After the Fact | Scientists at Work: Ira Flatow Talks Science

Originally aired Aug. 24, 2018

Total runtime: 00:12:58

TRANSCRIPT

[Music]

Dan LeDuc, host: This is "After the Fact" from The Pew Charitable Trusts. I'm Dan LeDuc, and this is a special edition of our Scientists at Work series.

Forty-four percent. That's the percentage of Americans who think the public doesn't know enough about science to understand findings in the news. And that's our data point.

We're talking to one of today's most popular science ambassadors—the host of "Science Friday," Ira Flatow. Ira has spent most of his professional life trying to make science more accessible. He joined us by phone, and we started by discussing the public's relationship with science today.

Ira Flatow, host and executive producer, "Science Friday": I think the public is very, very interested in science and loves science. I don't think they know very much about how science happens.

Dan LeDuc: Hmm.

Ira Flatow: I don't think they know very much about what scientists actually do, how they conduct experiments, or the whole scientific process.

I think the public thinks that science is an encyclopedia that sits on a desk. And you always hear people say, "Science says." And when they hear, "Science says," they think that there's a book called "Science Says."

Dan LeDuc: Right.

Ira Flatow: And they open that book. And there it is, the answer. What they don't understand enough is that it's a process of arriving at what we know about the truth about nature. And on the other hand, and we can get into this a little bit later, our evidence shows, and I think there's a lot of evidence that shows, that people love science. And they will talk about it, discuss it, any chance that they get.

Dan LeDuc: Well, I mean, certainly the popularity of your program shows that. And I'm always struck by the real diversity of what is science on your show.

I mean, just in recent months you've looked at coughing on airplanes and what that means in public health. You've looked at the obvious stuff, like CRISPR—gene editing—and what's going on and the latest on that. You've also looked at credit card fraud, because that involves technology, and chip technology.

And even flopping, right before the World Cup. You just did a story not long ago about the science behind these guys falling over with fake injuries. It's like this broad, broad field of science. It's almost like saying the whole world, right?

Ira Flatow: Yeah, well, actually you know, another way of talking about science is calling it critical thinking. That's really what science, the process of science is. It's a way of thinking about the world, and thinking about it critically and questioning assumptions.

[Music]

Dan LeDuc: Ira Flatow has hosted "Science Friday" since it started in 1991. Twenty years before that, he was NPR's science correspondent. And long before that, at a very early age, he was interested in science.

Ira Flatow: I was one of the kids in high school, junior high, with the pocket protectors and the typical thing you see in the movie.

Dan LeDuc: *[Laughs]*

Ira Flatow: I really was one of these kids. And ever since a very early age, I was interested in electronic devices. I taught myself how to build circuits. I used to build Heathkits and all kinds of things like that. I built a shortwave radio and a telescope. I used to fix televisions—my own TVs in the basement. Before there was a World Trade Center, New York City had something called Radio Row, where any day of the week you could go down to that area. And on the street—literally on the street—were boxes and boxes of surplus electronic parts being sold by shops along the street in Radio Row. And if you were building a little do-it-yourself project, way before there were makers and things like this—if you were a hobbyist, or someone interested in building a little project—you could go down there and find parts. Any kind of parts you wanted.

So I was doing a junior high science fair project. I once made a punch card reader. A lot of people may not remember punch cards, but when I was 12 or 14, I made a little device that would read—what did the holes in those punch cards mean? What did they actually say? And I sent away to IBM. I said, "Could you get, send me some diodes? I need diodes—I designed this thing." And they sent me in the mail, free, 100 diodes.

Dan LeDuc: Wow.

Ira Flatow: So that's the kind of stuff I used to do. I was always interested in engineering. I followed engineering. Got into engineering school and discovered I didn't like engineering. I wasn't good at it. But the campus had a radio station, and I joined the radio station. I happened to be in the right place at the right time, because the general manager of the radio station would eventually go on to start NPR.

And then, in 1971, when NPR started, and I say—my boss, Bill Siemering, went to Washington to create "All Things Considered." He was the first program director. He wrote the mission statement for NPR. And I said, "Bill, get me out of Buffalo." He finally said OK. And after I graduated I went to NPR, in the first year they were on the air.

[Music]

Ira Flatow: But the coolest thing I ever did on the radio was back in the late '70s, when I was co-hosting "All Things Considered." I went into a closet with Susan Stamberg, and we were crunching wintergreen Lifesavers, because they'd spark in the dark. And a listener wanted me to investigate whether this was true or not.

And so I went around that whole day. I had one day to investigate it. And then I couldn't find anybody in a short period of a few hours to explain why it happened. So I said to Susan, "We're going to end the show in a closet and spark wintergreen Lifesavers." Which is what we did.

And then the next day, the phones rang out off the hook, with physics teachers explaining something called triboluminescence, which has been known about for hundreds of years. But crushing a sugar crystal, and it gives off a high voltage, fluoresces. It's often ultraviolet, so you can't see it. But the wintergreen interior—it sort of fluoresces it back into the visible range. That got more mail in the next 10 years than anything else ever done.

Dan LeDuc: *[Laughs]*

Ira Flatow: Radio is all about conveying feelings, besides just evidence or facts or whatever. You try to create a feeling about something, so that people will follow up and want to know more about it later. And to do that you try to create an audio picture.

I remember once there was a grounding of an oil tanker off Nantucket, back in the late '70s I think it was. It might have been the early '80s. And how do you do that on the radio? So I got a 10-gallon fish tank. I filled it up with seawater. I went around town looking for the oil. I found—I think it was number 16, included heating oil. And I threw it into the tank. I put ice cubes in the water—simulated very cold in the wintertime. And I got a big paddle. And I brought it into the studio. And Susan was still the host of "All Things Considered" then. And we started talking about, what does it look like at the bottom of the ocean? Well, let's slosh this around. And you could hear the water sloshing. You could hear Susan reacting to what happened to the oil. "Hey look, the oil's clumping, it's sticking. It's doing this, it's doing that." And so you got the feeling of some sort of excitement. And you possibly went ahead to do your own research.

Dan LeDuc: Well, back to our data point. Forty-four percent of Americans think the public doesn't know enough about science to understand findings in the news. Is that a problem?

Ira Flatow: Yes, I think that is a problem. And it has been a problem for a long time. But I think scientists are beginning to understand that they need to address that problem. They need to be out front more with their ideas about how the world works.

And I think scientists are doing it. You could point to what we do when we talk with scientists and what we're trying to do. We're trying to cultivate younger scientists—people who are in postdocs, just getting their graduate degrees. They do most of the hard labor in laboratories, anyhow. They do most of the research, the heavy lifting.

Dan LeDuc: There's also been data that shows opinion differences between the public and scientists. The Pew Research Center looks at some of this stuff. And they surveyed scientists and the general public about some issues like, "Is it safe to eat genetically modified foods?" And while 90 percent of scientists say it's totally fine, only about a third of the public thought so.

There are other gaps like that, too. Are we going to be able to close those gaps? Should we try to close those gaps?

Ira Flatow: Well, I think the more we talk about it, the more the gaps will become evident and the more the public will be concerned and start to notice those gaps. I always think that social change, and any kind of real change, is a generational thing. And I've been doing this 40 years. I've watched genetic engineering going from not existing

to a very big part of our lives. These things all took generations, and I mean 20 years or more, to change the view.

I share this with my staff all the time**:** "I want you to follow the money. I want you to read the business pages. I want you to see where the money is being invested, because it will tell us where the science money is going."

And if you look at where the money in the entertainment industry is going, the advertising industry is going, you will see it's going towards science-themed things. And when I say things, there are a lot of different moving parts here.

For example, in the movie business, I cannot ever remember when—let's say in 2014—that the two movies vying for the best picture were two science biopics. You know, Stephen Hawking and Alan Turing.

Dan LeDuc: Right, right.

Ira Flatow: I mean, when did that ever happen? And the question is, why did that happen? And that's because the money—the people who invest in the movie business—know that people love science and they will go and watch a biopic about scientists. It's the same reason why CBS invested in the "Big Bang Theory" TV show.

Advertising—I saw an ad for a tire company, and it starts out with this woman who's not thinking about her tires. She's thinking about big thoughts. And it's actually a woman—a minority woman—driving a car. And she's a scientist. And in the back seat of her car is a mythical blackboard, with physics equations and calculus on the board.

Dan LeDuc: They're selling tires.

Ira Flatow: She's not thinking about her tires, because she knows she gets a great deal on her tires. So she's able to think big thoughts. And again, at the end of the commercial, they do their little thing about the tire company. In the back, you see the calculus again on the blackboard. Can you imagine the pitch meeting that went on there, when they wanted to sell the tires?

Dan LeDuc: *[Laughs]*

Ira Flatow: Somebody said, "Hey, let's show a guy with lug nuts, on the side of the road." And somebody says, "No, let's put a female scientist in a car, because people love science. And they'll respect the scientist more than anything else, because now scientists, they have a much higher respect than politicians and journalists. And that's proof to me how popular science is."

Dan LeDuc: Well, Ira Flatow, we do data points on this program. I'm going to throw one more last one at you. It's 1,390. And as of today, as we talk, that's how many broadcasts there have been of "Science Friday." It's pretty amazing.

Ira Flatow: Is that right? Wow.

Dan LeDuc: Yeah, who knew?

Ira Flatow: Who knew? It seems like yesterday. We went on the air in November of 1991. And so by this November we'll have finished our 27th year. It still is amazing to most people how popular and long-lived we are, but as I said before, science is on everybody's mind. And I think it's increasingly going to be on everybody else's mind, if we just don't get it crowded out by other topics that are really taking center stage these days.

Dan LeDuc: Well, as Year 28 soon begins for "Science Friday," we wish you continued luck. And we thank you so much for being with us here.

Ira Flatow: My pleasure.

[Music]

Dan LeDuc: You can find more in our Scientists at Work series from our past episodes list at pewtrusts.org/afterthefact.

Subscribe and rate us on Apple Podcasts, Google Podcasts, or your streaming service of choice. Thanks for listening. For The Pew Charitable Trusts, I'm Dan LeDuc, and this is "After the Fact."

[Music]