

NEXT-TIME QUESTION



WHICH OF THE STATEMENTS
BELOW IS A SCIENTIFIC CLAIM?

1. Human beings will never set foot on the Moon.
2. Some of the laws that govern nature cannot be detected by scientists.
3. It is quite possible that in some other galaxy the laws are fundamentally different than the laws we are acquainted with in this galaxy.



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Answer:

Only hypothesis 1 is scientific because it can be tested.

Another criterion for whether or not a hypothesis is scientific is that there be a test for being *wrong*.

Hypothesis 1 is not only testable, but was proven wrong in 1969. Even a wrong hypothesis can be a scientific one.

Hypothesis 2 cannot be tested, and is therefore unscientific.

Likewise with Hypothesis 3, which is speculation. If we searched the universe and found no galaxies with different laws, this wouldn't be proof that "just around the corner" is a galaxy operating under different laws.

A hypothesis that can be proved right, but not capable of being proved wrong, is not a scientific hypothesis.



MAKING A SCIENTIFIC HYPOTHESIS DELIBERATELY PLACES ONESELF AT RISK OF ADMITTING THE HYPOTHESIS IS WRONG. THE SCIENTIST SAYS, "IF YOU CONDUCT A TEST AND IT TURNS OUT TO BE NEGATIVE, THEN MY HYPOTHESIS IS WRONG." TO BE A SCIENTIST, YOU MUST GRACEFULLY ACCEPT THE OUTCOME OF A TEST, WHETHER POSITIVE OR NEGATIVE. THAT'S THE SPIRIT OF INQUIRY!

Hewitt
Drewitt!