

My experiments up to the present time have shown that marked rise in blood pressure occurred on stimulating Meynert's reflex bundle, the median nucleus, the fornix and the anterior commissure. This rise has been, with but one exception, accompanied by a slowing of respiration or apnoea. The lateral part of the thalamus yielded slight, if any, changes in blood pressure.

Changes in spleen volume, with but two exceptions, have never occurred independently of changes in blood pressure. Usually the spleen volume was increased when the blood pressure rose, though on several occasions it fell.

In the anterior corpus quadrigeminum I have several times obtained changes in respiration without changes in blood pressure.

These facts bring out two important points. First of all, that the marked blood pressure changes occur particularly when stimulating the median portion of the thalamus, particularly the olfactory system, somewhere in its course, and as this is highly developed in the Carnivora, it seems most probable that we are dealing here with phenomena following the introduction of strong sensory stimuli rather than independent centers.

Secondly, what is the primary factor in these changes? Are the changes in blood pressure and in spleen volume secondary to respiratory changes or are they phenomena occurring at the same time as, but independent of, the respiratory change? On this point further work is necessary before a positive opinion can be expressed.

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The influence of oils and of lecithin on the protein metabolism.

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Experiments intended to determine the influence of different quantities of vegetable oils, like olive oil, cotton-seed oil, and peanut oil, on the metabolic processes, when injected subcutaneously, have been performed on dogs and rabbits. One experiment on an otherwise fasting dog is presented herewith. The oil given in this case was cotton-seed oil put into the form of a very fine

emulsion in 0.8 per cent. sodium chloride with 5 per cent. lecithin as emulsifier. The dog was kept in the Voit-Pettenkoffer respiration apparatus for about twenty-three hours out of the twenty-

Date.	Food, etc.	Weight.	N in urine + 0.1 gm. for feces. gm.	C of respiration. gm.	Total calories.	Calories per kilo.
March 30	5th day fasting.	9.89	3.15	34.28	401.3	40.5
March 31	80 c.c. emulsion (52 gm. oil) injected subcutaneously.	9.84	3.29	40.50	484.3	49.2
April 1	Fasting.	9.82	2.87	36.02	420.5	42.8
April 2	80 c.c. emulsion taken per os voluntarily.	9.73	3.18	41.78	489.6	50.3

four, and the total metabolism was calculated from the total output of nitrogen and carbon. The dog developed a small abscess from one of the points of injection but there was no fever up to the time the experiment closed, hence we believe the figures given represent a true comparison between the effect of fat fed subcutaneously and the same quantity of the same fat given by mouth. On both food days it will be observed that the total energy production is higher than it is on the fasting days. What is more significant, perhaps, is the fact that this effect of the food to increase the metabolism (specific dynamic action) is relatively greater on the day when the fat was injected subcutaneously than when it was taken in the natural manner. The amount of the oil fed was about sufficient to cover the entire energy requirement of the dog and apparently it was all absorbed from the points of injection (axillæ and groins) into the circulation as completely as it was when absorbed through the alimentary canal.

The nitrogen output was only slightly higher on the day of subcutaneous feeding than on the day of natural feeding. Two other experiments on dogs, one fasting and the other on a standard diet, show the same point. On rabbits otherwise fasting we have found that the effect of oil given subcutaneously, up to 25 per cent. of the calculated requirement, is not distinctly unfavorable in this respect, but does not exert the sparing effect which is noted when an isodynamic quantity of dextrose is given by mouth.

Several experiments with pure lecithin solution indicate that the quantity which can be given to fasting rabbits without un-

favorable effects on the protein metabolism is less than .5 gram per kilogram.

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Inheritance of plumage color in poultry.

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The experiments of Dr. C. C. Guthrie who transplanted hens' ovaries to foster mothers of different plumage color from their own and was led to the conclusion that the engrafted ovaries became functional and their eggs gained certain characteristics from the foster mothers' are not at all convincing to the student of normal heredity of plumage color in poultry; indeed, they justify the opposite conclusions. To test these experiments, I transplanted ovaries from a cinnamon-colored, heavy-boot, pea-combed, four-toed, low-nostriled hen which breeds true to a white, non-boot, V-combed, five-toed, high-nostriled hen, and mated her with a cock whose characters resembled those of the hen from which the eggs had been borrowed. Had the engrafted ovary been functional, the chicks must all have been like the cock. Actually, they were exactly what expectation calls for when such a cock is mated to a hen like the so-called foster-mother. The engrafted eggs are not functional; the ovary had regenerated.

Six experiments of this sort were made altogether and in no case was there evidence of a functional graft; far less of an influence on the eggs of the foster mother's soma.

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A new and comparatively rapid method for the detection of liquefying bacteria.

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The results obtained by Feldstein and Weil¹ with Ostwald's viscosimeter in an investigation of the interaction of ferment and

¹*Proc. of the Soc. for Exper. Biol. and Med.*, 1910, vii, 61.