is determined by strong interactions and has the same value in Eq. (7) as it does in Eq. (5). This has the consequence that if one of the quantities $A(\Lambda)$, $A(\Sigma)$, $A(\Xi)$ in Eq. (15) is zero, then the other two must also be zero.

In the $K^*$-$\pi$ pole model,[12,13] the parent baryon emits a virtual $K^*$ which subsequently transforms into a real $\pi$ meson. Because the $K^*$ emission proceeds via a strong interaction, the parent and daughter baryons must be coupled to an octet. It follows that, whatever the transformation properties of the $K^*$-$\pi$ pole, the sum rules of Eqs. (6) and (8) will always hold.

In the weak $SU(3)$ space of Das and Mahanthappa,[14] the baryon octet $B_W$ is derived from the baryon octet in strong $SU(3)$ space, $B_S$, by a rotation through an angle $\theta_B$ about the $\lambda_7$ axis. Similarly, the weak meson octet $\pi_W$ is obtained by rotating the strong space octet $\pi_S$ through an angle $\theta_M$ about the same axis. An invariant coupling in weak space has the form

$$[(\bar{B}_W \times B_W)_{(8)} \times \pi_W]_{(1)}. \tag{18}$$

Suppose now that we transform (18) back into strong space: Then because $B_W$ and $B_W$ are rotated through the same angle, namely $\theta_B$,

$$(\bar{B}_W \times B_W)_{(8)} \to (\bar{B}_S \times B_S)_{(8)}; \tag{19}$$

$\pi_W$, however, is rotated through a different angle, and so the over-all coupling in strong space will not be an invariant. In other words, the structure of Eq. (18), when viewed in strong space, is given by Eq. (3).

Our last point is concerned with the fact that $H_{\rm pv}$ [see Eq. (3)] includes $\Delta T=\frac{1}{2}$ and $\frac{3}{2}$ but not $\Delta T=\frac{5}{2}$. This feature of the theory is not inconsistent with the properties of the pv decay $K\to 2\pi$. First, the existence of $K^+\to\pi^+\pi^0$ is an unambiguous indication that $\Delta T=\frac{3}{2}$ is present in the effective interaction; and second, Mahanthappa[15] has pointed out that the data on $K\to 2\pi$ are consistent with a sum rule

$$\sqrt{2}A(K^+|\pi^+\pi^0)+A(K_1|\pi^0\pi^0)=(1/\sqrt{2})A(K_1|\pi^+\pi^-), \tag{20}$$

which follows from the omission of $\Delta T=\frac{5}{2}$ from the interaction.[16] It is worth noting that this omission is guaranteed by an effective interaction

$$\sum g_n[(\pi\times\pi)_{(8)}\times\pi]_{(n)}.$$

*Note added in proof.* The experiment of Ref. 1 also indicates that the parity conserving (pc) amplitude for $\Sigma^-\to n\pi^-$ is zero. Because the $n\pi^-$ system has isotopic spin $T=\frac{3}{2}$, the simplest way of accounting for this result is to assume that the baryon-meson final state in pc decays behaves like an octet. It follows immediately that the $\Delta T=\frac{1}{2}$ is satisfied in p·c $\Lambda$-decay and that for $\Sigma$-decay,

$$\sqrt{2}B(\Sigma^+|p\pi^0)+B(\Sigma^+|n\pi^+)=0.$$

To derive other sum rules, however, it is necessary to introduce additional assumptions.

### ACKNOWLEDGMENTS

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[15] K. T. Mahanthappa, lecture at the Toronto Conference on Symmetries in Particle Physics, 1965 (unpublished); T. Das and K. T. Mahanthappa, University of Pennsylvania Report, 1965 (to be published).

[16] E. C. G. Sudarshan, Syracuse University Report, 1965 (to be published).

# Errata

**Analysis and Model of Low-Energy $\Lambda K^0$ Production,** G. T. Hoff [Phys. Rev. **139**, B671 (1965)]. There is a misprint in the expression for $(d\sigma/d\Omega)_p$ of Eq. (9); the term $2h_p\,\mathrm{Re}(b_r)\sin^2\theta$ should be deleted. On p. 681, third paragraph, fourth line, "orbital angular momentum $l$" should read "orbital angular momentum minus one." Several corrections should be noted in columns 7 $(f_3{}^+)$ and 8 $(f_4{}^-)$ of Table I: (1) the second entry of column 7 and first entry of column 8 should read $35x^4-30x^2+3$; (2) the fourth entry of column 7 and third entry of column 8 should read $x(105x^4-110x^2+21)$; (3) the third entry of column 7 and fourth entry of column 8 should read $25x^4-6x^2-3$; (4) in the seventh entry of column 8 the term $-1975x^4$ should be replaced by $-1875x^4$. As the terms in error were included in the table for completeness only, these changes do not affect the content of the paper.

I wish to thank H. Thom for kindly bringing the errors in the table to my attention.

**Predictions for $\pi^-+p\to\eta^0+n$ from Regge Poles and $SU_3$,** Roger J. N. Phillips and William Rarita [Phys. Rev. **140**, B200 (1965)]. Reference 4: For Phys. Rev. **140**, B200 (1965) read Phys. Rev. **139**, B1336 (1965).

**Regge-Pole Models for High-Energy $\pi N$, $KN$, and $\bar{K}N$ Scattering,** Roger J. N. Phillips and William Rarita [Phys. Rev. **139**, B1336 (1965)]. Equations (3) should read:

$$A_i=-C_i\frac{\exp(-i\pi\alpha_i)\pm 1}{\sin\pi\alpha_i}\left(\frac{E}{E_0}\right)^{\alpha_i},$$
$$B_i=-D_i\frac{\exp(-i\pi\alpha_i)\pm 1}{\sin\pi\alpha_i}\left(\frac{E}{E_0}\right)^{\alpha_i-1}. \tag{3}$$