

# ABSTRACT

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This theory is intended to demonstrate that a Grand Unified Theory should show unity right from its start. Clear consistent unity is maintained throughout the development of the theory. It applies the premise that physics theory should be reducible to expressions of distance and time. This follows from theory's dependence upon empirical evidence in the form of patterns in changes of velocity. The presentation carries along familiar theoretical concepts, until replaced by new theory, in order to reduce the uncomfortable feeling that can accompany radical change. Useful equations are formed for temporary use by combining accepted concepts with new ideas demonstrating compatibility exists between different models that adhere closely to empirical evidence. Mass and force are redefined. Neither is made into an indefinable property. New equations are derived for relativity effects, electromagnetism, frequency, thermodynamics, gravitational force, universal gravitational constant, and hydrogen atom electron energy levels, etc. This is a variable speed of light theory. The variation of the speed of light and its effort to form a constant speed is the cause for all effects. Physical properties are shown, using a photon model, to be different aspects of the behavior of light which is observed discretely through the action of photons. The change in the speed of light per unit distance is identified as the cause of the change in the speed per unit distance of matter and vice versa, equal but opposite. Fundamental constants are explained in terms of distance and time. A universally constant measure of time is identified. Original equations are derived unifying fundamental constants such as Planck's constant and Boltzmann's constant. Natural units of measurement are proposed.