about 10 per cent of the total soil organic phosphate, and the evidence suggests that part of this may be accounted for as deoxyribonucleic acid. The conditions under which the soils were extracted would cause considerable hydrolysis of ribonucleic acid to mononucleotides, which would not appear in humic acid precipitates, so that the small quantity of uracil relative to thymine in the precipitates cannot be taken as an indication of the relative amounts of ribonucleic acid and deoxyribonucleic acid in the original soils. The quantities found are in excess of the total amounts likely to be present in soil micro-organisms.

The presence in soils of substances having some of the properties of nucleic acids has been reported before[3], but more recent attempts[4] to confirm their presence proved inconclusive although there was some evidence that minute amounts of soil phosphates were in this form. Only ribonucleic acid or its derivatives were considered, however, and attention was confined mainly to the fulvic acid fractions of soils.

The presence of thymine in the hydrolysate of soils or soil products does not appear to have been reported previously, nor have the four bases of either type of nucleic acid been isolated from one product.

This investigation will be reported fully elsewhere.

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Isolation of Uranediol from the Urine of Pregnant Mares

The isolation of uranediol from the urine of pregnant mares has been described by Marker and his colleagues[1] and by Klyne[2]; isolation has also been effected by Bauld and Heard[3]. Since the reported isolations of uranediol have been few, and since uranediol appears to be the first D-homosteroid of natural origin to be isolated[4,5], we believe that it is of interest to record that we have isolated uranediol in small quantity from pregnant mares' urine collected throughout the second half of the term of pregnancy.

Urine was collected continuously in batches from a large number of mares during approximately the seventh, eighth, ninth and tenth months of pregnancy and each batch of fresh urine was processed by solvent extraction to a separate concentrate. A portion of each of the resulting concentrates, equivalent to 1 per cent of the total weight, was withdrawn and these samples pooled and hydrolysed, and a non-ketonic, non-phenolic fraction isolated. This non-ketonic, non-phenolic fraction was acetylated and on chromatography yielded an acetylated compound (approximately 300 mgm. per 100 gal. of urine processed) which melted sharply at 159–160°. The physical properties of this compound (melting point 159–160°, $[\alpha]_D^{25}$ − 28·4° (chloroform)) and the analysis (C, 74·5, 74·4; H, 10·1, 9·9 per cent) agree with the values previously reported[1,2] for uranediol diacetate. The infra-red spectrum of our compound in the finger-print region (in carbon disulphide) was measured by Dr. I. D. P. Wootton (Postgraduate Medical School, London) and was found to be identical with that of an authentic sample of uranediol diacetate supplied by Dr. W. Klyne.

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Production of Rat Serum Proteins in Irradiated Mice

In the course of a study on the protection of mice against a lethal dose of X-rays, it was found in this laboratory that the administration of homologous or heterologous (rat) bone marrow after the irradiation may result in a significant reduction of mortality. In the animals surviving after heterologous therapy the circulating erythrocytes were agglutinated by anti-rat serum; furthermore, the granulocytes showed an alkaline phosphatase reaction which is specific for rat white cells. These results proved that a transplantation of rat hæmatopoietic tissue had been achieved[1].

Since it is known that certain serum proteins are synthesized by cellular elements of the bone marrow, a serological typing of the serum proteins of these mice seemed of interest. Results from investigations by Makinodan[2] suggested a failure of the transplantation of rat plasmacytopoietic cells, since rat serum protein could not be detected in the circulation of lethally irradiated mice after treatment with rat bone marrow.

Precipitating anti-rat serum was produced by immunizing chickens with alum-precipitated rat serum. In testing the sera, the capillary precipitation reaction (ring reaction) was used. Sera were obtained which, after absorption with normal mouse serum, precipitated rat serum specifically with a titre of 1 : 80,000.

The sera of *CBA* mice were tested about 100 days after the irradiation and the treatment with rat (*WAG* strain) bone-marrow cells.

So far, 15 sera have been tested. A positive reaction was obtained in all cases indicating the presence of rat serum proteins in these mice. Two-fold serial dilutions of the antigen yielded titres ranging from 1 : 256 to 1 : 2,048 with the antiserum employed. These titres were not influenced by a previous absorption of the chicken anti-rat serum with intact and hæmolysed rat erythrocytes, indicating the specificity of the reaction for rat serum proteins. This result, together with the agglutination and alkaline phosphatase reactions, suggests that transplantation of rat hæmatopoietic tissue was complete. In preliminary experiments