

Host: Robert Frederick

Hello and welcome to The Conjectural — an experiment to figure out a better way to decide what science news is and how we should talk about science. The data for this experiment? Your feedback to TheConjectural.com. I'm Robert Frederick. In this episode, an essay about science news and a story of baby-boomer homelessness.



How many times do you have to hear something before you start to believe it? Psychologists have again and again and again and again studied the effects of repeating something over and over and over and over and have shown that simply repeating messages is persuasive. Simply repeating messages is persuasive. And repetition is persuasive whether it's a politician's slogan, an advertising campaign, or even the jingle of a media company.

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And it's not just psychologists, politicians, marketers, or media managers that know simply repeating messages is persuasive. It's in literature, too. For example, from one of my favorite books I read first in high school, Brave New World, the author, Aldous Huxley satirically puts a number to how many times a person has to hear something before accepting it as true. In the novel, that number is 62,400, as in it takes 62,400 repetitions to make one truth. People in the novel are exposed to that many repetitions because they hear those messages broadcast under their pillows at night. We, on the other hand, tend to hear repetitive messages while tuned in to commercial radio or television stations.

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Now I don't mean to discount repetition. Science is also done through repetition. And when the same science experiment is done by lots of different people who all get the same results, those repeated results are pretty persuasive.

But news, well, news is not about repetition. It's literally about what's new, and so includes what we haven't heard before. The classic example is that the headline "Dog bites man" isn't news, but the headline "Man bites dog" is news. Indeed, when we hear something truly newsworthy, we're curious to learn more. And news and the curiosity that results from news can change people's lives, lead to better institutions or policies or laws, and so improve the human condition. That's one reason why we journalists do what we do: to improve the human condition. "The public journal is a public trust" to quote the founder of America's first journalism school, Walter Williams, "that all connected with it are, to the full measure of their responsibility, trustees for the public...."

So, there's this tension between science and how it's done — through repetition — and news and how it's done, which is not through repetition. So far, science news is typically either about the first time something is discovered — Eureka! — or, science news is about the first time a previous discovery was shown to be wrong — Oops! — or, if not wrong, at least that scientists who repeated the experiment did not get the same results. As a very compact example of both kinds of science news — Eureka! and Oops! — consider the introduction to a segment from the April 17th, 2009 CBS news show *60 Minutes*:

20 years ago it appeared for a moment that all of our energy problems could be solved. It was the announcement of cold fusion — nuclear energy like that which powers the Sun — but at room temperature on a tabletop. It promised to be cheap, limitless, and clean. Cold fusion would end

our dependence on the Middle East and stop those greenhouse gases blamed for global warming. It would change everything. But then, just as quickly as it was announced, it was discredited, so thoroughly that “Cold Fusion” became a catch-phrase for “Junk Science.” Well, a funny thing happened on the way to oblivion: for many scientists today, cold fusion is hot again.



After just one minute, we've got the start of a very compelling story, but we're pretty confused about the science: is cold fusion possible, impossible, junk science, or the science that will change everything?

So because simply repeating messages is persuasive — I think we're persuaded by science news, as it's done, that scientists are either discovering something new or finding out that past discoveries were wrong. And we hear over and over and over again scientists have discovered something new. And we hear over and over and over again that scientists have found that past scientists were wrong. Science is new. Science is wrong. Because simply repeating messages is persuasive, it seems perfectly reasonable to me that people are persuaded to think, 'You know, what science says today that's new might be wrong tomorrow. So why bother listening to what scientists have to say at all?'

From my perspective as a science writer, the uncertainty that's built in to science is worth celebrating. It's one reason I started this show and named it The Conjectural: that science is conjectural. It's a way of acquiring knowledge but — at the same time — recognizes that knowledge isn't perfect, that our knowledge about anything in the world is never complete.

So what's the solution to our being good trustees for the public and representing science accurately to the public? I think it's to find other modes for talking about science news that go beyond "Eureka" or "Oops!" And that's what I'm experimenting with and trying to do here, in this show. Speaking of which, it's time to do that now. Please let me know what you think of this latest experiment or the whole series by sending me feedback at TheConjectural.com.

Even in the wealthiest countries, the kind of poverty that leads to homelessness is a chronic problem. Sure, we might think it's always going to be a problem. After all, even two-thousand years ago Jesus of Nazareth was quoted as saying "The poor will always be with us." And it's easy to imagine that "The poor will always be with us" has been repeated many times over the centuries, perhaps sometimes even as justification for not doing anything about poverty or homelessness at all.

Speaker: Margot Kushell

And we realized pretty quickly that nothing we were doing within the health care system was really going to make the difference.

Host: Robert Frederick

That's Margot Kushell, a doctor based in San Francisco. She spoke at the annual ScienceWriters meeting held last month.

Speaker: Margot Kushell

I have to admit that I was pretty discouraged admitting people for a few days, spending a lot of money taking care of them, and then discharging them back to the streets knowing full well that

they would come back a few days later. It really didn't feel like what I'd signed up to do as a doctor.



Host: Robert Frederick

Instead of giving up, though, Kushell continued on with school to learn a few more things about research methods. She's now also a professor of medicine at the University of California, San Francisco.

Speaker: Margot Kushell

I had this idea that maybe we could think about homelessness the way we that think about many chronic medical problems. And think about what the causes were, how we might design prevention strategies. If people became homeless, to try to understand what we could do to mitigate the effects of it. And what the treatments or cures for homelessness would look like.

Host: Robert Frederick

If Kushell and her colleagues were successfully treating society of its homelessness problem, you would have already heard about it, or at least perhaps you would have noticed a remarkably fewer number of homeless people in your town or city. But no, as with a lot of science, research often involves observation to understand what's going on: in this case, to understand the causes of homelessness. As you might expect, there are lots of reasons people become homeless, and those reasons change over time.

Speaker: Margot Kushell

We found, much to my surprise, that 43% of our participants had never been homeless until they reached at least the age of 50.

Host: Robert Frederick

And it turns out that lately the homeless population is aging.

Speaker: Margot Kushell

In 1990, 11% of the population were 50 or older.

Host: Robert Frederick

That's 11% of the homeless population were 50 or older.

Speaker: Margot Kushell

And in 2003, 37% were. And here's the bad news: aging has continued to happen, such that the median age of the adult homeless population in the United States is now over 50.

Host: Robert Frederick

In surveying the 350 participants in her study, all of whom were homeless, over age 50 and living in and around Oakland, California, Kushell found that people who become homeless for the first time in their fifties do not fit the public's image of homeless people as having severe psychiatric disabilities or a disabling substance-abuse problem.

Speaker: Margot Kushell

But it doesn't take long for people once they become homeless to look homeless. So when you walk by them on the street, it's actually pretty hard to tell apart someone who's recently been homeless or someone who's been homeless for a long time.

Host: Robert Frederick

And the health of newly homeless people plummets, too, Kushell says.

**Speaker: Margot Kushell**

Poverty wears on the body. And so our patients, and homeless people in their 50s and 60s often have health problems that we're much more likely to see in people in their 70s and 80s. ... And the problem is that our systems are not really set up to take care of them.

Host: Robert Frederick

Which also goes for what's called "permanent supportive housing," which is the United States Interagency Council on Homelessness program for "reintegrating chronically homeless and other highly vulnerable homeless families and individuals with psychiatric disabilities or chronic health challenges into the community by addressing their basic needs for housing and providing ongoing support."

Speaker: Margot Kushell

The U.S. has named "permanent supportive housing" as our official response to chronic homelessness and is pouring a lot of money into it. Permanent supportive housing has worked wonders with people who are chronically homeless.... But the problem is two-fold. One: the permanent supportive housing providers who I talk to tell me that they're a little out of their depth and they don't know quite what to do when faced with people who need personal-care attendants or who have cognitive impairment. It isn't really what permanent supportive housing was set up to address and it will need to be altered to be able to care for these. But the other problem is that permanent supportive housing is expensive. And it is not yet widely available. And I think it's a little ironic that we're spending all of this money on permanent supportive housing, which is great, while we're sort of ignoring our back door as all these new people enter into homelessness in the first time in their 50s and 60s.

Host: Robert Frederick

Now, I have to admit, in listening to this talk, I was pretty frustrated by just hearing about the extent of the problem. But then it struck me that this is a big part of what science is: frustration. No, not frustration the feeling I was having of being annoyed by the inability to change or achieve something regarding homelessness. But frustration the actual inability to change or achieve something along with the recognition that it's going to be hard even though there are plenty of ideas of how to proceed.

Speaker: Margot Kushell

I think to end this homelessness crisis, we're going to need to do more than we're doing now. And it's not going to be easy. We're going to need to address things like our affordable housing policy. We're going to need to address evictions for vulnerable individuals. We're going to need to have a sustained dialog about what it means to have retirement ages and the onset of Social Security at an age far beyond what many poor people can continue to do hard physical labor for. We're going to need to talk about the way our criminal justice system creates problems for people, particularly for people of color, not just in mass incarceration, but these small daily interactions which are really hampering people's lives. And we're going to need to address affordable housing so that people as they age will not have to age on the street.

Host: Robert Frederick

That kind of frustration is what prompts discovery and drives change, but we journalists rarely tell stories about frustrations in science. In this case, the frustrations are those of a doctor and researcher who thinks about homelessness in the same way as she thinks about many chronic medical problems and so what the treatments or cures for homelessness might look like on a societal level.



You've been listening to The Conjectural. Thanks to Margot Kushell of the University of California, San Francisco, the National Association of Science Writers, and the Council for the Advancement of Science Writing for hosting and participating in ScienceWriters2015. You can find us online at TheConjectural.com where you can give feedback and support, download a transcript, and subscribe to the show. Follow me on Twitter [@TheConjectural](https://twitter.com/TheConjectural). I'm Robert Frederick. Thanks for joining us!