

Pseudoscience: An Emerging Problem in Scientific Society

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วิทยาศาสตร์เป็นความรู้หลักสำหรับมนุษยชาติที่เป็นเครื่องมือสำหรับการพัฒนาให้เกิดความเจริญก้าวหน้าของมนุษยชาติ ปัญหาสำคัญในวงการวิทยาศาสตร์ในปัจจุบันคือ วิทยาศาสตร์เทียม หรือ วิทยาศาสตร์ก๊อมนะลอกวิทยาศาสตร์เทียมคือสิ่งๆที่ดูเหมือนเป็นวิทยาศาสตร์แต่ไม่ใช่วิทยาศาสตร์ ปัญหาวิทยาศาสตร์เทียมเป็นปัญหาที่สำคัญของวงการวิทยาศาสตร์ในปัจจุบัน และจัดเป็นสิ่งแปลกปลอมนอกคอกที่กำลังรุกรานวงการวิทยาศาสตร์ในปัจจุบัน จึงเป็นความท้าทายอย่างมากของวงการวิทยาศาสตร์ที่จะจัดการปัญหาดังกล่าว

คำสำคัญ : วิทยาศาสตร์, วิทยาศาสตร์เทียม

Abstract

“Science” is important core knowledge for human beings and it is very useful for promoting civilization of the mankind. The present emerging problem in science is the pseudoscience. By term pseudoscience is anything that seems to be science and mimic to science but it is not science. The pseudoscience is an important problem in the present day that can be problematic to the scientific society. The pseudoscience is one of the most problematic invading alien of the scientific society. It is the big challenge for us to counter with its rapid expansion.

Keywords : science, pseudoscience

Introduction

“Science” is important core knowledge for human beings and it is very useful for promoting civilization of the mankind. It is one of the three main subjects; science, humanities and social science. The science has its long history. It has been developed for thousand years. From the first time that mankind thinks and develops, science becomes an important part in the way of life. Science starts from observation and the brain, which is the most important organ of human beings, receive data, integrate and summarize data then excel the interaction to the insult.

The reasoning is the best technique of human beings that differentiate human beings from other animals. “Reason” is important in science. Things have to be valid, explainable and evidenced.

It is no doubt that science is based on evidence and evidence-based thinking and practicing is the core concept in science. On the opposite side to science, the non-science concept lies. The classical

and rooted non-science concept is the rooted non-reason superstitious belief. Historically, science was well promoted in the time of Greece and Roman. Many versatile and prophet proposed many new scientific hypotheses and theories at that time. Then, in the Middle Ages, superstitious bloomed and non-reason beliefs rapidly spread over Europe. Nevertheless, the renaissance of knowledge later occurred and the science concept is recovered and it lasts till the present day. Many new civilizations in the present day have the fundamental concepts based on science.

However, the superstitious and non-scientific beliefs are still be seen elsewhere in our world. Also, the new aliens, anti-science concepts, can also be seen. The present emerging problem in science is the pseudoscience (Abelson, 1974; Holmes, 1974). By term pseudoscience is anything that seems to be science and mimic to science but it is not science (Grove, 1985). The pseudoscience is an important problem in the present day that can be problematic

to the scientific society. Since pseudoscience is extremely similar to science and it is hard for the beginner or weak scientific based practitioners to aware. The pseudoscience is one of the most problematic invading alien of the scientific society. It is the big challenge for us to counter with its rapid expansion (Arseneau & Thigpen, 1981).

Pseudoscience: its face and danger

As already mentioned, pseudoscience is the new problem. It is an emerging problem that scientists should know and prepare to manage. In fact, in classical scientific concept, there are a group of three things that we called "misconduct". This triad includes plagiarism, fabrication and fraud or falsification. Fraud or falsification is the practice to present incorrect things or false data to the society and propose it as a reality or true thing. This kind of misconduct is widely seen and it is sometimes hard to detect by non-experience practitioners.

Pseudoscience is a problem that is similar to fraud or falsification but it is more serious and well prepared. By concept, pseudoscience has everything and practices based on the scientific process but it is not a science. Sometimes, it tries to integrate several scientific theories and concepts for disguising it as a science (Bracanović, 2012).

These are the examples of new pseudoscience

- Pseudoscience theory and hypothesis (Abelson, 1974; Holmes, 1974)

This is the claim on new theory and hypothesis that seems to be a new science despite it is not a science. The nature of those pseudoscience theories and hypotheses include fallacious concept. It looks like a dream. Sometimes, it is used for promoting of something such as new product or new spiritual belief. Sometimes, there is an attempt to use the scientific process such as research and development to support those pseudoscience theories and hypotheses. Of interest, an important consideration is that there is a flag or

answer in the mind of researchers who perform such pseudoscience research or development. For sure, the researcher(s) who perform such pseudoscience research or development have to try to use many scientific based practice, but plenty of bias, to conduct the research or development towards his/he/their settled goal(s).

- Pseudoscience instrument and engine (Abelson, 1974; Holmes, 1974)

Pseudoscience instrument and engine is also widely seen at present. This is the non-sense, without scientific based process, but claimed as a scientific instrument or engine. The attempt of the producer of pseudoscience instrument and engine is to lure the user or customer to buy, pay a lot of money, on their luring instrument or engine. The good example is the case of luring bomb search tool, GT200.

- Pseudoscience drug and treatment (Abelson, 1974; Holmes, 1974; Schafranski, 2012)

Pseudoscience drug and treatment is another important problem-

atic kind of pseudoscience. Since the patient is sometimes hopeless and some diseases cannot cure or treated by the standard scientific medical science practice in the present day, some cheating practitioner might use trick to propose a pseudoscience drug and treatment to lure the pity patient. Sometimes, the cheating producers use brochure with falsified scientific information to help lure the customer. This is not the case of alternative, folk way or naturopathic medicine. But it is the case of pure no evidenced base medicine that contain only fraudulent claim. The good example is the case of “Pa Cheng Nam Jearanaiphet” which is claimed for antibacterial activity and can be used of eye drop drug.

- Pseudoscience journal and conference (Shermer, 2011; Balthasar & Maidment, 2006)

Since the journal or conference is the acceptable way that the scientific society uses as referencing sites, the pseudoscience predator presently tries to publish or present their pseudoscience via journal or conference. Sometimes, the pseudo-

science predator tries to launch the pseudoscience journal and conference with look like a scientific journal. The pseudoscience journal might have the peer review system but the reviewing has no scientific control and there is no quality in such journal. Similarly, pseudoscience predator sometimes tried to launch pseudoscience conference to support their pseudoscience theory and hypothesis, instrument and engine or drug and treatment.

- Pseudoscience education and degree (Abelson, 1974; Holmes, 1974)

This is another interesting form of pseudoscience. At present, there are many cheating education systems such as those online courses, without quality controls. The pseudoscience predator might aim at lure the students to pay and the student will get no correct knowledge. Sometimes, the pseudoscience predator might provide free education on the pseudoscience theory and hypothesis aiming at getting a brain cleaned follower or puppet to support that

pseudoscience community. In addition, the pseudoscience school or university can also giving pseudoscience degree, as a sale, to the greedy or stupid student or practitioner to upgrade their education background. Such degrees from many “Online Open Universities” are non - accredited and accepted by the scientific communities. Those universities usually claim themselves as online non-profit open universities but there is no standard scientific rule to provide education to the students. They aim at gathering money from students and sometimes sell degree or professorship to the greedy rich buyers.

For sure, it is no doubt that any kinds of pseudoscience is not acceptable and can be dangers. These are the list of examples dangers according to pseudoscience

- Waste or non - usable things
- Lost time
- Lost money
- Loss chance to get a cure
- Induce morbidity or mortality
- Brain cleaned follower of the pseudoscience theory

Conclusion

Pseudoscience is an emerging problem for scientific society at present. It requires a good preparation to corresponding with this emerging problem and the scientist has to update his/her own self to combat with this problem. At first, the scientist should not be trapped to be the pray of the pseudoscience predator then the scientist should help the general population in our society to combat pseudoscience aiming cleaning of this unwanted problem.

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