for $g'' = g_V$ as compared with the observed value 2.8×10^{-10} sec.

It is possible to apply this kind of consideration to other hyperons. Moreover, if the Feynman–Gell-Mann coupling scheme such as $(\pi\pi e\nu)$ is formally extended to $(K\pi e\nu)$, etc. as has been tried by some people, all the observed decay processes may be covered. Here we would like to point out that if all baryons should satisfy Eqs. (4) and (6), the ratios g_A/G_π and g_A'/G_K must be approximately common constants.

Our final remark concerns the theoretical basis for the assumptions made here. If the baryons are derived from some fundamental field ψ which possesses an invariance under a transformation of the type $\psi \to \exp(i\vec{\alpha}\cdot\vec{\tau}\gamma_5)\psi$,[8] then there will be a conservation of the pseudovector charge-current. A finite observed mass can be compatible with the conservation if the particle is coupled with a boson as was noted in Eq. (1).

This situation may be understood by making an analogy to the theory of superconductivity originated by Bardeen, Cooper, and Schrieffer,[9] and refined by Bogoliubov.[10] There gauge invariance, the energy gap, and the collective excitations are logically related to each other as was shown by the author.[11] In the present case we have only to replace them by γ_5 invariance, baryon mass, and the mesons. In fact, the mathematical method used in superconductivity may be taken over to study the self-energy problem of elementary particles. It is interesting that pseudoscalar mesons automatically emerge in this theory as bound states of baryon pairs. The nonzero meson masses and baryon mass splitting would indicate that the γ_5 invariance of the bare baryon field is not rigorous, possibly because of a small bare mass of the order of the pion mass.

The above-mentioned model of elementary particles will be studied in a separate paper.

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[6]It is also possible to associate a scalar K meson with the ΛN vector current conservation, while leaving the axial vector unaccounted for.

[7]Again Eq. (5) and the subsequent conclusions are essentially the same as those of C. H. Albright, Phys. Rev. 114, 1648 (1959) and B. Sakita, Phys. Rev. 114, 1650 (1959), which are based on the Goldberger-Treiman method. For the Λ-decay case below, see L. Tenaglia, Nuovo cimento 14, 499 (1959).

[8]F. Gürsey (private communication) has recently obtained similar results on the π decay based on this γ_5 invariance. We do not here specify the interaction of the ψ field, which may be of the nonlinear Heisenberg type, or due to an intermediate boson (different from π or K).

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ERRATUM

HELICITY OF NEGATIVE MUONS FROM PION DECAY. W. A. Love, S. Marder, I. Nadelhaft, and R. T. Siegel [Phys. Rev. Letters 2, 107 (1959)].

In this Letter we presented preliminary results of an experiment designed to measure the forward-backward asymmetry of β rays emitted from B^{12}, which has been produced by absorption of polarized muons in carbon (in C_5H_{12}). Continuing measurements have yielded an amended result for the asymmetry parameter a, as defined in this Letter, of $a = (0.64 \pm 0.58)\%$. It thus appears that in pentane the B^{12} is depolarized by one of the various interactions (quadrupole coupling, multiple electron capture and loss, etc.) which might cause spin reorientation. Therefore, a definite conclusion about the helicity of the negative muon cannot be drawn from our results to date.