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In genetic systems of blood groups involving multiple alleles, it is a general rule that many of the diagnostic reagents (antibodies) used in the differentiation of the agglutinogens or phenogroups (products of the individual alleles) exhibit so-called "subtyping" relationships. The classical example involves the subtypes  $A_1$  and  $A_2$  of blood factor A of man, the first of which is characterized by reaction with both anti-A and anti- $A_1$  reagents, whereas the second reacts only with anti-A. Many subtyping relationships of the same asymmetrical order as  $A_1$  and  $A_2$  have been noted with reagents reacting in the A-H, B, C, F-V, M and S-U systems of cattle. Far less attention has been given to the non-linear partitions among subtypes. A cogent example in man is that involving the so-called anti-C agglutinins which cross react with the human agglutinogens A and B but not O. Both anti-A and anti-B exhibit linear asymmetrical relationships with respect to anti-C but not with respect to each other. It is now established that many of the reagents reacting with phenogroups within such systems as B and S-U of cattle exhibit both linear and non-linear subtyping relationships. Intergradations of subtypes with other specificities, often regarded as serologically independent even though belonging to the same system of blood groups, demonstrate the need to emphasize the phenogroups rather than the individual blood factors which characterize them. Examples of cross reactions involving both linear and non-linear relationships are presented and discussed.