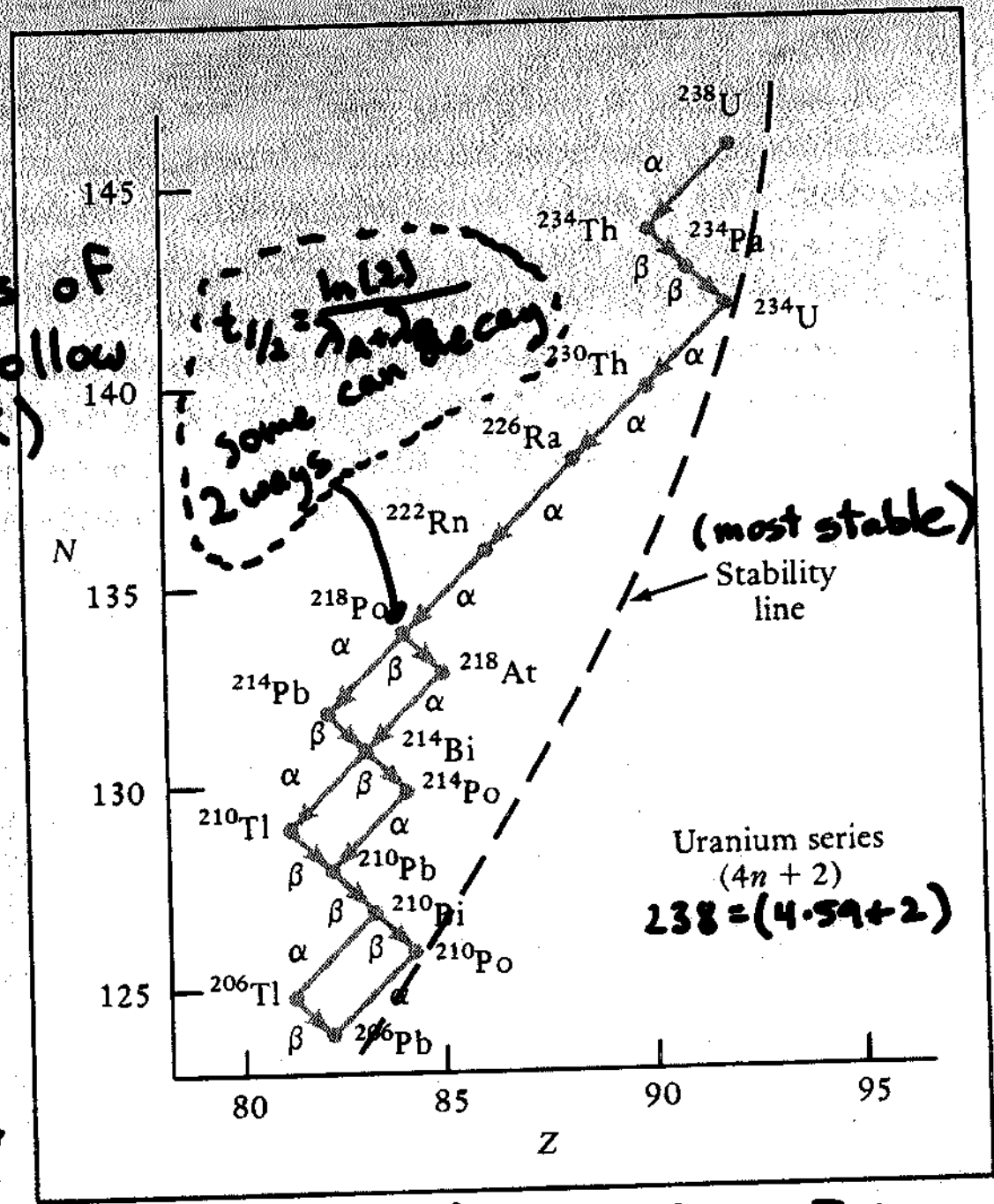


Figure 2.3 Experimental values of binding energy per nucleon B/A plotted as a function of mass number A . The smooth curve represents the semi-empirical mass formula with $a_1 = 15.56$ MeV, $a_2 = 17.23$ MeV, $a_3 = 23.28$ MeV and $a_4 = 0.7$ MeV. Each point represents

the periodic table, have half-lives in excess of 10^{10} s, and decay into elements that are themselves radioactive. Figure 10-24 shows the complete decay scheme of the uranium ($^{238}_{92}\text{U}$) plotted on a neutron-proton diagram. A decrease of 2 in Z and in N

All members of a series follow the $(4n+X)$



"Natural"

Other Series
 $4n$ ^{232}Th ($A=232$)
 $4n+1$ ^{237}Np ($A=237$)
 $4n+3$ ^{235}U ($A=235$)

No Stable Nuclei $Z > 83$
 $A > 209$