These peaks had elution times of 1, 4, 7, and 10 hr., and all four showed decarboxylase activity towards both 3,4-dihydroxyphenylalanine and 5-hydroxytryptophan. There may be slightly greater activity towards 5-hydroxytryptophan in the first fraction, and towards 3,4-dihydroxyphenylalanine in the last two fractions.

The nature and kinetics of the activities represented by these peaks are at present under investigation.

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A Reduced Ovomucin-Reduced Lysozyme Complex from Egg White

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Crude insoluble ovomucin precipitates obtained from the thick fraction of egg white can be purified by extraction of the precipitates with solutions of KCl (Brooks & Hale, 1961; Robinson & Monsey, 1966). This communication describes a preliminary characterization of an insoluble protein fraction that was formed during extensive dialysis of the KCl extracts against distilled water.

The precipitate obtained after dialysis of the KCl extracts was washed with distilled water, dried and dissolved by reduction with 0.3M-mercaptoethanol and subsequent alkylation with 0.36M-iodoacetic acid in 6M-guanidinium chloride at pH 8.2. The elution pattern from a column (50 cm. $\times$ 2.1 cm.) of Sephadex G-100 of the reduced protein fraction showed that all the sample was eluted as one peak at the void volume of the column in the presence of 0.5–2.0M-KCl. However, gel filtration in 6M-urea gave two fractions (A and B).

Fraction A, like preparations of purified reduced ovomucin (Robinson & Monsey, 1966), was eluted at the void volume of a Sephadex G-200 column and contained hexose sugar, mainly galactose (8.9%, w/w), glucosamine (10%, w/w), galactosamine (1.7%, w/w) and N-acetylneuraminic acid (3.9%,

w/w). Fraction B had the same retention volume as reduced-alkylated lysozyme. Artificial mixtures of reduced-alkylated lysozyme and natural non-reduced lysozyme could be fractionated on a Sephadex G-75 column (5 cm. $\times$ 2.1 cm.) in the presence of 6M-urea. When artificial mixtures of 20 mg. of purified ovomucin and 10 mg. of pure lysozyme were reduced and alkylated the reduced ovomucin and reduced lysozyme derivatives could only be fractionated on Sephadex columns in the presence of urea, whereas reduced-alkylated ovomucin and unreduced pure lysozyme could be fractionated on the Sephadex columns in 0.5M-KCl. Amino acid analysis, analytical ultracentrifugation in 2M-guanidinium chloride and electrophoresis on cellulose acetate strips has proved that fraction B was reduced-alkylated lysozyme.

These studies have shown that: (1) the KCl extracts obtained during purification of crude ovomucin contained a dissolved substance that possessed the same constituent carbohydrates as ovomucin (Robinson & Monsey, 1966) and that formed a complex with lysozyme at low ionic strength; (2) reduced-alkylated lysozyme associated more strongly with reduced-alkylated ovomucin, probably through hydrogen-bonding, than did non-reduced lysozyme.

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A Quantitative Study of a Reduced Ovomucin-Natural Lysozyme Interaction

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To understand the interactions of egg-white lysozyme and ovomucin and determine their suggested effect on the rigidity of the thick egg-white gel (Hawthorne, 1950; Cotterill & Winter, 1955; Brooks & Hale, 1959; Garibaldi, Donovan, Davis & Cimino, 1968), it is essential first to determine the stoichiometric composition of a pure lysozyme-ovomucin complex.

Although the preceding communication has shown that reduced-alkylated egg-white lysozyme associated more strongly with reduced-alkylated ovomucin, probably through hydrogen bonds, than did non-reduced lysozyme, it was also shown that natural lysozyme and a KCl-soluble substance similar to ovomucin did form an insoluble complex at low ionic strength. Because natural lysozyme, unlike reduced lysozyme, is soluble in dilute salt solutions and because purified preparations of