

We can't trust common sense but we can trust science

February 2 2016, by Peter Ellerton, The University Of Queensland



Credit: AI-generated image ([disclaimer](#))

When a group of Australians was asked why they believed climate change was not happening, about one in three (36.5%) said it was "common sense", according to a [report published](#) last year by the CSIRO. This was the most popular reason for their opinion, with only 11.3% saying their belief that climate change was not happening was

based on scientific research.

Interestingly, the same study found one in four (25.5%) cited "common sense" for their belief that [climate change](#) was happening, but was natural. And nearly one in five (18.9%) said it was "common sense" that climate change was happening and it was human-induced.

It seems the greater the rejection of climate science, the greater the reliance on common sense as a guiding principle.

Former prime minister Tony Abbott also appealed to "common sense" when [arguing against gay marriage](#) recently.

But what do we mean by an appeal to common sense? Presumably it's an appeal to rationality of some sort, perhaps a rationality that forms the basis of more complex reasoning. Whatever it is, we might understand it better by considering a few things about our psychology.

It's only rational

It's an interesting phenomenon that no one laments his or her lack of rationality. We might complain of having a poor memory, or of being no good at maths, but no one thinks they are irrational.

Worse than this, we all think we're the exemplar of the rational person (go on, admit it) and, if only everyone could see the world as clearly as we do, then all would be well.



Social cognition can be powerful. Credit: Pixabay, CC BY

Rather than being thought of as the type of reasoning everyone would converge on after thoughtful reflection, however, common sense too often just means the kind of sense we individually have. And anyone who agrees with us must also, logically, have it.

But more likely, as Albert Einstein [supposedly put it](#):

[...] common sense is actually nothing more than a deposit of prejudices laid down in the mind prior to the age of eighteen.

In other words, common sense is indeed very common, it's just that we

all have a different idea of what it is.

Thinking that feels right

The appeal to common sense, therefore, is usually nothing more than an appeal to thinking that just feels right. But what feels right to one person may not feel right to another.

When we say to each other "that sounds right", or "I like the sound of that", we are generally not testing someone's argument for validity and soundness as much as seeing if we simply like their conclusion.

Whether it feels right is usually a reflection of the world view and ideologies we have internalised, and that frame how we interact with new ideas. When new ideas are in accord with what we already believe, they are more readily accepted. When they are not, they, and the arguments that lead to them, are more readily rejected.

We too often mistake this automatic compatibility testing of new ideas with existing beliefs as an application of common sense. But, in reality, it is more about judging than thinking.

As the psychologist and Nobel Laureate [Daniel Kahneman](#) notes in his book [Thinking Fast and Slow](#), when we arrive at conclusions in this way, the outcomes also feel true, regardless of whether they are. We are not psychologically well equipped to judge our own thinking.

We are also highly susceptible to a range of cognitive biases, such as the [availability heuristic](#) that preference the first things that come to mind when making decisions or giving weight to evidence.

One way we can check our internal biases and inconsistencies is through the social verification of knowledge, in which we test our ideas in a

rigorous and systematic way to see if they make sense not just to us, but to other people. The outstanding example of this socially shared cognition is science.

Science is not common sense

It's important to realise that science is not about common sense. Nowhere is this more evident than in the worlds of quantum mechanics and relativity, in which our common sense intuitions are hopelessly inadequate to deal with quantum unpredictability and space-time distortions.

But our common sense fails us even in more familiar territory. For centuries, it seemed to people that the Earth could not possibly be moving, and must therefore be at the centre of the universe.

Many students still assume that an object in motion through space must have a constant force acting on it, an idea that contradicts [Newton's first law](#). Some people think that the Earth has gravity because it spins.

And, to return to my opening comment, some people think that their common sense applied to observations of the weather carries more weight on climate change than the entire body of scientific evidence on the subject.

Science is not the embodiment of individual common sense, it is the exemplar of rational collaboration. These are very different things.

It is not that individual scientists are immune from the cognitive biases and tendencies to [fool themselves](#) that we are all subject to. It is rather that the process of science produces the checks and balances that prevent these individual flaws from flourishing as they do in some other areas of human activity.

In science, the highest unit of cognition is not the individual, it is the community of scientific enquiry.

Thinking well is a social skill

That does not mean that individuals are not capable of excellent thinking, nor does it mean no individual is rational. But the extent to which individuals can do this on their own is a function of how well integrated they are with communities of systematic inquiry in the first place. You can't learn to think well by yourself.

In matters of science at least, those who value their common sense over methodological, collaborative investigation imagine themselves to be more free in their thinking, unbound by involvement with the group, but in reality they are tightly bound by their capabilities and perspectives.

We are smarter together than we are individually, and perhaps that's just common sense.

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