Summary. The adrenalectomized rat given 650-940 mg NaCl daily stores fed glucose as liver glycogen almost as well as does an intact animal. A NaCl intake of 1200 mg seems to interfere with glycogen storage in both adrenalectomized and intact animals.

11729 P

Electrical Conveyance of the Melanophore Hormone.

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(Introduced by G. W. Corner.)
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The treatment of vitiligo[1] with the melanophore hormone as developed in this Institute has all the disadvantages peculiar to intradermal injections. Electrical conveyance has now been explored as a means of facilitating therapeutic application. Experiments have been carried out along 2 lines, *i. e.*, conveyance of the hormone *in vitro* and conveyance through the skin.

1. *Conveyance in vitro.* The apparatus employed (Fig. 1) consists

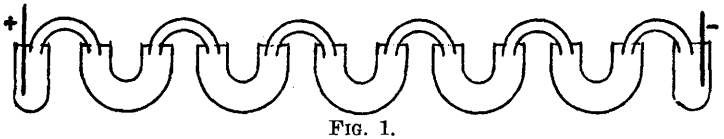

FIG. 1.

of a series of 7 vessels joined together by means of siphons filled with saline. The solution containing the melanophore hormone, which has been purified by a modification of Stehle's method,[2] is placed into the central vessel. The distribution of the hormone in the system was ascertained by biological test after 1 mA current had passed through the apparatus for 24 hours.

Dietel's method[3] of testing, adapted to the native species *Leptodactylus ocellatus,* was employed. In all the anodic vessels the test was negative, whereas decreasing amounts of melanophore hormone were found in the 2 vessels nearest to the central one. Saline solution was used in the experiments described here, which were preliminary, because we lacked the necessary potential for experiments with dis-

1 Mussio Fournier, J. C., Cervino, J. M., and Conti, O., *Bull. de l'Acad. de Med.,* 1938, **120**, 770; Mussio Fournier, J. C., Cervino, J. M., and Conti, O., in press.

2 Stehle, R. L., *J. Pharm. and Exp. Therap.,* 1936, **57**, 1.

3 Dietel, F. G., *Klin. Wochenschr.,* 1932, **11**, 2075.

tilled water. However, we are now engaged with electrophoresis studies, in which we use the latter medium, following Williams'[4] technique. Our aim is to corroborate the findings obtained by the saline method, and to compare, if possible, the speed at which the melanophore hormone is conveyed with the conveyance of the hormones of the posterior lobe, the oxytocic and vasopressor factors, for which data are available from the work of du Vigneaud, *et al.*[5]

2. Conveyance Through the Skin. In order to study the passage of the melanophore hormone through the skin, 2 frogs were put in series in a circuit of galvanic current. A cotton disc 25 mm in diameter and 5 mm thick was applied over the median-dorsal area of each frog, and 2 carbon electrodes were pressed down upon the discs. After saturating both discs with the solution containing the melanophore hormone (about 100 frogs units per cc), the circuit is switched on and a 1 mA current is allowed to pass for 15 minutes. At the end of this time the frog bearing the positive electrode showed a distinct brown spot exactly reproducing the form of the electrode applied on that part (as was to be expected, since the hormone goes through the skin at the place where the positive terminal is applied) while no

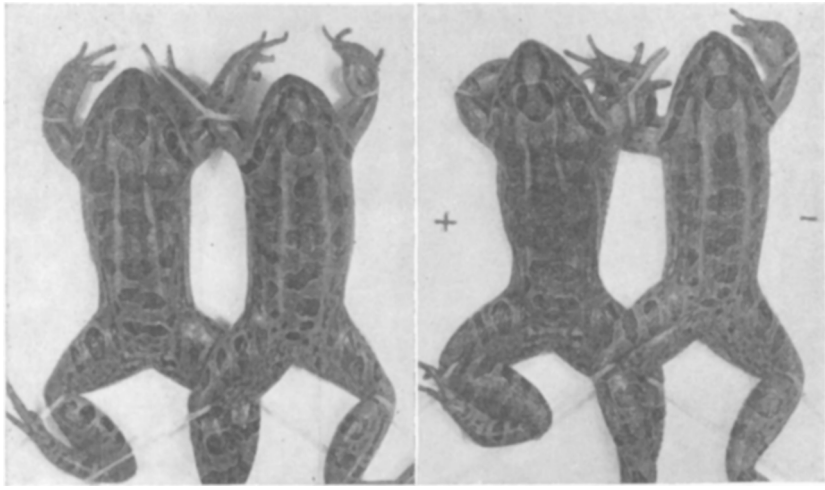

FIG. 2.

[4] Williams, J., and Truesdail, J. H., *J. Am. Chem. Soc.*, 1931, **53**, 4171; Williams, R. J., Lyman, C. M., Goodyear, J. H., Truesdail, J. H., and Holaday, D., *J. Am. Chem. Soc.*, 1933, **55**, 2912; Williams, R. J., and Moser, R., *J. Am. Chem. Soc.*, 1934, **56**, 169; Williams, R. J., *J. Biol. Chem.*, 1935, **110**, 589.

[5] du Vigneaud, Vincent, Irving, G. W., Dyer, H. M., and Sealock, R. R., *J. Biol. Chem.*, 1938, **123**, 45; Irving, G. W., and du Vigneaud, V., *J. Biol. Chem.*, 1938, **123**, 485.

change at all was visible on the skin of the other frog. The brown spot persists for a few hours and then slowly disappears, while a slight darkening of the whole skin becomes noticeable.

Figure 2 demonstrates this darkening process. The first photograph shows the frogs, both of the same colour and characteristics, before the passage of the current; on the second photograph the darkening at the place where the positive electrode was applied is clearly visible.

This experiment was repeated many times with the same results.

All control experiments carried out by saturating the electrodes with distilled water or saline solution were negative. Neither does application of the hormone solution to the skin, without passage of the current, produce any change.

11730

A Lethal Dermatitis in Chickens Produced by External Application of Fat.

BEN-AMI BEN-DOR. (Introduced by H. J. Almquist.)

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It was noticed during the course of a joint experiment of the Institute of Experimental Biology and the Poultry Division of the University of California that Single Comb White Leghorn chicks fed purified diets containing 40% fat contracted a severe dermatitis. This dermatitis was found not to be of nutritional origin, since chicks on a normal diet whose entire skin was coated with the same fat developed the same dermatitis and died within 3 to 5 days. One or two applications were sufficient in the case of chicks 4-5 weeks old; older birds were more resistant. Furthermore, the ingestion of the purified diets containing 40% fat was shown to be harmless if care was taken to prevent the fat from coming in contact with the superficial skin.

Thirty-one chicks were used in the following experiment. They were kept in battery brooders provided with wire mesh floors, and fed the normal chick mash. The 6 control chicks remained in perfect health. The coating was performed by gently applying the oil or liquefied fat (heated to about 42° C) to the skin of the chick by means of a cotton swab, or by pouring it between the feathers di-