

Time...What is it? Before the famous physicist Albert Einstein proposed the theory of relativity in 1916, time was an absolute quantity, that is measurement by various observers using accurate clocks of the time elapsed between two events would be the same. That definition seems reasonable and intuitive. However, relativity theory has shown that time is not absolute and not completely independent of space either but is combined with it to form an entity called spacetime. In a strong gravitational field, the fabric of spacetime is bent and warped. The earth, of which the mass is great, has a strong gravitational field that affects time. For example, a clock held by an observer at the earth's surface would run slower relative to one held by an astronaut orbiting in space around the earth. This time discrepancy between the two clocks is known as gravitational time dilation. For the earth example, the time difference is too small to be recorded by human senses but is measurable with sensitive instruments. Time dilation also occurs when two clocks are moving apart at some relative velocity. This phenomenon is termed kinetic time dilation. The passage of time for an individual relative to the perception by a static observer is indirectly proportional to the individual's speed, i.e. the faster one moves, the slower time passes in relation to an inert observer's understanding. As the speed of light is approached, time tends toward zero. Space travelers, though traveling at speeds much less than the speed of light, experience time dilation, their clocks run slower, and they would age at a slower rate, relative to a static observer, of course.

But if time is not absolute, is it even real or is it merely an abstraction, a mental artifice created by man to help him organize events, a simple book-keeping device as it were. An answer to that question was suggested by Einstein who observed that "Space and time are modes by which we think, not conditions under which we live." To complicate the situation a bit further, or perhaps to simplify it greatly, the noted early 20th century Italian artist Giorgio Morandi observed that, "There is nothing... more abstract than reality." The thought process that turns an abstraction into a reality is known as reification. It is a process that is familiar to the Anishinaabeg who use it to blend seamlessly the natural world with the preternatural or spirit world. For example, the Anishinaabeg, as do many other Algonquin nations, anthropomorphize other-than-human persons, animate and inanimate, by giving them human-like forms and personas. The Anishinaabe practice of reification at first glance appears to blur the distinction between the objective (real) and the subjective (abstract) with a substitution of vague undefined levels of perception for discrete and substantive elements of reality, at least as that reality is defined in the linear time frame of the contemporary mind. That substitution would appear to be in contradiction of the principles of classical Newtonian physics that treats time as absolute. And it is! However, it fits nicely with the concept of relativity. One may conclude, perhaps with a little scientific skepticism, that the Anishinaabeg were applying relativistic principles to their thought processes millenia before Einstein committed the formal idea to paper.

Relevant portions of the above text were extracted from the book *ASSAULT ON A CULTURE*.

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