

## UNIVERSITY AND EDUCATIONAL NOTES

THE following promotions have been made at Yale University: Dr. Harold S. Burr, associate professor of anatomy; Dr. Chester R. Longwell, associate professor of geology; Hubert M. Turner, associate professor of electrical engineering; Dr. Erwin B. Kelsey, assistant professor of chemistry, and Dr. Winthrop M. Phelps, assistant professor of orthopedics.

RECENT appointments to the faculties of the University of Chicago include those of Dr. A. Baird Hastings as professor of physiological chemistry and Dr. Louis Leiter as assistant professor in the department of medicine. Professor Harvey A. Carr has been made chairman of the department of psychology.

R. E. SOMERS has been made head of the department of geology at the University of Pittsburgh. Roswell H. Johnson continues as head of the department of oil and gas production.

DR. SELIG HECHT, research fellow, International Education Board, has been appointed associate professor of biophysics at Columbia University.

DR. H. V. ATKINSON, professor of pharmacology in the University of Texas Medical College, has been appointed associate professor of pharmacology in the Iowa State University Medical College.

DR. R. L. EDWARDS, professor of physics at Park College, has been appointed professor of physics at Miami University, succeeding Dr. J. A. Culler, who retires at the end of this year.

DR. ROBERT L. WEBSTER has been appointed head of the department of zoology at Washington State College and entomologist to the experiment station.

AT Brown University, Dr. Rudolph Ernest Langer, of Dartmouth College, has been appointed assistant professor of mathematics and Dr. Harry Edward Farnsworth, of the University of Maine, assistant professor of physics.

DR. FREDERICK LEET REICHERT, of the Johns Hopkins University, has been appointed associate professor of surgery in the Stanford Medical School beginning with the year 1926-27.

DR. C. L. WITHERCOMBE, lecturer in zoology and entomology at the Imperial College of Tropical Agriculture, Trinidad, is leaving the college at the end of the present session, having been appointed lecturer in entomology at Cambridge University.

THE Egyptian Council of Ministers has appointed Sir E. Cooper Perry director of the Faculty of Medicine for three months from the beginning of October next, with the view of organizing that faculty in the newly established University of Cairo.

## DISCUSSION AND CORRESPONDENCE

### THE HABITS OF THE GRUNION

A MUCH appreciated form of necromancy practiced in California consists of dipping up a teacup full of sand on the shore about Long Beach, in May, at the time of highest tides. The sand is then spread out in a pan and a teacupful of salt water is poured over it. Shortly after, a large part of the sand springs to life and swims about in the form of very active minute creatures, with transparent bodies and big black eyes. If placed in an aquarium these objects remain alive and vigorous for a week, more or less.

The explanation of this magic lies in the habits of the Grunion (*Leuresthes tenuis*), a slender, silvery fish, four to six inches long, of the family of Silversides (*Atherinidae*) much resembling the common Atlantic species, but differing in the absence of teeth.

In the high tides of spring and early summer the grunion comes ashore in hundreds, ascends to the highest wash of the waves, where the female squeezes herself, tail-first, into the sand, depositing her eggs which are fertilized at once by the male. These eggs lie quiet until the next spring tide, unaffected by sunshine or rain, but ready to leap into life at the next touch of salt water, by a process at once marvelous and instantaneous. Two or three broods are produced in one summer, and each year until the fish is four years old.

The life history of the grunion has been most carefully worked out by Miss Frances N. Clark, of the California State Fisheries Laboratory, at Terminal, California, between San Pedro and Long Beach. The record, an illustrated pamphlet of fifty-five pages (offered as a thesis for the degree of doctor of philosophy at the University of Michigan), is published by the California Fish and Game Commission. It is entitled "The Life History of *Leuresthes tenuis*, an Atherine Fish, with Tide-controlled Spawning Habits." The origin of the name "grunion" I have not been able to trace.

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### ADSORPTION MECHANISMS

COLLOID chemists have for some time considered adsorption as being of two kinds—"polar" and "apolar,"<sup>1</sup> or adsorption at "watery points" and at "oily points."<sup>2</sup> The writers believe that a more definite classification of adsorption forces in terms of atomic and molecular structure is both possible and

<sup>1</sup> Freundlich, "The Elements of Colloid Chemistry," translated by Barger (Dutton, New York, 1924); p. 64.

<sup>2</sup> Loeb, "Proteins and the Theory of Colloid Behavior" (McGraw-Hill, New York, 1922); p. 283.