



We would be far better off if more of our leaders, particularly political ones, thought like scientists. It wouldn't hurt to have more of us follow suit either.

Surveys show that a disturbing number of Americans do not trust scientists. No surprise there. Folks who are into conspiracy theories, are ideological wingnuts, and can count the number of times they've changed their minds on one hand want nothing to do with facts. And, that's what competent and responsible scientists bring —evidence rather than mere personal opinion.

Sure, not all scientists deserve our admiration and trust. As is true in any vocation, there are always a few shysters, cheaters and closed-minded zealots at work. And others simply make honest mistakes.

But, scientists who truly adhere to their creed, which is the pursuit of evidence-based knowledge, are a credit to our species, not just because of their many contributions to our way of life and well-being. Also because of the values they demonstrate.

One is their willingness and, at times, even eagerness to be proven wrong. Many are so entranced with the power of ideas that it diminishes their sense of ego, the primary source of defensiveness. They recognize that their work is about something much greater than themselves.

They call this something "truth." For them, it is not based on opinion, bias, self-interest or conjecture. It emerges from measurable evidence, the kind that stands up to the scrutiny of many observers and multiple challenges.

Another value scientists uphold is curiosity. Whether examining the biochemistry of life, studying galaxies on the far side of the cosmos, or analyzing atmospheric data to predict weather, scientists are like wilderness trekkers who simply must see what's around that next bend in the trail.

The genuine ones follow the evidence wherever it leads, and they question everything. That takes courage. Why? Because there are many in our world who reject what science has to offer, and some do so with alarming hostility, often because it threatens their personal beliefs or self-interest.

Contrary to misconceptions, science does not preclude subscribing to religious faith. In fact, surveys show many scientists find their work has a deep spiritual aspect, leaving them in awe of the creation and whatever power brought it into existence. As cosmologist Carl Sagan said: “Science is not only compatible with spirituality; it is a profound source of spirituality.”

Science and religion sometimes find themselves at odds, but there is nothing in the scientific method or body of knowledge that affronts my spiritual beliefs. Quite the opposite. The more I look through the lens of science at the nature of what we call reality, the more my sense of the spiritual expands and intensifies.

“Miracles are everywhere and in all things,” Emerson told us. And science is one way to clearly illuminate the mysterious nuances of nature.

Has the pursuit of scientific knowledge been uniformly positive? Absolutely not. Science has brought us nuclear waste, a slew of toxic chemicals, misguided medical procedures, and weapons that are incredibly efficient at killing people. But one can point the same incriminating finger at organized religion, which has been the source of horrendous bloodletting and persecution.

Science is an instrument, and when wielded poorly, it is because of human ignorance, deceit or malevolence, not because its principles and practices are invalid.

We need spirituality to guide our use of science, and we need science to restrain our propensity for being ignorantly biased, intellectually rigid or just plain dumb. Too often, we assume so-called truths that, on examination, are not based on any evidence.

As renowned scientist and author Isaac Asimov stated: “Your assumptions are your windows on the world. Scrub them off every once in a while, or the light won’t come in.”