

## The unwellness industry: Part two

By Bill Kilpatrick

The question that I left unanswered in the first editorial and that I pose to explore in this editorial is why people fall for pseudoscience and alternative medicine? This is a complex issue with many moving parts and many variables and most likely could not be fully answered in a thesis, but I plan to explore some of the main problems that lead people to turn away from mainstream science and medicine and turn instead to treatments that can be dangerous and/or don't work.

One of the problems that goes to the heart of why people end up falling for pseudoscience is that it's not easily defined, and it's not easily defined because of something called the demarcation problem. Massimo Pigliucci, writing for the Internet Encyclopedia of Philosophy, a peer-reviewed academic resource, says "The demarcation problem in philosophy of science refers to the question of how to meaningfully and reliably separate science from pseudoscience. Both the terms "science" and "pseudoscience" are notoriously difficult to define precisely, except in terms of family resemblance. The demarcation problem has a long history, tracing back at the least to a speech given by Socrates in Plato's Charmides, as well as to Cicero's critique of Stoic ideas on divination." This problem means that, with no exact definition or clear line separating science and pseudoscience, we all are vulnerable to falling for pseudoscientific claims, practices, disciplines, treatments, research, etcetera.

Dr. Jonathan Stea, author of Mind the Science, says that because of the demarcation problem he finds it useful to evaluate pseudoscience in terms of degree rather than in kind, which for him means being aware of "warning signs" that are all too often associated with pseudoscience as opposed to science. Recognizing these warning signs requires people to become more science literate, a process that is never ending given that there is no one person who knows it all.

Now I would like to stop for a moment before I proceed. This is not an argument to say that just because something has been tested by science or accepted by the medical field that it is entirely safe, there is no scenario where this would be true. There is risk in accepting treatments in modern medicine and there are risks when you accept treatments by someone who practices alternative medicine. The difference is that one generally strives for self correction whereas the other wants to remain unregulated and does not strive for regulation or independent testing. Subsequently, just because science is not 100 percent safe 100 percent of the time, does not mean that it should be disregarded. The main argument here is that on the balance of probabilities, modern science, the peer review process, and the scientific process which includes rigorous testing and evaluation are overall safer than not using these methods.

That's not to say we shouldn't be skeptical of science, God knows there's plenty of reasons to be, from false claims made by pharmaceutical companies regarding drugs such as Thalidomide and Oxycontin that have caused massive pain, suffering, and death. But just because companies sometimes lie does not mean we should turn away from science, it means that what we need is more rigorous testing, more oversight, and more regulations designed to prevent any company from making false or unverifiable claims that could put the public's health at risk. Dr. Stea points out that, "A culture that tolerates and elevates pseudoscience will be at odds with the health of its citizens. There's perhaps no better example of how pseudoscience has made us sick than observing how's it been wielded by wellness gurus within the anti-vaccine movement in their attempt to undermine efforts to end the COVID-19 pandemic."

One way that people are seduced by pseudoscience is through argument. Arguments like "science doesn't know everything," is seductive and true, but just because science does not know everything does not mean that it knows nothing, to paraphrase Stephen Fry. There are gaps in our knowledge and there will always be gaps and what we need is to fill those gaps in using the scientific method, not with pseudoscience, magical thinking, or untestable theories.

Subsequently, this means that we have to be careful when we cast aspersions at those who offer us pseudoscience cures since I believe that it is important to distinguish between those who know that they are peddling pseudoscience and false cures by exploiting those gaps in science, and those who have been seduced in by its claims because they are ignorant, vulnerable, desperate or some

combination thereof. People like Dr. Mehmet Oz, Robert F Kennedy Jr. and Dr. Joe Mercola deserve a special place in hell for the way they use their knowledge, not to advance humanities understanding of science and the world, but instead they use it to exploit others for their own personal wealth.

Sometimes it's easy to spot pseudoscience and sometimes it's not. For example, if someone claims they have been given special medical knowledge by a ghost and can use that knowledge to diagnose and cure you, it should raise some red flags and is without a doubt pseudoscience. But when a practice like homeopathy, that has no credible evidence that it works beyond the placebo effect, is given legitimacy by the Ontario government and has its own regulatory body, it can be more difficult to differentiate what is science and what is pseudoscience. Or is it?

The ghost talker I was referring to above is a guy named Anthony William Coviello who also goes by the name 'the medical medium' and has made a career using his ghost talking 'gift' to 'cure' people and this scam seems to be working as his net worth is estimated to be over \$6 billion. So, maybe it's not so easy to distinguish between pseudoscience and real science because if someone like Coviello can suck so many people into his garbage science, then that means we all can be sucked in. So, what do we do to protect ourselves and our wallets?

Pay attention, if it's too good to be true then it probably is. Coviello claims on his web page that he, 'was born with the unique ability to converse with the spirit of compassion, who provides him with extraordinarily advanced healing medical information that's far ahead of its time.' The information he is given by this spirit, according to his web page, is so accurate that he also claims to be a 'chronic illness expert' whose 'unprecedented accuracy and success rate as the medical medium have earned him the trust and love of millions worldwide.' He's so accurate, as a matter of fact, that he also put this on his web page, 'The information provided on this site is for general informational purposes only. The information is not intended to be a substitute for professional health or medical advice or treatment, nor should it be relied upon for the diagnosis, prevention, or treatment of any health consideration.' These are the calling cards of a grifter, a charlatan, a phoney, or a snake oil salesman as they used to be called.

Caviello also makes some fantastical claims about 'detoxification' a so-called medical practice that claims by eating certain foods or going on certain diets you can remove heavy metals and other toxins from your body. And by doing so it has health benefits that can cure almost anything even bi-polar disorder or so he claims. A quick Google search of 'Is detoxing real?' will give you the answer. The answer is no, it's not real, as your body naturally removes toxins by itself. So, when anyone tells you that you need a 'detox' you can let them know that you are already doing that as you are talking to them. Many detoxification regimes can even kill you, such as coffee enema's that claim to 'increase the detoxification benefits of the colon.' Call me old fashioned, but I'll stick to the traditional colon cleanse by simply having a morning coffee orally from a cup.

Stay tuned for part three?