ON THE HR FACTOR AND THE RH GENETIC THEORY

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In the recent discussions on the genetics of the Rh multiple alleles, no provision is, as yet, made for the role of a gene determining the Hr factor.1,2 This agglutinable property was described very early in the course of the studies on the pathogenesis of erythroblastosis fetalis.3 It was advisedly designated by Levine4 as Hr (reversal of the letters Rh) because of peculiar relationship to a special variety of anti-Rh sera, now designated anti-Rh'. This is indicated in Table 1, which gives, at the same time, the four subtypes of Rh and their frequencies resulting from the reactions of anti-Rh0 and anti-Rh' sera.

From the beginning of the studies on erythroblastosis fetalis, Levine has held to the view that the relationship of the anti-Hr and anti-Rh' sera is analogous to that of anti-M and anti-N sera. In other words, only three types of reactions are observed, and in both systems bloods failing to react with both anti-sera were never found. It was only after hundreds of bloods were tested that the term Hr and anti-Hr were designated. These results were not published more fully because it was clear that the first anti-Hr serum was of weak activity and gave too many negative reactions.

Subsequently, Race and Taylor described a similar