was observed in the solution, the final absorption spectrum being 623·1 (weak), 550·1 and 529·5 mμ. Reduction with dithionite gave the two intense bands only, 550·1 and 519·7 mμ, of ferrocytochrome *c*. Subsequent treatment employed either acetic acid, or acetone-hydrochloric acid as described by Bonnichsen[9]. Bile pigments were determined fluorimetrically as bilipurpurin–zinc complex[2].

No bile pigments were detected in any one of the several trials. Since hæmochromes react readily in coupled oxidation with ascorbic acid to give high yields of bile pigment, it appears probable that the firm thio-ether linkages between protein and the 2 and 4 side-groups in cytochrome *c* provided an over-riding obstacle to *in vitro* bile pigment formation.

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Interaction of Dextran and Fibrinogen

BECAUSE of its use in blood transfusion as a substitute for plasma[1], the interaction of dextran with plasma proteins is of considerable interest. The present communication reports an apparently non-specific interaction of dextran with fibrinogen.

When 2-ml. volumes of two saline solutions containing 6 per cent dextran and 1·45 per cent fibrinogen were mixed at 22° C., the formation of a bulky flocculent precipitate was observed. Analysis showed that the precipitate contained 13 per cent of the available fibrinogen. Precipitation occurred with dextran of British and Swedish origin and fibrinogen prepared in Britain and the United States.

Simple mixing experiments with appropriate controls revealed that the formation of a precipitate was strongly dependent on the concentration of dextran and fibrinogen, being less at the lower concentrations, below about 1·5 per cent dextran and 0·31 per cent fibrinogen. Precipitates were formed with dextran samples having intrinsic viscosities between 0·64 and 0·11, but not with a sample of intrinsic viscosity 0·04. Precipitation was favoured by decreasing temperature in the range 37°–0° C., sodium chloride concentration in the range 9–0·9 per cent and *p*H in the range 8–6. After separation in the centrifuge the precipitate was soluble in saline. This solution formed a firm clot when thrombin was added.

In a further experiment in which 5-ml. volumes of 5·3 per cent dextran (intrinsic viscosity 0·32) and 1·1 per cent fibrinogen were mixed, the precipitate and supernatant solution were analysed for dextran by the procedure of Hint and Thorsen and for fibrinogen by micro-Kjeldahl determination. The precipitate contained 3 mgm. of dextran and 5 mgm. of fibrinogen, 1 per cent of the dextran and 9 per cent of the fibrinogen being precipitated.

The importance of this reaction lies in the possibility of its occurrence *in vivo*. In experiments to determine the fate of dextran, laboratory animals may receive sufficient dextran to form a precipitate with their fibrinogen. Insoluble matter in the blood stream is ordinarily deposited in cells of the reticulo-endothelial system. This offers an explanation of previous experiments in which the persistence of dextran in tissues rich in these cells was noted[1].

Reactions to dextran in man are rare and difficult to investigate. These observations may contribute to their elucidation.

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Evoked Single Cortical Unit Activity in the Primary Cortical Receiving Areas

RENSHAW *et al.*[1] analysed single cortical cell activity in the hippocampus by means of a micropipette electrode. Since 1951, the technique has been used by us for isolating peripherally evoked single cortical unit activity in the primary somatosensory, auditory and visual receiving areas of the cat and the monkey. Either barbiturate (dial or nembutal), chloralose or magnesium sulphate anæsthesia was used. The preparation was frequently paralysed with *d*-tubocurarine or *B*-erythroidine. The micro-electrodes used were either nichrome wire sharpened to a tip diameter of 6–10 μ and insulated to the tip, or glass micropipettes, drawn to a tip diameter of 4–12 μ. The latter were filled with 3 *M* potassium chloride to reduce their resistance[2] and led into a cathode follower input. Action potentials were conventionally amplified (both r.c. and d.c. coupling) and displayed on twin-beam cathode-ray oscilloscopes. The cortex was fixed in 10 per cent formalin, sectioned at 50 microns and stained with thionin for identification of electrode tracks.

Independent results were combined for the present communication and will be presented in detail elsewhere. A total of 164 single cortical units were studied, including 90 units in feline somatosensory areas I and II, 27 units in feline auditory area I and II and 15 units in feline visual area I. Eighteen units were studied in somatosensory area I of macaque and cynomolgous monkeys. The corresponding figures for primate auditory and visual areas were 11 and 3 units. Where recordings were taken from exposed feline cortex, the micro-electrode tip lay 0·7–1·8 mm. below the pial surface.

The great majority of the unit potentials were initially negative in sign (duration 0·3-0·64 msec.). A subsequent positive deflexion followed which was variable and of longer duration. The amplitude of the negative phase reached 3 mV. but usually measured about 0·5 mV. The latency of the evoked discharge differed greatly from unit to unit. Under either barbiturate or chloralose anæsthesia, some cortical cells commenced firing even before the peak of the primary positive response recorded from the pial surface, suggesting that they may be partly

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