Professor J. W. Ellis, for research in infra-red spectroscopy.

Professor V. O. Knudsen, for studies in physiological and architectural acoustics.

Professor C. G. Haines, for a comparative study of review of legislative acts by courts.

Professor Ellen B. Sullivan, for research in delinquency and home rehabilitation.

Dr. Gordon H. Ball, for an investigation of the life histories of various intestinal Protozoa.

Professor Bennett M. Allen, for research on the influence of the endocrine glands of amphibian larvae upon growth and development.

Professor John C. Parish, for historical research in connection with a monograph on John Stuart and the Indian boundary line.

Professor Henry R. Brush, for photostat copies of manuscripts necessary in a study of French historical poetry.

SPECIAL ARTICLES

LONG-BONE LENGTH AND BODY SIZES

IN going over some bone-length, body-length relations observed in a series of albino rats used as controls for another study, it was noted that a singular consistency in ratios existed, regardless of age or body size, once the animals had passed the pre-pubertal stage of development. On remarking this to Dr. H. H. Donaldson, of this institute, he reminded me of the idea attributed to Cuvier that it should be possible to reconstruct an animal from a single bone. While I have been unable to track down this statement in the literature, the figures in the accompanying table show that the principle is not at all preposterous, providing certain obvious limitations are recognized.

The ratios given in the table were derived from length measurements of the humerus, femur and body of ten or more rats of each sex of each age series from 50 days onward. The 20- and 30-day-old groups were composed of 20 animals of each sex.

The data show definitely that once puberty is established, which occurs in the albino rat at about 65 days of age, the ratios between humerus length and body length, and femur length and body length are practically constant, notwithstanding the actual increases which take place in bone and body size. Thus given a humerus or a femur of a male or female albino rat of 65 days of age or over, it is possible to compute from its length the body length of the animal from which the bone was taken, and from this the approximate body weight as well as that of the several organs, more particularly the brain and spinal cord, by the use of the "standard" values established by Donaldson.

BONE LENGTH-BODY LENGTH RATIOS OF ALBINO RATS

Age in days	Male				Female			
	Body weight gm.	Hum. L. Body L.	Fem. L. Body L.	Hum. L. Fem. L.	Body weight gm.	Hum. L. Body L.	Fem. L. Body L.	Hum. L. Fem. L.
23	27	.141	.155	.905	29	.142	.157	.903
30	41	.135	.158	.853	39	.138	.162	.855
50	75	.128	.159	.806	74	.128	.159	.805
65	121	.125	.159	.785	105	.127	.161	.785
75	133	.125	.160	.785	116	.127	.162	.785
100	162	.125	.163	.771	138	.127	.164	.776
150	263	.126	.164	.765	183	.127	.165	.773

It will be noted that, of the two bones, the humerus length bears the more constant ratio to the body length, that of the femur tending to increase slightly with age. While this increase is numerically small, its occurrence in both sexes, combined with the fact that the humerus length-femur length ratio consistently decreases with age marks the distinction as valid, and indicates that of the two the humerus is the better bone for reconstruction purposes.

FREDERICK S. HAMMETT

THE WISTAR INSTITUTE
OF ANATOMY AND BIOLOGY

DIETARY REQUIREMENTS FOR REPRODUCTION[1]

XII. THE INEFFICIENCY OF THE LACTATING MOTHER (MUS NORVEGICUS ALBINUS) TO SECRETE VITAMIN B IN THE MILK AND THE RELATION OF SUCH PHENOMENON TO INFANT MORTALITY

FOR the past eight years I have been attempting to induce lactating albino rats to rear and wean their

[1] Aided by grants from Eli Lilly and Co., Indianapolis, and the Committee on Scientific Research of the American Medical Association. Research paper No. 49, Journal Series, University of Arkansas.