with water. On development with ninhydrin and heat, certain traces of purple indicated amino-compounds; but the most conspicuous feature was always the presence of bright yellow spots or streaks which differed in size and position with the protein injected. In normal uninjected animals, the most conspicuous of these was the lower (R_F 0·40–0·48), but a fainter one was also present (R_F 0·73–0·78). After injection of albumin containing iodine-131, the lower spot was the more conspicuous, and after globulin containing iodine-131 the upper was usually so. With homologous serum containing iodine-131, the spots differed little from those in normal urine. Chromatograms were scanned with a β-particle counting Geiger–Müller tube placed directly on the paper. Counts were made at closely placed sites along the trace. With the foreign proteins it was found that approximately 50 per cent of the activity was in a spot (R_F 0·05–0·10) shown by a comparative tracer to represent inorganic iodine. With albumin injections a second peak of activity was found in relation to the lower yellow spot; with globulin it was in the upper yellow spot. With the homologous serum, inorganic iodide was proportionately greater, but some activity coincided with the lower yellow spot also. In one animal, activity was associated with a conspicuous purple spot (R_F 0·85), which was probably diiodotyrosine; in the remainder this compound appeared to be absent. This latter finding concurs with that of Leblond and Suë[5], though it is at variance with that of Foster and Gutman, all of whom worked with free diiodotyrosine. It also differs from the findings of Knox and Endicott (see ref. 1, addendum to paper), who studied the fate of foreign labelled-proteins in rabbits. They reported that diiodotyrosine and iodide formed the chief excretion products.

It was thought that the compounds responsible for the yellow spots were polypeptides, and confirmation was obtained by hydrolysis. Both the whole urine and also the eluate from the 'yellow spot' area of undeveloped chromatograms were hydrolysed in 6*N* hydrochloric acid. In each case the hydrolysate was resubmitted to chromatography in phenol and developed with ninhydrin. Six separated purple spots representing amino-acids were found, and some of the radioactivity was now associated with diiodotyrosine. Some, however, was still found in a mixed yellow–purple spot (R_F 0·45–0·50), which area was accordingly eluted from an undeveloped chromatogram. When run in an *n*.butanol – acetic mixture, this was resolved into a further five non-radioactive purple spots (R_F ranging from 0·2 to 0·45) and an active yellow one above this. Further elution and hydrolysis followed by chromatography in phenol revealed more amino-acid spots, which again included radioactive diiodotyrosine.

It would appear, therefore, that in the animal the injected proteins are subjected to hydrolysis, which results in the breakdown of part of the molecule and release of inorganic iodide, but also in the release of some stable peptides that still contain iodine in organic combination. The peptide and such of the iodide as is not stored in the thyroid are then excreted in the urine. It also appears that the excreted peptide may differ according to the protein used, although further investigation with other proteins is required to test this point. Examination of the excretion products of labelled proteins appears to offer possibilities to workers in a wider field than that of immunology.

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Histochemical Observations on Genital Cancer

The histochemical test of McManus[1] and Hotchkiss[2] demonstrating the presence of mucopolysaccharides, mucoproteins and glycoproteins was carried out on cancerous tissue of the vagina, portio and corpus uteri, the Fallopian tube and the ovary. The polygonal stratum of the normal epithelium of the portio gives an intense positive test, while the normal stratum basale remains uncoloured. Cancerous tissue fails to give a positive test even in the pre-invasive intra-epithelial stage. The same result was obtained in cancers originating from other parts of the genital tract. Thus our observations indicate that the McManus–Hotchkiss test is a valuable tool in the early diagnosis of cancers in the pre-invasive stage.

In view of the report of Shetlar *et al.*[3,4] that in cases of malignant tumours the protein-bound polysaccharide content of serum albumin is increased, it is of interest that compounds of this nature seem to be absent in the cancer cells. This may indicate that protein-bound carbohydrates may be concerned in some way with malignancy.

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Micellar Structure of Native Cellulose

Ranby and Ribi[1] have recently described how native cellulose particles of micellar dimensions can be produced by boiling cotton fibres in dilute sulphuric acid and then washing to a *p*H of approximately 4. We have examined the effect on cotton and ramie of more concentrated acid at lower temperatures (for example, 975 gm./l. and 20° C.) and have obtained somewhat similar results. We find that with increasing severity of our treatment the ultimate product of the dissolution appears to consist of particles between 500 and 2500 A. in length with a roughly constant cross-section (50 A. thick and 150–200 A. wide). In the earlier stages of disintegration larger flat aggregates are obtained, and we have been able to prepare brittle transparent films from the colloidal solution of these. X-ray examination of such films shows that, when the X-ray beam is perpendicular to the film, the 101 and 101 reflexions of cellulose I appear as rings, as they