



Practicum

Advances are made by answering questions
Discoveries are made by questioning answers

Where There is Doubt, There is Freedom

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History is filled with scientific theories that were later proven to be wrong. Cold fusion, phrenology, the discovery of the planet Vulcan, luminiferous ether, and expansion of the Earth are just a few examples. The fact that a theory was later proven wrong is not necessarily a bad thing. As astrophysicist Bernhard Haisch, says: “advances are made by answering questions, discoveries are made by questioning

answers”. We grow, develop and advance through trial and error- the more we practice from the later the more advances we make.

A problem arises when researchers and scientists protect their theories zealously, as though their theory is the absolute truth. By doing so they reject other theories and actually act in an unscientific manner. As the British philosopher Bertrand Russell

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put it: “The whole problem with the world is that fools and fanatics are always so certain of themselves and wiser people so full of doubts”. Or as Plato put it: “We can easily forgive a child who is afraid of the dark; the real tragedy of life is when men are afraid of the light”.

Through history there were scientists who gained respect to the point that their vanity blurred their vision and judgment and made them forget what Carl Popper the science philosopher said: “The answers are transitory, the questions are immortal”. A recent demonstration is the case in were Dr. Anil Potti, a cancer researcher at Duke University Medical Center claimed to develop a genomic tests that looked at the molecular traits of a cancerous tumor and figured out which chemotherapy would work best. A research assistant reported potential problems to Joseph Nevins, a senior scientist and the research co-author, but his concerns were ignored. These problems eventually resulted in the termination of clinical trials and the subsequent retraction of publications. Statisticians who reviewed the research data found various errors that were explained

by the research team as “clerical errors.” In spite of all this the research was published. The alarmed statisticians published their analysis but they were ignored as well.

The researchers had even set up a company and planned to sell their test to determine appropriate cancer treatments. The saga ended ONLY when a trade publication reported that Dr. Potti had falsified parts of his résumé.

Sticking rigidly to your research results without being open to yet unproven ideas ignores what Albert Einstein expressed when he said: “When I examined myself and my methods of thought, I came to the conclusion that the gift of fantasy has meant more to me than my talent for absorbing positive knowledge”. This also disregards Isaac Asimov statement: “The most exciting phrase to hear in science, the one that heralds new discoveries, is not ‘Eureka!’ (I found it!), but ‘That’s funny...’” To do so is totally wrong (and wrong is an understatement.)

Examiners be cautious

Recently we witness a growing tendency of “manualizing” everything. Books such as “How To...”, “...for Dummies” and the like, suggest remedies to all aspect of life. While believing in the necessity of protocols and checklists, the down side is that following the protocol rigorously may turn the polygraph examiner into a technician in where discretion and flexibility is a required commodity that enables the examiner to handle examinees who are not the “text book” models but rather unique individuals.

Technicians must master a set of predefined, step-by-step rules and procedures and follow them exactly. Examiners, on the other hand, must have technical aptitude plus a sense of sensitivity, creativity, and flexibility in order to adjust and react to the ever-changing conditions of polygraph tests. An examiner should have the same productive and successful interpersonal communication with a teenager as they do with an elder adult. They should be as conversant with an uneducated examinee as they are



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with a university professor or a CEO. Successful examiners must be able to adapt to a variety of topics and many different types of cases.

Conclusion

Examiners should internalize the rule that: “You don’t alter the examinee to the technique but rather alter the technique to the examinee.” A test should be tailor-made and not a mass production product.