Título: Life Of The Cosmos

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Physics has long assumed that the laws of nature are immutable; here's a cosmological theory that challenges even that common-sense notion. The great problem facing physics at the end of the 20th century remains the integration of relativity and quantum theory. While both have scored impressive triumphs in their spheres of concern, the two operate at different poles of the physical universe: Relativity concerns itself with large objects and great distances, whereas quantum theory is at home with subatomic particles. And while quantum theory has brilliantly accounted for three of the four major forces in the universe, it has failed to make heads or tails of gravity--the one force that affects all the particles in the universe, no matter what the distance between them. A further difficulty, from Smolin's point of view, is that the ratios of the masses of the known particles do not fall into any coherent pattern, and small changes in those parameters would lead to a universe radically different from ours. So why is our universe as we see it? Why, for that matter, do we exist at all? Smolin (Physics/Penn. State Univ.) suggests that an evolutionary principle has been at work, that the Big Bang was only the most recent in a series of creations, and that the laws of physics can vary (although only a tiny bit) with each new bang. Universes that tend to create many stars (and thus many black holes, as those stars die) can give birth to more descendants than those with a paucity of stars. Thus the universe evolves according to a principle similar to natural selection.