

EDITORIAL

SCIENCE, ANTISCIENCE AND PROTOSCIENCE

BY

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Science is a matter of method rather than content. Informational material obtained through the scientific method is science. So is knowledge that satisfies the criteria and meet the obligations of science. Science is knowledge, skills and practices validated by observation, experimentation and trial.

Scientists, over the years, have developed the scientific method to be the gateway to science. Science and scientific theories have since been linked with the cardinal criteria...evidenced, testable and unrefuted. By necessity scientific material is observable, measurable, reproducible, non contradictory, predictable and predicting. Any informational material that does not have all these criteria, as applicable, is not science.

These rigorous criteria of science is commendable and necessary. We live by science and would like to be sure that what we live by has been tested, validated and is reliable. On the other hand, such stringent criteria shuts out a whole world of information that was not given the chance to satisfy all the criteria of science. At least, some of these information may be true and useful.

Following the rules of logic, what is not science is non science. Science is a small island within a vast sea of non science. As such non science includes at one end of the spectrum material that does not have any of the criteria of science and if proven incorrect is considered nonsense and at the other end includes promising material that have one or more of the criteria of science and have not been proven wrong. Material that is close to the shores of science can be classified as protoscience.

Examples of protoscience, in our medical field are chiropractic and acupuncture. Each of these show some evidence of effect and are observable, but are not easily measurable, not easily testable and above all not consistently reproducible. They are not science but they are not nonsense either they are protoscience. As long as the practice shows some of the criteria of science it should be considered protoscience that may one day, by further study, modification or more technology be promoted to science and prove useful to humanity.

Science, as respected, useful and indispensable as it is, is not without opponents. Antiscience scholars are not few, and some of them are as eminent as the best scientists we know. Jean Jacques Rousseau in the 18th century wrote that "science leads to inhumanity". Karl Popper of the 20th century wrote, no doubt there is too much specialization and too much professionalism in contemporary science which makes it inhuman.

Antiscience people reject science, and if we can ignore their personal, philosophical and moral objections, we cannot ignore their justified objective ones. They say science is incomplete, imperfect, and not permanent, and they are right. Science is still growing exponentially and will probably remain so for ever. Scientific theories and facts keep changing by modifications, amendments and sometimes even complete cancellation of some of its content. Ironically science proponents consider the growth and change of scientific material a sign of vitality. They draw attention to the fact that non science material is ever stable and does not grow or change .

Antiscience scholars also say that science is limited since it relies heavily on our mental capabilities which, we know, are limited by nature. They also say that science is biased since it utilises research and we all know that research, or some of it at least, is commercially motivated and driven, so are the interpretation of its results. They also do not like a usual methodology of science of trying to know the cause from the effect. They also remind us that science is not the only way to know about the world. And remind us of the vast areas of human activities and literature that do not lend themselves easily to scientific methods, like art, religion and philosophy Antiscience people are right but we note that their comments are criticizing rather than contradicting science.

Prescience is someone's visionary expectations of what will science be or produce in the future. Optimistic and unsupported by sufficient evidence, except perhaps the foreseen trajectory of the contemporary science, it is nearer to science fiction than to real science. However we must remember that many of the science fiction literature and movies came true after few or many years.

Pseudoscience is an unfortunate term, used differently by different persons. The term is applied to the ill reputed quackery and at the same time applied to the respected practice of psychotherapy. While quackery does not deserve the word science ,if even in a negative sense ,to be included in its description , it is unfair to include the word pseudo in describing psychotherapy. Pseudoscience is a non indicative term and its use should be abandoned.

In short, science , in spite of its shortcomings , is our best alternative, but there is room for improvement. Antiscience is a critique of science to be used for its development. Protoscience should be the main task of scientists trying to promote it to science. Prescience is a trajectory of the ongoing science and may come true in the future.

Finally, scientists may be tempted to disregard, discard or even ridicule what has not been proven correct, but let us remember that absence of evidence is not evidence of absence. Only what has been proven wrong is wrong. Most of the informational material around us has neither been proven correct nor proven wrong. This is material,, in waiting,, this is potential science. It is our duty to look into it.

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