Chloroform did not extract colour from 'bilimucin' and t.l.c. in pentyl acetate-acetic acid-water (5:5:2, by vol.) gave a continuous streak and no discrete spots corresponding to bile salts.

The ethanolic liquors from the original precipitation in one case were evaporated in N₂ at reduced pressure in the dark at about 55°C. From a Sephadex G-100 column, the coloured compounds in the residue were eluted at column volume.

'Bilimucin' appears to be a macromolecular complex in which bilirubin might be linked to mucopolysaccharide.

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Glycosaminoglycans of Hen's-Egg White

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The glycosaminoglycans of hen's-egg white have been the subject of limited study. Their presence has been indicated by carbazole assay (Wood & Anastassiadis, 1965) and by the partial identification of heparan sulphate (Lovell, Schorah & Curran, 1966). Our own study of the distribution of glycosaminoglycans in egg white was undertaken in the hope of isolating a sizeable heparan sulphate fraction.

Egg white (1.7 kg) was digested with papain and the glycosaminoglycan fraction was recovered by ethanol precipitation after trichloroacetic acid treatment and dialysis (by the method described by Schiller, Slover & Dorfman, 1961). The product contained a total of 19.7 mg of hexosamine, 18.1 mg of neutral sugar and 2.6 mg of uronic acid. The hexosamine was a mixture of glucosamine (60.5%) and galactosamine (39.5%). These results suggest that glycoprotein and possibly keratan sulphate constitute a major portion of the isolated material. Upon fractionation of the isolated glycosaminoglycans with stepwise elution with NaCl from Dowex 1-X2 (Cl⁻ form), only 10.4% of the recovered uronic acid was eluted with 1.25 M-NaCl, where heparan sulphate might be expected. Over the entire elution range from 0.5 M- to 4.0 M-NaCl, neutral sugar-containing material greatly exceeded that containing uronic acid, which was concentrated in the 1.5 M- and 2.0 M-NaCl fractions. Further analyses have been carried out on the fractions, although definitive identification of glycosaminoglycans has been made difficult, and possibly of little value, by the finding of such low concentrations.

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The Oxidation of Exogenous Reduced Nicotinamide-Adenine Dinucleotide by Plant Mitochondria

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It is generally accepted that mitochondria isolated from plant material will readily oxidize exogenous NADH₂ via the usual electron-transport chain (Ikuma & Bonner, 1967; Srivastava & Sarkissian, 1970). Mitochondria isolated from Jerusalem-artichoke tubers oxidized malate, exogenous NADH₂ and succinate, which was coupled to oxidative phosphorylation to yield P/O ratios of 3.0, 1.7 and 1.8 respectively. The oxidation of malate was largely inhibited by rotenone (1 µg/mg of protein) whereas the oxidation of both succinate and exogenous NADH₂ was unaffected by this inhibitor. The oxidation of all three substrates was completely inhibited by antimycin A (100 µg/mg of protein). These data suggest that the pathway of electron transport between endogenous NADH₂ (malate) and exogenous NADH₂ to cytochrome *b* is different, and the ability of these mitochondria to utilize exogenous NADH₂ cannot simply be accounted for by suggesting that their membrane system is permeable to added NADH₂. Other results suggesting the operation of different routes for the oxidation of exogenous and endogenous NADH₂ have been obtained in mitochondria isolated from the spadix tissue of *Arum maculatum*. In the absence of antimycin A or potassium cyanide *Arum* mitochondria oxidized malate, exogenous NADH₂ and succinate coupled to a low degree of oxidative phosphorylation, yielding P/O ratios of 0.44, 0.14 and 0.26 respectively. When antimycin A (2 µg/mg of protein) is added to these mitochondria they are able to utilize an alternative, non-phosphorylating, electron-transport system between cytochrome *b* and oxygen (Hackett & Haas, 1958; Bonner & Bendall, 1968), which allows electrons to by-pass the terminal two sites of ATP synthesis associated with the usual electron-transport chain. The addition of antimycin was observed to remove completely the phosphorylation that normally accompanied the oxidation of succinate and exogenous NADH₂. When malate was supplied as the electron donor residual phosphorylation was obtained, indicating the continued operation of the first site of phosphory-