

WHY ASK Big Questions?



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A Q&A WITH SFI PRESIDENT JERRY SABLOFF

The Santa Fe Institute has always challenged orthodoxy, probed freely across disciplines, and asked difficult questions. Here SFI President Jerry Sabloff gives his thoughts on how and why SFI asks big questions.

BULLETIN: The theme of this issue, “Time and Chance,” is about long time scales. Why is the question of time scales such an important one for the sciences of complexity, and for SFI?

JERRY SABLOFF: Clearly, if you look at today’s world, we operate on incredibly short time scales. In business, government, and our daily lives, we are measuring things in hours, days, weeks, months, sometimes years. But if you want to really understand the complex adaptive systems in our world and in our society, you need to examine longer time scales, because when you look only at the short term, you might perceive a variability as the norm, and you might easily miss the overall trajectory of a system. In business, that is very dangerous, because you can look at returns and assume you are viewing the trend, and your expectations adapt to what at a longer time scale appears like an oscillation.

From my perspective as an anthropologist, a focus on the short term can be a fatal miscalculation. You might have 50 years of warm, wet weather. Things are going well. You have plenty of crops. Trade is terrific. But you don’t build up surplus. Then conditions return to what you would have seen as the true norm if you had taken a much longer-term view. And suddenly you are fighting for survival.

Left: Study of cities such as Dubai, which dates to 1095 and today boasts the world’s tallest structure, helps SFI researchers determine whether the current trajectory of global urbanization is sustainable over the long term.

Thinking of SFI, one of our significant projects is the study of cities. If you look at what is happening with cities today, you will see one thing. But if you look at the emergence, growth, and evolution of cities over five millennia, you get a much richer view of the nature of cities and their potential future trajectories. You get an incredible view of what pre-industrial cities were like, what industrial cities were like in the last two centuries, and then what the modern urbanization is like.

So for all those reasons, when you are looking at any problem, at least being aware of phenomena at a variety of time scales is really important.

BULLETIN: Why don’t we, as a society, tend to think on bigger scales?

SABLOFF: It’s hard to say. In business, it’s probably related to the question of shareholder value and quarterly profits. In our area of science, one of the worrisome trends is that companies, particularly bigger ones, aren’t willing to invest proportionally in research the way they used to. The results of basic research, or of a theoretical breakthrough, might be two decades or more out. Shareholders don’t seem to want to hear about long-term investments. So very few CEOs and boards are willing to say, ‘We expect three percent growth for the next five years, but if you hold onto your stock, in ten years we have a chance of enjoying astronomical growth.’ Many companies, when they look five and ten years out, that’s considered visionary thinking. We’re fortunate to be working with the terrific SFI Business Network partners, many of whom are breaking out of this shortsighted mold.





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The behavior of a complex system in more than one time scale often tells differing stories. Here, a view of AT&T stock on the Dow Jones over one-day, six-month, and two-year periods suggests vastly different performance interpretations.

BULLETIN: Why is it important, then, for SFI to ask big questions?

SABLOFF: Our society is facing a huge array of problems, and a number of them are either being ignored, or when they are faced, the solutions offered are variances of business as usual. Very few people are looking at the big questions with imagination. The importance of asking big questions is to say, ‘Hey, the status quo is not working, and the

solutions are going to challenge business as usual.’

SFI is a good place to pose difficult questions that matter. Throughout our relatively short history of 27 years, we have been asking such questions and looking for answers from many perspectives and in ways that challenge assumptions. That’s true, in part, because our reward systems are different from those of a university. Our faculty and external faculty are risk takers, intellectually, and we view failure as acceptable. Those factors, which are still very much alive today, and our terrific group of scholars, are the reasons SFI still is one of the best places in the world to ask the big questions and seek their answers in creative new ways.

BULLETIN: What are some examples of big questions that matter to you?

SABLOFF: A foremost question for me—because it relates to my own scholarly interests—is the long-term trajectory and future viability of urban systems. A number of faculty members at SFI are asking questions such as, Why did cities arise in the first place? Why was that a successful adaptation? Why have cities persisted for 5,000 years? Lewis Mumford said cities emerged and grew because they were places of safety, economic opportunity, and sacredness. But we should ask whether these are the key features of modern cities. That’s not clear at all, in my mind. There are cities today where none of those attributes are true. So then the questions become: What purposes do cities serve today? Will the nature of cities change? Or is the current urban climate a harbinger of potential failure? Talk about big questions! The viability of cities is one in all of its ramifications, and one where a longer historical perspective is critical, and also challenging.

So a big question is one that gets at some major societal or human problem. It requires a new perspective. It hasn’t been solved yet because it is challenging. And the answer is not going to be a normal, expected answer. If the answer was either easy, or there was a clear path to get at it, it wouldn’t be a big question, because the solution would already be at hand. SFI’s special role is to keep asking difficult questions and through them seek revolutionary insights. ◀