

Science, Her Methods

The Urth list — 2 messages, 2 voices, 14 Oct 1998

<https://urth.darkrealm.vip/thread/urth/1169>

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m.driussi — 14 Oct 1998, 00:26

Re: Science, scientists, and the Scientific Method. I thought that Science proceeded by way of cutting edge experiments; said experiments derived from hypotheses (by definition based upon guesses), and by definition these experiments are "successful" less than one hundred percent of the time. In fact, the failures usually =outnumber= the successes. In any event, it is a =guessing= game.

Am I wrong? Did all that intellectual labor go out with the alchemists? Has Science become some sort of orthodoxy of divine transmission? Have scientists become a species of cargo cult, waiting for the next Truth to come tumbling out the cornucopia of the vast complex?

(Here, let me hook up my 1989 cold fusion reactor to my mid-century Dean Drive. Quick trip to see the canals of Mars.)

=mantis=

Derek Bell — 14 Oct 1998, 19:25 · follows m.driussi

In message <199810140046.RAA10914 at lists1.best.com>, m.driussi at genie.com writes:

Re: Science, scientists, and the Scientific Method. I thought that Science proceeded by way of cutting edge experiments; said experiments derived from hypotheses (by definition based upon guesses), and by definition these experiments are "successful" less than one hundred percent of the time. In fact, the failures usually =outnumber= the successes. In any event, it is a =guessing= game.

The interesting parts are how experiments relate to existing knowledge, how that knowledge is constituted and what role it plays in determining what research should be done. Sometimes old experiments are examined again and performed again - about 12 years ago there was some interest in data produced by the Hungarian physicist Eotvos earlier this century. The measurements seemed to be all slightly to one side of the expected value, so some physicists in Australia performed the experiments with more sensitive equipment. From what I remember in *New Scientist*, the results agreed with the standard results, so Eotvos' equipment may have been slightly off or maybe the errors were all to one side by chance.

A good introduction to philosophy of science is Alan F. Chalmers' *What is this thing called Science?* He discusses various philosophies of science, their strengths and weaknesses and also suggests one of his own. The book has references at the end of most chapters for those who want to read further. He addresses inductivism, Kuhn's theory of paradigms, Popper's anarchistic theory of science and Imre Lakatos' theories. The Open University in the UK uses it as a textbook.

Apologies for this digression!

Derek