

## Re: Epistemology 201: The Science of Science

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Tony Orlow ([aeo6](mailto:aeo6)) <[aeo6@cornell.edu](mailto:aeo6@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

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in terms of what is expressible in language.