Canadian Covid Care Alliance
Alliance canadienne pour la prévention et prise-en-charge de la covid

CCCA ETHICS LENS

HEALING THE HEART OF MEDICINE: TRUSTING OUR MORAL COMPASS

ARTICLE #5: WHAT IS SCIENCE?

In our last article we did a thought experiment together which explored the nature of values. During the pandemic there has been a lot of talk about 'science' and 'following the science' as ways of guiding us safely out of the pandemic. But there has been very little talk of values. Is that because science defines our values? Or because we think that science can replace values? Or perhaps that during a pandemic, values don't really matter as long as we have science?

To answer such questions, it might be best to start by making sure that we understand the nature of 'science' as well as we understand the nature of values.

Given how much we recognize and appreciate the advances that science has provided for us in so many aspects of our lives, not the least of which is health, it would be easy to confuse those achievements as being 'what science is'. It is true that there is such a thing as 'scientific knowledge', that is, knowledge that has been obtained 'scientifically'. But what does that mean? And how is it different from other ways we discover knowledge?

There are three prominent means that we utilize to understand the universe in which we live. The first is by using our minds to reflect on the nature of reality, commonly referred to as philosophy. The second is through what is referred to as 'revealed truths', something central to many spiritual traditions. The third is by utilizing our brain and senses to investigate the world around us so as to comprehend it better; this is the realm of science. In other words, science is a method of inquiry, a *process*, not simply an accumulation of random information and data.

What exactly is this 'process'? Simply put, it has two elements: questioning or critiquing what we already think to be true, and then making guesses about how to explain the universe even better.

Take, for example, Galileo in the seventeenth century. At that time the general belief was that the sun revolved around the earth. Not surprisingly, explaining how the stars, moon and planets appeared to move in the heavens required a lot of arbitrary and awkward rules. Galileo questioned all of this fudging and guessed that there was a better explanation. By careful observation, he guessed that the earth was not the centre of the universe and instead

it, like the moon and planets, revolved around the sun. Galileo was 'doing science', and by doing so he gained scientific knowledge.

The problem is that not everyone likes having things questioned. Because Galileo was so well-respected at the time, the religious authorities spared his life for such 'heresy', and instead simply ordered him to house-arrest for the remainder of his life.

The lesson is that the essence of science is to question and offer alternative theories. It is dynamic—we are constantly refining our understanding. As soon as we get a little closer to the truth, more questions arise automatically *if we let them*. If we stop letting them, then we stop 'doing science'.

Th same can be said of values, and ethics in general. It is dangerous to think that we ever have the final answers and that nothing more can be learned. You have likely noticed that your values have changed during your lifetime and that is a very good thing; most of us would not want to have exactly the same values we had twenty years ago because that would mean that we have not evolved or matured.

Have we been 'following the science' during the pandemic? Now that we understand what science actually is, has the process called science really guided the policies and decisions that have been made? Have questioning and then conjecturing better explanations been encouraged or discouraged? Have we imprisoned our own Galileo's?

Now that we understand both values and science better, let's turn our attention to how they can help us, especially during the pandemic.

The CCCA Ethics and Law Committee