For the Ahmed Zewail Prize Committee

Using Science as a Philosophy and a Source of Morals

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10 May 2015

From the dawn of recorded human history, man has been trying to find a purpose for existence. Along with that, humans have been looking for a unified, unchanging code of morals, that governs everyday life. Throughout history, philosophers challenged people's minds and defied social conformities and rules set by governments and heads of states. The Greek philosophers, such as Socrates, aimed to examine the idea of individual morality (Grube IX). Arab polymaths, such as Ibn Al-Haytham, came up with the scientific method which was developed as a methodology for scientific research (Al-Khalili). Philosophers in the Renaissance, such as Renée Descartes, vowed to explain consciousness while putting in mind the prominent biological theories of the time (Jorgensen). In the 20th centuries, advances in neuroscience and biology allowed us to understand human consciousness and brain to an extent, helping us understand notions such as knowledge and human behavior more properly. Scientific research is now the backbone of developed human societies: laws are passed, regulations are made, and lives are saved because of scientific advances. In this essay, I am going to examine how science has impacted our perception of life and how it should be used as moral guidance as well as a philosophy to satisfy our desire of finding a purpose for life.

According to the *Oxford English Dictionary*, science is "the intellectual and practical activity encompassing the systematic study of the structure and the behavior of the physical and natural world through observation and experiment" ("science"). But in order to understand what is meant by systematic studies, we must first explain the scientific method that is used to obtain theories that explain natural phenomena. The scientific method is composed of a series of steps devised in order to be as accurate and as objective as possible (Wudka). The first step in the scientific method is observation, followed by creating a provisional description, known as a hypothesis, that seems to explain the observation; predictions are then obtained from the hypothesis and challenged with observations; these steps are then repeated until a theory is obtained that does not deviate from the modified hypothesis. Some may assert that the scientific method evolved from

philosophy, however, unlike philosophy, where various propositions following different schools of thoughts could be accepted and the truth may never be certain.

The clash between science and society, much like the clash between philosophy and the latter, was inevitable. Perhaps the infamous quarrel between the Church and Galileo Galilee can serve as an example of confrontation between social traditions and beliefs and scientific explanations of natural phenomena. To this day, however, the clash is still present, maybe not as violent or as firm, but the toll is still being paid. Recent scientific discoveries in different fields have changed the way human life is perceived and thus have caused disturbances in the general moral consensus. Humans have realized that the human brain is merely made up of chemicals and everything we experience and feel is related to a series of complex chemical reactions that evolved over the course of billions of years through natural selection rather through than mystical processes, as did our psychology ("The Human Brain - Proteins").

Protective instincts humans feel towards their young and the belief that their children are the most important individuals in society are hardwired into the human brain. The more protective the parents are, the more likely their children will survive and pass these traits of protection onto their offspring as well, while on the other hand, parents that did not protect their offspring as much were less likely to survive and therefore the general population was more likely to be composed of parents who were hardwired to be overprotective. Acknowledging these facts allows humanity to progress, as parents are less likely to take illegal extraordinary measures to protect their children, or value their children's prosperity and life unjustly over other humans, or animals in general, leading to more stable and just societies and, in turn, a much stable Earth, much like realizing that the fear of darkness that we evolved over years was to protect us from predators hiding in dimly-lit areas, will help us conquer our fear of dark rooms.

The question whether knowledge of scientific theories can preemptively battle crime can be examined by categorizing crimes and finding the biological motivation behind a crime and acknowledging it. If crimes were to be divided into planned crimes; crimes that are premeditated

and crimes of passion; crimes that are committed following a burst of emotion, then science could be used in order to preemptively lessen the likelihood of these two types of crimes. If people inclined to commit crimes of passion were aware of evolutionary psychology and how emotions work in social circles, and that humans engage in social relationships because the human being is a social animal, and that these relationships are governed by chemicals that interact with the brain, then they would be less likely to respond to these impulses of emotions as they would be aware they are governed by primal chemical secretions rather than constructive logic. Conversely, if people intending to commit premeditated crimes were aware of the ripples that will disturb the fabric of society as a result of stealing an object, which is merely a group of molecules, then they would be less likely to commit the crime.

According to recent studies, human beings were found to be racist by instinct, even if they think otherwise (Freeman). This is because at early stages of human evolution, our ancestors felt inclined towards other humans who looked like them, such as relatives; and alienated other humans of different physical characteristics, giving them an advantage over humans who did not exhibit racial bias. However, if people who classify people according to their race, and tend to discriminate against people on that basis were made aware of the scientific basis behind physical differences between different races, then they would realize how redundant racism sounds. For instance, variations in skin color are due to the presence of different amounts of the protein melanin under the skin (O'Nel). Another example is the fact that differences in shapes of skulls and other physical traits are due to the difference in genes (Stokes). Adding to that, there is no considerable evidence to suggest that one race is physically or mentally superior to other. One other aspect of discrimination that could be overcome by inspecting it using scientific knowledge is sexism. If people were made aware that the physical differences, such as the average muscle mass, between the sexes arise due to sexual selection, and that the differences between sexes can not be used as basis for discrimination ("Mr Muscle").

Morals derived from science are not only limited to inter-human interactions, but can also be extended to human-animal interactions. For a long time, it was thought that only humans possessed thinking minds. For instance, Renée Descartes, the French philosopher, thought that only humans possessed consciousness and animals were just automata (Collen). However, recent studies have shown that several animals possess theories of mind and complex social interaction just like humans; for example, a group of researches taught capuchin monkeys how to use money. The monkeys exhibited the same financial mistakes that humans are more likely to exhibit, and understood notions such as if the demand for a product increased, its price will increase, and vice versa (Dubner). Such observations therefore revoke the idea that animal's lives are expendable and can be used for our own pleasure in terms of removing them from their habitats and keeping them in research facilities or zoos as well as experimenting on their bodies. However, animals which are considered less intelligent should also be protected in order to preserve wildlife in order to achieve equilibrium in different ecosystems, rather than destroying the planet. Wildlife should be equated with human life in terms of importance and value. Global warming has proved that humans, although more intelligent than animals, should not be regarded as the center of life on Earth and should remain in harmony with the environment, or eventually humans will have to pay the price as a result of climate change and disturbances in crops and wildlife.

The application of scientific inquiry and findings to everyday life is not just limited to morals, in the sense that they govern interaction between humans and the surrounding environment, including other humans as well. However, it could positively influence and shape an individual's philosophy through exposing a person's mind to various scientific discoveries and theories. Starting from the simplest aspect which is appreciating the beauty of the Earth and the universe as a whole, a scientist or a person with sufficient knowledge could enjoy scenery in things ranging from rock formations and sediments in the desert, to the wide ocean of stars illuminating our night sky, and would also acknowledge the differences of sizes of objects on the scale of the universe. For instance, a star, which can seem like a small grain of sand in the sky is in average 10 orders of

magnitude (about 10 billion times) as large as the grain of sand, which can make us feel very insignificant compared to the size of celestial objects; yet our existence seems to be much more important than that. Recent discoveries facilitated by advances in chemistry have allowed scientists to detect and deduce the structures of complex organic molecules floating in nebulae, which are gigantic clouds of gas found in interstellar space. These molecules could serve as precursors for amino acids, the building blocks of life. And therefore challenge the belief that life is unique to Earth. Some scientists have also come up with a hypothesis known as panspermia, which suggests that life originated in space and reached Earth through an asteroid or another celestial object that made a contact with Earth (Panspermia).

The idea of extraterrestrial life has intrigued the minds of many scientists, who have spent a lot of time trying to find extraterrestrial life, or at least explain why we have not detected forms of it. For example, in the 20th Century, Enrico Fermi, a physicist, postulated a paradox that became known as Fermi's Paradox. Fermi pointed out the apparent contradiction between the probability of the existence of extraterrestrial life and the lack of evidence for their existence (Fermi Paradox). Both panspermia and Fermi's Paradox serve to remind humanity that their existence, yet not as improbable as thought before, is very unique as it could be interpreted as an attempt by the universe, the birthplace of molecules, to understand itself through the human brain, the molecules themselves. Every single atom in our bodies was created in the nucleus of a star, as a lot of atoms serve as the fuel for stars, or by the energy released from the explosion of a star, spreading its constituents into the vast vacuum of space, going through a wild journey before ending up inside our bodies. The thought of something so significant can only humble us and tame our egos. From the birth and death of stars, we arise, we are made of the universe, it is within us, and our desire for scientific knowledge could be interpreted as an attempt by the universe to understand itself, and in turn, could satisfy our desire to find a purpose for life.

In conclusion, modern scientific inquiry provides us with a valuable resource, knowledge, which encompasses major scientific findings in the last two centuries, which could be used as a

source of morals that govern daily inter-human interactions and human interactions with the environment, ranging from wildlife conservation to preventing crime and racism, as well as a philosophy that gives human beings a reason to live, appreciate beauty, and lead humble lives. Science can help us understand the universe, and ourselves, and how the universe is within ourselves. It teaches us to appreciate natural phenomena, for how beautiful they seem.

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