

IP HOT TOPICS

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Innovation Conversations: Walter Isaacson, Part 2

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Trey Powers:

Welcome to Innovation Conversations, a special series of Sterne Kessler's IP Hot Topics Podcast. I'm your series host, Trey Powers, a director in Sterne Kessler's biotech and litigation practice groups. Joining me as co-host for this interview is my partner and good friend, Eldora Ellison, who is also in our biotech practice.

This is the second of our two-part interview with our guest, Walter Isaacson; renowned author, analyst, journalist, historian, and professor at Tulane University. Professor Isaacson has written extensively about innovators including Steve Jobs, Ben Franklin, Albert Einstein, Leonardo da Vinci, and many others. He is currently working on a book about innovation in the biotech space.

Professor Isaacson sat down with us virtually and shared a variety of insights about the state of innovation today, as well as some lessons from history. In the first segment of the interview, we explored historical perspectives and lessons from past innovators. Now, in part two, the discussion focuses on the current state of innovation in the U.S. and looks forward to what challenges lie ahead.

Welcome.

Eldora Ellison:

Do you see any improvements that should be made to the patent system to better achieve this goal? What do you think will work-

Walter Isaacson:

Yeah, I'm pleasantly surprised at how good our patent system is. I would throw that into one of the reasons that America is innovative and inventive.

In fact, as you know, as I'm looking at the CRISPR patent laws, we could all agree or disagree with certain decisions that were made. But I was rather impressed by

the depth of knowledge and the depth of understanding that has gone into each of the disputes, including by the judges and examiners and others involved.

Whether or not they get it right is a very difficult topic. But sometimes I watch people in Congress trying to question technology executives. And the congressman doesn't know the difference between Twitter and Facebook. Or has no idea what a cookie is or a spam filter is. That was not the case when I look at people doing patents and biotechnology.

That said, everybody listening to this podcast is probably better than I am at knowing what they would improve with the patent system. I do think it needs to be sped up at times. Things are moving so fast, and it needs to be able to try to strike balances better.

Almost by the nature of the laws, a patent has to designate certain inventors. And those inventors get designated in the patent. Or the inventor gets designated.

Whereas we all know in our daily lives, in our study of history, that invention is not a guy or a gal going into a garage or a garret, having a light-bulb moment, then the invention comes up. Invention's a team sport. It's a collaborative effort.

Sometimes it's hard for the patent system; I don't know how I would improve it. I mean, I'd have to think about it a while. But it's hard for the patent system to recognize and encourage collaboration, rather than recognize and designate an inventor for each non-obvious step that comes in improving any of our useful arts.

Eldora Ellison: Do you have any views as to whether our patent system is adequately motivating investors? In contrast to, say, the innovators themselves? What impacts do you see there?

Walter Isaacson: Yeah, I mean, I think you're certainly seeing in the pharmaceutical industry a lot of money flowing in. Now you can take a very ripe example this month, which is Moderna, which has done a messenger RNA-type vaccine.

The stock is fluctuating wildly. The main thing that some investors are looking at is what exactly is in their patent portfolio? What Patents for delivery are they missing in their patent portfolio? And what they invent, will it be able to be protected?

That's having an impact on the amount of money that goes in, as well it should. I mean, that's the whole point of having people discover and own intellectual property.

I think that one of the problems we have is that the system is so complex; that whether it's venture capital or angel investing, or whether it's inventive people; it tends to work best if you're in institutions or in places that are well-supplied with good venture capital, good lawyers and people that know how to do it. Meaning Silicon Valley, New York, Washington, Boston.

I'm here in New Orleans, and we're trying to get a bio innovation zone started. We're trying to get an innovation culture. We have Idea Village, we have Entrepreneurs Week, we have quite a few accelerators. Tulane is creating a bio innovation center.

But one of the things I noticed as missing is we don't have quite as much venture capital sitting around. It's just sort of an iterative process by not having enough venture capitalists or people here. We also don't have people who understand fully how do you protect and monetize patents?

I would hope that one of the innovations in our system over the next decade would be to go back to the way it used to be. Which is all across America, from Cleveland to Columbus to Austin to New Orleans to Kansas City and St. Louis, there could be innovative ecosystems filled with venture capital and an understanding of intellectual property.

Rather than have a structural advantage being given to the East and West Coasts in particular, and specifically Silicon Valley, Seattle, Boston, New York, and Washington.

Eldora Ellison: Do you think that that depth of expertise threatens our future with respect to innovation? Will we continue to see such an innovation?

Walter Isaacson: I think that one of the most important things about innovation is being able to learn, being able to follow the scientific method.

Not just science, but the method of saying, "I've got a hypothesis. Let me test it. Let me look at the data. Let me keep an open mind. Let me see new data that comes in, and let me revise my opinion."

I've been talking to Tony Fauci today. Some people who talk about depth of expertise, people who are attacking people like Tony Fauci will say, "Well, he said this at one point. And then he said something different."

Well, yeah, the facts change. And you change your recommendations, whether it's on masks or hydroxychloroquine or other things.

I think it was John Maynard Keynes was asked by a woman, "You've changed your mind. Why did you do that?" And he said, "Well, madam, when the facts change, I change my opinions. What do you do?"

I think that scientific method is one of the things we've lost touch with; not just science. For example, whether it's the COVID-19 and whether you believe in wearing a mask or whatever.

Or climate change, or whether it's any field of public policy; whether it's anything we're debating in our society. Even your reaction to the phrase Black Lives Matter. All of a sudden it becomes so politicized that we aren't open-minded and say, "Okay, my views have now changed on certain things."

Secondly, to get more specifically to what you mean by death of expertise is not just a scientific method, but it's understanding experts. I think we are going to see two different competing trends.

We see one trend in this COVID-19 pandemic crisis of anti-science; of people just not respecting the expert. Somehow thinking there's some conspiracy of experts to try to take away our freedoms or something.

That's a certain percentage of the population; a percentage that's probably not as big as you think it is. But it gets amplified because they can take to Twitter and Facebook, and they get very, very amplified in their skepticism of science.

On the other side of the equation, pushing in the other direction; most people, including people like myself say, "Wow, this coronavirus crisis has taught me to be more respectful of biologists." I had never focused on the importance of biologists or scientists, ma'am.

I'm sitting there, I'm doing things like reading a science magazine or nature magazine, looking at the latest studies. I know what bioRxiv and medRxiv is.

So I would say that the people who are gaining more of a respect for science far outweigh those who are trying to put a death to expertise. But we do have to worry about the death of expertise in almost any field. I do think it ties back to what I said.

Which is the people who are trying to say death to expertise, and are trying to put down expertise, are also people who put down the open-minded inquiry and the free thought.

The willingness to let data drive our opinions that's at the heart of 400 years of the enlightened scientific method that we have, that's caused progress.

Eldora Ellison: Right. Do you see a way to de-politicize, if that's a word, de-politicize science? Given where we are in this era?

Walter Isaacson: Yeah, up until recently; frankly, up until this administration; you had certain disputes in science, especially on the things like climate change. But generally, people were willing to look at the data and look at the evidence.

I think that in terms of politics in Washington, it's part and parcel of the larger problem, which is a tribalism that has set in. Our two political parties used to not be cleaved or divided on purely ideological lines.

I remember growing up here in Louisiana, where there were conservative Democrats. And of course, going up to college up north, where I met a lot of very liberal Republican politicians. You don't see that these days; basically a left-right divide has become also a partisan divide.

That's made everything more partisan, and sometimes people get confused. Like, should antitrust laws be applied to Amazon? At the moment, we haven't figured

out a knee-jerk, left-right, Republican-Democrat response. So you see people babbling at congressional hearings rather than making coherent arguments.

But I think the main way to get away from the politicization of science is to try to move away from the polarization of our politics in all ways, shapes, and forms. Also to celebrate the people in Congress and in government who tend to be more interested in science. Those used to cut across party lines.

I mean, I can remember when people like Jennifer Doudna and George Church and others were testifying on things like genetic engineering.

You had a bipartisan caucus that had Republicans like Bill Cassidy of Louisiana, who was a doctor. But also Dick Durbin, a Democrat of Illinois. People like Bill Frist in the old days. And Lamar Alexander, who were Republicans who cared a lot about science. Bill Frist also being a doctor.

So I think we need to encourage, nurture, and celebrate these bipartisan science caucuses, so to speak. But the larger problem is the poison and partisanship that has polluted our political system.

Trey Powers: Walter, more generally in looking ahead, what do you see as the next disruptive innovations on the horizon?

Walter Isaacson: Well, as I said, I think genetic engineering will be for the coming 50 years, the big disruption that is akin to the combination of the microchip and computer and Internet that happened 50 years ago, and created the digital revolution.

We've had three great revolutions in the modern age. One of them begins at the beginning of the 1900s, with Einstein's papers on relativity and quantum theory, which lead pretty directly to a half-century of physics. With everything from the atom bomb, GPS, lasers, space travel, and all these things that bear the fingerprints of Einstein's theories.

Then, as I said, the second half of the 20th century was based on the microchip, the computer, and the notion that everything could be notated in digital code.

I think the first half of the 20th century would be a period in which we see that everything that we want to have control over, at the cellular level in life, is notated in genetic code. And by being able to edit that genetic code, we'll be able to take on cancer, sickle-cell anemia. Also to diseases like Huntington's.

We'll also be able to do things that we have to pause and allow ourselves to think, "Do we want to do it?" We can make our children taller. We can probably enhance their memory. We can let the rich buy the best genes, because some of these genetic engineering techniques are not going to be free.

Do we want people to be able to buy better genetic material for their children? My answer would be no. On the other hand, do we want to stop the progress of genetic improvements? No, I don't think we want that, either.

So there'll be a lot of moral and ethical issues we will have to face. But I think the great scientific issue for the rest of our careers will be, "How do we apply biotechnology to both the genetic engineering of ourselves, the enhancement of our children, the fight against cancer, the fight against viruses, and perhaps the fight against aging?"

Eldora Ellison: It makes me glad I studied biology. Sorry-

Walter Isaacson: Yeah.

Trey Powers: Yeah.

Walter Isaacson: I want to make a little personal thing, if I may. Which I hope you'll leave in, which is about Eldora Ellison.

When I talk to my students at Tulane, they say, "Okay, I love biology. But I also love digital technology and I like the humanities. What should I do?"

And I say, "Well, make sure you cross disciplines." I said, "One of the people I know who's best positioned for the future is a woman named Eldora Ellison. That's because she studied biology in college and she got a Ph.D. in biochemistry or cellular biology.

"But also studied law and also understands business. Being able to stand at those intersections, to me, is where you'll be able to be at the forefront of the innovation in the 21st century."

Trey Powers: Walter, we're leaving that in, as far as I'm concerned.

One last question. What is your biggest concern for the future of innovation in the U.S.?

Walter Isaacson: My biggest concern is that we're not inclusive in having an innovative economy. We've already seen the political ramifications where the technological revolution and robotics revolution; as well as globalization and free trade and whatever; benefited the economy of this country enormously. But also left out a whole lot of people who really just got bypassed. That's not good for democracy.

By the way, going back to the poison in our political system, going back to the problems we're now facing in our politics; hey, I think it's because we allowed the benefit of technology and globalization to be spread unequally.

I see that continuing to happen. I continue to see in this country a two-tiered education system that's actually even more divided, more segregated on race and class and economic lines, than it was 30 years ago.

I see entrepreneurship and innovation, in some ways, being more available to people who can take risk. More available to people who have had a great education. And less available to some segments of society.

That means we're leaving out not only different segments of society, but gender. In all sorts of ways, we're leaving out talented people who can help make us more innovative.

But also help make sure that the benefits of innovation will be spread and distributed in a way that's both fair, and provides a stability to our society. The stability to the growth in our economy, so that we can have new generations of innovation.

Trey Powers: Thanks very much for joining us today, Walter. We really appreciate hearing your perspectives.

Walter Isaacson: Thank you, Trey, and thank you, Eldora.

Trey Powers: Thank you for joining us for this Innovation Conversation, which was the second segment of our conversation with Professor Isaacson.

In the first segment of the interview, we explored historical perspectives and lessons from past innovators. If you haven't already, be sure to take a listen.