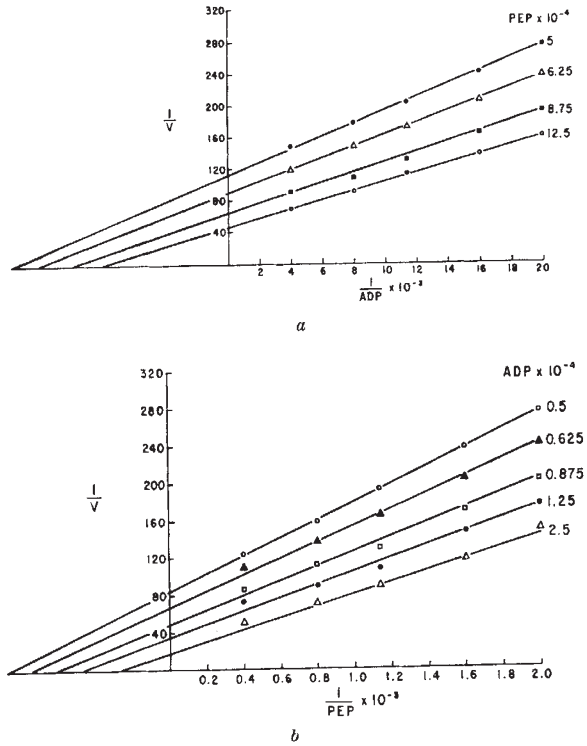

Fig. 2. (*a*) Effect of ADP on the velocity of the red cell PK reaction at 5; 6·25; 8·75 and $12·5 \times 10^{-4}$ M PEP concentrations. Conditions were the same as in Fig. 1. (*b*) Effect of PEP on the velocity of the red cell PK reaction at 0·5; 0·625; 0·875; 1·25 and $2·5 \times 10^{-4}$ M ADP concentrations. Conditions were the same as in Fig. 1

strates. This would suggest a control gene mutation involved in this disease.

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Inhibition of Haemolysis by 'Cremophor' in Conserved Blood

The biological value of conserved blood is determined by the erythrocyte survival time after re-infusion which, after storage for 3–4 weeks, is so low as to prohibit further use of the erythrocytes. The plasma, however, may be used for several other purposes if it is not too haemolytic. After a lapse of about the same time the haemolysis rate increases remarkably so that blood banks are often obliged to discard whole-blood conserves after the date of expiration.

Claims have been made that vitamin E possesses haemolysis-inhibiting properties in blood banks[1–5]. In an attempt to verify this quality of vitamin E and to elucidate its mechanism of action we added solutions of tocopherol acetate (50 mg/ml.) in a ratio of 2 per cent v/v to ACD-blood. As an emulgator of the water-insoluble vitamin E, these solutions contained 'Cremophor *EL*'* (manufactured by Badische Anilin- u. Sodafabrik AG., Ludwigshafen) in concentrations varying between 40 and 200 mg/ml. Appropriate controls were run with 'Cremophor *EL*' only. These banks were judged visually as to haemolysis after a storage time of 40–80 days. Haemoglobin determinations were carried out in the supernatant ACD-plasma after centrifugation. The results showed, much to our surprise, that 'Cremophor *EL*' alone has a haemolysis-inhibiting effect far exceeding a rather questionable effect of vitamin E. The plasma of ACD-blood to which solutions of 40–200 mg/ml. 'Cremophor *EL*' had been added (final concentration 0·8–4 mg/ml.) remained perfectly clear after a storage time of 40–80 days and contained no appreciable amounts of haemoglobin, whereas the ACD controls were severely haemolytic. Indeed, the addition of vitamin E in low concentration ranges of 'Cremophor *EL*' seemed to block even the 'Cremophor *EL*' action. It seems possible that the surface activity of 'Cremophor *EL*', exhausted by vitamin E in the investigations with low concentrations of 'Cremophor *EL*', represents the key to the mode of action. Investigation of the activity of other surface-active agents seems therefore indicated. From the technical point of view the haemolysis of ACD-blood can be virtually abolished by addition of 'Cremophor *EL*', up to a storage time of about 80 days (perhaps even longer).

It remains an open question whether, in the papers cited here, surface-active agents have interfered, as few data concerning controls with such substances are mentioned. However, from the data given in refs. 2, 3 and 5 it can be concluded that 'Cremophor *EL*' has been used as an emulgator.

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* Trade mark.

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RADIOBIOLOGY

Uptake by Plants of Radiostrontium from Contaminated Soils

In a recent report from this department[1] it was shown that the extractability of radiostrontium from contaminated soil samples was effectively reduced by heat treatment and by the addition of phosphate to the soil. It was pointed out that, under emergency conditions, heat-treatment of the contaminated soil surface and heavy phosphate application might thus reduce the uptake by plants of radiostrontium more efficiently than liming, which is only effective in soils of low calcium status. In the investigation reviewed here the influence of heat treatment and superphosphate application on the plant uptake of radiostrontium was examined in pot experiments. For comparison the effect of applying calcium carbonate to the contaminated soil surface was also determined.

Spring barley (variety 'Pallas') was grown to maturity in PVC pots, each containing 22 kg of soil. Two loamy and