(1969). This gave fractions of differing maturity as judged by the incorporation of [32 P]phosphate into RNA and DNA.

Histone F2c was present in all the fractions obtained in these studies and, when due allowance had been made for non-erythroid-cell contamination no significant change in the proportion of this histone relative to that of the other histones could be established. It was found, however, that the incorporation of [32 P]phosphate into the lysine-rich fraction declined with maturation, confirming the result obtained by Adams, Vidali & Neelin (1970).

These studies indicate that the function of histone F2c, if related to terminal maturation, may depend on its phosphate content. It seems possible, however, that it may be involved at an earlier point in differentiation than has so far been suggested, since it appears to be present at the earliest stages of erythroid development analysed in these experiments.

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Changes in Rat Liver Non-histone Nuclear Proteins during Nitrosamine Carcinogenesis

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It has been reported (Harbers, Lederer, Sandritter & Spaar, 1968) that when rats are given diethylnitrosamine in their drinking water at 3 mg/kg per day then liver tumours are produced after 180 days. At this low dose no cirrhotic changes were observed in the liver, but in the nuclei a doubling of heterochromatin content, accompanied by a corresponding decrease in euchromatin, was found to occur after about 40 days of dosage with the carcinogen. As this probably indicates a profound change in the chromatin structure that may lead to neoplasia, investigations were made to ascertain whether any change in the composition of the nuclear proteins occurs at this point. Initial studies had indicated that no change occurred in the composition of the histones after administration of the carcinogen. This communication is concerned with preliminary attempts to investigate the non-histone proteins of the liver cell nucleus.

Various methods have been described for the extraction of the non-histone nuclear proteins. These usually involve several stages, using combinations of dilute buffers, dilute and concentrated sodium chloride solutions, detergent mixtures and phenol (see Hnilica, 1967). A method has been described (Gronow, 1969) by which practically all of the nuclear non-histone protein can be extracted by using 8M-urea-50mM-sodium phosphate buffer, pH 7.6. Proteins in this mixture have been separated into about 22 components by using the technique of isoelectric focusing in polyacrylamide gel (pH 3-10 Ampholine). Separation on the basis of molecular weight by using sodium dodecyl sulphate-polyacrylamide-gel electrophoresis (Elgin & Bonner, 1970) gave about 18 bands. When these techniques were applied to rat liver nuclear proteins extracted with other solvents (e.g. dilute and concentrated saline) it was found that each fraction contained, in various amounts, components present in others.

Nuclei prepared by the Chauveau, Moulé & Roueller (1956) technique from the livers of rats given diethylnitrosamine for 50 and 70 days were extracted with 8M-urea-50mM-sodium phosphate buffer, pH 7.6. The Coomassie Blue-stained isoelectric-focusing polyacrylamide gels and sodium dodecyl sulphate-polyacrylamide gels of these extracts looked identical with the controls. However, when the thiol groups of these proteins were labelled with [14 C]-*N*-ethylmaleimide, an increase in the specific radioactivity of the proteins from the 70-day-treated animals was found. Components focusing on the pH 7-8 region were found to have a marked increase in thiol content.

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Lipase Activity against 1,2-Diglyceride in Rat Erythrocyte Membranes

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Erythrocyte membranes prepared from fresh heparinized rat blood were treated with phospholipase C (from *Clostridium welchii*; Sigma Chemical Co., St Louis, Mo., U.S.A.). Lipids were then