

Scientific Theory in Light of “The Only Constant is Change”

2021

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Time is an artificial, imposed concept designed to measure the rate of change. But a second on Earth is not a second on Jupiter due to the differential effect of gravity. So, time does not qualify as a constant. Moreover, everything else we propose as constants in our theories eventually are revealed to be variables!

Theory always constitutes a "time out" - a static picture in an ever changing context! In the “hard” sciences, theory is anchored by constants and expressed as “laws” in mathematical equations. But in all of reality at every scale, nothing is constant except change. So, all constants are fabrications – necessary conventions to support static theoretical pictures of an ever moving and changing reality. In reality, there are only variables. Theory does not “capture” reality. Instead, it is always an abstraction from reality – a simplification of the vastly complex and totally interconnected system of variables for which it seeks a partial account that will hopefully prove useful and illuminating. So, every theory is inherently artificial, incomplete and tentative and must be viewed as such. There CAN BE no "final theory of everything" since all theory at every scale is an incomplete abstraction in a state of fluid approximation.

Examining the concept of time/change brings us in the end to the realization that all of our theories constitute temporary impositions on [abstractions from] reality – some more useful than others at different scales. Newton’s theory works well at a limited scale. But as scale changes and constants are revealed as variables, theory weakens and must be replaced by a new abstraction.

It is important for all scientists to avoid hubris at the most fundamental level!! We can't get THERE from HERE! Intellect and analysis are grand and important tools supporting the development of theory. But theory cannot fully capture reality as a system 1) because reality itself is fluid, 2) because these theories are necessarily “time out” abstractions and simplifications, 3) because there are no true constants to support these theories, and 4) because these theories and their “laws” will inevitably fail at some scales. Theory combined with technology can be useful and even expand our awareness, but it can never be sufficient!

Maybe the focus of quantum theory on inherent variability gets it right, and reality is a matter of infinite variables accumulating and manifesting simultaneously and everywhere – with stability being an illusion perpetuated by our commitment to the seemingly stable and consistent middle ground in the 4% of all physical reality that we extraordinarily perceptually limited humans inhabit.