Known unknowns: How to communicate certainly in an uncertain world

Description

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â??From the speed of global warming to the likelihood of developing cancer, we must grasp uncertainty to understand the world. Hereâ??s how to know your unknownsâ?• By Anne Marthe van der Bles, New Scientist, 3rd July 2019

Comment

Be certainly uncertain

Effective decision-making means being clear not just about what we do know, but what we don't, says **Anne Marthe van der Bles**

JOSIE FORD

TAKE a look at the headlines, and it seems we are pretty certain about the state of the world. "UK unemployment falls to 1.44 million", "India's tiger population bounces to 2,226", "Saddam Hussein now has weapons of mass destruction".

Yet all these statements come with uncertainty attached. People often shy away from admitting this, be they politicians, experts or journalists expounding in the media, or doctors talking to patients. Perhaps they assume it will undermine people's trust or make decisions harder. Yet making informed decisions also depends on knowing the unknowns.

In a paper in *Royal Society Open Science*, my colleagues and I have reviewed the evidence about how best to communicate uncertainty without putting off or wrong-footing an audience (doi.org/gf2g9j). We suggest a checklist of questions communicators should ask to guide their approach.

First, are you dealing with an uncertain fact (summer Arctic ice cover has declined over the past decade), number (2226 tigers in India) or underlying hypothesis (eating bacon causes cancer)?

Second, where does the uncertainty come from: natural variation, measurement difficulty, limited knowledge or expert disagreement? (We set aside the future effects of randomness and chance.) The practical problems of counting India's tigers, for example, may cast the precision of that number in a different light.

Third, is the uncertainty direct (specifically about the fact or number), indirect (about the quality of the underlying evidence) or a mixture of both? Conflating the two can sow confusion. Take the decision of the International Agency for Research on Cancer in 2015 to classify processed meat alongside cigarettes as "known carcinogens". This expresses low indirect uncertainty: the evidence says that both processed meat and cigarettes increase cancer risk.

It doesn't mean that both

https://www.newscientist.com/article/mg24332372-600-known-unknowns-how-to-communicate-certainly-in-an-uncertain-world/

The above reminds me of the philosophersâ?? demands in The Hitchhikers Guide to the Galaxy: â??We demand rigidly defined areas of doubt and uncertainty!â?• The philosophers were representatives of the Amalgamated Union of Philosophers, Sages, Luminaries and Other Thinking Persons and they wanted the universeâ??s second-best computer (Deep Thought) turned off, because of a demarcation dispute/.
It turns out, according to the above paper, that their demands were not so unreasonable after all :-)

Category

1. Magazine

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