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On the refractive index of the serum in a guinea-chicken hybrid.By **RAYMOND PEARL** and **JOHN W. GOWEN.**

[From the *Biological Laboratory of the Maine Agricultural Experiment Station.*]¹

In connection with some biochemical studies on heredity now in progress in this laboratory we desire to record certain results regarding the refractive index of the blood serum of a genus-hybrid produced from the mating Cornish Indian Game ♂ × Guinea Fowl ♀. The measurements were made with a Zeiss Eintauch Refraktometer on the unmodified serum of freshly drawn blood, expressed from the clot by centrifugation.

Our results show that (1) there is a definite, characteristic, and permanent difference between the refractive index of the serum of the fowl and that of the guinea; and (2) that in the hybrid the guinea parent is dominant in respect of the physico-chemical constitution of the blood as measured by the refractive index. Some figures on the point follow:

Source of Blood.	<i>n_D</i>
Fowl (<i>Gallus</i> sp.).....	I.34537
(Mean of data from 10 birds of different hereditary constitutions)	
Guinea (<i>Numida meleagris</i>).....	I.34184
(Mean from 6 birds)	
Hybrid (<i>Gallus</i> ♂ × <i>Numida</i> ♀).....	I.34179

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Application of the serum-skin test to the diagnosis of pregnancy and different pathological conditions.By **J. BRONFENBRENNER.**

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As it was shown in previous communications,² the dialyzable substances in the Abderhalden test appear as a result of auto-

¹ Paper No. 77.

² See last number of PROC. SOC. EXP. BIOL. AND MED.

digestion of the serum. The study of this process revealed the fact that the substances, resulting from autodigestion of the serum are toxic to homologous animals—and possibly identical with so-called anaphylatoxin. Last year¹ I described a method in which making use of anaphylatoxin formation I was able to diagnose tuberculosis. In this communication I wish to describe an improvement of the method which makes it possible to apply this test not only to tuberculosis, but to any condition where Abderhalden test or complement deviation test could be applied.

The technique is as follows. 2 c.c. of the serum of the patient is injected in the guinea pig and the next day the guinea pig's blood is collected. This blood, containing at the same time complement and antibody (passively transmitted) is allowed to form anaphylatoxin in a test tube by combining it with tuberculin, placenta, tumor tissue or any other substratum, after which the serum is collected and injected into a normal guinea pig. The test can be made by intravenous or intracutaneous inoculation. In the first case one obtains an acute anaphylactic shock, in the second a local reaction as described by me as serum-skin test.

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On the tonus of the vaso-motor center in shock.

By **M. G. SEELIG** and **DON R. JOSEPH.**

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The experiments here reported were designed to show if possible whether the vaso-motor center is paralyzed or shows evidence of any considerable degree of tonus during surgical shock.

White rabbits were used. One superior cervical sympathetic ganglion was removed and the auricularis magnus nerve on the same side cut. The connections of the blood vessels of the denervated ear with the vaso-motor center were therefore severed.² Twenty-four hours or more later the animal was etherized and shock induced by opening wide the abdomen, manipulating the

¹ PROC. SOC. EXP. BIOL. AND MED., 1914, XI, pp. 90-92.

² Meltzer, *Amer. J. Physiol.*, 1903, IX, p. 57.