13 (105). **"On the biological relationship of nucleoprotein, amyloid and mucoid": P. A. LEVENE** and **JOHN A. MANDEL.**

The authors endeavored to ascertain the nature of the carbohydrate groups in the protein molecule. It was found that by heating nucleoprotein on a water bath with a 5 per cent. solution of sulfuric acid, a product could be obtained that had the properties of a polysaccharid or of a glucosid, and which contained in its molecule a small proportion of sulfuric acid (S = 0.5 per cent.). On treating nucleoproteins with alkali, substances were obtained containing a much greater proportion of sulfuric acid (S = 3.5 per cent.; N = 8.8 per cent.). The substances thus obtained were found to possess the properties of glucothionic acids containing small quantities of nucleic acid.

Glucothionic acid has hitherto been recognized as a constituent of mucoid and amyloid. The results of this investigation place the three groups of substances in genetic relationship.

14 (106). **"On the imperfection of Mendelian dominance in poultry hybrids,"** with demonstrations of photographs and plumage-charts: **C. B. DAVENPORT.**

According to the Mendelian formula one of the pair of characters that are opposed in hybridization dominates over the other, occluding it; the dominated, or recessive, character reappears in its pristine purity when the hybrids are interbred.

A careful examination of the facts shows that in poultry hybrids the dominant character is frequently modified by the presence of the recessive and in the direction of the latter. For example, white plumage color may dominate over black, but the white hybrid shows some black feathers; white dominates over buff plumage, but the hybrids have a buff cast. Pea comb is dominant over single, but the middle lobe of the hybrids is unusually high. Narrow nostril is dominant over the high nostril of the Polish fowl, but the hybrid nostril is exceptionally wide. When the hybrids are interbred the recessive character reappears in about one-fourth of the hybrids, but often so modified as to be scarcely recognizable. The gorgeous bright red and golden but recessive plumage of the Japanese long-tailed fowl reappears in the second hybrid generation as a dull brick red, much mottled with black. The fact of the