom awareness and the implications of primary knowing for cognitive sciences and everyday life.

*Rosch, E. (Forthcoming). "Spit Straight Up\_Learn Something! Can Tibetan Buddhism Inform the Cognitive Sciences?" In B. A. Wallace, ed., Meeting at the Roots: Essays on Tibetan Buddhism and the Natural Sciences. Berkeley, CA: University of California Press.*