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A Comparison Between Starvation and Avitaminosis on the Duration of Life.

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It is frequently stated that starved birds and mammals live longer than such birds and mammals on a vitamin-free diet.

To test the truth of such statements the following experiments were performed.

No. 1. Six pigeons 7 weeks old were obtained from a common hardy barn-yard flock, and were normal in every respect as far as could be learned. Three were placed in Cage 1 and given distilled water only; the other 3 were placed in Cage 2 and given distilled water and commercial polished rice *ad lib*.

One of the birds in Cage 1 died the 8th day, another died the 9th day; the third bird died the 10th day. Post mortem examination showed only marked absence of adipose tissue, death evidently being due to starvation.

One bird in Cage 2 (polished rice and distilled water) developed signs of *Polyneuritis gallinarum* on the 14th day. This condition advanced in severity until the 18th day, when the bird died. Another bird in Cage 2 developed polyneuritis on the 15th day and died on the 19th day.

The third bird in Cage 2 developed *Polyneuritis gallinarum* on the 15th day. The severity of the condition steadily advanced until the 18th day, when the bird was "force-fed" brewer's yeast and recovered.

No. 2. Ten albino rats one month old were put on a generous tablescrap diet until they were 120 days old. Six of these 10 rats were then put in false bottom cages on distilled water. One rat (female) died the 9th day. A second rat (female) died the 9th day. Another rat (male) died the 9th day. The fourth rat (female) died the 10th day. The fifth and sixth rats (both males) died the night of the 10th day.

Post mortem examinations showed only marked absence of adipose tissue, death evidently being due to starvation. From 37% to 41% of the original body weight had been lost by each animal.

The remaining 4 of the original 10 rats were put in false bottom cages and given distilled water and the following diet:

	%
Harris' (vitamin-free) casein	18
Harris' (vitamin-free) starch	53
Crisco (commercial)	25
Mendel's normal salt mixture	4
	100

After 41 days on the above diet one rat had lost 19%, another 21%, another 24% and the fourth 26% of the respective original weight. Two animals had developed a mild xerophthalmia.

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In vitro Effects of Certain Drugs on Strongyloides.

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The success attendant on the oral administration of gentian violet and crystal violet in eradicating or greatly reducing *Strongyloides stercoralis* in the human host (de Langen,¹ Faust²) as well as in other primates suggested the desirability of testing *in vitro* the strongyloidicidal properties of several therapeutics. While it was not possible to secure living parasitic *Strongyloides* for this purpose, the several successive stages of the free-living generation of an indirect type of *Strongyloides fülleborni* from the red-spider monkey, *Ateles geoffroyi*, were available. These organisms had been cultured in undiluted moist feces. At the appropriate time, when active free-living males and females, rh₂, RH₂ and f₂ larvae were both numerous and active, the nematodes were drawn off in a few drops of clear water by means of the Baermann technic.

In the first instance these several stages were placed in 0.1% of each of the following reagents: crystal violet (cv); acriviolet (acv); acriflavine (acf); mercurochrome (mc), and hexyl resorcinol (hr). The results of this test are shown in the accompanying table.

In view of these results, showing the high potency of hexyl resorcinol in the dilution used, the organisms were then tested in 0.01, 0.002 and 0.001% dilutions of this drug. The tests in this case showed that the 0.01 dilution was almost as potent as the 0.1 dilu-

¹ de Langen, C. D. 1928. Meded. v. d. Dienst d. Volksgezondheid in Ned.—Indie. 15 pp. Weltevreden.

² Faust, E. C., *Internat. Med. Digest*, 1930, 17, 57.