

following the third injection. Autopsy showed inflammation and extensive necrosis at the point of injection.

There were no characteristic signs of anaphylaxis observed during the illness of this guinea pig, although this was probably a case of death after sensitization. The electrolytic products of the tubercle bacillus are being further tested as possible immunization agents.

The variable degree of the persistence of sensitiveness in and following infections has led us in the use of sera to inject a very minute initial dose of serum and to repeat with a slightly increased dose instead of using one large dose of the entire quantity to be administered. This method was elaborated by us as shown before this society.<sup>1</sup>

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### Some observations on the action of ergot.

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The activity of ergot was tested by the cock's comb reaction on white Leghorn roosters, the fluid extract being employed in all the experiments. Alcohol was found to increase the susceptibility to the drug as shown by the decreased activity of the preparation after the alcohol was driven off. Smaller doses of ergot were also required to produce a reaction in acute alcohol intoxication. A fall of temperature was also noticed when ergot was given in this condition, thus indicating a reversible action, since in the normal subject the injection of ergot frequently caused a marked rise of temperature. The repeated injection of ergot at intervals of 24 to 48 hours failed to produce any cumulative effect in the normal subject. But in starvation there was a decided bluing of the comb after the third injection of a sub-minimum dose, the effect becoming more marked with successive injections. In a large number of experiments carried out on normal subjects it was found that when the injections are made at proper intervals the cock's comb reaction

<sup>1</sup> PROC. OF SOC. FOR EXP. BIOL. AND MED., Feb. 21, 1912, IX, pp. 49-51.

became less marked after repeated administration of the drug. Such a tolerance was observed after large doses of very active preparations of the fluid extract and also when the alcohol was driven off. Although the final amounts administered were gradually increased, six to ten times, the bluing of the comb observed was in many cases less marked than after the initial dose.

## II (828)

### **Creatine in the muscle tissue of the lamprey.**

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Creatine was isolated from the muscle tissue of the lamprey, *Petromyzon marinus*.

The lampreys, commonly known as "lamprey eels," are sea animals found on our shores, and belong to the lowest class of vertebrates, the Cyclostomata. For this reason, the presence of creatine in the muscle extracts is of especial interest. It has never been isolated from the muscles of invertebrates and its occurrence in this, the lowest form of vertebrate, seems indicative of some radical and sudden difference in the composition of the muscle tissue between these two great animal divisions.

Mellanby<sup>1</sup> estimated the creatine content of lamprey muscle by Folin's colorimetric method but failed to isolate the compound. Isolation is necessary for proof in muscle extracts of these low forms where anomalous color reactions often occur.

A water extract of the muscle tissue was made, freed from protein, evaporated to a small volume and allowed to stand. The creatine which separated out was purified by recrystallization and analyzed.

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<sup>1</sup> Mellanby, *Journal of Physiology*, 1908, 36, 472.