Last month I attended the March for Science and also the People’s Climate March in Eugene. At both events I asked people why they thought it was important to defend science, and climate science in particular. The common response was that science is vital because it generates data that should inform the way people think and make decisions.

Many demonstrators said they were befuddled by certain groups’ backlash against science and were dismayed by the Trump administration’s denial of climate science in domestic policy and international agreements.

It seems logical to think that humans seek information that either confirms or disproves their beliefs, and then adjust their perceptions and behaviors accordingly. In this way of thinking, people who deny the science of climate change do so either because they do not know the facts, or the facts they have are erroneous. If research proceeds and these people are given verified scientific data, they will alter their thinking and actions.

That’s not the way humans function. H.L. Mencken said, “The most common of all follies is to believe passionately in the palpably untrue. It is the chief occupation of mankind.” People often cling to erroneous and harmful perspectives, even in the face of overwhelming and extensively validated data to the contrary.

One reason is what psychologists call “confirmation bias” and its kissing cousin “motivational reasoning.” These terms refer to the fact that people want to avoid
the distressing emotional tension that occurs when they hold beliefs that are inconsistent or wrong.

This desire causes some people to do almost anything to shield themselves from acknowledging that their ideas and beliefs are contradictory or factually wrong, or that what they support and how they act is hurtful. People consequently search for and pay attention only to information that confirms their beliefs, and ignore, deny, and try to discredit data that threaten to invalidate their views — as well as those who present it.

These dynamics also cause people to cherry-pick or twist contrary data so it can be interpreted as consistent with their worldviews. And they lead humans to interpret ambiguous information as supporting their beliefs. The process causes people to delude themselves rather than feel bad about holding contradictory or erroneous beliefs.

Confirmation bias becomes more powerful when the data in question relates to emotionally charged issues. It also intensifies when people fear that data will undermine the core values and ideologies of the groups they identify with.

The fossil fuel and tobacco industries understand these human traits better than most. It is well documented that decades ago, they began to collaborate with conservative think tanks and Republican Party activists to mobilize political opposition to scientific research on public health, the environment and climate. Their strategy was to frighten people into believing that those forms of science threaten their values and way of life.

A wide range of research has found that many avowed conservatives — and white male conservatives in particular — hold a hierarchical view of society in which some individuals, populations, institutions, or deities are seen to be naturally dominant, while others are inherently subservient. People with this perspective are likely to deny any science that challenges the validity of the authorities they revere, or their beliefs about how society should be structured.

People who hold more symbiotic and egalitarian values tend not to be as invested in the existing social order. They are often more willing to seek out and accept science that indicates a need to restructure society.

The cynical industry-supported campaign intensified these differences by portraying people who support environmental and climate science as “liberal"
big government advocates who support business- and job-crushing regulations to overturn the natural order of status and power.

Their efforts succeeded to the point where today many committed conservatives consider people who uphold science as enemies of freedom, free-market capitalism, the American way of life, and even God.

Most people who attended the marches undoubtedly held more egalitarian values. It was vital for them to voice their opposition to President Trump’s proposed cuts to climate science and policies.

But it would be a mistake for the demonstrators to think that more science will change Trump or many others who hold hierarchical worldviews.

The only way to do that is to address the underlying psychological dynamics, the clash of values, and the political power of the vested interests that drive the process.

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