Halla parthenospeia, Nephthis scolopendroides, Sthenelais dendrocepis, and *Psammolyce arenosa.* In these forms the homostrophic reflex disappears with removal of the head ganglia. In the case of very long forms, such as *Halla* (80 cm.), bending the body posterior to the middle is without effect, but if the bend is made 20 cm. back of the head, the latter promptly orients itself at right angles to the segments immediately behind it.

No evidence of homostrophy was found in the nemertine worm, *Cerebratulus marginatus,* nor in the flatworm *Yungia aurantiaca,* nor in the *Sipunculida.* It thus appears necessary to the occurrence of the homostrophic reflex that the ganglia of the central nervous system be numerous and extensively distributed as in the segmented animals.

186 (2418)

The variation of complement of guinea pigs during scurvy.

By MATHILDE L. KOCH and ARTHUR H. SMITH.

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Since one of us (K) had observed that an intestinal infection markedly lowered the complement titer in guinea pig blood, it became of interest to follow the variation in titer throughout the development and cure of scurvy which, though not now classed as an infectious disease, is accompanied by a definite alteration in the blood vessel walls. The scurvy-producing diet consisted of soy bean meal (autoclaved) 86 per cent, dried yeast 3 per cent, sodium chloride 3 per cent, calcium lactate 3 per cent, and cod liver oil 5 per cent, to which was added 1.0 gm. per day dried boiled cabbage. Scurvy develops in 13 to 16 days in 200 gm. guinea pigs on this food, while merely changing from cooked dried cabbage to fresh cabbage causes this diet to suffice for normal growth in these animals.

The pigs were bled from the heart under light ether anesthesia, twice in the fore period when fresh cabbage was being fed,

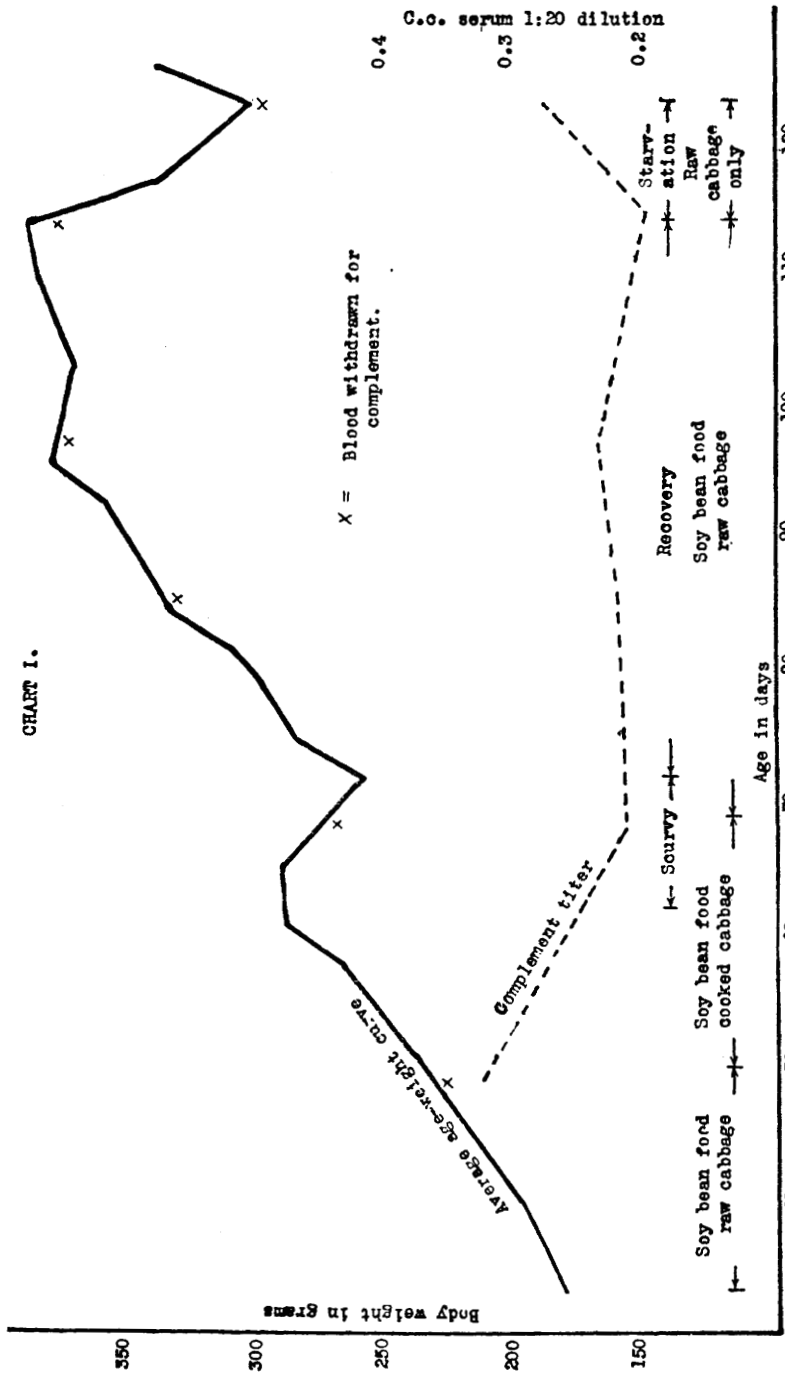
CHART I.
Body weight in grams
350
300
250
200
150
40
50
60
70
80
90
100
110
120
Age in days
Average weight curve
Complement titer
C.c. serum 1:20 dilution
0.4
0.3
0.2
X = Blood withdrawn for complement.
Soy bean food raw cabbage
Soy bean food cooked cabbage
Scurvy
Recovery
Soy bean food raw cabbage
Starvation
Raw cabbage only

once in the height of scurvy and again during recovery. One group of animals was then starved and bled after they had lost about 20 per cent of their weight. The effect of inanition during scurvy on complement was thus controlled. Clean, sterile apparatus and exceeding care in the volumetric measurements were emphasized.

From the chart it is seen that during scurvy a definite increase in the complement titer was observed over that in the fore period, while in the convalescent period the titer remained somewhat higher than in the fore period. Starvation resulted in a lowering of the titer. The effect of age, anesthesia and repeated bleedings are negligible according to Kolmer.[1]

We realize that the number of animals used (12) is small, but in view of the consistent and unexpected results we have offered them at this time. It appears from these experiments that there may be an obscure connection between the complement of the serum and the natural effort of the body to compensate for the tremendous physiological upset incident to scurvy.

187 (2419)

The oral administration of insulin to rabbits.

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Two papers have recently appeared on the absorption of insulin in alcoholic solution from the stomach. Winter[1] stated that insulin in weak alcoholic solution administered to rabbits *per os* caused the blood sugar to fall to a low level. Blatherwick[2] concluded that the oral administration of a weak solution of alcohol to rabbits caused marked decrease in the blood sugar. There

[1] Kolmer, J. A., Matsunami, T., and Trist, M. E., *Am. J. Syphilis*, 1919, iii, 407.

* Introduced by H. B. Williams.

[1] Winter, L. B., *J. Physiol.*, 1923, lviii, 18.

[2] Blatherwick, N. R., Maxwell, L. C., and Long, M. L., *Am. J. Physiol.*, 1924, lxvii, 346.