

## WEIGHS STARS WITH STOP WATCH

Methods of measuring and weighing stars so distant that their light takes hundreds of years to reach us, with the aid of a stop watch, were described to the National Academy of Sciences by Prof. Joel Stebbins, director of the Washburn Observatory of the University of Wisconsin.

"Observations with the spectroscope reveal motions of certain stars which can be explained by their having large companions or planets," said Prof. Stebbins. "The periods of revolution of many of these attendant bodies are very short, even as small as one or two days. By choosing the proper time for light measurements, it is found that among the cases known in advance to be favorable fully one-half of these double systems present eclipses as viewed from the earth.

"A study of the variation of the light of a star during an eclipse makes it possible to calculate the diameter of both the bright star and its dark or faint companion. As an illustration, it is noted that two stars moving in space parallel to the stars of the Big Dipper, and presumably belonging to that system, have each been found to have attending satellites. Each of the bright bodies is twice as heavy and gives one hundred times as much light as our sun, so that the latter would make only a mediocre planet for any star of the Big Dipper.

"As these observations are taken with the photo-electric cell, the same instrument that is used for transmission of pictures over telephone wires, and the light of stars is measured by timing their effect on a delicate electrometer, attached at the eye-end of the telescope, it is literally true that we can measure and weigh a star by means of a stop-watch."

\*\*\*\*\*

REPTILES AND AMPHIBIANS. By Thomas Barbour. Boston: Houghton Mifflin Company. 1926. \$3.50.

Reptiles and amphibians have been left in relative neglect by writers on natural history, possibly because they are neither good to eat, like fish, nor pretty, like birds, nor full of suggestions of close kinship to man, like the mammals. Yet these two great groups of animals are not only highly interesting because of their own curious lives, but they occupy a strategic position in the evolutionary genealogical diagram. Dr. Barbour therefore merits the thanks of all nature lovers and students of zoology for his condensed yet adequate account of these two important divisions of the animal kingdom.

\*\*\*\*\*

An investigation at the U. S. Bureau of Standards has shown that tire treads containing 25 per cent. of reclaimed rubber gave an average service of about 7,000 miles of road travel.

Although the great Swedish naturalist Linnaeus was not a believer in evolution he placed men and monkeys in the same natural order, which he called the Primates or Foremost Animals.

\*\*\*\*\*