

Science as a Force for Morality?

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Historically, religion and philosophy have been regarded as the protectors and arbiters of moral values in our society. Consequently, many who seek moral guidance look to the disciplines of religion, or of philosophy, or sometimes to our legal system, so that they can be guided on moral issues. A short answer to the question of whether or not science is moral, immoral or amoral is that science can be all three depending upon how it is used.

When we look at lists of notable humanists we often find that many of our forebears made important contributions to science. On the other hand, science is sometimes regarded within religious circles as being incapable of dealing with moral matters. It is thought in many religions that, at best, science is amoral, if not immoral, in its approach as it proceeds in a dispassionate and objective manner seeking to discover new knowledge, new inventions, and new insights into the world around us.

I would like now to present a different view of science, one that suggests that there is much about the methods of science that make it well suited to guiding us in moral matters if we allow it to do so.

Let us consider a definition, or at least a description, of moral behaviour. In a simple sense, morals have to do with right and wrong behaviour, with what are regarded as good and bad actions and thoughts. Good morals are what society approves while bad morals are what society disapproves. Morals have to do with the mores, customs and taboos of a society.

While one society will differ from another, there is fairly general agreement that violence, murder, theft and lying are examples of immoral behaviour. Kindness, honesty, respect for others' rights, and helping those less fortunate than ourselves are examples of good moral behaviour in most societies.

There are many aspects of science that make it well suited to complementing the kinds of moral codes that are appropriate for guiding humanity in constructive social behaviour. It is not by accident that the words, science and conscience, look very similar when they are written side by side. They are etymologically related. Science concerns itself with knowledge and conscience has to do with the coming together or the balancing of knowledge for the social good. Let's now consider a number of qualities of good moral systems, whether or not they are rooted in religion, philosophy, or legal sanctions, and see whether or not science complements these qualities.

1. Knowledge

A good moral system ought to be based on accurate knowledge. For example, if one claims that it is immoral for commercial interests to pollute our air or our water, or that we are depleting our forests, or that the rate at which we are fishing in our oceans is unsustainable, then it is necessary to be able to measure accurately whether or not, in fact, we are doing harm to our environment. Similarly, is smoking bad for society? Does it really increase the rate of lung cancer and emphysema? Science can help

us to be accurate in our knowledge in these matters. Moral systems which disregard scientific knowledge rely instead on hearsay, tradition, economic gain, or ignorance and may often be misguided.

2. Flexibility

A good moral system should be flexible enough to change along with the changes in the society that it is meant to serve. There are times when following longstanding moral traditions may turn out to be irresponsible and immoral. History is full of moral codes that have upheld sexual inequalities, prohibition of inter-racial and inter-religious marriages, harsh physical punishments for children, human slavery, and an ethic that supports the view that the rich deserve to be rich and the poor deserve to be poor.

We can think of ongoing changes in morality in terms of a conveyor belt analogy. Society moves along in the manner of a continuous conveyor belt and every few years new moral imperatives are added to the changing social ethic of the day. At the same time, some of the old moral imperatives fall out of favour and are removed. As a young child raised in a Presbyterian tradition, I recall that my mother firmly believed that wearing a hat to Sunday morning service was not only an expected social convention, but more than that, for her, it was a moral requirement. That moral package has for the most part disappeared from the moral conveyor belt. A number of years ago it was not only a social expectation backed up by the laws of our country that stores and businesses should remain closed on Sundays, but it was also a strong moral imperative. That moral imperative has now been taken off the moral conveyor belt. On the other hand, new moral imperatives have been added. Thirty years ago relatively few householders composted their garbage or carefully sorted out appropriate piles of materials which could be placed at the curb in blue box containers. More and more, this custom has changed from a social expectation to a moral obligation.

The self-correcting nature of scientific knowledge is compatible with the need to be flexible in moral codes. In fact, science can give us some direction as to what gets added and what gets removed from the moral conveyor belt. Science can help people understand the need to recycle and reuse materials such as aluminum cans, plastic bottles, etc. that otherwise would be thrown into huge garbage dumps. Science is not only compatible with moral flexibility, but it can be a useful tool in offering some constructive directions for change.

3. Consistency

In case it may seem that I am now contradicting myself because I just finished talking about flexibility, I should state that consistency is not the opposite to flexibility. Perhaps rigidity and flexibility are opposites, but it is entirely possible to be consistent and flexible at the same time. For example, good parents may likely hold the view that each of their children is of equal worth and each is to be treated with equality as an overall principle. Yet, one child may be talented in music, another may be interested in engineering, and a remaining child may be gifted in athletic pursuits. In order to treat each child with equal opportunities suitable to their own best interests, parents will need to treat each one differently and flexibly.

By consistency in morals I am referring to an even-handed application of moral principles in such a manner that regardless of one's gender, social position, educational level, physical abilities or disabilities, the same principles apply equally. Unfortunately, this kind of consistency has often been lost sight of in the past. History is full of examples of moral systems that accommodated themselves to the acceptance of violence and war as suitable ways of resolving conflict, and to the acceptance of slavery, homophobia, racial prejudices, child labour, etc. In science, the principles of objectivity and a disinterested pursuit of truth fit in well with a moral system that is fair, just and consistently equitable.

4. Caring

Caring, concern for others and compassion are at the very core of every good moral system. Science offers many examples of care and concern for the improvement of the human condition. Perhaps the most direct examples can be found in the areas of emotional and physical health care. The main thrust of psychiatry is devoted to understanding people's emotional needs and to offering medical care in these areas. In the matter of physical health, scientific knowledge is used to alleviate pain, to prolong life and to help people live with meaningful freedom and enjoyment.

Of course, the counter argument to what I have just said is that the same scientific principles of nuclear medicine that assist in clinical diagnosis can be used to produce nuclear weapons. In 1945, Albert Einstein said, "The unleashing of the power of the atom has changed everything but our modes of thinking... The release of atomic energy has not created a new problem; it has merely made more urgent the necessity of solving an existing one". Similarly, studies in genetics may help doctors understand how some diseases can be cured, but genetics can also be used in producing modified agricultural crops when we are not yet certain of what the longstanding results may be for either animals or humans. While it is true that science can be used badly, on balance, science has had more beneficial results than negative ones. There are few of us, particularly in humanist circles, who would really wish that we could return to a pre-scientific era. If we can combine science with the important moral imperative of caring we are likely to be much better off than we would be without science.

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5. Non-Authoritarian

Good moral systems avoid authoritarian pronouncements such as, "Do as I say, not as I do", or "This action is right or good because I say so". A better approach is to attempt to have people understand why one action is better than another. Hopefully, an appeal to reasoning in morals will be more effective in the long run than appealing to changes in behaviour through fear, guilt, ridicule or threats of divine or human punishment.

In science there are no theories or authorities that are so entrenched that they are fixed in place for all time. Even the laws of Newtonian physics originally formulated by the renowned Sir Isaac Newton have been modified to fit more accurately the reality of what scientists now know to be true of the physical world. Similarly, Albert Einstein's theory of relativity and Darwin's theory of evolution have been revised to be made more accurate than they were in their original formula-

tions. This self-correcting nature of science does not lend itself to trusting authoritarian pronouncements for once and for all.

It is emotionally comforting to believe, as many moral systems claim, that there are certain unchangeable truths. Love, honesty, justice and forgiveness immediately spring to mind as timeless and suitable moral values. However, even if we were entirely correct in selecting these virtues we still need to think rationally about how such values fit into our ever changing social environment. Above all, we need to be humble about claiming that we know what the unchanging truths are or that we are the au-

thorities on how such timeless values are to be applied to our present changing society.

6. Inclusiveness

Good moral systems should be applicable to a wide range of ethical topics. Frequently, Sunday morning evangelists concentrate on a few topics such as sexual morality, the evils of homosexuality, and the inherently sinful nature of human beings at the moment of their birth and hence their need for salvation. Much of their attention and time is directed to these areas. In this respect they are similar to some talk show hosts such as Jerry Springer whose programs focus upon an endless variation of sexual themes. However, topics such as environmental protection, racial equality, women's rights, child poverty, world peace, equal opportunities for everyone to receive good health care or good education or proper housing are dealt with very infrequently by many television evangelists or by extreme right-wing political leaders.

7. The Golden Rule

Treating others as we would want to be treated ourselves is a very important concept in moral systems. All of the world's major religions espouse this essential component. In addition, moral philosophers from Confucius and Plato to more recent writers and philosophers such as Bertrand Russell, Benjamin Spock and Carl Sagan have stated the same principle in their own words as did Immanuel Kant in his 17th century categorical imperative. That is, "Act only on that maxim through which you can at the same time will that it should become universal law". Put more simply, "act in such a way as you wish everyone else would act". However, it's easy to get the golden rule wrong. We have probably all had the unfortunate experience from time to

time of finding that even with the very best of intentions of helping someone whom we saw as needing our assistance we found that our efforts were either misunderstood or unappreciated. That is, sometimes we make mistakes and our actions turn out badly so if we're not sure how to act correctly ourselves it's even more difficult to determine how we would wish everyone else to act, a dilemma which prompted the humorist and playwright George Bernard Shaw to quip, "Do not act as we would wish others to act for their tastes may be different from yours".

So in order to apply the golden rule we need to pay careful attention to the results of our actions—a truth recognized by the pragmatist philosopher and humanist, John Dewey. In other words, whether an action is socially good and morally beneficial depends upon the results of our actions. When it comes to measuring and evaluating results this is where science can be helpful. For example, are the genetically altered seed grains produced and controlled by the Monsanto Company helping or harming society? Is the sale of genetically modified and irradiated food moral or immoral? Further scientific knowledge is needed in order to measure the results before we can proceed in a morally responsible manner.

8. Proactive

Good moral systems tell us in advance how to proceed. Poor moral systems wait until things turn out badly for society. Then they condemn the actions of the past when it's too late. Scientists such as David Suzuki are telling us today that the harm we do to our environment will have bad effects for society in the future. Medical scientists tell young smokers today that smoking tobacco will be injurious to their health in the future. Science is one of the best means by which moral systems can be proactive.

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Science offers important cautions about the effects of global warming and the attendant problems that we can expect in our environment as we continue to deplete our rainforests and to increase the areas of desert expansion throughout the world. And as our desert areas increase we can expect an attendant lessening of our arable land, more erratic weather patterns, and consequently more starvation and a reduced ability to feed a rapidly growing world population.

Such dire warnings of trouble ahead may at first seem to be simple warnings about practical and prudent matters that have only to do with political or economic issues, but they also have implications for very fundamental and traditional moral issues. Issues of greed, sharing, caring for others, and being good stewards of the world are involved. Science can help to enhance our ability to be more proactive in our moral decisions at the same time as we become more able to think clearly and act wisely to solve problems which in the past were often mistakenly thought to be problems brought upon us by random acts of nature rather than as a result of human action or inaction.

9. Motivational

Good moral systems not only tell people what to do but they motivate people to want to act in an ethically correct manner. The words motivation and emotion are etymologically related and both convey the idea of moving people to action. Moral systems use a wide variety of motivators. These range from fear, guilt, shaming, naming, ridicule, punishment, legal sanctions, shunning and isolation, to much more kindly approaches. Rewards, approval, acceptance, gratitude and even sainthood are on the positive side. A moral system which includes

science offers the additional rewards of satisfying both our curiosity and our search for truth and meaning, and an awareness of our universe and our place within it.

In some sense, today I am “preaching to the converted”. A quick computer search of well known humanists indicates that many were scientists and all had at the least a strong respect for

science. You will no doubt be familiar with most of the following partial list of scientists who were either humanists or affiliated with humanist thought: Copernicus, Leonardo da Vinci, Sir Isaac Newton, Charles Darwin, Thomas Huxley, Aldous Huxley, John Dewey, Jerry Wilson, Carl Rogers, Carl Sagan, Lawrence Kohlberg, Isaac Asimov, and the list goes on and on.

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In conclusion, can science help us to be moral? Yes, science can provide the knowledge from which we are able to make better moral decisions if we care to do so. In fact, trying to be moral without science limits our view of morality to that of following the traditions, customs and taboos of the past and to repeating not only the good, but the inadequate morals that have held humanity back. Can science help us be moral? Perhaps a more important question is, can we be moral without science? In today’s scientific era, I think not.

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