A way out of the dark age in cosmology

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Current doctrines relevant to cosmology are criticized for not being well founded, not being based on definitions and unquestionable first principles alone or violating such principles. This concerns inertia as an action of space in classical mechanics and general relativity, simultaneity in special relativity, creation out of nothing, and the plethora of means that guard the Big Bang paradigm against falsification (dark matter, cosmic inflation, dark energy, size evolution of galaxies, etc.). It is shown that a kinematic spacetime theory characterized by Lorentz symmetry can be derived from geometry alone. The foundation for a dynamic spacetime theory is also laid. It is characterized by a substratum that expands since it is pulled into gravitational potential wells. This expansion explains the cosmic redshift, Olber's paradox and the finiteness of gravitational forces in an infinite world. The apparent magnitude of type Ia supernovae, the angular size and the surface brightness of distant galaxies are shown to compare favorably with the new approach. It is suggested that the energy that is lost by redshifting light is the source of the CMBR. The cosmic energy cycle, whose existence the approach implies, and the super-Newtonian cohesion of galaxies and clusters remain yet to be understood.

Comments:	This paper has been withdrawn by the author since some of the several new ideas it contained were not sufficiently elaborated. Its essential contents are intended to be published in more narrowly focused form
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