TOWARD AN EVIDENCE-BASED SPIRITUALITY:
SOME GLIMPSES OF AN EVOLVING VISION

by Charles T. Tart, Ph.D.

ABSTRACT

In my recent book *The End of Materialism: How Evidence of the Paranormal is Bringing Science and Spirit Together,* I have argued that great psychological damage is done by a scientistic mindset of Dismissive Materialism, which automatically condemns all spirituality as stupid and neurotic, and that consideration of actual scientific evidence shows that it is reasonable to be *both* scientific *and* spiritual in one's orientation to life. My focus now is on how we can begin to develop an evidence-based (or at least evidence-enriched) spirituality for the twenty-first century. Such a spirituality should be practically effective in enriching people's lives as well as consistent with current and evolving scientific knowledge. After a brief review of the scientific evidence showing that humans sometimes possess the kinds of qualities we would expect in a spiritual being, I then discuss the nature of knowledge acquisition and refinement, showing its compatibility with essential science. Next, I sketch eight examples of possible research directions for building knowledge for an evidence-based spirituality, and briefly discuss irrational levels of resistance to such an enterprise.

In her introduction of me a minute ago, our Board Chairperson, Kate Hastings, mentioned my book, *The End of Materialism* (Tart, 2009), and that it was actually "Phase One" of the work I want to do. Phase One was showing that it's reasonable to be *both* scientific *and* spiritually oriented. I felt a strong need to write a book to make that point, because I've talked to so many people over my life who have had some kind of important spiritual or psychic experience – and then thought they must be stupid or crazy because Science (deliberately capitalized here to show the authority that has accrued to this Establishment) has proven that such stuff is all nonsense. The point of that book was to show that it is reasonable to be *both* scientific *and* spiritual. That does not mean, of course, that you should believe anything and everything that's labeled psychic or spiritual! There is an enormous amount of nonsense out there under those labels. For balance, though, I must say that I'm not sure there's more nonsense in the "spiritual" or "psychic" area than any other area of human life, but we've got to watch out for it.

Now we need to move on toward Phase Two, to develop an *evidence-based spirituality.* This would be a spirituality that, first, *works* for our times, instead of something that is old and venerable but doesn't fit many people anymore. Second, we need a spirituality that is consistent with *all* of our knowledge. We can't just isolate our spirituality over in one corner of our minds and ignore the rest of human knowledge, especially scientific knowledge, and hope we can be happy with this sort of psychological dissociation maneuver.

That's the way I want to go for the remainder of my career: to help develop an evidence-based spirituality – and I need everybody's help on it, because I only have the vaguest idea about the specifics of how to go that way. There will also be resistance, both psychological and political, to such a development. Lots of entrenched interests are quite happy with spirituality the way it is now because it makes them very important and the rest of us will serve them. We'll touch on resistance later. It's not good.

"Evidence-based spirituality." I came up with that term because one of the first reviewers of *The End of Materialism* said that Tart was calling for an evidence-based spirituality. On reading that, it hit me. I said to myself, "Ahh, that's it! That's the phrase I've been looking for to describe the main thrust of my life's work."

I also realize that calling for an evidence-based spirituality is incredibly presumptuous. I mean, who am I to call for a new spirituality? I'm not a realized Spiritual Being of any sort. I don't have charisma of that sort; God hasn't appeared and given me a Mission. I'm a normal person and I've got some scientific training, and I'm also trying to get somewhere spiritually. Yet I think we desperately need an evidence-based spirituality. So I'm going to give you some hints as to how we could develop such an evidence-based, or at least evidence-*enriched,* spirituality. Hopefully you will all say the aim is good, but, well, there are much better ways to do it than Tart is proposing, and you'll start going out and doing better things to move us along!

I should also tell you that I am unhappy with this Presidential Address. I've been working on it for six months. I like to give nice polished presentations, where all the various pieces fit together and come to a nice clear conclusion, and I haven't been able to do that. This is a work in progress. So I've added a subtitle: "Some Glimpses of an Evolving Vision." I trust you'll find the glimpses kind of interesting.

ISSSEEM is a great venue, of course, to present this. Denise Premschak, our wonderful CEO, went over the values of our organization earlier this morning – ideals like service, integrity, inspiration, increasing our knowledge – so this is a perfect place to call for an evidence-based spirituality. ISSSEEM is a very receptive venue, much more receptive than the world in general.

I'm also lucky to be a core faculty member at the Institute of Transpersonal Psychology in Palo Alto, California. As a personal aside, it's kind of fun for me, actually. Most of the faculty there are primarily intuitive types, so when some wonderful idea comes

out of a discussion, I tend to be the practical, more sensory "conservative" one who says, "Do we have any evidence for this? I know it intuitively feels right, but do we actually have any evidence? And can we actually do something to make it happen in reality?"

I want to thank ISSSEEM, ITP, and a host of friends and colleagues for their support on this idea. I'm also going to thank our other keynote speakers in advance for any ideas they have for developing an evidence-based spirituality. I gave them an advance outline of what I'll say so they could see where their special knowledge might be helpful.

Okay, let's get into the actual material of this.

HOW DO YOU LIVE YOUR LIFE?

To oversimplify, we currently have two major options on how you frame and live your life. We have religions, most of which try to soft pedal it a little bit, but basically they say: "We have The Truth and you'd better live your life the way we tell you to do it – or you're going to go to Hell!" And, just to make things confusing and more interesting, we have a very dominant kind of materialism[1], what I call a psychological syndrome of Dismissive Materialism, where people think that science has proven that *all* religions and spirituality are pure nonsense, so if you do any of that stuff, you're wasting your time, making yourself crazier, and maybe making us all crazier. These tensions don't make figuring out how to live your life easy.

Where I think we ought to go is toward a more evidence-based spirituality, a more "rational" approach, where you can say things like, "Research has shown that, for people of Type T, spiritual practice X leads to general happiness and 75% growthful experience, but people of Type U shouldn't do that particular practice because it makes them more neurotic." Wouldn't it be nice to have that kind of reliable advice, instead of committing 20 years to a particular spiritual path, and maybe something nice will happen, and maybe you won't be at all better off after 20 years? That's what I mean by a rational approach.

Now we can get hung up on "rationality," and I was a little hesitant about using the word in this context. I don't want us to forget that there's more to us than just the rational. There is a spiritual side that probably has its own ideas about where we should go. So I can say what we should or could do in a somewhat reasonable fashion, and then where we actually go, who knows? I try to be as rational as possible when I'm in my scientist role, for example, but I also generally say a prayer first that I'll be guided to do something that's helpful to people and doesn't do any harm. I took a moment to do that before getting up here at the dais; I hope it helped.

So be clear, I am *not* advocating a totally cold, intellectual philosophy to replace the aliveness of spirit. But I believe reason has valuable functions to serve in discovering and clarifying our knowledge of the spiritual, and in making spiritual practice more effective.

THE DISTURBING QUESTION

I have a particular question that I want to be bothering you in the back of your mind while I go through the rest of my talk:

Has there been any progress in religion or spirituality in the last few centuries?

I like to give this question to spiritual leader friends. It bugs the hell out of them! Now, I don't mean, "Does denomination X have more members than it used to?" or such conventional measures of "progress." I mean more like, "Of those who try, are a higher percentage of people experiencing the peace that passeth understanding? Are a higher percentage of people who work at it getting enlightened than used to? Is a particular religion or spiritual path producing a higher proportion of saints than they used to?" Doctors, chemists, engineers, plumbers, etc. can all point to lots of progress in the last couple of centuries. Certainly there has been plenty of progress in a lot of other areas in life, but has there been any in religion? In spirituality?

Keep that question in the back of your mind for now. If this question makes you uneasy, good! That's my intention. We'll come back to it later.

I'll give you an overview of where I'm going to go in this talk. There are three major themes that I'm going to explore. Theme one is why we need evidence-based spirituality, and some ways of moving toward it. I'll explain how *scientism and Dismissive Materialism cause unnecessary suffering* – they suppress a part of ourselves, and we pay a high psychological price for that. I'll also talk about the fact that there is a lot of high-quality scientific evidence that *humans possess attributes of the sort that we would expect spiritual beings to have.*

Theme two is going to be mainly a quick affirmation that *the spiritual is about realities.* The spiritual is not just a nice set of illusions that will keep us off the street and contributing to the gross national product. There's something real going on there.

Theme three is where I'll try to illustrate some specific ways in which we could apply research to learn more about the spiritual – how we could start refining some of our ideas of what the spiritual is all about. I will assert that *we need to develop a suitable, contemporary, evidence-based spirituality.*

Finally, if I don't run out of time, I'll talk a little about the resistance to developing an evidence-based spirituality.

THEME ONE: WHY WE NEED EVIDENCE-BASED SPIRITUALITY

Why do we need evidence-based spirituality? Basically, because if we don't get it, I believe our civilization is probably not going to survive. Material greed seems to be the dominant theme of our times: everybody wants more and more and more and more in a limited material world, and I don't have to tell you that we get a lot of problems because of that. We need some sort of spirituality to make people more concerned about being stewards for the earth, about actually caring for people instead of only those who can be of help to you, and so forth. And we need this to make a consistent kind of sense both spiritually and scientifically, as we need meaning in our lives.

There is a saying that has inspired me for many years that I first heard from psychiatrist and spiritual teacher

Claudio Naranjo: "There is no God but reality. To seek Him/Her elsewhere is the action of the Fall."[2] This supposedly came from a hidden spiritual organization that maintains spiritual knowledge in between the low points of civilizations, the Sarmouni Brotherhood. I have no idea whether the Sarmouni Brotherhood is real or not, but even if it's a myth, what a cool idea!

My wife says I shouldn't use that saying because people will think I'm saying that only scientifically proven, material truth matters. But that's not what I'm saying at all. I'm saying that if you say to yourself, "I'm going to be spiritual. I'm going to find God and all that, but I'm not going to look over there, that's not my idea of spiritual," it won't work. We can't have deliberate fragmentation of our knowledge. We've got to make our spirituality and our knowledge of life in general, including scientific knowledge, integrated. It's got to all come together.

This is why we need an evidence-based spirituality. I will admit that it's a huge ambition: getting a *completely* evidence-based spirituality is probably a goal of centuries, if it's ever achievable. But at least I think we can get an *evidence-enriched spirituality.* It's comparable to current medicine. There is a lot of talk about developing an evidence-based medicine, but many of the things your doctor does when you go to see her are based on tradition and training; often there's very little hard evidence one way or the other about the effectiveness of what she does, but medicine is trying to get more and more evidence-based, and that's a good thing.

I would also note again that I'm talking about is what we humans can do to help develop an evidence-based spirituality. But remember we're probably only part of the equation. Insofar as there is a spiritual reality somewhere, it, her, him, them, It, Her, Him, Them – choose your favorite pronoun – may have their own ideas of how this is going to go.

ADVANCING KNOWLEDGE

We start from what may be considered spiritual virtues or general human virtues: things like *honesty, openness, courage, curiosity, humility* and *skepticism.* Honesty is

being totally truthful about what we know, and also having the courage to be honest about what we don't know. Sometimes, for example, I say I'm really glad I'm considered a "scientist," rather than a "spiritual leader," because if I was considered a spiritual leader, I'd never be allowed to admit that, "No, my tradition doesn't understand such-and-such." As a scientist I can say we don't know; there is a little bit of evidence this way and a little bit that way. It's tough to be in a spiritual leader position. So we need honesty.

We need *openness* to learning new things, even if they may contradict things we already believe. That, of course, requires *courage,* because we might not always like what we find. *Curiosity,* of course, is an absolute essential. If we're not really interested in what reality is, what spirit really is and all that, we're not going to try very hard to learn more or refine what we think we do know.

We need the *humility* to remember that we don't know very much. Human knowledge is very young – we even have to question what we think is our own knowledge, even the parts that we value so much. That's hard.

We also need *skepticism* of the right kind. Now, that's a loaded term, skepticism. Here's a definition from the Oxford English Dictionary: "skepticism – a skeptical attitude in relation to a particular branch of knowledge, doubt as to the truth of some assertion or apparent fact."

Here's what genuine skepticism looks like. Say you're presented with some facts and/or ideas about something or another, you think about it, and somehow it doesn't compute. These are explanations that are supposed to explain it, but they don't quite make sense to you. You think there is something lacking, but you're curious. You'd like better explanations, and you're probably willing to put some effort into clarifying things and finding better explanations. That's genuine skepticism. It's a virtue. It's what everybody pretends to have, even if they don't have genuine skepticism.

Then there is what I like to call *pseudo-skepticism,* in which you pretend to be curious and honestly wanting a better understanding of things, but actually you don't

like what the current or alternative facts or explanations are, and you're going to attack them and their proponents in some fashion to discredit them, make them go away. Because of my work in parapsychology, I've run into pseudo-skeptics all the time. They always claim to be completely rational, scientifically objective sorts of people. But, they don't like the data of parapsychology or its implications, so they are going to find some way to get rid of it, no matter what, facts be damned. Can't see a flaw in some experiment that shows psychic effects? Well, the experimenters must have cheated, of course!

Another limitation on developing an evidence-based spirituality is that what I'm going to be able to mainly talk about today is what we might call a one-state of consciousness development: what we can do in our ordinary, (supposedly) rational state of consciousness. Some of you know I have proposed the establishment of state-specific sciences (Tart, 1972, 1998), where, working in various altered states of consciousness (ASCs), we refine our knowledge that way too, for a wider perspective on reality. That's going to be an essential part of developing evidence-enriched spirituality, but I don't have time to even begin touching on that today.

DISCOVERING NEW KNOWLEDGE, ENRICHING OLD KNOWLEDGE

How do we discover new knowledge? How do we enrich our current knowledge? Figure 1 is a general outline of how we enrich knowledge. We start with
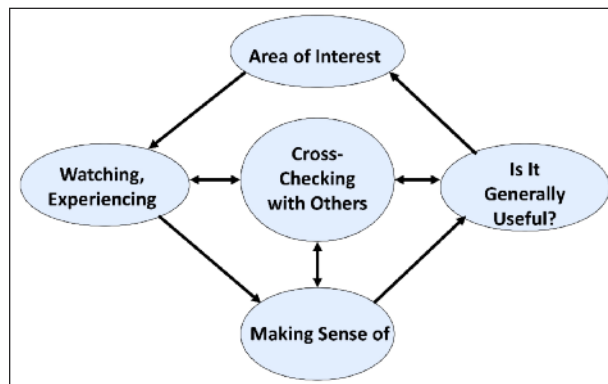

Figure 1. Refining knowledge with experience/evidence and reason

some area that interests us. Spirituality, meditation, cooking, whatever – and we gain experience in it. We look to see what happens. We look at it from different angles, and so forth. We gain experience about things.

Now, that's a nice start, but we're not satisfied with just observing. The nature of human beings is such that we want an *explanation* of *why* things happen the way they do.

One of my favorite poems by Kurt Vonnegut (from his novel ***Cat's Cradle***) describes human psychology so well:

Tiger got to hunt,
Bird got to fly;
Man got to sit and wonder, "Why, why, why?"

Tiger got to sleep,
Bird got to land;
Man got to tell himself he understand.

So we make conceptual sense of it with some kind of ideas or beliefs or explanations of one sort or another, and that's pretty satisfying. Feeling we understand is much more satisfying than feeling puzzled!

But then if we're really smart, we consider: is my explanation *generally* useful, or is it just restricted to these particular things I'm looking at? Have I reasoned out something deep or just *rationalized* what I've seen? Do my apparent understandings help me with other things? In addition to checking this out yourself, one of the best ways to do that is to cross-check your observations and ideas with other people. What do they see and think? That's the communication links in the middle of Figure 1. Do they have the same kinds of experiences, or is it very different for them?

One of my graduate students at ITP now, for instance, is going to be doing her dissertation on what people experience when they do Gurdjieffian self-remembering (Tart, 1986, 1994, 2001), and try to "wake up" that way. There's an assumption that everybody has the same sort of experience, but nobody,

to my knowledge, has actually checked that. She's going find out, are there a lot of differences within that experience that we need to understand and work with? Or is it really basically the same thing for everyone?

In talking about getting and refining knowledge this way, I've been sneaky. I've been sneaky because I haven't mentioned that I have been telling you about basic *scientific method,* more formally diagrammed in Figure 2. The reason I decided to sneak up to science for you is that so many people have been psychologically hurt by what they think science is. Let me ask how many of you have had a major spiritual experience – could I see some hands? [Almost all hands of ISSSEEM attendees are raised.]

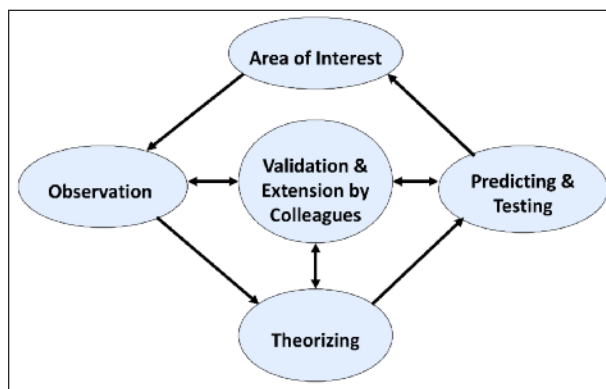You know from a scientific point of view that you're nuts or stupid, right?

Figure 2. Refining knowledge with essential science

There is a great anti-science sentiment in our current culture as a result of that kind of automatic dismissal of people's spiritual experiences, as well as concern over the too many negative uses to which scientific knowledge has been put. We'll focus here on this dismissal of people's spiritual experiences. That anti-science sentiment, unfortunately, is not quite directed correctly, because *it's not science per se that tells you that you are nuts or stupid, it's scientism.* It's human arrogance about the total completeness of the current state of our knowledge and a hostile refusal to look at data that doesn't fit, like spiritual and psychic experiences. It's not the formal philosophy of

Materialism so much as the psychological syndrome of Dismissive Materialism that rejects and hurts us.

If I were talking about knowledge discovery and refinement as a formal scientific procedure, being open now, I'd say, as in Figure 2, that we have an area of interest to start from. We make *observations* about it. Then we *theorize* about it, think about why it happened the way it did. That's the formal way of saying that we come up with ideas and explanations. The opportunity and trouble is that we humans are fantastic schemers and rationalizers. Besides seeing actual if subtle relationships, we can glibly put intellectual frameworks on to collections of observations that seem to explain them, but may have nothing to do with what actually goes on in reality. So feeling intellectually smart and satisfied at this step is not enough! Then we must go on and make sure that our theories really have some generality and usefulness.

To do this, we make *predictions* about other things we haven't examined yet, and we *test* those predictions. If you've truly had insight into fundamental laws and principles in coming up with explanations, they are going to keep working with new material. If your wonderful theory says "If A, then B," then you set up A and observe: if B doesn't happen, it's too bad for your wonderful theory. It's no good. It doesn't matter how intellectually or emotionally satisfying it was. You've got to come up with something else.

Finally, a power of basic science comes from breaking out of your individual subjectivity and biases. To do this, you honestly and openly share *all* this stuff – observations, theorizing, predicting, testing – with colleagues who are qualified to understand and act on these same kind of things. They can extend our observations and thinking and testing with their own approaches. They might confirm your basic observations and ideas in some ways and not in others, telling you where you need modifications. That's the actual procedure of essential science as a shared, cooperative activity, and that basic procedure is what I'm proposing should get applied to developing an evidence-based spirituality. But please, be careful to distinguish this basic, essential scientific method from scientism. *When your mind fixates on current theories as the Final Truth, rather than simply the best theories we have at the moment, always subject to revision and testing, we get scientism.*

Even a lot of people who work as scientists, are socially labeled "scientists," or think they understand science are confused about science and scientism, mistaking scientism for essential science. They think science is the findings and theories of current physics and chemistry, or something like that. If something isn't accounted for in that contemporary knowledge base, they have no room for it – they are closed-minded. They are practicing scientism instead of actual science.

But that's due to the fact that it's human beings who practice science, not cold, unemotional, unbiased machines. We so easily get emotionally and intellectually attached to what's working at this time, we feel we are so smart, know so much, we don't want to mess with stuff that would question our brilliance.

One important note here before we move on: when I say we observe "things," I don't specify (as a lot of people would) that the things you observe must be *physical, material* things. If you want to study meditation, it's fine to measure, say, the brain waves of experienced meditators, but it's also important that you meditate yourself and observe your own experiences. And talk to other people about their experiences. That is, *human experiences are data* also, so come up with ideas about that: mystical insights, psychic events, and so forth. That's all data.

HAS THERE BEEN ANY PROGRESS IN SPIRITUALITY?

Let's come back to that question I said I wanted to fester in the back of your mind and disturb you. Has there been any progress in religion – in spirituality? There have been some exceptions to what I'll say: one of these, I think, is hopefully going to come out in Shinzen Young's talk in an hour or so. But by and large, *I'd say there has been little or no progress in spirituality.* Spiritual systems are still stuck where they were hundreds, if not thousands, of years ago.

Why? (See Figure 3.) Well, in the first place, you're not allowed in most systems just to observe *anything.* There are permitted observations/experiences, which are already recorded in the sacred scriptures, and that's what you're supposed to base your observations and beliefs on. You're generally not encouraged to think independently or newly about what these might mean because it's all already been revealed what these mean, and there is dogma about the sacred meaning of these particular things. You do not question these dogmas!
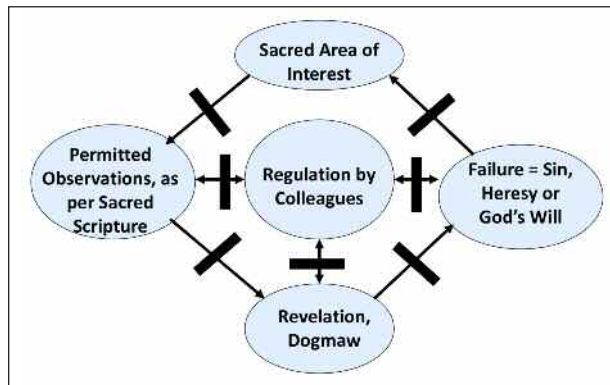

Figure 3. Why there's been no progress in religion and spirituality

You're definitely not encouraged to test dogma in organized spirituality and religion. If you want to test it, it's probably a sign of heresy, or a sign that you don't have enough faith, and instead of attempting honest comparison of your experiences and understandings with those of other people, there are Authorities who will tell you how you should understand things. Indeed they've already told you what experiences should be like and what they mean, and this a priori inculcation of belief may go on to shape your actual experiences so they fit the dogmas.

One of my fantasies, terribly unrealistic, I'm sad to believe, is world spiritual leaders getting together and honestly communicating with each other about what they don't understand, and how they might take some hints of possibilities from each other. They especially can't do it when their followers are around, of course, because they have to appear infallible, they represent The Truth. Again, this goes back to the fact that I feel lucky to function as a scientist. I don't have to appear infallible. I can admit I don't understand something. Once I honestly admit I don't understand something, I can look for new ways to make sense of it, and there's a chance for knowledge refinement, for progress.

THE NEED FOR MEANING

Another consideration: the need for meaning. One of the things that is becoming clearer and clearer to me in my work as a psychologist, as well as just a human being, is *we need meaning in life.* If you don't have meaning – if you don't have some kind of overall scheme to give your life some purpose and make some sense of it, especially the difficult parts, you're not going to be happy. You're going to psychologically, and perhaps physically, sicken, and/or do a lot of strange things to somehow cope with or cover up your lack of meaning – like buy more and more things.

Religious and spiritual systems provided meaning for most people throughout most of human history. But along comes Dismissive Materialism in our society, this thing that claims to be science, even though it's actually scientism.

The philosophical doctrine of materialism (from the Shorter Oxford English Dictionary) is that *nothing exists except matter and its movements and modifications,* and that *consciousness and will are wholly due to the operation of material agencies.*

Here is my definition of Dismissive Materialism: *it is an automatic psychological habit of dismissing, rejecting or attacking any ideas or observations that imply any reality to spirit, and which do not fit into Materialism as a complete explanation of reality, frequently coupled with unconscious emotional investments in Materialism.* It asserts that *all* this religion and spirituality stuff is a lot of nonsense.

What happened to meaning? Oh, the meaning? According to the Dismissive Materialists, there wasn't any meaning to "happen to" in the first place. A few zillion years ago, a bunch of molecules accidentally bumped into each other after the Big Bang, and after they bumped long enough, some of them bumped

together in a way that happened to make them stick, and reproduce, and after they reproduced and bumped into each other for a few more zillion years – you're here. And it doesn't mean anything, because there's no inherent meaning in the material universe, and then you die. Your death doesn't mean anything either.

That's an extreme interpretation of materialistic and scientistic ideas, but it's an easy one to come to (see my Western Creed exercise on the web if you want to play with experiencing its full impact http://www.westerncreed.com/Tart_ITP.html), and it does not make for healthy, flourishing people. At best, if followers of Dismissive Materialism deign to notice your silly psychic or spiritual experiences at all, they explain them away. "Oh, you had a spiritual experience? Well, there was a little epileptic seizure going on in this part of your brain, and . . ."

Well, people sometimes do have epileptic seizures and the like, people are sometime deluded about all sorts of things, but this kind of automatic invalidation of our deepest experiences is not good for us.

Dismissive Materialism is basically an overarching doctrine that nothing exists except matter and its physical energies. Basically, that gives you a universe where stuff sits there until various material forces whack it, and like billiard balls, they bounce off each other, and things happen. When it's used as a psychological maneuver to automatically dismiss all spiritual experience, I call it Dismissive Materialism.

Okay, now, a warning. If any of you in the audience are trained philosophers, you know I'm not a philosopher and I'm not talking formal philosophies of materialism or being rigorous about them. I'm talking about a *psychological syndrome* when I say Dismissive Materialism. It is a psychological set of habits and beliefs. It's saying, "Everything is material. We now know everything important about the material, and therefore we can ignore anything that seems to violate that – alleged events like spiritual experiences. We don't have to look at them. We don't have to investigate them. We can just throw them out automatically."

My book *The End of Materialism* is not a philosophy text, it's a psychological book about Dismissive Materialism, its psychological effects, and why, from a scientific point of view, Dismissive Materialism is factually wrong as well as psychologically and spiritually harmful.

The End of Materialism is a sexy title my friend Matthew Gilbert at the Institute of Noetic Sciences (co-publisher of the book) came up with right at the time of the big economic crash, so that made it fit in with the news. If I had wanted to be real technical, I could have given the book some very accurate, but unsexy title like *Psychological and Scientific Reflections on the Psychological Syndrome of Dismissive Materialism,* but who would read a book like that? Most of us would rather read something that sounds interesting.

As a total system of belief, Dismissive Materialism is arrogant, and it hurts people because it automatically dismisses their spiritual experience as having no possible validity. If you talk to a dismissive materialist and say, "Well, what about telepathy?" which could be seen as a model for why prayer might work, or something like that, they will say it doesn't exist. If you can force them to admit that telepathy probably exists, they will say, "Oh, well, actually, we will explain that in terms of physics someday." This evasion of explanatory difficulties and putting off dealing with them forever is what philosophers have called *promissory materialism.* It's not a scientific approach, because you can never disprove that they will explain it someday in whatever terms.

For fun, I will loudly assert that I think "they" will explain the spiritual in terms of little purple angels with polka-dotted halos *someday!* You can't prove I'm wrong! Even if I can't provide any evidence, you can't prove that I might not provide it someday! That's faith. Dismissive Materialism is another brand of religion. That doesn't help us develop an evidence-based spirituality. Dismissive Materialism, or any isms of that sort – any belief system that thinks it's complete and keeps you from really paying attention to things in general – is costly to us.

Scientism is a particularly obnoxious (or particularly destructive) form of dismissive ism because it claims to be the scientific *facts.* Scientism, as defined in the Shorter Oxford English Dictionary, is "excessive belief in the power of scientific knowledge and techniques, or in the applicability of the methods of physical science to other fields, esp. human behavior and the social sciences. Frequently derogatory."

Dismissive materialists don't honestly say, "I have this belief system, and I'm not going to pay any attention to your spirituality or anything that doesn't fit with it." They say, *"Science* has *proven* that there is nothing to it." Who is going to contradict that? They are talking about guys who are physicists or neurologists. They wear white coats. They have laboratories. They operate on your brain! Who is going to argue with people like that? Scientism is a particularly destructive kind of dismissive ism because it carries the social and intellectual prestige of genuine science with it.

Okay, I've said life without deep meaning is dismal. We need something to make sense of life for us. We need a better idea than that life is a meaningless event in a meaningless, material kind of universe. We need spirituality. But that does *not* mean we should just make something up that makes us feel better! Some people think we could do that. The drug companies, on the other hand, think they will handle the problem for us in a short period of time. You're kind of depressed because life doesn't mean anything? They will have a pill for you in a short period of time. Happiness or depression are just neurochemical brain states, really, so why not tune them to whatever we like – and make a profit from it at the same time?

THEME TWO:
EVIDENCE FOR A REALITY TO THE SPIRITUAL
Okay, jumping to Theme Two. *The spiritual can be about realities.*

I could go on all day about this because I've spent a good deal of my life working on parapsychology and spiritual phenomena and experiences, and the like. This ISSSEEM group already knows a great deal about paranormal phenomena and the like, so, to save time, I can be very brief on this theme. Let me just say that there is an enormous amount of absolutely first-class evidence that *human beings show the kind of psychic qualities you would expect a spiritual being to have.* In Ed May's talk coming up later on this afternoon, I think he will give you some excellent examples of some of the best kind of remote viewing experimentation that shows how the mind can reach out to the physical world without using our physical senses – for example, clairvoyance.

If you want to see some more things like that, go to the ISSSEEM Monday night film, *Something Unknown is Doing We Don't Know What.* I think it's a delightful title, because it summarizes our knowledge so accurately! You'll get to see various parapsychologists and consciousness researchers doing their thing. You'll get to see this cool set of signs in Larry Dossey's study saying that Something Unknown is Doing We Don't Know What. Or you can buy the DVD if you're not going to be here Monday night. I like our current fashion of full disclosure, incidentally, so let me say that I have no monetary interest in that video, but I am shown several times in the film acting like I know what I'm talking about. That might scare you away or make you want to see it.

This evidence that we have the qualities we could expect spiritual beings to have is reviewed at length in *The End of Materialism.* There are several other recent good books, referenced in *The End of Materialism,* doing this too. *Evidence:* that's what's important. That's what makes us take developing an evidence-based spirituality seriously. It's not an abstract philosophy – there's lots of high-quality empirical evidence that it's about a reality.

Here's the two-minute summary of what we know: there are five psychic phenomena for which we have so much evidence that it's not reasonable to deny that they exist. They are *telepathy* – mind-to-mind communication; *clairvoyance* – the direct perception of the physical world without the use of the physical senses; *precognition* – predicting the future accurately

when there is no way you could logically infer it; *psychokinesis* – the direct effect of mind on matter; and *psychic healing* – the mind's direct effect on other biological systems. The last two might be variations of the same thing; I'm not sure. Those are the Big Five that we could build a science on. Of course, the psychic healing stuff gets us very much into the subtle energies realm.

Then there's what I call the "Many Maybes." These are psychic phenomena for which I think there is enough evidence that it would be foolish to say, no, we're probably fooling ourselves, these don't exist. I (and a lot of my colleagues) would start getting kind of uncomfortable though if you wanted to say these *definitely* exist. Maybe, maybe not; we want a lot more evidence. These are phenomena like postcognition, out of body experiences (OBEs), near death experiences (NDEs), and various other kinds of evidence for some kind of survival after death: after death communications (ADCs), where an ostensible spirit tells you something you wouldn't have known otherwise, mediumistic communications, and reincarnation evidence. Of course there are other things that I could put in the Many Maybes category, but the book was already too big!

The main point is that *these kind of psychic abilities are the kind of abilities we would expect spiritual beings to have.* Again, developing an evidence-based spirituality is not just an exercise in philosophy or psychology. It's dealing with realities. The conclusion in Theme Two is that Dismissive Materialism is factually and conceptually inadequate when it claims to be a *complete* explanation of reality.

I'm not against Materialism as a philosophy, incidentally, as a way of working with things. You say stuff is made out of chunks of matter and certain laws operate, and you find that what you want to investigate is explained very nicely by that approach. Good! Keep expanding it. It's just when it makes this psychological concretization into Dismissive Materialism, the psychological syndrome that you know everything and can ignore all the spiritual stuff, that's when it hurts

people and becomes a kind of rigid fundamentalist religion instead of science. Materialism is inadequate as a *complete* theory of reality. Also, people show qualities that we would associate with spiritual beings.

Incidentally, I have not defined what I mean by spiritual, and I'm not going to, because part of what we need to do in developing an evidence-based spirituality is be able to define "spiritual." But I think you have enough idea of what I mean for our discussion today.

THEME THREE:
LEARNING MORE, SIFTING EVIDENCE

So, theme three: some illustrations of possibilities of how we might apply our knowledge refining techniques to get better understandings about the spiritual.

Again, I remind you, this is what we can do as rational, intelligent humans. Insofar as the spiritual is real and has its own ideas and goals, of course, this kind of venture is, to an unknown degree, actually a "partnership," with us knowing little about what our partners might want or not want. I tend to assume the best – that whatever spiritual partners there are have our best interests at heart and want to help us expand our knowledge and capability. This is my personal bias: I'm not much on "external evil" – our own animal instincts seem quite sufficient to me for us to create hell – but others may have a different view.

The views we approach this with should be carefully brought to consciousness and developed, though, as these guiding views introduce biases in what we investigate that can slant our results. You want to "prove" that people are nasty? Easy, look in the newspapers. You want to "prove" we have deep wells of compassion and helpfulness? Look at what so many people do all the time in life. You want to "prove" evil spirits are responsible for lots of our problems? That's not my territory, for better or worse. You want to "prove" there are helping, wiser, loving spirits around? I like that and it's potentially investigatible. But know your biases, for the less you know them, the more they will mindlessly control you.

My favorite example of the effects of belief and biases: the *sheep-goat effect* in parapsychology, discovered by Gertrude Schmeidler and colleagues, and confirmed in many studies (Schmeidler & Murphy, 1958). Before you give an ESP test, a card-guessing test, you have the students you are going to test fill out a questionnaire indicating whether they believe in ESP (the sheep) or don't believe in ESP (the goats). Then you give the test and analyze the results separately for the two groups. The sheep, who believe in ESP, usually score above chance – they get more right than they should by guessing alone. The goats, by contrast, get fewer right than they should by chance, and the difference between the groups is significant.

How could this happen?

Remember these are studies done with college students, people who have been trained over and over in our society to believe that *tests measure what you know.* The sheep believe in ESP, they get a good score on the test, they are happy when they find out, and their belief is "validated." The goats know there is no ESP to demonstrate, they get a poor test score, and that proves, to them, their belief that there is no ESP. What the goats don't understand, though, is the statistics of the testing. If there is no ESP, your scores should hover around chance and what you believe can have no effect up or down. The goats don't realize, though, that scoring 10% *below* chance can be just as unlikely and meaningful as scoring 10% *above* chance.

The only explanation I've ever been able to figure out is that, in the service of their belief systems, the goats are occasionally but unconsciously using ESP to know what the correct card is on some trials so they can call anything *but* that card. The goats are (unconsciously, with bias) pulling off a "miracle" that they think proves that there are no miracles.

Wow! The length the human mind will go to in order to defend its beliefs. Anyway, if you really want to advance our knowledge, then assume you're biased, find out what those biases are, and try to compensate for them. If you are biased but don't know it, whatever

you find in your studies may just be artifacts – pseudo-validations of your prior beliefs.

I will now give you eight examples of looking for more knowledge of the spiritual. I'll have to be very brief because of time limitations, just pointing out directions, even though each of these could be elaborated on richly.

EXAMPLE ONE:
MEDITATION AS TOOL, IMPROVING IT

In any kind of science or knowledge refinement process, people try to use tools or methods to refine knowledge, and they are always interested in creating better tools. How can you we start to improve our tools for studying the spiritual?

Well, when you're interested in consciousness and spirituality, one of the main tools people have used is meditation. Now, I could go off on a rant of how when I become world dictator, I'm not going to allow anyone to use the word meditation under penalty of death! It's used in so many different and contradictory ways all over the world that it's an almost meaningless term. Unfortunately, we're stuck with it, and most of my semantic crusades to make key terms be used more precisely have gotten nowhere in life. One of the reasons I admire Shinzen Young's work, for example, is that he is one of the few meditation teachers that I have ever come across who tries to define clearly what it is he is talking about.

So, meditation is a primary tool for us. I'll define it *just for our purposes today* as attention control methods for focusing or shaping the mind to either (a) create specific kinds of experiences or states of consciousness, and/or (b) allow clearer observation of the processes or nature of the mind or of reality.

Meditation can be like a "microscope" for examining our own mind. Meditation is a tool for examining the way your mind works, and probably the way your brain works, too. It may also be a kind of "telescope" to tell you information about the outside world. So, one of the first things we could do to develop an evidence-based spirituality is make this primary tool work better.

Years ago, I was having a conversation with Shinzen Young, and I was asking him, how well does meditation work? He told me that if he goes somewhere and trains people in how to meditate – a workshop, a retreat, a class, something like that – just about everybody says, "Oh, yeah, this is real interesting stuff. I'm learning something. This is going to be a part of my life." So we have 90% plus satisfaction in "Does it work?" But then he said that if he comes back a year later and *5% of them are still meditating, he's been very successful.* I said, "What?" He said, "Yeah, and that's the experience of other meditation teachers in the US, and of the Eastern meditation teachers, too."

I said, "What? You come back a year later and you have had a 95% flunk out rate?" You know, if I applied the standards of a Western university to that – if 95% of my students at a university dropped out within a year – I would think that as a teacher, I'm doing a very bad job. Something is wrong. I don't know how to teach whatever it is I'm teaching. Shinzen understood my concern there. He noted that this is simply the way it is, even with the big, famous Eastern meditation teachers. Those teachers are not worried about it because they put it down to karma. If it's your karma to come around and want to learn meditation, you'll come around. If it's your karma to stick around, you'll stick around. But if it's not your karma, you'll drop out. Maybe ten lifetimes down the road your karma will bring you back again. Maybe not.

Well, that karma explanation might be true – but what a defensive rationalization for being a lousy teacher, and not feeling guilty! I'm sorry to put down meditation teachers, who we project so much on, but I just can't handle a 95% flunk out rate.

So, a first major project of developing evidence-based spirituality could be making meditation work better. One of my fantasies for spiritual growth techniques in general, for instance, is that I want to find the next hundred thousand people who are starting off on various spiritual paths and *I want to test the hell out of them.* I don't know a *priori* what tests are really most appropriate, so I'll give them dozens and dozens of

them. Then I'll follow up with these students every few years – who has dropped out, who has become enlightened, who has gone crazy – you know, who feels like they've had big insights and the like. Someday, simply by empirically looking at what those initial test patterns were, we'll be able to correlate, to predict relative "success" and "failure." Somebody will come in, for example, and say, "I want to become spiritual," and I'll be able to say, "Take this test." Then I'll look at the test results and be able to say something like, "Okay. For your type, I don't recommend Zen. For your type, there is a 27% suicide rate with Zen, and I think that's an unacceptable risk. However, Sufism works really well for your type," and so forth. To the next person I might say, "Hey, Zen is probably going to be really good for you." I'd love to have that kind of empirical information.

Meanwhile back in ordinary reality, Shinzen has been working for years on making the learning of meditation better, and I hope he's going to tell us about some of the ways he's made progress on this.

So, improving the effectiveness of meditation training is one way we could help develop an evidence-based spirituality.

EXAMPLE TWO: BASIC SPIRITUAL EXPERIENCE BEYOND CULTURAL BIAS

Another way to develop an evidence-based spirituality is to examine what happens when people have psychic and spiritual experiences *after you compensate for their cultural biases.* One of the excellent examples of this is what's already happened with near death experiences (NDEs). Many of you, I'm sure, have read Raymond Moody's book, *Life After Life* (Moody, 1975). It hit the bestseller lists in 1975. An amazing finding from Moody's book was that people from very different backgrounds and religious beliefs reported very similar experiences.

A first attempt at explanation about NDEs, an attempt at a scientific theory, is they are some sort of a hallucination of the dying brain, so that its contents would pretty much reflect your particular belief system. Thus what you get

in NDE reports would depend on what the person's beliefs were. But that's only partly true. The way NDEs are described tends to be influenced to some extent by your culture, but there's still a kind of core experience there, regardless of your culture. For example, one of the common core experiences is interacting with a Being made of Light, who understands you completely, expresses unconditional love and psychically communicates with you.

What I want to illustrate is how cultural effects can come in here. If you are a Christian and you meet a Being of Light during your NDE, you're liable to say, "I talked with Jesus." If you're a Jew, you're liable to say, "I spoke with an angel or God." If you're an atheist, you have a problem. Atheists are generally somewhat embarrassed after they talk with the Being of Light, as this Being is much closer or identical to ideas of who God is than anything else they can think of. Atheists are the ones who usually try to describe their NDE more "neutrally" as a meeting with a "Being of Light." You know, sort of more of an anthropologically neutral kind of term. I sympathize with people getting embarrassed. It's always embarrassing when things like that happen. They often don't remain atheists after their NDE.

It's harder to get unbiased information on NDEs now, because back when this data was first collected, most people had never heard of NDEs. You could assume that their account would be largely uninfluenced by what they thought it was supposed to be. Now everybody has seen a documentary or read a magazine article or book about NDEs, and that tends to bias people's reports.

A second theory that we could test about near death experiences, given that there is a lot of cross-cultural similarity, is how much does inherent, genetic brain programming go into shaping NDEs? Is the hallucination of the dying brain, for instance, produced by some genetically programmed, deep level of the brain, below most cultural influence? Some people, for instance, have hypothesized that we have evolved to have NDEs, that they have survival value in the long-

term. Why think this? Because evolution is the very fashionable way of explaining things nowadays, and since evolution selects for survival benefitting traits, that we have NDEs shows they must have evolutionary value.

Personally I don't follow the reasoning on this line of thinking at all (or see how you could eventually test this as a formal theory). I think if evolution pressures were involved, we would have evolved to have really horrible experiences when we almost die, because then we would be a lot more careful about taking care of ourselves, instead of largely having wonderful experiences that make death seem attractive.

Another hypothesis we could test about NDEs (which usually involve experiencing oneself as being outside of one's physical body) is maybe that the person is actually "out" of their body in some real sense. This is something I could spend a lot of time on, but I'll just take a moment.

Years ago, our babysitter (Miss Z as I called her to protect her privacy), turned out to have routine out-of-body experiences (OBEs) at night. She'd thought when she was a kid that you went to sleep, you dreamt, you woke up floating near the ceiling for a minute and saw your body in bed, then went back to sleep, woke up and went to school in the morning. That was a "normal" night's sleep. She'd since learned that it wasn't quite the way everybody experienced things! But anyway, in my laboratory, she was able to experience a few brief OBEs and wake up afterwards. I recorded her brainwaves, which were different from what I was used to seeing in normal sleep research. On the one occasion when she woke after an OBE and reported that she had seen a random five-digit target number I had put up on a shelf up near the ceiling, she correctly said, "It's 25132." That's a hundred thousand to one odds to guess that in one trial (Tart, 1968). That was interesting!

I wanted to demonstrate the feasibility of taking the idea that maybe the mind does leave the body, and you could study it in a laboratory setting, instead of just letting it
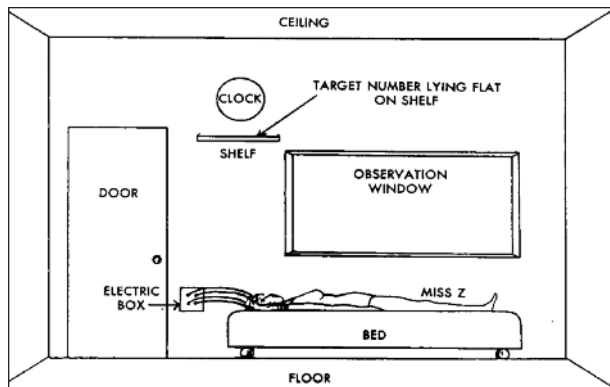
Figure 4. Laboratory plan to study Miss Z's out-of-body experiences

be an exotic anecdote. Since I think the concept of "soul" comes from OBEs people had in the past, we'd be studying a very basic spiritual phenomenon.

Incidentally, Miss Z was not near death; her physiology was like (but not the same as) ordinary stage-1 rapid eye movement dreaming. You don't have to be almost dead to have an OBE, and you can study it in the lab. That's a second theme we could explore.

EXAMPLE THREE: REINCARNATION, CHILDREN'S PAST-LIFE RECALL

A third theme in developing evidence-based spirituality would be looking at reincarnation. Is reincarnation real? Well, that's a tricky question, because if you reincarnate but you normally forget all your previous lives, what do you have to work with? Is there any "data," rather than just a theory?

The data we have to work with is the occasional kid who, somewhere between the ages of 3 and 7, says something like, "Hey, what am I doing here? I want to go home and be with my wife." That's usually very embarrassing to the kid's parents! There are enough of these cases where some kid says something like this and you are then able to track down somebody who has the characteristics the kid claims his former incarnation had that we have to look at them seriously. This is one of those Many Maybes that might become part of the Big Five (thus transforming to the Big Six) some day. The kid says, "My name was so and so, and I lived in

this village, and my wife was named so and so," and in the interesting cases, the accuracy of it starts getting beyond coincidence.

Hunting down and investigating such cases was the work of psychiatrist Ian Stevenson (1918-2007) and collaborators, who spent years going all over the world finding cases like this. His successors have a total of about 4,000 cases in their files at the University of Virginia now, cases where a kid claimed reincarnation memories and they were able to find a recently deceased person who this matched pretty well. This is fascinating!

Now here is a line of research I can't seriously suggest – but I've been very serious in this talk for so long, let's get a little outrageous for a minute.

A common thing in children who remember a previous incarnation is that they died a violent death. They were strangled or shot, hacked to death with a machete, or run over by a car or something like that. Some of them have birthmarks that seem to correspond to the death wounds! For instance, someone reports, "I was killed because somebody shot me in the chest with a shotgun," and he's got a little birthmark on the front of his chest and a big birthmark on the back of his chest, like entry and exit wounds from a shotgun would make (Stevenson, 1997a, 1997b). Fascinating!

Stevenson used to kid people that if you want to remember this incarnation in your next one, try to arrange to be violently killed. And I suppose we could do that experimentally, but I'm not recommending that kind of research! My outrageousness only extends to putting some marks on fresh corpses that would constitute a bar code, and look for infants with such marks later. One Middle Eastern culture that accepts reincarnation actually marks some fresh corpses like this with identifying marks (Stevenson, 1997a, 1997b), although not up to the level of bar codes.

If reincarnation is true, it's enormously important in its implications for how we live our lives. I think it's more important to do lots more reincarnation research than to cure the common cold.

EXAMPLE FOUR: KARMA

Another example of the way we could refine knowledge would be to ask, "Is karma real?" Karma is the idea that your past actions manifest in future lives, the universality of cause-and-effect. I think of karma as both short- and long-term carryover of deep habits. In Buddhism and Hinduism, karma is the sum of a person's actions, especially intentional actions, regarded as determining that person's future state of existence. Well, how would you research that?

Say somebody dies. We might postulate that they have a very, very long OBE. They go "on" toward their next incarnation, which will be at least partly determined by their karma from this life (and previous lives). They have various habits and attitudes they formed in this life. One more specific formulation of this is the Tibetan Buddhist belief that you go through some sort of intermediate states after death – the Tibetans call it the bardos – where who knows what sort of processes take place. Your karma from past lives manifests there, affecting your choice of next incarnation, and then you are born and supposedly the characteristics you are reborn with have a lot to do with past karma.

Now, the historical Buddha gave a lot of advice to people about getting enlightened. This included a list of several things he said it was not good to think too much about before you were fully enlightened. They were so complicated it would drive you nuts! One of these things was the exact workings of karma. I suspect one of the reasons he warned people off about this one is that if you have a lot of karma from many past lives, as well as from your just prior life, it's not clear what karmic aspects will manifest in your current life. It would be hard to pick out causal relationships.

But wait a minute; in psychology today we study stuff all the time where there's a high "noise level" – where things are determined by many factors, but we pick them out by calculating correlations. We could look for correlations between a person's immediate past life that we identify and their characteristics in this one, and get some idea if karma is at work. If we found that a previous incarnation's lifestyle involved a lot of aggression toward others, for instance, with the natural consequences of others fighting back, would we see a similar lifestyle in the current incarnation after the child grew into adulthood? We wouldn't expect any perfect matches, but would expect significant correlations. The karma research project. I like it: The National Institute of Karma Research. It's a wonderful vision.

EXAMPLE FIVE: TESTING A KARMA THEORY ABOUT RARITY OF HUMAN REBIRTH

I'll give you a more specific theory about karma to illustrate how we could refine knowledge. Tibetan Buddhists say it is really hard to get reincarnated as a human being. You can get reincarnated as an animal or in various non-physical realms and all that, but it's hard to get reincarnated as a human in your next life unless you have exceedingly good karma. That's too bad, because the human realm is the best place to get enlightened. We've generally got kind of the right balance of suffering, intelligence and freedom here to be able to work on ourselves spiritually. But don't expect to come back for a long time as a human being.

They usually give a little example of just how hard it is. Imagine an earth-sized world that's all one huge ocean, they say, and there is a six-foot diameter ring floating on its surface. Imagine there is a single turtle that lives in this ocean, and once every century he comes to the surface to breathe. What are the odds he'll come up within the hoop? Way, way, way low – illustrating how very, very hard it is to get incarnated as a human in your next life.

Recast that as a testable theory now, rather than religious doctrine. Remember, that's a major key to developing evidence-based or enriched spirituality, *taking doctrines and beliefs as theories to be tested.* If that theory is correct, that it's really rare to have enough good karma to come back as a human being in any reasonable length of lifetimes, then I think we can make a prediction about these kids who remember a past life. You would find almost exclusively holy women and holy men – people who had really good karma, yogis and nuns and saints and just those sorts of people.

So, I talked to the investigators at the University of Virginia who have that database I mentioned earlier of 4,000 reincarnation cases. I asked them, "How many of these kids were holy people – monks, nuns and all that, in their previous life?" They got puzzled looks on their faces, and thought about it for a while, and then answered that, well, in the 2,000 or so cases they have fully coded, there were maybe half a dozen monks and nuns in their immediately past, remembered lives. And the rest are all very ordinary people – butchers and bakers and candlestick makers – so I'm afraid the theory about the rarity of coming back as a human being doesn't fit what observations we have. It's time for a little refinement. It's probably a good teaching story to motivate people to get off their butts and become more spiritual. But I suspect there are potential drawbacks from motivating people with stories that may be factually false.

EXAMPLE SIX: REFORMULATING THEORETICAL, GUIDING IDEAS

While basic science starts with empirical observation, ongoing research is not just empirical research. It's also theoretical research: looking at and thinking about your conceptions. Perhaps a different way of formulating them would guide research in a more profitable way? Or perhaps combining them with some other concepts would be helpful? In a well-developed field of knowledge, you may have scientists who are primarily theoreticians, such as some physicists.

Here I want to point out the research and theorizing that Shinzen Young is doing. Shinzen was a graduate student who decided he should actually get some training in Eastern meditation systems before writing an academic dissertation on them back in the 1970s, and spent years training abroad. He gave a lot of thought when he came back from training in the East about how do you *effectively* introduce various Eastern meditation and spiritual techniques to the West? You can't just transfer them wholesale, because we're a different culture. Words that have a clear meaning in one culture may lead the mind in different, ineffective directions in another, even though logically we think they are the same. For example, directions on how to meditate carry theoretical implications that guide what will happen, and implications are hard to convey from one culture to another.

One of the things I've really appreciated about Shinzen is that he gave a lot of attention to what words carry the right kind of meaning and can get our effective attention. He has worked very hard – and I hope he'll talk about this in his presentation – on reclassifying traditional world-wide, but especially Eastern, meditation methods, for instance, into five basic types that have clear meaning for us. I can't take the time now to explain in the detail they require, but I'll list them, and Shinzen's website has papers explaining them (http://www.shinzen.org/).

Focus In: where you're trying to pay attention to various internal processes like your visual imagery, your mental talking to yourself, bodily sensations and the like.

Focus Out: where you meditate on, and pay attention to various external sensations: sight, sound, touch, or the like.

Focus on Rest: where the emphasis is on creating states of great relaxation, mental blankness, emotional peace, quiet and so forth.

Focus on Change: where you learn to see how your experiences are constantly changing: flowing, morphing, vanishing. They never stay exactly the same

Figure 5. Five basic types of meditation as discussed by Shinzen Young

Shinzen Young's 5 Attention-Training Ways	
Focus In	Image, talk, touch, feel, etc.
Focus Out	Touch, sight, sound, the physical senses here-and-now
Focus on Rest	Physical relaxation, mental blank, emotional peace, quiet
Focus on Change	Flow, morphing, vanishing
Focus on Positive	Create positive feel, image, talk

when you observe closely. They're always morphing one into the other, but we get into a lot of trouble by grasping at experiences as if they were fixed or trying to fixate them when it can't be done.

Focus on the Positive: where you deliberately create various positive images in order to put yourself in the right kind of state.

Shinzen has not only reformulated these traditional meditative practices in ways that make sense and are easy to teach to modern Western people, but in ways that are compatible with various approaches to scientific research on them. As an example, for years I kept hearing Buddhists talk about understanding *Impermanence*, with a capital I on the Impermanence. I used to think, "Wow, that's pretty mystical! – Impermanence. I wonder what that is?"

Then Shinzen taught me how to meditate on *flow.* Oh, that's observing how one sensation changes into another sensation when you pay close attention, how it morphs! That's what it is. I've been meditating on impermanence all these years. Wow – that made me feel like not as much of a failure about meditating! This kind of theoretical reformulation to make

meditation and attention training practices both work more effectively, and to make it more compatible for future kinds of scientific research, is a major way of moving toward an evidence-based spirituality.

EXAMPLE SEVEN: BUDDHIST MEDITATION PRACTICE AS ALTERED STATE INDUCTION

Okay, one more illustration of a possible direction to reformulate some spiritual practices and see where that might take us, namely *looking at classical Buddhist insight meditation practices as an induction procedure for producing one (or perhaps several) altered states of consciousness (ASCs).* This is theoretical work again.

Years ago, given my background as an electronic and engineer type, I came up with a *systems approach* to understanding states of consciousness and how you produce ASCs. (See Figure 6.) To take years of research and condense it into a few minutes, I made the point that our ordinary consciousness – what you're all experiencing right now, presumably – is not "just there." *Ordinary consciousness is an active, ongoing construction.* You learn to put aspects of mind and brain functioning together in certain, socially approved ways, and it becomes a *system,* a complex emergent effect of many parts that holds together in a certain

Figure 6. A systems approach to (altered) states of consciousness
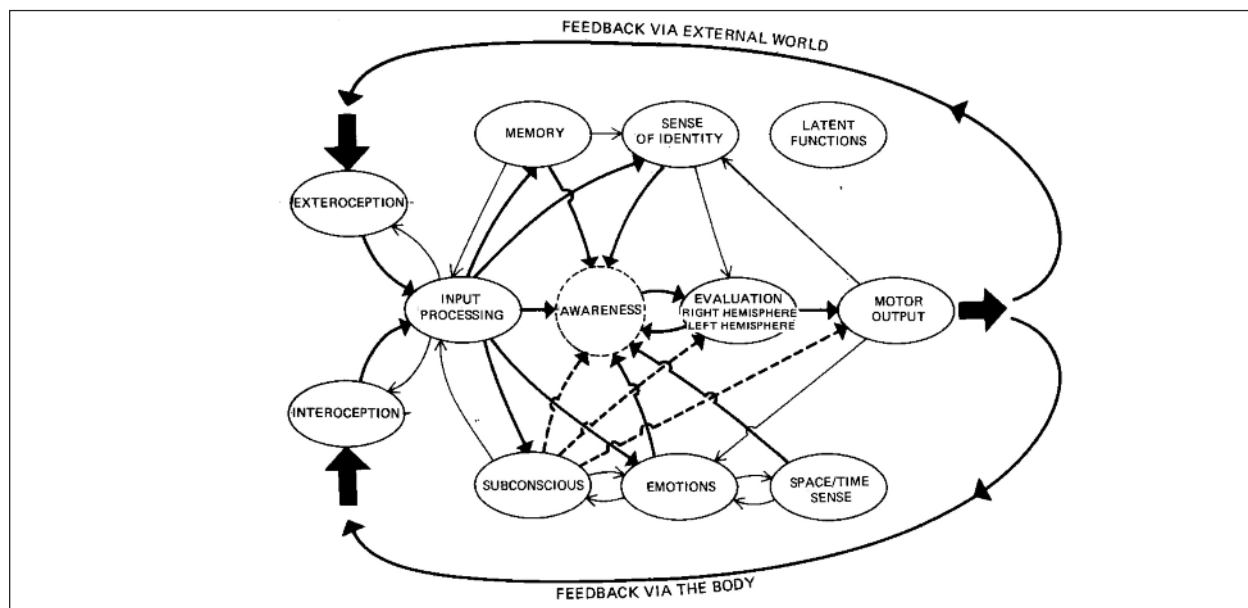
kind of recognizable pattern, which results in the immediate "feel" of ordinary consciousness. This takes continuous work, actually, but it's so habitual that you don't even know that you're working at it.

There are many automatic mechanisms and processes to keep your ordinary state of consciousness stabilized and in place. It's like the many aspects of bodily motion you unconsciously engage in to stay balanced while you ride a bicycle, but once you've learned to ride, you concentrate on where you're going and are hardly aware of the complex, continuous balancing. Ordinary consciousness is an active, ongoing construction. It's optimized to handle the usual world around you. The fact that you're all still alive and haven't been run over by a car, for example, or locked up in a psychiatric hospital, means you've organized your ordinary state pretty well all these years to avoid dangers like that.

I stress that your ordinary state (what I long ago termed *"consensus consciousness,"* to remind us of the social factors that went into constructing it and still work to maintain it) is *stabilized* – it holds its basic pattern and functioning in spite of many changes in your world.

Okay, now I say "Boo!" [Says loudly through microphone, slightly startling some people.]

Did anybody get enlightened just then, or experience some strange change in consciousness? No, consensus consciousness is stabilized. We can handle change and the pattern of consciousness stays pretty much the same. When we want to induce an altered state – hypnosis, or drug induced states and so forth – we have to get rid of that stabilization. Here's a little diagram from my *States of Consciousness* book (Tart, 1975) to illustrate the induction of an altered state.

Imagine these shapes as representing the various parts or processes of consciousness, or subsystems, that normally hold together as a stable state, a state that has a "shape" to it, a feel. In a gravitational field, a bunch of things that actually had these shapes would be stable. The left-most, roughly rectangular pile of psychological functions in the figure is representing a stable state of consciousness, operating in the "gravitational field" of ordinary life.

If you want to alter someone's state of consciousness, you have to do two things. The beginning operation is to apply what I call *disruptive forces.* You start

Figure 7. Inducing an altered state of consciousness
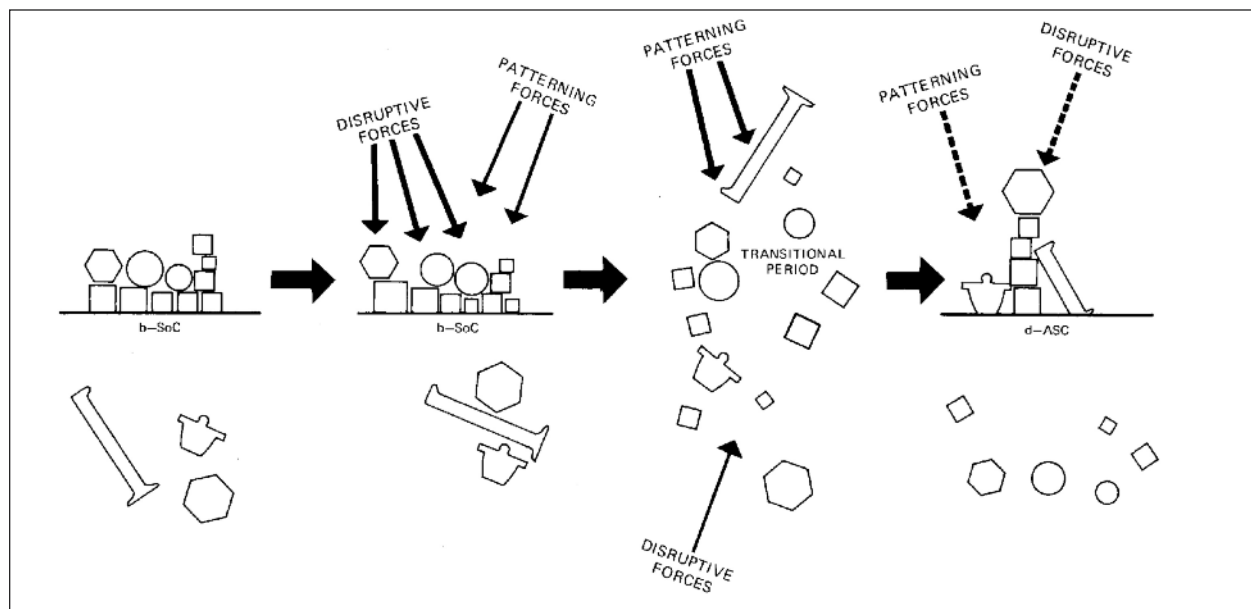
interfering with and breaking up the stabilization processes. For instance, if you're sleepy, but you want to stay awake, sleepiness is a disruptive force. You've got to not give into that – so you walk around, be active or something like that. That produces all sorts of strong physical, body sensations and the need to watch where you're walking that act as *stabilizing forces* for holding together your awake state.

On the other hand, if you want someone to go to sleep, you get them to lie down, be physically relaxed, and comfortable. That relaxation is kind of a disruptive force. The disruptive forces start to break down the awake state, but generally not completely. You can be a little bit relaxed and sleepy and you're still in your ordinary state of consciousness. These disruptive forces are represented in the second panel of the figure. Here, some aspects of processes and relationships of the physical shapes we're using in our analogy have changed a little, but the overall pattern of the state – the gestalt – is still basically the same, and it's still holding together in the "gravitational field" of ordinary life. (I've sketched in *patterning forces* in that second panel too as lighter arrows, but they are unimportant here compared to the disruptive forces.)

When disruption is strong and successful, though, the relationships among various aspects of your mind break up and you're in a *transitional period.* I show these mental processes or functions as all over the place in the third panel, and I call it a transitional *period* to distinguish it from a *state:* it's changing rapidly, and it doesn't have the stability a state has.[3] This is when the patterning forces part of an induction procedure become very important. *Patterning forces* are various forces or procedures, psychological and/or physiological, that indicate the way your mind should re-organize itself, that push it in those directions, the new pattern aspects of mind should fall into. In inducing hypnosis, for example, you typically suggest that the hypnotic state that will come will involve a *passive receptivity:* you will understand suggestions, but you won't think about or criticize them.

The same psychological or physiological action or process, incidentally, can act as both a disrupting and patterning force, both within and across induction procedures.

If the induction procedure is successful – and just because you've gone through an induction procedure doesn't necessarily mean it's been successful – your mind has been reorganized into an *altered state of consciousness.* The fourth panel of the figure shows that the various aspects of your mind are put together in a different kind of shape. Some aspects that may have been prominent in the baseline state you started the induction from may no longer be functioning (one of the small squares in this representation, for example), while other aspects are now functioning that were latent or inactive in the baseline state (the long shape that looks like a graduated cylinder[4]) may now be prominent in the ASC.

You may need to keep applying some of those patterning forces to hold your new ASC together, and/or it might eventually get stable in whatever environment it operates in. In some cases you may need to keep applying the disruptive forces that undermined the ordinary state of consciousness you started the induction from as part of maintaining the ASC, as the stabilizing forces of our ordinary state may be just so strong and habitual in operation that they would otherwise quickly destabilize the ASC.

In some cases you may also need to keep applying the disruptive forces that led the induction because, through sheer force of habit or environmental pressures, they keep trying to function, which would de-induce the ASC and take you right back to the baseline state.

All right, that's how we induce an altered state of consciousness. If you feel I've covered a lot of ground way too quick – well, you're right, but my time is running out up here, and I think I've given you enough of a feel for the process to be able to bring up my theory of an important aspect of what Buddhist meditation practices might do.

Ah, one addition. Another way to describe the induction of ASCs is to remind you of one of my favorite cartoons, that I suspect you all have seen. (The cartoonist is Sidney Harris, and you can see more of

his cartoons at www.sciencecartoonsplus.com.) Two scientists are at a blackboard covered with fancy equations. Something is expressed by the equations at the left, more equations logically progress toward the right, ending up in a new, final equation. It seems very logical, until you notice that the "equation" in the middle of the process reads, "Then a miracle occurs..."

The droll punch line is the second scientist pointing at "Then a miracle occurs" and commenting that the first scientist might want to be more explicit there.

You start from your ordinary, baseline state, and you end up, *if* the induction is successful, in a new system of consciousness, a new gestalt, a new style of functioning. Baseline consciousness, then "something funny" happens, and you're in a new state. Inducing an altered state of consciousness is generally not a clear, linear process where you get a little of this and a little more of that and then a little more of this and a little more of that and now you're in the ASC. Something funny happens that messes up your ability to observe.

For instance, I once gave some of my students at UC Davis a little project when I was studying the psychology of marijuana intoxication. I told them we didn't really know anything about what the actual phenomenological transition is from being "straight" to being "stoned." I never encouraged anybody to do anything illegal, of course, but I suspected that lots of the students out there were getting stoned all the time anyway, so I said, "Although I never encourage anybody to do anything illegal, would you take this questionnaire home and next time, if you get stoned, could you notice what the process is where you go from "you're straight, you've smoked a little, but not stoned yet," and note what happened as you finally become stoned?" The universal result I got back was, "Gosh, I don't know. I was straight one minute and I was stoned the next." A "miracle" occurred in the middle there.

DUKKHA, ANNICA, ANATTA

Basic Buddhist practices talk about realizing, through reflection and meditation, through deep insight, three primary characteristics of reality.[5] One of these is

dukkha, usually translated as (ordinary) reality is deeply, inherently unsatisfactory. Our experience, as it normally is, just doesn't satisfy in some major fashion. I always think about the Rolling Stones hit here, "I can't get no satisfaction!"

A second is *annica* or impermanence: things keep changing. We can't grab onto anything and hold it still, preserve it as we like it, because reality keeps changing all the time, regardless of what we hope or fear. The third characteristic is *anatta:* there's no permanent real self that we can cling to. These three characteristics are presented as *insights into the way things really are,* so realizing them is essential to gaining enlightenment.

Realizing at least one of and preferably all of these three key things deeply is recommended, if not considered essential, for successful meditation practice to bring about some degree of enlightenment. I don't think it's particularly recommended for focusing on in your ordinary state of life, though. Buddhist work for ordinary life is about living a moral life. If you go around in your ordinary state and somebody offers you a business deal and you say, "Well, no, you know, things change without really satisfying, and I have no real permanent self anyway," you're not going to be very successful. But when you're meditating, that's different.

When I apply my systems approach for understanding states of consciousness to these Buddhist practices, though, I would say that in our ordinary state of consciousness we're deliberately (implicitly as well as explicitly) working hard at doing the opposite of realizing these three characteristics of existence. We're doing *anti-anatta,* anti-no-permanent-real-self, for instance. It's not that we don't want to realize that there's no permanent self in perhaps some abstract philosophical sense or when we're meditating. It's that we think something like, "You know, I've got a functioning self that's centered in my physical body, here, maybe my self is my physical body, and I want to take good care of this physical body self because it doesn't feel good to get hurt." Similarly, we look for

satisfaction from our endeavors, *anti-dukkha,* again, largely within and using this physical body. We don't want to think nothing satisfies, that's pretty depressing. I'm going to order cheesecake for dessert tonight, for example, and I want to really enjoy that particular cheesecake! We strive for as much permanence as we can get. And we know we can't freeze the world, we can't stop change to freeze everything in a permanent state we like, but we can sign the contract that has penalty clauses if the other person doesn't perform, and that's liable to make things go in a certain way, more toward predictability and permanence even if not guaranteeing it. We work at *anti-annica,* at least trying to control the direction of change so it goes in favorable directions.

So, working against these Buddhist ideas and insights about the fundamental nature of reality is typical and useful in many ways for ordinary existence. But then, Buddhism sees ordinary existence, life, as nevertheless inherently full of suffering, centered on dukkha, annica and annata. Worse, reincarnation, a basic assumption about the nature of reality in classical Buddhism, means you not only suffer in this life, you come back and suffer again and again and again. You keep trying to get satisfaction that can't be gotten, to hold off the change, to hold off the realization of lack of a permanent self – and you just build lifetime-to-lifetime karma, habits of thinking, perceiving and feeling, that keep the basic suffering going. To me, this sounds like a pretty negative view of life, although there are much deeper levels of all this that are different, but let's stay here for the point I'm illustrating.

So, if you're doing meditation, you're doing it to get *enlightened* (whatever that means - you might read my earlier **Subtle Energies** article on the nature of enlightenment for some aspects of this (Tart, 2003). Are you just trying to realize those three characteristics of existence – dukkha, annica, anatta – more and more deeply? *Or is the actual truth or lack of it in these three concepts not as important as you actually working with them to induce an ASC?*

This is an ongoing conversation, theorizing in process, that I want to have repeatedly with several people who are way, way ahead of me in meditation practice, but let's look at it more deeply.

Figure 8. Buddhist meditation as inducing an ASC
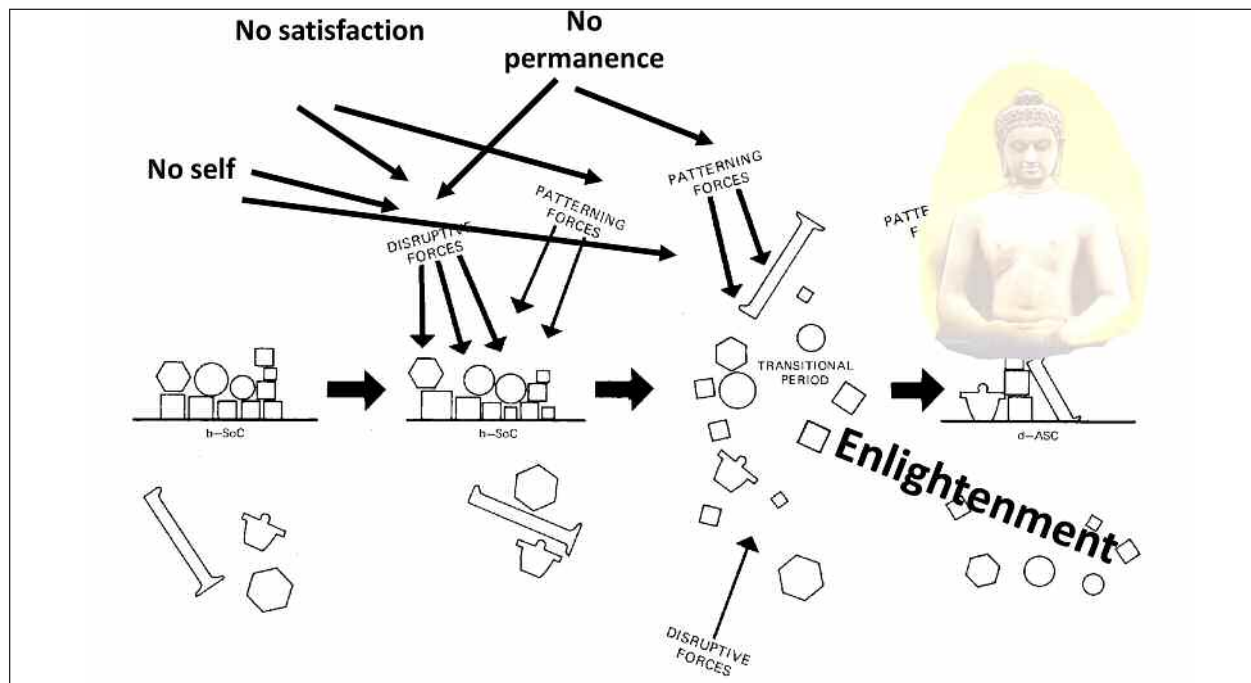
We can think of meditation as a kind of microscope to examine the nature of your own mind, to really examine it so you can get enlightened by realizing this true unsatisfactoriness, this true lack of a permanent real self, the true reality of inexorable change. Or is meditating on these three characteristics – dukkha, annica, anatta – actually primarily ways of *undermining the stability of your ordinary state, so an ASC can be induced?* Is the absolute truth or lack of it about these three characteristics secondary to the usefulness of inhibiting our psychological habits that stabilize ordinary consciousness by focusing on these three in order to further the induction of a desirable ASC?

That is, we may not really care very much if there really is no permanent self, things really keep changing and nothing is really satisfactory. Perhaps it's altering our attitudes toward various processes that are major stabilization aspects of ordinary consciousness (what I called anti-dukkha, anti-annata, and anti-annica above) that allows the induction of an ASC. Or, perhaps, the orthodox Buddhist theory, the apparent fundamental position of Buddhism – annica, annata and dukkha – really are fundamental characteristics of reality, and it's the deep realization of them that leads to enlightenment.

Now I've been using this as an example of working toward an evidence-based or evidence-enriched spirituality, applying a theory about ASCs to a spiritual practice to see the practice and belief system in a different way. Of course this may be an interesting theoretical analysis that doesn't really match the way things work, but one of the ways that science progresses is you come up with new theories about how things work and you go out and test them. The prediction to test from this different theoretical approach is that meditation that interferes with other processes which stabilize ordinary consciousness, given the rest of the meditation context being the same, would work as well as meditation on dukkha, annica and annata. If the new approach works, you then continue to develop the theory. If it doesn't work, it's time for another new theory, and/or sticking with the old theory, and/or refining the old theory. This is an example of how we could proceed.

EXAMPLE EIGHT: THEORETICAL CONSISTENCY, THEORY BIASING EXPERIENCE

Lately I have been receiving considerable intellectual stimulation about spiritual and psychological ideas from an unusual and provocative book by an American physician, Daniel Ingram, *Mastering the Core Teachings of the Buddha: An Unusually Hardcore Dharma Book* (Ingram, 2008).

For me, the first major stimulus was the cover of the book, on which the author lists himself not as a physician, but as an *Arahat.* This is a technical term in Buddhism for one who has gained insight into the true nature of existence, has achieved nirvana, and will not be reborn, who is enlightened. My immediate reaction was, "Who the hell does this Ingram guy think he is? How pretentious!"

As part of my lifetime study of *myself* and my mind (especially important when I get emotional), I looked deeper and saw that while I could now learn something about myself, I hadn't actually learned anything about Ingram from my reaction. Clearly I had passively accepted the social convention in all the Buddhist circles I've traveled and studied in that one never has the temerity to evaluate the status of living teachers (although you always think of them as way more advanced than you), and they always humbly put themselves down as seeking enlightenment, but certainly way too flawed to be enlightened. Only dead or otherwise inaccessible Buddhist teachers are usually referred to as definitely enlightened.

As Ingram discusses in his book (a point of view which makes total sense to me): it's nice to cultivate humility and protect against ego inflation this way, but it confuses the student as to how much credence to put in particular living teachers. Also, because the issue of enlightenment or lack of it is not explicitly addressed, it allows all sort of projections and confusions to flourish. Okay, maybe Ingram is or isn't an Arahat; that would be way beyond anything I could personally evaluate anyway. But he clearly has done and apparently mastered an enormously greater amount of meditative practice than me, and studied basic

Buddhist texts way more than me. So lesson one, I should not get hung up on that word Arahat. The important issue is, "What can I learn from Ingram?"

I mention this because it illustrates an important methodological point in developing an evidence-based spirituality. How much will projections and inaccurate perceptions about the status of spiritual authorities distort our ability to actually observe, sensibly reason about, and work with what we might learn from them? Clearly this can get way into the pathological zone, as we see in various cults all the time, but we have to be sensitive to it in the more "normal" range of student-teacher relationships too.

As mentioned above, an important part of creating evidence-based bodies of knowledge is not simply empirical observations and deductions from them but also theorizing, making sense of our observations, and that includes clarifying theories *per se*. As a psychologist I would stress, for example, that we don't just perceive the world in a straightforward way; our perception is much more of a high-speed, automated *construction* of a world. This construction under ordinary world circumstances, this biopsycho virtual reality (Tart, 1991, 1993), can't vary too much from what's actually out there or we won't survive, of course. But when we're talking about spiritual experiences and realities, we have much more room for idiosyncratic construction and/or distortion, there are no simple, external spiritual "objects" we can all agree on as our standards.

We have the old saying, "Seeing is believing." It really must be supplemented by realizing that *believing is seeing.* Our beliefs, our theories, our biases, our hopes and fears can literally alter the way the perceived world is constructed. If you have good conscious knowledge that you're doing something like this and just how you're doing it, you may be able to compensate and come closer to truthful perceptions and deductions. But if you don't suspect this, and you just take all your experiences at face value, you can be very much the slave of your hopes and fears, your beliefs and biases.

In line with learning these sorts of things, I was particularly intrigued by the way Ingram looked at a variety of literary/scriptural and practice models of what *enlightenment* is in Buddhism, and he was able to distinguish twenty-one beliefs/theories. And they all contradict each other to various degrees! Ingram is also aware of what I've called the *disrupting* and *patterning* forces in my discussion of ASC induction earlier.

Something is problematic here. Models and beliefs like this are partially responsible for biasing/constructing what we experience. So is "enlightenment" (among other things) a transcendence of all limited beliefs and biases – or are ASCs that we call enlightenment just special, but semi-arbitrary ways to repattern mental functioning?

Just to stimulate you, although we don't have time to go into any detail, here's a table I constructed to illustrate Ingram's twenty-one models of enlightenment.

Being an academic, I would (mostly humorously but somewhat seriously) add a 22nd model: the Certificate of Enlightenment model, where you get a fancy certificate from God or the gods or Buddhas attesting just how wonderful you are.

Table 1. Ingram's Models of Buddhist Enlightenment

	Name	Basic Qualities
1	Non-duality	Seeing through sense of separation
2	Fundamental Perceptual	Directly perceiving fundamentals, e.g., emptiness, luminosity, impermanence, suffering
3	Specific Perceptual	Deeper & deeper perception of specifics, concentration, panoramic perception
4	Emotional	Perfecting or eliminating emotional range
5	Action	Perfecting or limiting what we can and can't do. Morality, altruism, always doing the Right Thing
6	Powers	Gaining ordinary or extraordinary (psychic) powers
7	Energetic	All subtle energies flowing correctly
8	Specific Knowledge	Facts & details re: specifics of reality
9	Psychological	Psychological perfection, no "stuff" to deal with
10	Thought	Limiting/eliminating bad, enhancing good, or stopping thought altogether
11	God	Becoming one with God or becoming a god
12	Physical	Perfected physical body
13	Radiance	Remarkable presence, radiating love, light
14	Karma	Free of negative karma, life perfect
15	Perpetual Bliss	Continuous happiness, bliss, joy. Jhanaic absorption
16	Immortality	Living forever, perhaps in special place, perhaps as magician
17	Transcendence	Free from or above travails of the world
18	Extinction	Getting off the Wheel of Suffering; no more rebirths
19	Love	Loving everyone and/or everyone loving us
20	Unitive	Become one with everything
21	Social	Accepted for what you have attained

I'm finding it interesting in my self-study to see how much I want or believe each of these models, and hopefully seeing how these wants and beliefs can bias my perception of the word.

At any rate, this kind of theoretical clarification is an essential part of developing evidence-based spiritualities.

SOME OBSTACLES TO DEVELOPING AN EVIDENCE-BASED SPIRITUALITY

Let me just mention some obstacles to developing an evidence-based spirituality; it's not all hope and promise. And then I want to bring my long talk to a close.

There are lots of unacknowledged investments in Dismissive Materialism, for instance, that make us want to hold on to it. For instance, if life is just an accident with no particular meaning, if we're just electro-chemical machines, then why shouldn't I exploit you for my own gain? You're just an electro-chemical machine.

You don't have to think that way, but it's easy to think that way if Dismissive Materialism is the complete description of reality. I don't want this spiritual stuff where we're all Brothers and Sisters – that might make it uncomfortable for me to exploit you. It's more comfortable to exploit you if I believe you're just neurochemical machines and there's no real meaning to life anyway.

Then there are investments in existing power structures that don't like the idea of an evidence-based spirituality or religion – of questioning what we already believe. If I'm the high muckety-muck of The Church of Revealed Salvation and Truth, I don't want anybody checking whether our beliefs, especially the ones that make *me* super important and persuade you to serve me, are really accurate or not.

Then, of course, there's plain old human arrogance: "I already know everything." It's very satisfying to feel like you already know everything, as compared to feeling like you're ignorant. That's an obstacle to wanting to test all these things.

Then there is plain old insecurity. There are a lot of ways in which our particular religious or spiritual belief systems make us feel "safe." If I question any of those, I might not be safe anymore. I'm not sure I want to do that kind of thing.

There are many what we might call irrational, neurotic factors making us hold onto current beliefs. For instance, I don't think Freud was right about everything, but he was very insightful in pointing out how we have *transference reactions,* how we see our parents as like gods when we're little, and now we project this infantile, learned perception of powerful Big People onto the idea of a God or Goddess in the sky – or inappropriately onto other people in our lives. That's true in too many cases. I say too many, for when your beliefs, feelings and actions about something or someone are based on distorted, infantile projections, then reality is going to disappoint in big ways. Your boss, your mate, your pastor, your guru may have some valuable skills to teach, but they are not Magic Mommy or Magic Daddy.

We thus have many neurotic investments in particular religious beliefs. We think we can talk about them rationally and think about them rationally, but, in point of fact, there's a heavy emotional investment that distorts our perceiving, thinking and acting. One of the major problems I've seen in various spiritual groups, for instance, is the operating of this kind of Freudian transference. The guru becomes the Magic Daddy, or the Magic Mommy.

Remember when you were little? You had a hurt and mommy said she would kiss it and make it well – and she kissed it and made it well! That was fine when you were a child, but it was *your* mind that did the work, not Mommy's magical powers. We project that kind of magic power onto various spiritual teachers – but they're not magical like that. Such positive projection seems to make our studentship work very well – it fuels it. Transference and projection give a lot of energy, but transferences are not based on reality. They can flip from these positive transferences to negative transferences, and suddenly this wonderful god figure

changes to that son-of-a-bitch who has been exploiting you for all these years! You lose everything you learned! And you have a lot of big resentments and grudges to carry around.

We, as outsiders, don't understand transference relationships in spiritual situations very well. Worse, I fear that students *and most spiritual teachers* themselves seldom understand it, which is what makes it so appealing a state (I am happy because my guru is God, I have no psychological problem!) and so capable of undermining everything! That's one of the things we have to learn about to develop a more effective spirituality: better ways to detect and handle transference. It's certainly an obstacle to developing a more evidence-based spirituality.

What else have we got in the way of obstacles and resistances?

There's a whole kind of *anti-science bias* in various organized religions, as well as in modern life generally. I don't think I have to prove that, we see it so often. We have considerable refusal to see the fundamental shortcomings of current religions, again going back to if you're invested in them and you have a high position and so forth, you don't want to say, "Well, these 'sacred truths' were the best theories our predecessors could come up with a thousand years ago, but maybe they don't fit the data anymore." We don't want to think that way. That's heresy! And this is often confusingly mixed with an explicit or implicit belief that God created us with intelligence, but apparently doesn't want us to use it too fully.

There is also a very interesting and special obstacle to developing evidence-based spirituality: you can have some kind of altered-state experience that is really wonderful! Compared to your ordinary state of consciousness, it feels like enlightenment. So now you think you know everything and you set yourself up as a spiritual teacher. But, suppose it was just one possible experience among many? It was wonderful and insightful, but just a glimpse of the truths of a huge cosmos? You *don't* know everything, but now you're going to get caught in that feedback loop where your students sense that you've got something important, they expect you to know everything, they project that Magic Mommy or Magic Daddy archetype on to you, that inflates your ego bigger and bigger, you believe their projections, you start to fake it at times, you're supposed to know everything, and things get a little crazy. I think this one has happened a lot.

SUMMING UP

Let me sum this up, very, very briefly, because I've talked for too long.

I think it's vitally important that we develop an evidence-based spirituality.

If we don't, the world is going to be a very bad place, much worse than it is now.

We can develop more effective spiritualities for our times, using our rational, scientific, scholarly abilities as much as possible, although we have to stay open to the spiritual side of things – to our hearts – which may have their own agenda as to what will develop.

There will be significant resistances to developing an evidence-based or evidence-enriched spirituality – but with intelligent understanding, they should be able to be overcome.

I don't want to summarize all of the possibilities I talked about. But I've given you a few examples of possible ways we can begin to refine some of our ideas about spirituality, some of the ways that might work. As I said at the beginning, I'm not happy with this lecture – there are way too many loose ends that I haven't tried to tie up, but hopefully you will share my enthusiasm, improve and go beyond my crude vision of an evidence-based spirituality, and take these ideas further along, to the benefit of us all! Thank you for listening.

DISCUSSION WITH AUDIENCE

Audience Member: I have a comment and a question. The comment being, I just think that this is a great way to start off the conference. I always notice, especially

in conferences I go to where there is really an intention to bring together science and spirituality, we all sort of have different places where we find our biases and where our truth systems are. For me that's always an interesting experience to come in and say, okay, I can kind of buy this, I definitely buy it. And it definitely causes me to soften my own assumptions about truth. So, I'm a deconstructionist so I desperately want to ask you to define science and spirituality, but I won't because I respect why you're not doing that. My question is, does an evidence-based spirituality become science?

CTT: Now, you're going to make me define science, after all, aren't you?

Audience Member: I tricked you into it.

CTT: Yes, an evidence-based spirituality can become science *if* you define science the way I do. I didn't really give you a formal definition of science, but let's play with it.

Science starts with an assumption that we're smart enough to learn things. It says the way to learn things is to get experience, see what happens, then think about them – because you're going to think about them anyway. But try to think about them clearly and logically, then test the theories to see whether they work in predicting new observations. And, very important, we must have the humility to realize that each of us personally is "weird," to use a funny but technically correct term. We might come up with some really crazy ideas about things in our personal bias and weirdness, so we check with other people whose opinions we respect. Observing, theorizing, predicting, exchanging information, making this a continuing process, that's knowledge refinement, that's essential science. I see that as totally compatible with any genuine spiritual path.

What is a spiritual path? Well, you're curious about spirituality. You think you can make progress or learn something in that area. You try to have some experiences. If you look at the world and see what

happens, you'll come up with ideas about what you should do. You put them into action and test them. You check with other people who are on spiritual paths, and so forth. To me, this seems completely compatible with science.

I'm also very careful in my thinking about the danger of making it impossible to get somewhere because we define it that way. I believe Henry Ford said something like, "Those who think they can, and those who think they can't, are both right."

There may be some things we can't do with our minds. Maybe being human means we're limited in some ways. My cat can't understand certain kinds of things, for example. No matter how much I point at something to make him look at it, he stares at my finger (if he bothers to pay any attention to me at all). That's catness. Maybe there's something like that for us humans. We may have certain things pointed out to us, but the way we're built, our human nature, we just can't take them in. But we should try – be open-minded, and see what we can learn.

Audience Member: I wanted to say what a nice presentation that was. This is just a statement, rather than a question. I feel it's important to make.

I think there's a real problem with language. As soon as we talk about "spiritual," it's something *out there*. As soon as we say "altered," it's something *out there*. And if you have the altered, then there's the possibility you can have enlightenment. Oh, that's something *out there*. The reality is that the things we are speaking about are actually a very common and integral part of each of our lives, but the language causes us often not to notice them. So what we talk about as altered is actually our natural state. It's not altered at all. It's the other way with what we call normal. I think it's important for us to begin to recognize the occurrence of these things as a natural part of our existence, even the fact that we're having to prove what is occurring in everyday life for us is a little odd.

CTT: I can't help but agree with you. Language is so

tricky. When I teach classes at ITP, I usually warn my students at the beginning of the quarter that I had a black belt in talking by about the time I was twelve years old! I'm really slick with words and *I fool myself a lot of times because what I say sounds so good,* so be warned! Take everything I say as *stimulation* to think about something, but not necessarily the *truth.* I even try to remember that myself, but it's hard; I am charmed by good words.

Audience Member: Dr. Tart, this certainly is an excellent theme for the conference, and I applaud your choosing it. I just wanted to add maybe a couple of points to your excellent list of things that we can research about spirituality as evidence-based.

In my experience with meditation, and in spirituality in general, there are two things we're dealing with. One is consciousness, that you've really well elucidated here, and the other is energy. So, for instance, I would like to add to your list the ability to measure the energies that we can create. I'm especially interested in that kind of energy that changes things in the material world – especially when it makes permanent changes. So there's a doctrine of impermanence. There's also a doctrine of permanence. We, as human beings, are capable of changing the universe forever, permanently. A second point I might add to your list is to research prophecy. There's really something happening when people are able to foresee what is coming, which, of course, is not completely determined but, we get some open window into the future. I think it's a natural, human phenomenon, but it seems to be accelerated in a spiritual state.

CTT: There is no doubt we can add things to the list. You're quite right, there. I hardly touched on anything compared to what's there. To illustrate – I didn't get a chance to really talk about it, but we scholars and scientists have to examine our resistances to looking at various things, too.

I'm a member of a group of people who are supposed to be trans-traditional "spiritual leaders," although I've only participated in email discussion to date. I'm not quite sure why they invited me. I think I'm the token scientist, or something like that. But these folks are supposed to be able to transcend their particular traditions and look at spirituality in general. That's the purpose of the organization, to revitalize spirituality beyond particular religions. But I've noticed so many times that these are very bright and sincerely spiritual people, but for most of them, we can intelligently discuss aspects A, B, and C of the spiritual, but X, Y and Z are sacred. Don't you dare ask any questions about X, Y and Z! To develop an evidence-based or evidence-enriched spirituality, we have to personally discover our own sticking places, learn to transcend them, and realize, okay, *everything* is up for examination. I don't think God made us intelligent to not use it, to put it in my more personal terms.

Audience Member: I think, first of all, I really appreciate the whole concept you are looking at in using an evidence-based spirituality. I kind of see a couple of issues with it. The first one is that no matter what we do in terms of studying an evidence-based spirituality, we're obviously putting in our own biological, human inabilities to really naturally perceive the real world. Kind of like, we're the mice in the maze trying to study the maze and realize that that's the nature of the whole world. I guess the alternative to the question, or the solution that I would see to that is asking a very simple question, what's the spirituality of the natural world – of nature? You know, because that does have an energetic component, it has a life component, it has a high level of cooperative energetic synergy or clairvoyance and all that other kind of thing, however you want to look at it. As we understand that, my sense is that's going to bring us a lot further back to our own roots and allow us to understand, shall we say, a certain nature we have that's intrinsic to us as evolutionary beings that then we can extrapolate out to consciousness. What are your thoughts on that?

CTT: Couldn't help but agree. Our own biases, our own shortcomings, are things we have to recognize and study in ourselves. As long as we pretend we don't have any, then we're completely at the mercy of them. We think we're studying the real world, the natural world

and all that, and we're just studying our projections. This is a major step forward with science that has not been taken much yet. I know in psychology, for instance, years ago some stuff started coming out about how experimenters were biased. They thought they were studying what happened naturally, and they were actually making it happen artificially. The whole topic disappeared very quickly because people weren't ready to handle it. I know I'm biased. That doesn't mean I can always transcend it, but at least I can try.

Audience Member: I guess the question I would have is asking a simple question: what's the spiritual reality of a forest?

CTT: That's a very good question. We'll work on that. [laughter] I didn't give a timeline, but of course we may spend quite a few hundred years working some of these things out. But we've got a start.

Audience Member: Dr. Tart, my own path has taken me down a critical way of looking at things in terms of formal logical systems, if you will. What I sort of hear us talking about in this discussion is there are a number of formal logical systems that are being raised. They're being raised, and they don't cover the entire reality. There is no way to cover the entire reality with one single, formal, logical system. And it goes into a thing called Godel's Theorem – and I could go on about that. But what I wanted to say is that if you can't do that, then perhaps what we need to do is pay more attention to Joseph Campbell, because if we can't make totally coherent, logical explanations for everything, then we have to look at myths. There are positive myths and negative myths, and Campbell's last book was on the subject of positive myths to live by. I might say that perhaps we have the beginning of a new science coming right out of this particular discussion that we're having here today, and we might call that myth management for people. Thank you.

CTT: Yes, excellent! I was once giving a talk and I told people, "I've got two tools here," and I pulled them out and held them up, one in each hand. "I've got a pocket knife with a blade on it and I've got a pair

of pliers. Now, raise your hand if you think the pliers is the superior tool." (CTT pulls out two tools and looks expectantly at ISSSEEM audience to see if hands start to be raised.) Oh, you people aren't going to be fooled, are you? When I did this before, half the audience raised their hands for the pliers, and the other half raised it for the pocketknife. And then all the hands started faltering. Superior *for what?*

The gentleman's last point, and I completely agree with this, is this: logic is a *tool.* A philosophical system is a tool. My attitude is, good, find out what kinds of tasks any particular tool is good for and use it. Use it skillfully! When the tool is not useful for the tasks you have to face, put it down and pick up a new tool! Find out what actually works.

Audience Member: Hi! It's my understanding and my experience that there is the practice of inquiry in Hindu, Buddhist and Christian traditions. They're based on scripture, community and personal experience – testing in all directions and depending on those directions. So I see encouraging hands across the sea between science and spirituality. Going to those spiritual communities that you're talking about and introducing yourself and your ideas, I see them as being welcomed and not antithetical at all.

CTT: Yes. The traditional, spiritual systems we have are a great source of observations and hypothesis, given what I've said earlier about knowledge acquisition and science. But I will say this, though: *I don't think most spiritual systems are "sciences" – they are technologies.* The reasons I am saying that is because I'm being idealistic. *Ideally, a scientist is someone who is curious about everything and is interested in asking questions and finding out more about everything. A person practicing within a particular religion or spiritual tradition has a much more specific goal.*

In Buddhism, for instance, the goal is to end suffering. I have been playing with and practicing aspects of Buddhism for 30-40 years now and there's an enormous amount of stuff there. But my observation is that Buddhism, in general, is not interested in

everything. It's interested in what's conducive to ending suffering. Now, I'm not against that: especially at times when I suffer! How could you have a nobler goal than ending suffering?

But as a scientist, I want to be able to ask *all* questions. So, yes, the various spiritual traditions are great sources of inspiration, but I don't take them as final answers on everything.

Audience Member: I'm just thinking of the Jeffersonian Bible. Thomas Jefferson, for instance, used to severely edit Christian scripture. His goal was to find out what were the words of Christ; that was his bible, and he left everything else out.

CTT: (With good humor) Yes, I'm tempted to rewrite various scriptures, too, but I suspect that says more about me than about reality!

Audience Member: Just maybe an addition to what this last lady said: I'm thinking, within organized religion, there are a number of people who are searching, just like within secularism there are a number of people who are searching. Possibly a more friendly attitude toward those people on the other side would pay dividends for this movement. I'm thinking particularly of somebody like Charles Towns, the Nobel laureate in physics, who for 50 years has been going around talking about science and religion, and bringing them together because they are both interested in the same thing, namely, ourselves and the universe. He keeps saying, eventually we're going to get to the same place.

CTT: I think you're right. I will admit that I'm not as tactful as I could be, and that probably costs me something at times. But, you know, we're all in this together and if we can approach it in a positive way and learn from each other, instead of setting up unnecessary and artificial barriers, that's better. But on the other hand, some of this science-religion debate is, in a sense, a war. I know so many people who have been hurt because they have had a spiritual experience of some sort and they've gone to someone who is supposed to be a scientist, or to represent science, and been told they are

nuts or stupid – and that has hurt them. So yes, we could use more politeness on both sides.

Audience Member: Yes, it seems to me that the goals of religion and spirituality are simply to become a little more kind or generous or helping in the world. And those might be some of the outcomes you would want to measure, and may be more important than relieving one's own suffering or having an altered state of consciousness, something like that.

CTT: Yes, but I think you are a little more idealistic about science than it usually is. To me, science is part of my spiritual path. It's a discipline for getting in better touch with reality and that includes the spiritual aspects of reality, and helping to make the world a better place. But I can't say that applies to all scientists, even though I'm an optimist and tend to see them in a more idealistic way than is realistic.

Scientists are human beings. They want to get promoted. They want to feel secure, be respected, and all that. But they are people who have spiritual needs, too. I'll make this my last comment, because I expect somebody is going to flash a zero minute card at me.

One of the most interesting things I've done was set up a website several years ago called TASTE, which is an acronym for The Archives of Scientists' Transcendent Experiences. I set it up because I have known so many scientists over the years who – when they realize I'm a safe person to talk to – will come up and tell me about their psychic and spiritual experiences, and they had never talked about it to other scientists before because they know they'd get laughed at. With TASTE, I gave them a safe place to talk about this on the web. If you want to see that scientists have souls, too, look up the archives of scientists – http://www.issc-taste.org - or go to my regular website, www.paradigm-sys.com/cttart. Or just put my name into Google. You'll get to TASTE quickly. Some of those scientists have real heavy-duty spiritual experiences.

Thank you for your patient attention and your questions: it's been a real joy sharing these ideas with you!

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This paper is based on Charles Tart's Presidential address, presented at the Twentieth Annual ISSSEEM Conference, Evidence-Based Spirituality for the 21st Century (June 25 - 31, 2010).

BIO: Dr. Charles T. Tart has been involved with research and theory in the fields of hypnosis, psychology, Transpersonal Psychology, parapsychology, consciousness and mindfulness since 1963. He is a Professor Emeritus of the Davis campus of the University of California, and Executive Faculty at the Institute of Transpersonal Psychology in Palo Alto, California. He has authored over a dozen books, two of which became widely-used textbooks; he has had more than 250 articles published in professional journals and books, including lead articles in such prestigious scientific journals as *Science* and *Nature,* and has lectured widely. As well as a laboratory researcher, Professor Tart has been a student of the Japanese martial art of Aikido (in which he holds a black belt), and meditation and other psychological and spiritual growth disciplines. Visit his semi-regular journal (blog) (http://blog.paradigm-sys.com/) for current commentary.

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NOTES

1. For those who want better semantic clarity, I should use *Physicalism* rather than *Materialism,* as the current dominant belief is that everything consists of only physical matter and physical energies acting on that matter, but typical use of Materialism includes the existence of physical energies.
2. The original phrasing I heard involved only Him, but I've updated it to Him/Her.
3. This is the defined way I use terms like "state" and "period" in my systems approach, but remember that usage varies wildly in the wide conceptual world.
4. In case you're wondering, I originally drew this diagram in the 1970s from a chemical apparatus template.
5. I hope there are no Buddhist scholars in the audience, because they'll know I'll be really discussing this way too shallowly! But among people who don't know anything about Buddhism, I can pass as knowing a lot about it.

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