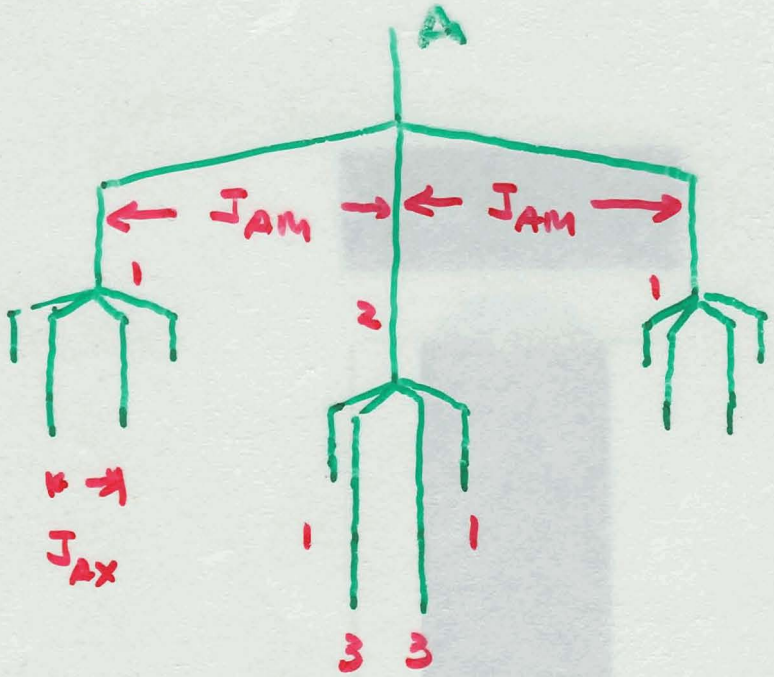
Example $\underline{\underline{A}}M_2X_3$ (spin ½)

If $J_{AM} > J_{AX}$ (e.g. $J_{AM} = 12$ Hz, $J_{AX} = 3$ Hz)

The splitting pattern for spin A is then



First, split by M_2 into a 1:2:1 triplet.

Then split by X_3 into a 1:3:3:1 quartet

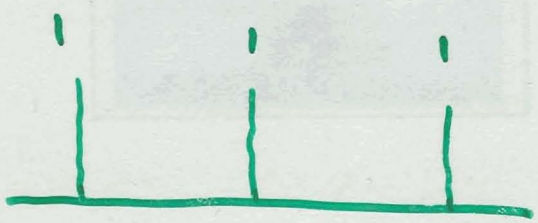
Always proceed with the largest splitting first, then go to the next largest, etc.

split by a neighbor that is <u>not</u> spin ½, e.g. I = 1 as in ^2H

Remember I = 1, $m_I = -1, 0, 1$.

Therefore the splitting by a neighboring I = 1 spin is a

1:1:1 triplet



also in ESR

e.g. $\cdot NH_2$

$\cdot NO_2$

(I = 1 for ^{14}N)