31.6%,[5] the character of lipemia encountered in polyneuritic nursing young is most probably of alimentary origin, but not due to vitamin B deficiency.

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Dissimilarities Between Antigenic Properties of Red Blood Cells of Dove Hybrid and Parental Genera.*

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Studies by Landsteiner and Van der Scheer[1] and by Landsteiner[2] have shown that 2 different species-hybrids may be distinguished from their parental species by the use of sera immunized against the respective blood cells, with subsequent agglutinin-absorptions. The experiments to be presented involve a cross of females of the domesticated Ring dove *(Streptopelia risoria)* with males of an Asiatic genus *(Spilopelia chinensis)*, commonly called Pearlneck. Antisera were prepared by injecting rabbits with erythrocytes from individual representatives of each genus and of the hybrid. The agglutinations were performed by adding to 0.1 cc. of the immune serum in its varying dilutions (by halves) one drop of a 2.5% suspension of the red blood cells. For the absorptions, twice the volume of the serum diluted according to its original titre was added to a given volume of washed, packed red blood cells. The mixture was agitated gently at intervals, allowed to stand at room temperature for 2 hours and in the ice box overnight. All absorptions were repeated until complete at a dilution of 1:30. Readings were generally made after 2 hours at room temperature.

Without giving the inter-agglutinations of the parental genera and the hybrid, to be published elsewhere, it may be said that each

[5] Donaldson, H. H., The Rat, second edition, p. 316. Memoirs of the Wistar Institute of Anatomy and Biology, Philadelphia, 1924, 6.

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[1] Landsteiner, K., and Van der Scheer, J., *J. Immunol.*, 1924, **9**, 213.

[2] Landsteiner, K., PROC. SOC. EXP. BIOL. AND MED., 1931, **28**, 981.

was readily distinguishable from the others after reciprocal absorptions had been made.

Certain serological inter-relationships of the parental genera and the hybrid are presented in the table. On the basis of these reac-

TABLE I. Agglutinations.

Immune Serum	Absorbed by cells of	Tested on Cells of Pearlneck	Ring dove	Hybrid
Pearlneck	Hybrid	Tr-40	0	0
Ring dove	Hybrid	0	Tr-60	0
Hybrid	Ring dove	240	0	240
Hybrid	Pearlneck	0	100	120
Hybrid	Ring dove and Pearlneck	0	0	60

The agglutinations of the cells were complete at the above dilutions, except as noted.
Tr = trace.

tions, it is seen that the cells of the hybrid resemble those of the Pearlneck genus more closely than those of the Ring dove. Also, the hybrid cells do not possess quite all of the substances particular to each of the parental genera.

On the assumption that the biochemical composition of the erythrocytes is determined entirely by the genic complex of the individual, evidence for which is reserved for a later publication, it is here shown that the hybrid birds present an example wherein the haploid number of chromosomes—hence the genes acting singly—has practically the same effect upon a character as the diploid number, since nearly all of the antigenic substances of both genera are present in the cells of the hybrid.

From the table, it is evident that in addition to the specific parental substances in the cells of the hybrid, a different biochemical character is present. Presumably this is a result of the interaction of the 2 different sets of chromosomes of the hybrids, or more specifically, to the interaction of the genic complexes. Each of 14 hybrids was specific for this character.

Confirmatory evidence has been found in tests involving hybrids between the common pigeon *(C. livia)* and female Ring doves. Serum immunized against the cells of the hybrids, when absorbed by the cells of both parental genera, agglutinated those of the hybrids at a low dilution.

The distributions of these hybrid substances among successive backcrossed generations from matings of each generic hybrid to Ring dove individuals are being investigated.