supplemented by vitamin B_1; or to the Bourquin-Sherman diet. Administration of vitamin B_2 (lactoflavin) intensified the symptoms even more, and here it should be mentioned that egg-white is already known to be rich in vitamin B_2 (H. Chick and M. H. Roscoe[6]).

These effects were obtained with remarkable regularity and we must conclude from the results that the 'pellagra-like' dermatitis is not produced by a lack of vitamin B_2, as it is isolated in flavin pigment. We are much more readily able to produce the pellagra-like dermatitis, unaccompanied by non-specific and uncharacteristic secondary symptoms, in the presence of B_1 (perhaps contaminated with B_4) and B_2. This pellagra-like dermatitis can be cured by the administration of the B_1+B_4 eluate from the charcoal adsorbate from yeast extract as prepared by the method of Kinnersley, O'Brien, Peters and Reader[7]. This antidermatitis factor cannot be identical with B_4 for the following reasons: (1) our animals show no signs of B_4 deficiency; (2) the skin lesions can be alleviated by alkaline autoclaved marmite, in which according to Reader the vitamin B_4 must have been destroyed. One might rather identify it with the alkali stable factor *Y* of H. Chick and A. M. Copping or the B_5 pigeon factor. In order to avoid confusion, we have for the time being named this 'rat pellagra preventive factor' in its narrow sense vitamin B_6.

By the administration of B_1+B_4 ($+B_6$) or Peters's yeast eluate for 10–15 weeks, skin changes were certainly produced, but they were never pellagra-like, but 'unspecific' as above mentioned and mostly only trivial. These skin changes can be cured by B_2. In this sense, B_2 is also a skin factor and it can be understood that egg-white, for example, which contains no B_6, can cure these 'non-specific' skin changes because it is rich in B_2 (cf. Chick and Copping).

So we have been able to separate vitamin B_2, the antidermatitis factor, into two components—the real vitamin B_2 (flavin) and vitamin B_6.*

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* The vitamin B_1 was prepared by the I. G. Farbenindustrie, Elberfeld, Germany, and the lactoflavin was kindly prepared by my colleagues, R. Kuhn and Th. Wagner-Jauregg (Heidelberg), at my request.

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Effect of Mitogenetic Rays on Eggs of *Drosophila melanogaster*

THE different methods for the demonstration of Gurwitsch rays have in common that the technique is always subtle and requires much practice; Magrou alone has described a simple method while using the eggs of the sea-urchin, but these eggs are only obtainable in certain months of the year and in marine laboratories; so we have sought for a more convenient object and have found it in the eggs of *Drosophila melanogaster*.

We used strips of paper, with a layer of agar and ordinary treacle; after deposition of the eggs by the flies, we put the paper strips into Petri dishes and moistened them with water. The source of our Gurwitsch rays was a culture three hours old of *Staphylococcus pyogenes aureus* in ordinary broth. The broth was put into test-tubes of fused silica closed by corks, and placed on the opened Petri dishes containing the paper strips with the eggs. The most suitable time for irradiation was found to be 20 minutes. Afterwards the two Petri dishes (irradiated and control) were closed with their covers of glass, and kept under the same conditions. We counted the larvæ that were hatched each day and sometimes every couple of hours; so we could always choose an epoch, when only 20–60 per cent of the control eggs were hatched, while a much greater number of the irradiated eggs were hatched.

The following results, which speak for themselves, were obtained from nine experiments.

Controls			Irradiated Eggs				
No. of eggs	No. hatched	Per cent hatched	No. of eggs	No. hatched	Per cent hatched	Time of irradiation	Diff. (per cent)
39	25	64	51	45	88	15–20 min.	24 ± 10·6
81	15	18·6	72	30	41·7	15–20	23·1 ± 7·45
52	18	34·6	60	49	81·7	15–30	47·1 ± 8·1
304	210	69	312	300	96·1	20	27·1 ± 8·5
324	147	45·4	304	228	75	20	29·6 ± 3·7
344	255	74	327	323	98·4	20	24·4 ± 2·6
366	136	37	357	244	68	20	31 ± 3·5
118	79	67	117	98	83·5	20	16·5 ± 5·5
74	38	51·3	85	60	70·6	20	19·3 ± 7·7
1702	923	54·2 ± 1·2	1685	1377	81·7 ± 0·95		27·5 ± 1·54

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The Pectoral Fin of *Coelacanthus tingleyensis*

THE structure of the internal skeleton of *Coelacanthus tingleyensis*, Davis, was first described[1] and figured[2] by Wellburn as having six basal supports radiating out from the shoulder girdle in a manner similar to those in a pectoral fin described by Woodward[3] from the Talbragar Beds. In view of the recent work of Stensiö[4] on the structure of this fin in the Triassic Coelacanth *Laugia groenlandica*, we have re-examined Wellburn's specimen, which is now in the Leeds City Museum (No. D17), and found that the fin does not show the radials described by Wellburn. This we consider is important and worth putting on record, for it would have been difficult to reconcile the actinopterygian-like arrangement described by Wellburn with the archipterygial type of fin present in the later Triassic Coelacanths.

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