

# Science as common sense that's evidence based



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As the late four-term Senator Daniel Patrick Moynihan said, "Everyone is entitled to his own opinion, but not his own facts." Many in today's political scene seem to think that opinions of people who have no knowledge of a subject are the equal of views of qualified experts in the field under discussion.

There are two kinds of opinions, personal and professional. A personal opinion is just that, personal. We all have them about nearly everything. But if the goal is to understand a subject, it is the professional opinion that must take precedence. This is especially obvious in science.

The scientific method of repeatedly examining, testing and verifying leads to consensus and predictions. Science is self-correcting in that errors are eventually identified by the process itself. This way of gaining knowledge is one of the highest achievements of the human mind. It is also a most effective

baloney detector.

The last election demonstrated that a large minority of the American public is easily fooled by illogical arguments and demagoguery. The internet and social media facilitate this.

Uninformed sound bites instantaneously circulate around the world leading some to believe that their personal opinions are as correct as professional opinions. This is known as confirmation bias where one interprets evidence in ways that uphold their preconceived beliefs.

Unlike science, tweets are not peer reviewed. The "war on science/fake news/alternative facts" phenomenon became prominent decades ago in the anti-evolution crusade and is continued today by some of the same people in climate change denial and the anti-vaccination movement.

To solve problems, government policy needs to be evidence-based. "I am not a scientist," as Ronald Reagan famously said in 1980, has been used by many politicians to avoid dealing with inconvenient scientific evidence, pollution issues or to excuse factual inaccuracies in their comments.

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Science is not partisan.

The vast majority of climate scientists understand that global warming is occurring because of human activities, especially the accumulation of greenhouse gases in the atmosphere due to combustion of fossil fuels. The Paris Agreement was signed by 195 coun-

tries. It defies common sense to dismiss this as a hoax, even if one is not a scientist.

The Trump Administration has ordered the EPA to remove the explanation of causes and effects of climate change from its website to reflect its new direction. How is this going to help anything?

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Scientists have a duty to influence public opinion and politicians. To paraphrase parliamentarian Edmund Burke, the only thing necessary for the triumph of ignorance is for knowledgeable people to do nothing.

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