conserved in spite of the γ_5-invariant interaction from which we started. It can be shown[8] that even in the presence of electromagnetic interactions, where the isotopic vector current $\vec{j}_\mu$ is not divergenceless any longer, the effective interaction is the same as the one from the axial vector interaction alone.

Equation (6) and therefore the resulting effective interaction contains no $\Lambda\Sigma\pi$ coupling. This is due to the fact that the Λ particle has isotopic spin zero. If we assume, however, as Gell-Mann did,[9] that the mass difference between Λ and Σ is due to K interactions and that the pairs Σ^+, $(\Lambda-\Sigma^0)/\sqrt{2}$ and $(\Lambda+\Sigma^0)/\sqrt{2}$, Σ^- behave as isotopic spin doublets, Eq. (6) must be replaced by

$$\vec{j}_\mu{}^0 = \tfrac{1}{2}\bar{\psi}i\gamma_\mu\vec{\tau}\psi + \tfrac{1}{2}[\bar{\vec{\Sigma}}\times\gamma_\mu\vec{\Sigma}] + \tfrac{1}{2}\bar{\Lambda}i\gamma_\mu\vec{\Sigma} + \tfrac{1}{2}\bar{\vec{\Sigma}}i\gamma_\mu\Lambda + \pi\text{- and } K\text{-meson currents.} \quad (7)$$

From the γ_5-invariance requirement, the current $\vec{j}_\mu{}^A$ which enters the effective interaction now possesses Gell-Mann's global symmetry[9]: all baryons have equal parity and the baryon-pion coupling constants are of equal magnitude.

The chirality invariance principle, therefore, can be extended to the baryon-pion interactions. Turning the arguments around, one may say that this principle together with the idea of the coupling of total currents leads to a parity-conserving baryon-pion interaction.

The consequence of the hypotheses of a universal γ_5-invariance for the K-meson interactions is less obvious. Contrary to the case of baryon-pion interactions there does not seem to exist a conserved (strangeness-carrying) current which would ultimately lead to a parity-conserving effective interaction. Therefore a breakdown of strict parity conservation in K-meson interactions can be expected. The experimental answer[10,11] to this question seems not yet conclusive though indications of a possible parity nonconservation in K-interactions have recently been reported.[12]

More detailed calculations and discussions on this subject will be published in Zeitschrift für Physik.[8]

The author wishes to thank Professor J. H. D. Jensen and Dr. G. Kramer for helpful discussions.

[1]See, for example, Burgy, Krohn, Novey, Ringo, and Telegdi, Phys. Rev. Lett. 1, 324 (1958).

[2]B. Stech and J. H. D. Jensen, Z. Physik 141, 175, 403 (1955). For a similar invariance requirement see also J. Tiomnio, Nuovo cimento 1, 226 (1955).

[3]E. C. G. Sudarshan and R. E. Marshak, Phys. Rev. 109, 1860 (1958).

[4]R. P. Feynman and M. Gell-Mann, Phys. Rev. 109, 193 (1958).

[5]N. Tanner, Phys. Rev. 107, 1203 (1957).

[6]D. H. Wilkinson, Phys. Rev. 109, 1603 (1958).

[7]Heer, Roberts, and Tinlot, Phys. Rev. 111, 645 (1958).

[8]B. Stech, Z. Physik (to be published).

[9]M. Gell-Mann, Phys. Rev. 106, 1296 (1957).

[10]See, for instance, Blumenfeld, Chinowsky, and Lederman, Nuovo cimento 8, 196 (1958).

[11]Crawford, Cresti, Good, Solmitz, and Stevenson, Phys. Rev. Lett. 1, 209 (1958).

[12]L. M. Lederman (private communications).

ERRATUM

LI^7 AND F^{19} NUCLEAR MAGNETIC RESONANCES IN NEUTRON-IRRADIATED LiF. P. J. Ring, J. G. O'Keefe, and P. J. Bray [Phys. Rev. Lett. 1, 453 (1958)].

In the third paragraph, second sentence, "about 7% of the fluorine nuclei" is incorrect. It should read "about 2% of the fluorine nuclei."

ADDENDUM

ELECTRON DECAY OF THE POSITIVE PION. H. L. Anderson, T. Fujii, R. H. Miller, and L. Tau [Phys. Rev. Lett. 2, 53 (1959)].

S. M. Berman, Phys. Rev. Lett. 1, 468 (1958), has shown that due to radiative effects, the theoretical estimate of the branching ratio depends on the size of the energy interval below the maximum energy over which electron counts are accepted. In our case this is close to 1.1 Mev, the channel width indicated on the points of Fig. 3. With this, Berman's formula gives a branching ratio of 1.14×10^{-4}. Our result is $(10\pm18)\%$ lower.