

ANATOMY-PHYSIOLOGY

# Underfeeding at Early Age Causes Lifetime Undersize

## Existence of Rings on Teeth Similar to Growth Rings Of Trees, And Telling of Health Conditions, Reported

**S**EVERE and prolonged underfeeding at an early age leaves its mark throughout life on body size. Full growth is never attained, no matter how much food is given after the early period of semi-starvation.

These conclusions, drawn from studies of rats, were reported by Dr. C. M. Jackson of the University of Minnesota at the meeting in Toronto of the American Association of Anatomists.

The rats were underfed to keep them at the same constant weight from the time of weaning until they reached the age of 18 weeks. Mortality was high, Dr. Jackson reported.

The survivors, fed as much as they wanted to eat of the stock diet, grew rapidly at first and then more slowly, but never caught up to their litter mates that had not had the preliminary underfeeding. At death, the underfed rats were shorter and weighed less than normal but had nearly normal weight brains, pituitary glands, stomachs, intestines, hearts, lungs, kidneys and sex organs. Bones, muscles, livers, spleens and certain other body structures were below normal weight.

### Teeth Rings

Teeth have rings and other microscopic marks that tell secrets of a person's growth and health, Dr. Isaac Schour of the University of Illinois College of Dentistry reported.

Every tooth has its growth rings, something like the growth rings that tell the age of trees, Dr. Schour has discovered. Teeth rings, or other marks, however, tell also the story of glandular disturbances, vitamin lack and other conditions affecting the health of an individual. A special tooth ring, called the neonatal ring, marks the birth of an individual.

Teeth start growing before birth and continue growing until the age of 20 years in man, and corresponding ages in other animals. They constitute a permanent record, it appears from Dr. Schour's research, of health and growth.

The teeth rings are not visible to the naked eye. Special staining makes them

visible under microscope. The rings are formed both in the enamel and the dentin of teeth. Dr. Schour found them in all species he studied, from rat to man.

A growth ring is added every 24 hours in the lower animals and every 96 hours in man and macacus monkeys.

### Pulp Registers Pain

The pulp, soft inner part of a tooth, is concerned mainly with painful sensations, Dr. Alton D. Brashear of Louisiana State University concluded after studying nerve structure in human and cat teeth. The organ of touch for the tooth, his studies showed, is probably located in the peridental tissues, which are between the root of the tooth and the socket in the jaw.

*Science News Letter, April 3, 1937*

HEREDITY

## Bone Changes in Rickets Have Hereditary Basis

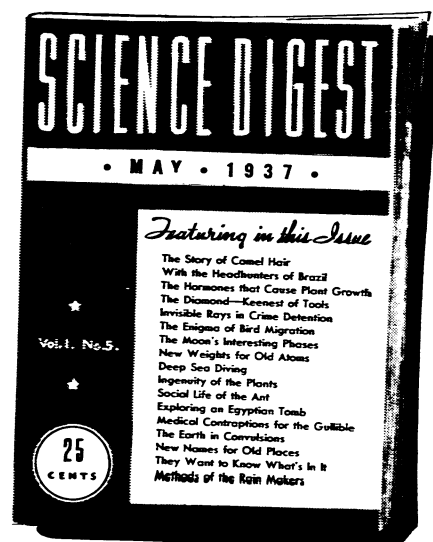
**H**EREDITY plays a part in causing the bone changes seen in rickets, it appears from studies reported by Dr. George L. Streeter, of the Carnegie Institution of Washington, to the American Association of Anatomists.

Rickets itself, of course, is not inherited. It is caused by faulty diet, lack of vitamin D being the specific cause. When a child gets rickets his bones do not develop properly. Extreme degree of this faulty bone development is seen in the bow-legs and bulging foreheads of some rachitic children.

The tendency to abnormal bone development in rickets is inherited, Dr. Streeter found in the course of his studies, which were made with the cooperation of Dr. E. A. Park and Deborah Jackson of the Johns Hopkins University. The studies were made with two strains of rats, one of which was much more vulnerable to rickets than the other. The vulnerable strain reacted more severely to a rickets-causing diet than the non-vulnerable strain.

*Science News Letter, April 3, 1937*

## The "much needed" magazine—



"It was a pleasure to me to greet the publication of your much needed magazine," said one man who wrote in for the issue of *Science Digest* he had missed because of the floods.

And another wrote: "I think *Science Digest* has tremendous capabilities of becoming a text on Modern Science."

Scientists and engineers, teachers and business executives, army officers and medical men are reading *Science Digest* to keep informed about all branches of science.

Each issue contains 96 pages of concise, clear, easy-to-read digests of important articles from the scientific publications of the world.

Just run down the partial list of contents for May. Aren't there several articles there you can read with interest or with profit—or both? The May issue went on the newsstands Thursday. Get your copy today. Or use the coupon below.

Don't miss May.

Science Digest, Inc.,  
635 St. Clair Street,  
Chicago, Illinois.

Gentlemen: I enclose

- 25 cents for May Science Digest.  
 \$2.50 check or money order for a year's subscription beginning with May issue.  
 Please bill me for year's subscription.

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_