HYPOTHESIS *VERSUS* HYPERTHESIS

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Abstract

A hypothesis is a proposed explanation for a phenomenon. For a hypothesis to be a scientific hypothesis, it needs to tested using scientific method(s). Scientists generally base scientific hypotheses on previous observations that cannot be explained otherwise. A scientific hypothesis is a proposed explanation of a phenomenon, until it is rigorously tested. In contrast, a scientific theory has undergone extensive testing and accepted to be the accurate explanation behind an observation. Here, the use of term 'hyperthesis' is introduced that highlights missing link between a scientific hypothesis and a scientific theory. It is believed that this term will be valuable in describing research that does not fit the scientific norm.

Keywords: Scientific theory, hypothesis, hyperthesis

Introduction

Scientific explanations come at different levels, whether tackling a specific problem, or hypothesis by a single scientist, or by a community of scientists coming to agree on broad ideas over hundreds of individual experiments and studies resulting in a scientific theory. A hypothesis can be right or wrong, but a theory is supposed to be true based upon the scientific method. So, when a hypothesis has been verified to be true, it becomes a scientific theory. But is there anything in between? The precise definition of a hypothesis is either a suggested explanation for an observable phenomenon, or a reasoned prediction of a possible causal correlation among multiple phenomena. In contrast, a theory is a tested, well-substantiated, unifying explanation for a set of verified, proven hypotheses. A theory is always backed by evidence; a hypothesis is only a suggested possible outcome, and is testable and falsifiable.This manuscript highlights missing link between hypothesis and scientific theory and propose the idea of introducing "hyperthesis". It is believed that this term will be valuable in describing research that does not fit the scientific norm.

A scientific hypothesis is a proposed explanation of a phenomenon which still has to be rigorously tested. In contrast, a scientific theory has undergone extensive testing and is generally accepted to be the accurate explanation behind an observation (wisegeek, 2012). A working hypothesis is a provisionally accepted hypothesis proposed for further research (Hilborn and Mangel 1997).

The English word hypothesis comes from the Ancient Greek (hupothesis) meaning "to put under" or "to suppose". (Hilborn and Mangel 1997).Hypothesis can also be considered as "educated guess" (**Gregory and Myles, 1994)**, because it provides a suggested solution based on the evidence. Experimenters may test and reject several hypotheses before solving the problem.

A scientific theory has undergone extensive experimental testing and widely agreed to be the accurate explanation of an observation. The scientific theory must take into account study power and bias, the number of other studies on the same question, sample size in the context of greater number and lesser preselecting of tested relationships, flexibility in designs, definitions, outcomes, and analytical models (Ioannidis, 2005).

Often scientists undertake research which does not fit either criteria and can only be described in between a hypothesis-led study and a scientific theory? Most of research that falls short of becoming a theory out of a hypothesis is the one that has unidentified dimensions or proven to be erroneous due to new discoveries on aspects of the problem that were not addressed in the past. A meta-analysis of scientific literature in countless peer-reviewed journals has persuaded us to propose the term "hyperthesis". The term can be used to present a factual concept, the observational basis of which has been analyzed in multiple dimensions that proves its persistent occurrence before experimental testing. It differs from hypothesis in that, it doesn't not focuses on the proposed assumptive theory but rather critically explores all dimensions of the conjecture itself, that then subsequently leads to its testing. Biomedical sciences is not the only discipline in which hypothesis-based researches have observed a drawback in timeline, but almost all scientific fields have come across the demerits of partially analyzed observational root downfalls, shortly after they were thought to be the most exciting research contribution of its time.

So how does it differ from an observation? An observation refers commonly to what's being seen and noted. But the use of a single human sense as the basis of research while ignoring other senses appears to be gullible. Newton could have thought of the Gravity, even if that apple would have fell over his shoulder, with him being blind by birth. The point is that the experience on which the research improvising is based should be multi-dimensioned, and testing should go side by side as the "hyperthesis" evolves

into a fact rather than a finding. The irony of the issue is that many factual and carefully sorted and scrutinized research at present have to begin their scientific work with the term “hypothesis”, which in fact is “hyperthesis” that likely withstand experimental testing. Instead of findings tested extensively experimentally as described in a scientific theory, hyperthesis can be used to describe factual observation with all possible dimensions explored, ahead of making its way to becoming the scientific theory in a comparatively shorter duration. Vaccination for prevention of diseases, antibiotics to fight bacterial infections, gene knockout for prevention of onset of familial disease are few example of hyperthesis-based research that over a period of time would become a scientific theory. In contrast, the role of saturated and unsaturated fatty acids in atherosclerosis, matter and anti-matter application in physics, laboratory animal based research in Alzheimer’s disease, WMD in Iraq, role of cannabinoids in psychotic disorders, egg yolk eating demerits and merits, are few examples of hypothesis-based research.

Conclusion

The term “hyperthesis” is proposed as a missing link between hypothesis and scientific theory. It is believed that this term will be valuable in describing research that does not fit the scientific norm.

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