

1.3: Fighting Intuition

It is important to remember to fight one's intuition when applying the scientific method. Certain theories, such as Quantum Mechanics, are very counter-intuitive. For example, in Quantum Mechanics, an object can be described as being in two locations at the same time. In the Theory of Special Relativity, it is possible for two people to disagree on whether two events occurred at the same time. These particular predictions from these theories have not been invalidated by any experiment.

There is no requirement in science that a theory be “pretty” or intuitive. The only requirement is that a theory describe experimental data. One should then take care in not forcing one's preconceived notions into interpreting a theory. For example, Quantum Mechanics does not actually predict that objects can be in two locations at once, only that objects behave *as if* they were in two locations at once. A famous example is Schrödinger's cat, which can be modeled as being both alive and dead at the same time. However, just because we model it that way does not mean that it really is alive and dead at the same time.

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