The crystalline albumin eventually obtained from rabbit muscle was crystallized from ammonium sulphate solutions of molarity 2·7–3·1 (65–75 per cent saturated) adjusted to pH 5·8 with sulphuric acid. Crystals identical in form have been obtained both from the potassium chloride extract employed by Edsall[2] for the preparation of myosin and also from muscle press juice. They consist of thin colourless plates, birefringent in polarized light, and exhibiting a pronounced sheen on agitation. The protein readily denatures on heating to 50°, by shaking, or by reducing the acidity to pH 5. Its iso-electric point is near pH 6.

Sedimentation and diffusion experiments on the crystal sample shown in the accompanying figure have been carried out through the kindness of Dr. E. J. Cohn, of the Harvard Medical School. They indicate a molecular weight of 155,000, a value which is provisional until other samples have been analysed.

During the course of this investigation, carried out in the summer of last year at the Woods Hole Marine Biological Station, Mass., Baranowski[3] reported from the laboratory of Parnas the crystallization of two albumins, myogens A and B. These he obtained from that fraction of press juice precipitating between 40 and 60 per cent saturation with ammonium sulphate. Myogen A, crystallizing in the form of hexagonal bipyramids, was studied in some detail, and Gralén[4], from sedimentation and diffusion experiments, assessed its molecular weight at 150,000. Myogen B, on the other hand, was sometimes fortuitously obtained from the mother liquors, and no method could be given for its preparation. Although our albumin separates at somewhat higher ammonium sulphate concentrations than those employed by Baranowski, it seems probable from his description that myogen B and our protein may be identical. To none of these albumins has any physiological activity as yet been assigned.

Further studies on the albumin will shortly be resumed.

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Thyroid Gland and Potassium Metabolism

IN experimental thyrotoxicosis as well as in Graves' disease, there is a marked disturbance of the carbohydrate metabolism. The sugar tolerance is often lowered and glycosuria may develop. Griffiths[1] reports that in cases of Graves' disease a high-grade insulin insensitivity may be found, and that such insensitivity is diminished by thyroidectomy. It is also well known that after administration of thyroid gland or thyroxine the liver glycogen disappears and cannot be restored by administration of sugar[2].

In recent years a close correlation has been found between potassium metabolism and carbohydrate metabolism[3]. It was now established that in experimental thyrotoxicosis the carbohydrate metabolism and the potassium metabolism are both affected.

This is especially true with regard to the potassium and carbohydrate content of the liver. The liver of normal white rats contains about 1·7 per cent potassium. Administration of thyroid hormone causes a rise in liver potassium to 3–5 per cent and more, varying with the degree of thyrotoxicosis.

As with adrenalectomized animals, the hyperthyroidized animals are very sensitive to a high potassium intake. A food rich in potassium produces in hyperthyroidized animals a rapid fall of the body weight, loss of appetite, accompanied by a high degree of excitability and finally death.

It seems that, besides the adrenal cortex, the thyroid gland is also involved in the regulation of the potassium metabolism.

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Effect of Radiations on Bacteriophage C_{16}

IT has been shown previously[1] that the effect of X-rays on phages is in relation to particle size, as determined by ultra-filtration and ultra-centrifugation analysis : the larger the particle size, the greater is the sensitiveness of the phage to radiation.

We have undertaken a quantitative analysis of this phenomenon, and are dealing here with the effect of different radiations on phage C_{16} (F. M. Burnet)[2], which is active on dysentery bacillus Y_{6R}. Its diameter, as determined by Elford and Andrewes, is 50–75 mμ.

The following radiations have been used : (1) monochromatic X-rays of 17 kv. (K_α line of molybdenum) ; (2) non-monochromatic hard X-rays (D.C., 200 kv.) ; (3) total radiation of radon + active deposit, dissolved in the phage suspension. The effects on the phage were followed by the plaque count method, which

D (r units)	N/N_0	$\sigma = \dfrac{-\log_e N/N_0}{D}$	$N/N_0 = e^{-\bar\sigma D}$ (calc.)
X-rays 17kv.			
$5\cdot0\times10^3$	0·83	$3\cdot72\times10^{-5}$	0·89
10^4	0·80	$2\cdot23\times10^{-5}$	0·80
$3\cdot0\times10^4$ (2 exp.)	0·56	$1\cdot92\times10^{-5}$	0·52
$4\cdot0\times10^4$	0·40	$2\cdot29\times10^{-5}$	0·41
$6\cdot0\times10^4$	0·35	$1\cdot75\times10^{-5}$	0·26
$7\cdot5\times10^4$	0·24	$1\cdot90\times10^{-5}$	0·19
$9\cdot0\times10^4$	0·16	$2\cdot03\times10^{-5}$	0·14
		$\bar\sigma = 2\cdot22\times10^{-5}$	
X-rays 200 kv.			
10^4	0·79	$2\cdot35\times10^{-5}$	0·775
$2\cdot0\times10^4$	0·64	$2\cdot23\times10^{-5}$	0·60
$4\cdot0\times10^4$	0·42	$2\cdot71\times10^{-5}$	0·36
$6\cdot0\times10^4$	0·21	$2\cdot58\times10^{-5}$	0·22
$7\cdot5\times10^4$	0·15	$2\cdot53\times10^{-5}$	0·15
$9\cdot0\times10^4$	0·075	$2\cdot85\times10^{-5}$	0·10
		$\bar\sigma = 2\cdot54\times10^{-5}$	
Radon (α-particles + β-rays)			
$5\cdot2\times10^4$ (2 exp.)	0·86	$2\cdot88\times10^{-6}$	0·79
$7\cdot3\times10^4$ (2 　,,　)	0·70	$4\cdot88\times10^{-6}$	0·71
$11\cdot1\times10^4$ (1 　,,　)	0·51	$6\cdot05\times10^{-6}$	0·59
$12\cdot2\times10^4$ (2 　,,　)	0·58	$4\cdot37\times10^{-6}$	0·56
$17\cdot7\times10^4$ (2 　,,　)	0·45	$4\cdot51\times10^{-6}$	0·44
$23\cdot3\times10^4$ (3 　,,　)	0·28	$5\cdot45\times10^{-6}$	0·33
$37\cdot6\times10^4$ (2 　,,　)	0·14	$5\cdot20\times10^{-6}$	0·17
$52\cdot5\times10^4$ (3 　,,　)	0·09	$4\cdot60\times10^{-6}$	0·08
		$\bar\sigma = 4\cdot69\times10^{-6}$	