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Little Tent vs. Big Tent—Newtonian vs. Quantum Thinking

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Summary: Leadership of the SOA has developed a proposal for the future of our profession called the "big tent." The proposal asks for significant and fundamental changes in the way we see ourselves as opposed to the older way of thinking called the "little tent."

A similar shift in thinking that affects the entire western world is the expansion of thought from the older Newtonian to the more inclusive Quantum thinking.

This session describes the big tent vs. little tent approach to our profession's future and relates these to the Quantum vs. Newtonian ways of thinking.

Mr. Dorn H. Swerdlin: I want to first talk about the purpose of the session. We're going to see a video on paradigms. Our profession is in a paradigm shift and that's what we're talking about. I'll go into what I see as Newtonian vs. Quantum thinking. Then I want you, the audience, to help me come up with the old and new paradigms for actuaries. Then we'll talk about how the Newtonian and Quantum thinking fits in with those.

I want to introduce paradigms and what I call Newtonian versus Quantum thinking and then relate it to the little tent/big tent issues. I would also like to show how the changes that we need in our profession are really only a part of a much larger paradigm shift in the whole western world and maybe in the whole world altogether. We can't isolate ourselves from the bigger picture. And if we do, we're just going to be fooling ourselves and we're going to get caught up with the bigger shifts.

Paradigm has become a buzz word that's been overused in the '90s, but does have specific meaning. A paradigm is mostly unwritten and even unseen. It is something that works on you that's in the culture and you don't even realize that it's there. One of the things that got me interested in this whole idea of Newtonian/Quantum thinking is when I realized how much of our every-day life and the way we look at things, our viewpoint, is totally based in the science that started in Newton's time.

It's the analogy "it's like a fish in water." If you ask a fish, "How's the water?", he'll say, "What's water?" The paradigm is behind and below your thinking, It's an assumption, a way of looking at things.

I will show the video now.

Video Begins

Mr. Joel Barker: It's easy to say no to a new idea. After all, new ideas cause change. They disrupt the status quo. They create uncertainty and it's less work to do it the way we've always done it before. Less work, maybe, more dangerous, definitely. New ideas are resisted from board rooms to shop floors all over the world. Good ideas are shot down by people who assume that the future is merely an extension of the past. That the ideas that have brought us to where we are today are the same ideas that are going to take us to tomorrow.

I'm a futurist. I work with corporations and institutions all over the world helping them to improve their ability to evaluate new ideas and to anticipate change. For almost 20 years I've been studying change. In particular, I've been studying the resistance to change that often keeps a great new idea from being accepted. You see, it's never been any different. Whether that great idea was a better way to do company business or a scientific breakthrough, people have always resisted change.

In Venice in the 16th century that was Galileo's problem. He was an advocate of the Copernican theory that the sun, not the earth, was a center of the solar system. To prove that theory to the leaders of the day, he took them to the top of the tower of St. Marco. And there using his newly perfected telescope, he showed them the discoveries he had made in the night sky that verified that the earth revolved around the sun and not the other way around.

Well, to say the least, that was a revolutionary idea. It contradicted obvious observation. In fact, it so antagonized the voices of authority that Galileo was threatened with torture in order to get him to retract his position. And you thought you had trouble selling your ideas. In the end, Galileo's ideas won out.

But the real question here is, why the resistance? Whether it's in the 16th century or the 20th century, what prevents us from seeing, accepting, and understanding new ideas?

Think of some of the new ideas we've seen in the past two decades. From minorities fighting for the basic rights to those rights being guaranteed by law. From room-size computers costing millions of dollars to desktop computers just as powerful that almost anyone can afford. From an attitude that quality was a luxury for the few to quality being expected by everyone. These changes and hundreds like them are more than mere improvements. They are revolutions. They are changing the world forever. They are causing us to re-evaluate old ways of doing things. They are opening doors to possibilities we could not have seen before.

They are freeing us from limitations. And yet everyone of these ideas was met with substantial resistance from thoughtful people.

Let me ask you again, what is it that keeps us from accepting new ideas? I know the answer to that question, and once you know the answer, you will be more open to innovations, more capable of leading change. You will be ready to discover the future. You see, it all has to do with paradigms.

Paradigm, that's an unusual word, you don't hear it every day. I stumbled onto it almost 20 years ago during my studies of scientific discovery. It was a word Thomas S. Kuhn used to describe a key concept in his book *The Structure of Scientific Revolutions*. If you look "paradigm" up in the *Webster's Dictionary*, you'd find it means a pattern or a model.

Let me offer you another definition. Paradigms are sets of rules and regulations that do two things. First, they establish boundaries. In a sense, that's what a pattern does, it gives us the edges, the borders. Second, these rules and regulations then go on to tell you how to be successful by solving problems within these boundaries. In his book Thomas Kuhn was exploring how scientists change their paradigms with physics, chemistry, or biology and what happened when they did. What he found helps explain why we so often fail to anticipate significant new developments. What he found can help you and me deal with change more effectively.

Kuhn discovered that paradigms act as filters that screen data coming into the scientist's mind. Data that agrees with the scientist's paradigm has an easy pathway to recognition. In fact, scientists see that kind of data amazingly well with great clarity and understanding, and that's good. But Kuhn also discovered a startling negative effect.

With some of the data scientists had substantial difficulty. Why? Because that data did not match the expectations created by their paradigms. And in fact, the more unexpected the data was, the more trouble the scientists had perceiving it. In some cases they simply ignored the unexpected data. Sometimes they distorted that data until it fit their paradigm rather than acknowledge that it was an exception to the rules. And in extreme cases Kuhn discovered that scientists literally physiologically were incapable of perceiving the unexpected data. For all purposes that data was invisible.

To put it in more general terms, paradigms filter incoming experience. We are viewing the world through our paradigms all the time. We constantly select from the world that data that best fits our rules and regulations and try to ignore the rest. As a result, what may be perfectly obvious to a person with one paradigm may be totally imperceptible to someone with a different paradigm. I call this phenomenon the "paradigm effect," and I have seen repeatedly that what Kuhn described for scientists is true for anyone who has strongly held rules and regulations in their lives. And who doesn't?

In my work with companies around the world I have seen this paradigm effect blind business people to new opportunities and cause salespeople to overlook new markets. Obscure effective strategies from management. And it can blind each and everyone of us to creative solutions to difficult problems. Whether it's the Army or the environmental movement, the American Medical Association or the League of Women Voters, whether it's Citibank or IBM, the coach's way to hit the ball or mom's way to clean the kitchen; we deal with paradigms all the time.

If you remember nothing else, remember this. When a paradigm shifts, everyone goes back to zero. It doesn't matter how big your market share is or how strong your reputation or how good you are at the old paradigm, with the new one you go back to zero. Your past success guarantees nothing.

You see, a paradigm is a two-edged sword. When you swing it one way, it cuts the information that agrees with it into very fine, precise detail. But when you swing it the other way, it will cut you away from data that runs counter to the paradigm. You see best what you're supposed to see just like the Swiss. And you see poorly or not at all that data that doesn't fit the paradigm.

Let me now share with you the key observations about paradigms. Number one, paradigms are common. We have them in almost all aspects of our life, professional or personal, spiritual or social. Point number two, paradigms are useful. Now you may have thought I don't like paradigms because of all the things I've said about them, but that's not the case. In fact, they show us what's important and what's not. They help us find important problems and then they go on to give us rules for helping to solve those problems. They focus our attention and that's good.

But, point number three, and it's a warning, sometimes your paradigm can become the paradigm, the only way to do something. And when you're confronted with an alternative idea, you reject it out of hand. Now that can lead to a nasty disorder. I call that disorder "paradigm paralysis." Paradigm paralysis is a terminal disease of certainty. It's easy to get and more than a few institutions have been destroyed by it. That's exactly what happened to the Swiss watch manufacturers in 1968. This reminds me of a phrase, "Those who say it cannot be done should get out of the way of those who are doing it."

Point number four, the people who create new paradigms are usually outsiders. They are not part of the established paradigm community. Now they can be young, they can be old. Age seems to be irrelevant. But what is clear is, they are not invested in the old paradigm so they have nothing to lose by creating the new. Now this means something very special for you because if you want to find the new paradigms that are developing in your field, you must look beyond the center to the fringes because almost always the new rules are written at the edge. That's where Xerox started, that's where Apple Computers began, that's where the women's movement started, all of them at the edge.

Point number five. Those practitioners of the old paradigm who choose to change to the new paradigm early in its development, I call them "paradigm pioneers,"

have to be very courageous. Because, you see, the evidence provided by the new paradigm does not prove that they should be doing this.

Now for the last point and the most important. You can choose to change the rules and regulations. Human beings are not genetically encoded to just one way of looking at the world. You can choose to shrug off one paradigm and adopt a new paradigm. You can choose to see the world anew. That's why I'm such an optimist about the future.

Now, to challenge you to flex your paradigms, I would like to give you the paradigm-shift question. Whenever I'm with an organization or company, I always ask this question. What today is impossible to do in your business, but if it could be done, would fundamentally change what you do? Think about that, hard. Ask that question, play with it, but ask it on a regular basis everywhere in your organization, because the answers to that question will take you to the boundaries of your paradigm and once you are there, you will be ready to see the next paradigms coming. Remember, what is impossible today maybe the norm tomorrow. And your challenge is either to cause that to happen or be ready to pioneer.

Video Ends

Mr. Swerdlin: I think the video was real interesting and it leads us to the discussion of the big tent/little tent, which I'm saying is a paradigm. I want to say up front that this is not about saying that Newtonian thinking is bad and the Quantum thinking is good. They are two different ways of thinking. As a matter of fact, Newtonian thinking is really a subset of Quantum thinking. You need both, and if you only stick with you and can't see the other, just like Barker said, you're going to be limited into what you can do with yourself and with the profession.

The first idea is that Newtonian thinking talks about "either/or." It's either this or that, whereas the Quantum point of view is "both" and "and." An example is, "Technical people like actuaries really don't have people skills. And in Quantum thinking you can have both. You can be technical and have people skills at the same time.

Either/or is a linear type of thinking in Newtonian, whereas Quantum is more multidimensional. If you have a situation that is an either/or in a Newtonian way of thinking, and you look at it from a Quantum point of view, you can actually have a third alternative which is not a compromise of the two, but it's a third alternative that might have no relationship to the other, and can emerge as completely different third alternative.

In Newtonian thinking if you have a paradox, and paradoxes do not fit the paradigm, you just throw it out or ignore it. Whereas in Quantum thinking paradoxes are part of the process. They can lead to new possibilities that you haven't thought about before. The paradox could be that we can include more people or open up our gate, so to speak, into our profession and at the same time

maintain or improve our professional standards. And in fact, you can let in new people in without lowering the standards.

Newtonian is mechanical. It's really without purpose. There's no spirituality allowed. In Newton's time when western science was getting started, church and scientists were separated. They weren't allowed to cross over into the other. But on the other hand, Quantum is more organic and holistic. One of the characteristics of Quantum physics is that you, the observer, affect the outcome or manifestation of the actual matter. When you have an observer, consciousness gets brought in directly. You know, the Quantum wave equations are collapsed by an observation. An observation implies consciousness, then you can lead yourself to spirituality.

In Newtonian thinking, things are separate and immutable. They're just objects like billiard balls that are bumping into each other and forces are acting on them. Quantum is more unified. Relationships are more important. Newtonian puts things as important. Quantum puts relationships as more important than things themselves.

An example is the human body. From a Newtonian standpoint the human body is skin and bones and it's physical. It's right here and it's solid, unchangeable. Whereas, you can look at the body as a flowing river of information and energy. Ninety-eight per cent of the atoms in your body were not there a year ago. The skin renews every month, the stomach lining every four days, liver every six weeks, and brain cells every year. The physical part of me right now is completely different from what it was a year ago. It's not physical, but something else is going on here. You can look at the body as a flow of energy and information. It's a different viewpoint. In fact the body is both of those things depending on how you look at it. It's a viewpoint, or from which paradigm you look.

Newtonian is reductionist, meaning that the universe is made up of smaller and smaller pieces, and the work of science is to find the smallest piece. That's the way science has worked for 300-400 years. Quantum mechanics says, and Einstein proved this, that matter is energy and that matter has wave-like aspects. There really is no smallest piece of matter. Matter and energy are the same.

Newtonian thinking is that the universe is deterministic. This means that if you have all the information that there is to have, you can predict the future or the past. Quantum says, "God does play dice." This comes from Einstein's saying, "God doesn't play dice." Einstein never really could prove to himself that quantum physics was correct. But the quantum wave equation is based on probability, and when you have an observation, that's when manifestation occurs. And by the way, I'm not a trained physicist, in case anybody might think that. It's a layman's thing for me. Any questions about that?

From the Floor: The manifestations occur only when observed. Is this the same as the following question? If a tree falls in the forest and nobody's around, does it make any noise?

Mr. Swerdlin: I'm not sure. I'd say yes, but I'd rather give an example. If a scientist were looking for an electron to be a particle, it would be a particle. And if he looks for it to be a wave, it'll be a wave. And your question is a little outside of this discussion.

In Newtonian thinking scarcity is a characteristic that I think is interesting. Scarcity simply means there's not enough. Scarcity thinking is the cause of war and poverty. Scarcity is fear-based. Quantum thinking says there is an abundance. There are enough resources in the world. We have shortages because of fear and greed. If we have the right attitude, we can create wealth for everyone in the world.

Newtonian thinking says thinking and logic are important, but your feelings get in the way. If you start getting emotional, then you block out your objective analysis. You're not objective anymore. Quantum thinking says feelings are also important. Feelings can be a deeper knowing than thinking can be. Feelings and sensitivity make for better people skills, which we know is important for our world.

Now I'd like to start thinking about how this affects little tent and big tent. Can anybody give me one item that's little tent/big tent?

From the Floor: How about exclusive and inclusive?

Mr. Swerdlin: Very good. That's the one I had on my list.

From the Floor: Could you define for us a little bit what the big tent/little tent is referring to?

Mr. Swerdlin: Yes. I'm sorry, I made an assumption that people knew that. The big tent is the name that's given to the way Society leadership is saying that this profession ought to go in the future. And the term means that we're going to be more expansive, broader, and include more people. There are several items that are in there.

The little tent is kind of where we are now. That we pretty much work for traditional employers, such as insurance companies and employee benefit consultant firms. Little tent says that we'll pretty much stay where we are and just continue into the future. Big tent says, "No, that's not going to work. We have a new paradigm coming up here and we have to make some bigger changes."

From the Floor: For insurance versus broader kinds of services?

Mr. Swerdlin: Yeah. How would you think this exclusive and inclusive would be in Newtonian versus Quantum? The reason you're exclusive comes from scarcity thinking. It's like there's not enough. We've got to keep ourselves together. There's not enough to go around. I see that as being a scarcity. But to be more open and say, "Look, we're not afraid to have you join us," is a power thing in a way. It's like "I've got this power and prestige and I don't want to give it to you."

From the Floor: It's like you'll be in need if there are fewer of us. You'll get more exclusive. Whereas the future might be if we're that exclusive, we might not be needed at all.

Mr. Swerdlin: Yeah, our demand could go up initially but then all of a sudden down the road . . .

From the Floor: Yeah, they'll find other alternatives.

From the Floor: I think a lot of people in the profession are afraid of devaluing the profession by making it broader. We have rigorous criteria to reach fellowship and it gives us a certain amount of value. And if we relax that, our profession automatically devalues.

Mr. Swerdlin: The rigorous criteria has given us value in the past, but will it in the future? I think it is already hurting us by keeping out qualified people.

From the Floor: It's exactly what your view of an actuary should be. Is it a traditional set of qualifications that you need to be an actuary or is it something broader? If we broaden our field, are we going to need to broaden our quality sensor or experiences?

Mr. Swerdlin: Exactly. Good point.

From the Floor: It really implies greater quality about the exclusivity.

Mr. Swerdlin: Right, right. But it doesn't necessarily mean that. There's an implication if you're real exclusive, if you only bring in certain people, then you're going to have better quality. But that's when the paradigm shifts. The better quality people may be on the outside because you missed the boat. They're not going through the 10 years of exams and whatever.

From the Floor: You had quality on one side and expansiveness on the other. Isn't that the choice of the little tent and the big tent?

Mr. Swerdlin: No, that's an either/or. I'd like to see both/and: both expansiveness and quality.

From the Floor: You need to make that point.

Mr. Swerdlin: Okay. We have several actuarial organizations, five or six. The big tent looks down the road to be a unified profession with a single organization or single umbrella organization. I think this hits a couple of Newtonian versus Quantum areas. I think there's a scarcity thinking on the little tent and that people are afraid to let go of their position and power in their organization. It's an us-versus-them kind of thing, and I think that's a scarcity problem. It's like, "I've got the power. I don't want to give it up." Whereas, they could have much more power potentially in the bigger organization and the abundance in the big tent.

From the Floor: Is it possible that there are other reasons besides power why people might want to keep separate organizations?

Mr. Swerdlin: Oh sure, there are probably a lot of other reasons.

From the Floor: I think better service. CCA evolved because senior consultants originally in the pension field primarily wanted to have a forum where they could talk amongst themselves on a playing level that was much different than the average meeting playing field that you get, say, at the SOA. And so they formed their own organization and they feel they're better served by that. They're not usually exclusive, obviously most of us are members, but we behave differently in two environments.

Mr. Swerdlin: Here's another example. The old tent is, overall we actuaries have been working in a stable environment in the insurance industry. I say overall, obviously, there have been some changes. But, in the past 15-20 years, it was a more stable environment. Whereas, now as everybody knows, the financial services industry is going crazy, and the lines are getting fuzzy and disappearing. From a Newtonian/Quantum thinking, I think that's more like a linear versus non-linear. To the extent we were fairly stable, that's linear; to the extent that we're changing real fast, that's non-linear.

From the Floor: Well, it's also a closed environment with the setup of well-established rules.

Mr. Swerdlin: Right.

From the Floor: That we have learned to play within the rules is very Newtonian in each of our practices. The pension one is the most obvious because of the high degree of regulations. And we practiced within that framework.

Mr. Swerdlin: We're sort of isolated by practice area, right? And that means we each have our own little paradigms. A life actuary can't talk to a pension actuary in any kind of technical way. It's a big wall, and that's the little tent. Now the big tent would be more generalist. I don't know what they would be.

From the Floor: Very specialized.

Mr. Swerdlin: Why?

From the Floor: Not necessarily specialized, but I was thinking a similar way we've really limited our practice areas in the little tent. I think in the big tent we'll see a broader application of our skills as opposed to necessarily focusing on similar practice areas.

Mr. Swerdlin: You're saying in addition to new practice areas there will be an expansion of existing ones?

From the Floor: Yes. I think there's a greater challenge of the big tent making some of those points. I mean, I think that most of the communities probably opened the idea of expanding our possibility set. You know, the real challenge is probably exterior to the actuarial society. For instance, the investment communities. They look at us and don't see, apparently, our expertise in the area of risk management. They do see us as having qualified as a chartered financial analyst (CFA) designation, and okay, that's no good. You need to see how to play this game. I think our challenges are to try and move more towards this big tent.

Mr. Swerdlin: Right, and to change the world around we have to do the changing.

From the Floor: I think this is really starting to think more in terms of skills sets. We're not presenting ourselves in that way in other fields.

Mr. Swerdlin: That's right. As a matter of fact, the vision of the Actuary of the Future Section basically says that there would be no more nontraditional actuaries, but rather our skills and services would be used throughout every industry and company.

From the Floor: To be like the expansion of lawyers, they all go through the same legal training and may or may not pass the bar, but then they would be employees in a number of different fields. They still have training and that mind set or paradigm in common. They have the skill to analyze contracts and how the different clauses relate to the others. And with actuaries we would have the basic training and then we would apply it in different areas, maybe the medical field. A doctor who goes through medical training will always be a doctor whether he or she is practicing or not.

Mr. Swerdlin: Right. And I think the new syllabus that started this year is geared toward doing more of what you said about having some basic training and then branching out.

From the Floor: A couple of weeks ago at a Casualty Actuary Society meeting the keynote speaker was a futurist. He said the products that you will be selling and servicing in five years have not even been invented.

Mr. Swerdlin: Wow.

From the Floor: That's a mindblower for them in the PC business, but it's also as applicable to us. When you think about the advent of HMOs, they turned the health-care business upside down and certainly the insurance part of health practice.

Mr. Swerdlin: Right. The acceleration of the changes are unbelievable these days. It's just faster and faster and faster.

From the Floor: The gentleman here referred to the CFA as being the thing that certified you to do investment. I get confused on this big tent. Are we trying to convince CFAs to come into our tent or are we trying to go into someone

else's tent? I mean, why would a CFA want to come to our tent?

Mr. Swerdlin: I think I'll let Norm Crowder answer it, because he knows a lot better than I do. We have to offer the professionalism and education that they may or may not have, and I don't know what CFAs have. I don't even know what's different between a CFA and a financial engineer. Is that a different animal?

From the Floor: It's just a specific qualification within that group.

From the Floor: Oh yeah, we trained it. Is the purpose of the big tent to call these people actuaries?

Mr. Norm Crowder: Well, I think, to answer your question, Bob, we want to go both ways. There are probably 300-400 actuaries who are CFAs. Our database unfortunately is not coded to show that, but we know this from inference. People tell me that their quantitative analysis and techniques are much less rigorous than ours. They have professionalism requirements. They have a good deal of training, but it is not all that difficult. It's certainly not as expansive. I think perhaps we might want to entice those CFAs who are more quantitative and are maybe more like these financial engineers who are quantifying major securities products and pricing them. Maybe we could get them to join some subset of our profession and cross-train our people so that they can migrate if they want to toward that direction.

From the Floor: Do they know that you understand? And if they don't understand what competition we have it is because in the past year our focus has changed. We've added an investment staff.

Mr. Swerdlin: That's part of our paradigm, if I may continue with that idea. We're in our little cage here. They don't know about it because we don't tell them. Our numbers are small relative to accountants or lawyers, but we're not used to selling ourselves as a profession. That's why they don't know. Most people who have heard of actuaries think of them as with an insurance company, and some of them don't even know. I have friends that still think I'm with an insurance company because they can't get it beyond in their head that I do pension work instead of insurance. We have to be better at communicating to the outside world, and that's looking inward to looking outward which is more Quantum thinking.

From the Floor: It doesn't feel like we're inviting CFAs to join our tent until our tent is broad. I don't know why they would be attracted to ours when the perception is we're relatively narrow. And until the perception of us is broad, then people will want to join our profession.

Mr. Swerdlin: That's right. And we have to do a big selling job on why we think they would want to come with us. What are their needs that we can provide?