magnitudes of two other processes which might give rise to a significant number of events in the energy interval considered. The two processes to be considered are L-electron excitation associated with K-electron capture and K-electron excitation accompanying L capture. Since the sum of the K and L binding energies corresponds to about 3.00 kev,[3] only excitation of electrons to unbound states in the above two processes can give rise to events in the energy region considered.

Primakoff and Porter[2] considered that K capture would give rise to no L excitation since they felt that the K electron exerts complete shielding on the L electrons before capture. In using the Slater[4] recipe for formulating atomic wave functions, one does however take only a shielding constant of 0.85 for the effect of a K electron on an L electron.[5] Using this number for the K-shielding constant, one finds for the total probability of $2s$ and $2p$ excitation $0.27/Z_a^2$ compared to $0.25/Z_b^2$ found by Primakoff and Porter for K-electron excitation,[6] where Z_b is the charge of the parent nucleus and Z_a is the charge of the parent nucleus minus 4.15 (the effective charge on an $n=2$ electron shielded by two $1s$ electrons and seven other $n=2$ electrons). Only a fraction of these $0.27/Z_a^2$ events would give rise to observations in the energy region looked at by Miskel and Perlman. The form of the energy distribution spectra for the $2s$ and $2p$ electrons was computed in the manner of Primakoff and Porter and gave rise to the corresponding expressions already computed for the case of beta decay by Levinger[7] multiplied by 0.0225 (this being the change in the effective value of Z). One finds that processes in the energy region of interest occur with a probability of 9×10^{-6} per decay.

K-electron excitation accompanying L capture gives rise to the same type of matrix elements as in the corresponding case of K capture except that now the change effective Z is more properly taken as 1. The L- to K-capture ratio is taken as 0.087.[1] Using this number, one finds for the probability of this process per K capture (remembering that there are two K electrons) $0.174/Z^2$.[8] Using the ejection probability spectrum, one finds that this process gives rise to events in the energy region of interest with a probability of 5.1×10^{-5} per decay.[8]

The total added probability we have calculated here is then 6×10^{-5} which compares with the theoretical value[1] of 2.8×10^{-4} expected for K excitation in K capture. The total theoretical probability is then 3.4×10^{-4} while the experiment of Miskel and Perlman gave a result of 3.9×10^{-4}. The added probability here calculated will also tend to bring the theoretical pulse-height distribution into better agreement with the experimental one although this has not been analyzed in detail. I am much indebted to Dr. J. Miskel and Dr. M. L. Perlman for stimulating discussions.

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[1] J. A. Miskel and M. L. Perlman, Phys. Rev. **94**, 1683 (1954).
[2] H. Primakoff and F. T. Porter, Phys. Rev. **89**, 930 (1953).
[3] We used 200 kev for the L-binding energy in chlorine although we should have used 200 and 280 kev for $L_{\rm I}$ and $L_{\rm II,III}$ binding energies respectively [B. Pontecorvo *et al.*, Phys. Rev. **75**, 982 (1949)]. This makes very little difference in the final results.
[4] J. C. Slater, Phys. Rev. **36**, 57 (1930).
[5] It must be admitted that this assertion has not been extensively tested.
[6] Both of these numbers need to be corrected due to the fact that other extra-nuclear electrons are present. Primakoff and Porter therefore add an extra multiplicative factor of uncertain magnitude. We shall discuss this correction in detail in a subsequent publication.
[7] J. S. Levinger, Phys. Rev. **90**, 11 (1953).
[8] This number would be correspondingly larger if the L-capture probability were found to be larger.

Errata

A New Titanium Nuclide: Ti^{44}, R. A. SHARP AND R. M. DIAMOND [Phys. Rev. **93**, 358 (1954)]. The value given for the half-life of Ti^{44}, 2.7 years, is too short. This value was obtained by a least-squares analysis of five months' decay data of a sample originally of an intensity of 122 counts/min in a Geiger counter. In this period, the sample decayed to 112 counts/min. Now, however, after fourteen months' total decay, the sample is still 112 counts/min. Apparently the original sample had about 10 counts/min of a shorter-lived contamination which decayed out and led to the erroneously short value given above. A lower limit to the true value can be obtained assuming that there has been decay to the extent of the possible counting errors. These correspond to about 2 percent decay in eight months or a half-life ≥ 23 years.

To prove that the activity remaining is indeed Ti^{44} scandium carrier was added to the sample and separated chemically as had been done in the original identification. The separated daughter activity was then counted with a scintillation counter by using a well-type NaI(Tl) crystal. The decay observed was the four-hour period of Sc^{44}, just as in the separations performed a year earlier on the same sample.

Low-Energy Gamma Radiation from the Bombardment of Carbon by Protons, H. H. WOODBURY, A. V. TOLLESTRUP, AND R. B. DAY [Phys. Rev. **93**, 1311 (1954)]. The value for δ on page 1314, second column, should read "$\delta=214\pm10°$" instead of "$\delta=2.4\pm10°$."

The Angular Correlation of Three Nuclear Radiations, G. R. SATCHLER [Phys. Rev. **94**, 1304 (1954)]. Delete $i^{l'-l}$ from the first line of Eq. (4b) and insert it in the third line. Replace Y_ν^{-m} in Eq. (5) by Y_λ^{-m}. In the first unnumbered equation of the right hand column of p. 1304, replace $(-)^{J_1+J_2-1}$ by $(-)^{J_1+J_2-L}$.