

DR. JAMES LUKENS MCCONAUGHY, president of Knox College, Galesburg, Illinois, has been elected president of Wesleyan University, Middletown, Connecticut.

JAMES R. WITHROW, professor of chemistry at Ohio State University, has been appointed professor of chemical engineering in the university and will head the new department of chemical engineering which has just been organized.

DR. THOMAS W. TURNER has resigned as professor of botany at Howard University, Washington, D. C., and is now head of the biology department at Hampton Institute, Hampton, Va.

OTTO KOPPIUS, assistant professor of physics at Oberlin College, has accepted an appointment as associate professor at the University of Kentucky.

DR. JOHN PAUL VISSCHER, late Bruce Fellow of Johns Hopkins University and special investigator of the United States Bureau of Fisheries, has been appointed assistant professor of biology in Western Reserve University.

DR. LOUIS LEON THURSTONE has been appointed assistant professor of psychology at the University of Chicago.

DR. A. C. SHEAD, of the University of Illinois, has been appointed assistant professor of chemistry at the University of Oklahoma.

DR. ROBERT DAY WILLIAMS, professor of psychology at Pomona College, has been appointed visiting lecturer on psychology at Harvard University for the first half of the academic year.

DR. H. H. DIXON, professor of botany in the University of Dublin, has been appointed Regius professor of botany in the University of Glasgow in succession to Professor F. O. Bower, who has retired.

DR. FRANK CLARE WILKINSON, of the University of Liverpool, has been appointed to the newly created chair of dental science in the University of Melbourne, Australia.

DR. PAUL SCHRÖDER, professor of psychiatry and neurology at the University of Greifswald, has been appointed professor of psychiatry at the University of Leipzig to take the place of Professor Bumke who has resigned.

DISCUSSION AND CORRESPONDENCE

ON THE RELATIVITY MOTION OF MERCURY

IN a note published in the September fifth number of *SCIENCE*, Professor Poor seems to have become confused as to the meaning of the gravitational radius (1.47 km) of the sun as used in Einstein's theory of

gravitation. This confusion is perhaps due to the fact that Eddington, in his treatment of the subject, takes the velocity of light as unity and is not very explicit as to the physical dimensions of the quantities which he uses. Making no restrictions as to the units employed, Einstein's theory leads to the following equations for a planetary orbit,

$$\frac{d^2u}{d\phi^2} + u = \frac{m_e}{h_e^2} + 3m_e u^2, \quad (1)$$

$$r^2 \frac{d\phi}{ds} = h_e, \quad (2)$$

whereas Newton's theory gives

$$\frac{d^2u}{d\phi^2} + u = \frac{m_n}{h_n^2}, \quad (3)$$

$$r^2 \frac{d\phi}{dt} = h_n, \quad (4)$$

where m_e is the constant obtained by integrating Einstein's field equations and m_n is the gravitational mass of the sun in astronomical units. Moreover ds and dt are related to a sufficiently high degree of approximation by the equation

$$ds = c dt$$

where c is the velocity of light.

Comparing (2) and (4) in view of this relation it is clear that

$$h_n = c h_e$$

Eddington shows that the second term on the right hand side of (1) is very small compared to the first. So neglecting this term comparison of (1) and (3) gives

$$m_e = \frac{h_e^2}{h_n^2} m_n = \frac{m_n}{c^2}$$

As we are making the gravitational constant unity, Newton's law has the dimensional form $LT^{-2} = m_n L^{-2}$, showing that m_n has the dimensions $L^3 T^{-2}$. Therefore, the gravitational radius m_e is of the dimensions of a length, and does not change from 1.50 km to 13.5 (10)²⁰ km according to the choice of units, as Professor Poor would have it do.

LEIGH PAGE

YALE UNIVERSITY

MODIFICATIONS RELATING TO THE "NEW INTERNATIONAL ENCYCLOPAEDIA"

IN a recent number of *SCIENCE*, Vol. LX (1924), page 82, attention was directed to a very obvious error relating to Copernicus which appears under his name in the 1923 printing of the well and favorably known American encyclopaedia noted in the heading of this article. It should have been stated then that