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**The effect of light and of darkness on the growth of the Albino rat.**

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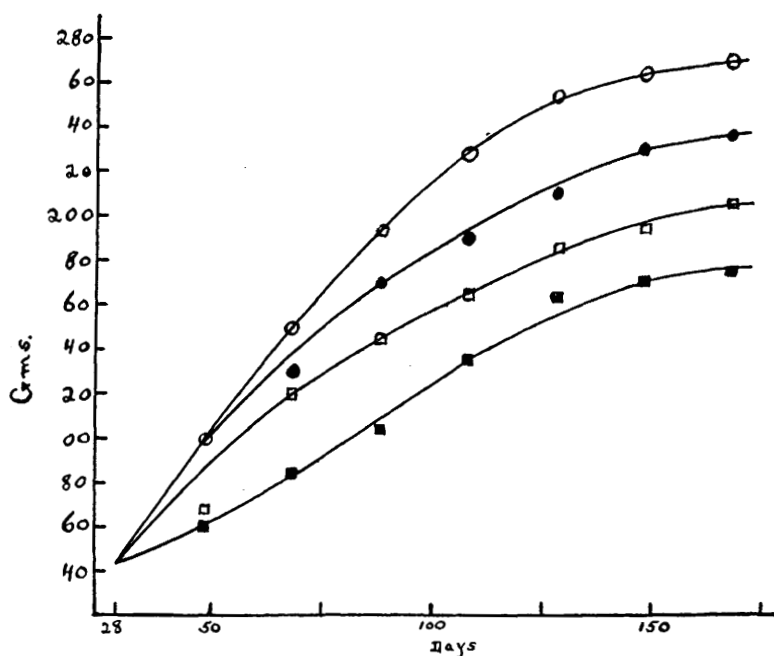
A physiological basis for an explanation of the beneficial influence of visible and ultra violet radiation on pathological conditions may reasonably be expected to be found in a study of the effects of such radiation on "normal" animals. Accordingly we have studied the relative growth of albino rats kept constantly in darkness, of those kept in ordinary room light, of those kept in ordinary room light but given daily exposures to diffuse daylight, and of those similarly given daily exposures to direct sunlight.

The results are of the same nature in all of the series except for seasonal influences such as temperature, ultra violet and visible component of the sun's radiant energy, etc. Our animals have been obtained from time to time from a dealer, the young with the mothers. Our stock diet is Sherman's Diet B. The young are weaned at 28 days of age and distributed in groups of five under the conditions listed above. A series consists of 20 animals. Seven such series, started at different times throughout a year, have so far been observed. A record is kept of the maximum and minimum temperatures, of the relative humidity, as to whether it is bright or cloudy, raining, etc. The dark room, though admitting no daylight, is well ventilated. A 15-watt ruby lamp burning daily for not more than 15 minutes provided the illumination for feeding and weighing.

Only one series will be referred to at the present time, namely a male series E, March 7—July 25, 1924. It differs from the others only in illustrating the most marked evidence of the accelerated growth of the rats given daily exposures to sunlight and diffuse daylight. This is undoubtedly due to the high ultra violet content of the sun's energy at that period of the year.

The curves illustrate the beneficial influence of sunlight and diffuse daylight, perhaps of fresh air, on the growth of a race of rats, which, owing to previous environmental and hereditary influences, is not a superior one as judged from its rate of growth,

on a diet adequate for growth and reproduction. Our colony established, the race is being steadily improved by selection. Observations are being extended to successive generations kept under the four experimental conditions, as well as to the changes induced when individuals are transferred from one situation to another, as for example from sunlight to darkness, as well as to duration of reproductive life, size and number of litters, etc.



#### DESCRIPTION OF CURVES

Open circles: growth curve of rats given daily two-hour exposures to direct sunlight.

Solid circles: growth curve of rats given daily two-hour exposures to diffuse daylight.

Open squares: growth curve of rats kept in ordinary room light.

Solid squares: growth curve of rats kept in darkness.