the formal selection rules these transitions should be allowed since there is no change of parity. The ft values for these transitions, however, seem to be larger than expected, and there may be the remnant of a selection rule pertaining to orbital angular momentum. The discussion of this group will be deferred to Paper II, where a few more examples will be available.

The last group contains the second and higher forbidden transitions which involve spin changes of at least 2. The most important remark is that there is no example with a log ft value** below 12. This is true for even the second forbidden ones (Δ I = 2,3, no change in parity) as shown most clearly by the two Cs isotopes, where the spins in both the initial and the final state have been measured. The ratio of the probabilities of allowed to second forbidden transition seems to be thus at least of the order of 10^6, if not higher, in place of 10^4 as has been frequently assumed. This low probability of high forbidden transitions explains the small number of examples found and the failure to find many spectral shapes different from the allowed or unique first forbidden forms.

There is a considerable number of transitions which go to an excited state with subsequent γ-radiation in series. The validity of an interpretation demands then that the ft value for the observed β-ray be much lower than that for a transition between the expected ground states. This is fulfilled in all cases listed in Table III of Section D. The actual ft values observed classify most of these transitions as allowed or first forbidden with Δ I = 0, 1, while most of the assignments predict an at least second forbidden transition between the ground states. This gives a margin in the square of the matrix elements of order 10^5-10^7 which is ample to explain the absence of observation of high-energy β -rays.

**Again the f function for these transitions will show a different energy dependence from that for allowed ones, but a qualitative comparison remains useful.