



Science and scepticism

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Having a basic knowledge of scientific principles is no longer a luxury in today's complex world. It is a necessity. Knowing something about science is necessary for many jobs and for making purchasing decisions even. But it is probably most important for public policy.

Scientifically-knowledgeable citizens can better participate in the debate over public policy and help shape that policy. It is far too easy to just espouse ideas without any legitimate foundation. Good policy demands debate and discussion, but to engage effectively, citizens have to at least understand some of the underlying ideas.

American data suggests that 70 percent of adults cannot read and understand the science section of the New York Times—only 28 percent are considered scientifically literate. That this is up from only 10 percent in the 1990s is positive, but still far too low. In the absence of similar data for Canada, we can only hope that Canadians are more scientifically literate.

Public policy controversies have increasingly needed some scientific knowledge: use of embryonic stem cells; nuclear power and waste disposal; vaccinations and climate change are all current examples.

Scepticism is an important element in advancing science and knowledge. Specifically, scientific scepticism is the practice of questioning and testing ideas to ensure they stand up to scrutiny. Ideas must be tested and be subject to rigorous, structured community scrutiny,

including replication by other researchers. This helps prevent false theories from being widely accepted.

Scepticism is a critical part of science. Unfortunately, the term has been appropriated by so-called 'sceptics,' or groups that do not accept proven science and the need for replication and scrutiny.

These 'sceptics' use the internet to find an uncritical audience looking for acceptance of ideas that are not supportable. Take for example the supposed causative link between autism and the MMR vaccine initially proposed by a former British medical researcher, Andrew Wakefield. He is now known for his fraudulent claims on the topic. Unfortunately, despite widespread condemnation and ample research disproving his claims, thousands of 'sceptics' continue to believe his false discoveries.

The Bill & Melinda Gates Foundation funds vaccines and other medical interventions to save lives. Asked

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about the debate over Wakefield, Bill Gates at the World Economic Forum in Davos replied decisively: "It's an absolute lie

that has killed thousands of kids. Because the mothers who heard that lie, many of them didn't have their kids take either pertussis or measles vaccine, and their children are dead today. And so the people who go and engage in those anti-vaccine efforts, you know, they, they kill children."

The need for an informed citizenry is crucial as we attempt make policy in areas that are increasingly scientific and technical. If we don't understand the basic problem, how can we evaluate alternatives and choose a public policy path?