

Re: Epistemology 201: The Science of Science

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From: ae06 (ae06_at_cornell.edu)

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Neil W Rickert said:

> Tony Orlow (ae06) <ae06@cornell.edu> writes:

>

> >I don't know what you read into this, but let me rephrase for you. Those

> >rules that we have identified and refer to as the natural laws are the

> >rules we have determined to a high degree of certainty with our current

> >level of precision through experiment. Those rules didn't suddenly come

> >into existence because we discovered them. We discovered them because

> >they existed beforehand.

>

> In many cases, those rules **did** suddenly spring into existence.

>

> The rules describe certain behaviors that are observed. Those

> behaviors did not suddenly spring into existence, but the rules did.

>

> Our ordinary understanding of "rules" is that it refers to statements

> expressed in natural language. To take an example, Newton's laws of

> motion were not expressible in any language prior to Newton's work.

> Let me be clear. I am not merely saying that the laws had not been

> expressed. I am saying that the language in use was not capable of

> expressing them.

>

> In order to express his laws, Newton had to invent the concept of

> mass, to reinvent the concept of force (giving it a different meaning

> than had previously been used), and to reinvent the concept of motion

> in a form consistent with Newtonian relativism. Before these

> conceptual changes, the behavior we now describe with Newton's laws

> was inexpressible in language. It makes no sense to say the rules

> exist if no natural language was capable of expressing them.

>

> I am saying that it required the invention of the appropriate

> concepts, before those rules could be said to exist.

>

> >I have not contradicted myself. You have been unable to perceive a

> >distinction between rules in operation, and the formulation of rules by

> >minds perceiving those operations.

>

> You have not provided any adequate definition of "rules in

> *operation". I doubt that any useful definition is possible, except*
> *in terms of what is expressible in language.*

>

>

Okay so the rules didn't exist until we discovered them, but things behaved in accordance with the rules before that. The behavior of the universe didn't change when we "invented" the rules. So, what makes the universe behave as it does, before and after that "invention"?

This distinction is so elementary, I cannot understand how you and Bob cannot just get it. There is definitely a bad side effect of dealing with symbolic statements exclusively for years on end: that's all you think there are – statements. You act like the underlying meaning of statements is defined in terms of their grammar.

We have hit this subject where logical statements are based on assertions that aren't derived logically, and where the symbolic mathematical system is based on an operation (successor) whose definition is not symbolically mathematical. Your statements about the world have to be ultimately based on something other than statements. Those statements derive their meaning from somewhere outside of statements. When the statements concern the behavior of the world, their soundness is drawn from the behavior of the world. In turn, the behavior of the world is based on natural law, which is independent of any statements you may make concerning said law.

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Smiles,
Tony