

On the Risk of Premature Unification

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Abstract. Although the wish to unify theories into something more fundamental is omnipresent and compelling, nonetheless, in a sense, theories must first be 'unifiable'. The reasons for the success of the unification of electricity and magnetism into a theory of electromagnetism are contrasted with the reasons for failure of the Einstein-Maxwell unification of gravitation and electromagnetism and the attempts of quantum gravity to unify Einstein's theory of gravity with quantum field theory. The difference between a unification of two theories and a formal analogy between them is discussed.