# The New High-Energy Nuclear Particles and Gravitational Energy

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Until very recently, it was thought by leading physicists, and indeed by the main body of scientists, that the building-blocks of the universe were all known, as well as the qualitative laws governing them. It was then felt that the domain governed by the Einstein General Relativity Theory was either completely separate from, or only very weakly interacting with, the more energetic electromagnetic and nuclear forces. Under those circumstances, it was felt by the experts that conventional gravitation could not profitably be employed to activate (i.e. transfer energy to) matter.

These beliefs may well have been gravely shaken by a whole flood of new evidence which has been filling the technical journals of all nations.

While it is hardly possible to enter into a detailed analysis of these results in this short essay, we should like to outline here the nature and possible implications of these new events. The original observations consisted of hitherto unknown particles seen to interact strongly with nuclear matter both in photographic emulsions and Wilson cloud-chambers. These particles (now classified as hyperons and K-particles), of which an astonishing variety is by now known to exist, have furthermore been produced in controlled experiments by the latest high-energy machines such as the Brookhaven "cosmotron"[1]. This last fact is to be especially noted, for science can best study entities which can be manipulated at the will of the experimenter. The properties which these particles exhibit are extremely strange, and have not been fitted into any existing theoretical framework. This is not surprising, since conventional theories form a closed system, which is not flexible enough to allow for this rich variety of interactions. Most common among the hyperons is the so-called $\Lambda^0$ particle[2] which decays into a $\pi$-meson (boson field) and a proton (fermion field). This is the first of a family, the others having higher masses and an interlocking decay scheme between them. Of special