

4.14 The Goal: Fewer and Better Disagreements, Part 2

Interview with **Baruch Fischhoff, Professor, Carnegie Mellon University**

Welcome to Baruch Fischhoff, who is a professor at Carnegie Mellon University, one of the world's leading theorists on decision making. And, Baruch, thank you so much for joining us today.

Oh, Steve, thanks for having me. Nice to see you again.

And likewise. So can you tell us a little bit about your trajectory in the decision science area and give us a sense of what you actually think is practical and pragmatic for data scientists entering during the real world of decision making in organizations?

The way I got here that did an undergraduate degree in math at Wayne State in Detroit, and then I was out of school for a while. And when I went back in school, I decided I didn't really have the passion and maybe not the aptitude for math but-- and was fortunate to end up in a branch of mathematical psychology that was being started by my graduate school advisor [INAUDIBLE] and [INAUDIBLE] which look at decision making problems in a way that was informed both by formal models and by empirical methods.

And I pretty much stayed the course that since then-- I think the formal methods are important-- I think that the formal methods are important because they force us to look at the decisions that other people are making in a rigorous way. That is we-- it forces us to take an inside view in how they're looking at the world, which helps us to overcome what is one of the most pervasive of psychological biases, which is to exaggerate how well we're communicating with other people, how well we understand them, and how well they understand us. So thinking about-- walking through somebody else's decision-- and this could be your boss, a subordinate, a legislator, a customer-- and saying, what are their objectives, what are the options that they see, what information do they have, how might they be confused helps us to provide people that relatively small set of information that anybody is capable of absorbing at any time.

So it's my sense that when new technologies come on board in decision making systems, whether it was like expert systems 20 or 30 years ago or potentially really sophisticated data techniques today, the first reaction of a lot of folks who are expert in the techniques is this stuff is so powerful that it's going to overwhelm traditional sources of disagreement and decision making pathology. And I wonder if that's been your experience and if you could reflect a little bit on maybe the trajectory of how that stuff moves over time.

People-- how do we get through life when do things confront us? Whether they're medical problems or technology problems, we build on whatever mental models we have of related problems. And if the new situation is like the old situation, we can learn a little bit and fend for ourselves.

When new technologies come along, even ones that have aspirations to be transformative, then we're often at a loss. And on the one hand, people may just reject them because they're too hard to get into. Or, you may find that people end up using them in totally unexpected ways, either because people independently figure out what to do with them or because somebody figures out and then tells his or her friends who then tell their friends. And people actually master the technology not from a textbook, or from instructions, or from looking at the pull down menus, but they master it by modeling or copying what other people do, which is how we learn lots of things in life.

So that makes the adaptation of technology often surprising to the inventors because they don't know-- let's see how I can put this a little different-- so as a result, the adoption of technologies often is unpredictable to inventors. In part, because they, by virtue of being inventors, are very different than the people that they are hoping will use their technology. So their intuitions are particularly bad about what's going to be used and how it's going to be used.

Probably there are a lot more unpleasant surprises where potentially great technologies don't get used. They don't get adopted because people can't figure them out. And occasionally, there are unexpected surprises where people find uses or find ways to tutor one another in the technologies that makes them take off much better than their inventors had any realistic expectation for.

Yeah. It's hard to--

What the social sciences do is they give us an attempt to get ahead of that and ask potential users, of our information or our technologies, to get a disciplined look at how they might use them, what are the problems that they might be using them for.

That's going to lead me to a sort of unfair question, but I'm going to ask it anyway. Which is if you had a couple pieces of advice to give to someone with really sophisticated data science skills who was walking into a decision meeting with a bunch of people who actually didn't have those skills and were just a little bit skeptical of overreach on his or her part, what would be the advice about how to best communicate conclusions, or methods, or just interact with that group that's just a little bit skeptical?

I think the best advice would be to pre-test your message. That is, find people are like the group, run it by them, have them be candid about what they understand and don't understand. And there will always be surprises. So it's a kind of communication malpractice to test your message first on the people who really care about.

That would be it. Test it. You'll always be surprised.

We've been developing surveys and communications for many years. We pre-test everything. And people always surprise us.

Even after the pre-test, right?

That's why you pre-test it and then you adapt and adjust it. And then you do another pre-test. And at some point, you've either run out of time or you run out of surprises. But if the stakes are worth doing any preparation, invest some of that preparation in pre-tests. It is totally remarkable how often large

organizations, important people choose to fly blind in relying on their own intuitions or that of their close associates who may share the same cultural, perceptual, educational biases or be afraid to challenge one another.

Well, I know it's my instinct, you know, when you find that compelling answer to a question that people are struggling with, you just want to run out and explain it to everybody. And pre-testing the communication strategy sort of above feels like a bump in the road at that moment. But it's critical, huh?

Yeah. And often what happens is that we don't show due diligence in pre-testing our messages, they fall flat and then we end up blaming our audience.

Yes, exactly.

So I'm an optimist on our being-- we have a very large literature showing people's judgmental biases. We have this large literature on the judgmental biases because that's how our science advances by finding things that people don't do well, because they tell us something about how people process information.

And generally speaking, people make pretty good decisions. They get through life. They don't offend people in every conversation. They don't get run over crossing the street. They don't get fleeced all that often in their investments. You have to search to find things that people have difficulty doing well.

And so we do have this large-- and they tell you something either about the environment, or about the people, or their interaction, or their training. They tell you something about their psychology. But that doesn't mean that people are inherently bad decision makers. So I'm an optimist. I think we can usually explain most things to a motivated audience if we understand the audience. And part of that understanding is knowing the psychological literature which gives you general processes. And part of it is talking to people and testing our messages.

God, I love optimism. It's so rare that one hears that. But let me ask one last question, just end with this thought. For those of us who have scientific background, it's continuously frustrating to walk into meetings around the table where you just feel like the discourse is happening on some other level. And as I said in an earlier part of this week, you kind of wish you lived in a Paparian world, but you certainly don't get to live in that world.

And I remember you once saying in some setting, I think, that sort of the pragmatic goal was actually not necessarily to move towards consensus all the time, but to move towards a world or a situation of fewer and better disagreements. And I just found that a really compelling way to think about it. I wonder if you could just say a little bit about how you came to that view.

Yeah. So again, I tend to be-- I think perhaps something I would fault our field for us is that we as a field have found that pessimism sells.

Yes, it does.

Talking about other people's limitations. You know, some of which resonate. We know how to tell that story. Journalists like to repeat it. So we're perhaps overplaying our hand to some extent.

I think in communications, I think you find that-- so you can have disagreements because people misunderstand one another. And you can have disagreements because people understand one another and recognize that they have conflicting goals.

So let's address the first part, the first case. Let's address the cases where people are in a disagreement because they misunderstand one another by better communication and finding what the common ground is. And in situations where there are legitimate disagreements, then let's negotiate rather than assuming that, well, they just don't understand. If they only understood, they would do things my way. No, if they only understood, maybe they would see that my way is in conflict with their way.

Well, I'm hoping that we can bring some of that insight and discipline to the corporate world and maybe even one day to the world of politics, but we'll see.

OK. Well, thanks for talking to me. Sounds like you have an exciting course.

Yeah. Baruch, thank you so much. This has actually been the perfect way to wrap up this week. I really appreciate it