of America will be held at Union College, Schenectady, N. Y., October 20, 21 and 22. Headquarters will be at the Van Curler Hotel.

THE United States Civil Service Commission states that there is a vacancy in the position of senior aeronautical engineer at the Langley Memorial Aeronautical Laboratory, Langley Field, Va., at a salary of $5,000 a year, and that in view of the importance of the position in the field of aeronautical research, and in order to secure the appointment of a thoroughly qualified man for the work, an unusual method of competition will be followed to fill the vacancy. Instead of the usual form of civil service examination, the qualifications of candidates will be passed upon by a special board of examiners, composed of Dr. G. W. Lewis, director of aeronautical research, National Advisory Committee for Aeronautics; Dr. F. C. Brown, acting director of the Museums of the Peaceful Arts; Mr. Starr Truscott, aeronautical engineer, National Advisory Committee, and Messrs. A. S. Ernest and A. W. Volkmer, examiners of the Civil Service Commission. For the purpose of this examination the persons named will be examiners of the Civil Service Commission. Applications should be received not later than October 4.

APPLICATIONS for pharmacologist in the Hygienic Laboratory, Public Health Service, Washington, D. C., and vacancies occurring in positions requiring similar qualifications, must be on file with the Civil Service Commission at Washington, D. C., not later than October 11. The entrance salary is $3,600 a year. The work will be to carry on pharmacological and toxicological investigations and research. Competitors will not be required to report for examination at any place, but will be rated on their education, training, experience and fitness, and publications or thesis to be filed with the application.

A MOTION picture machine which will take 48,000 exposures a second and which will be useful in scientific and experimental work has been invented and patented in Germany. There are certain very fast operations beyond the human eye and ordinary film photography, where a scientific investigation at such high speeds has created an actual need for high-speed photography. Among these operations may be mentioned the investigation of electric discharges, electrical switching apparatus, the determination of the speed of bullets, the operation of high-speed looms and sewing machines, investigations of mental working machinery and oscillations and vibrations on almost every kind of machine, etc.

Erratum.—In the review of Eddington's book on "The Internal Constitution of the Stars," by Dr. H. H. Plaskett, printed in the issue of SCIENCE for July 22, several lines were misplaced at the bottom of the right-hand column on page 82. The passage should read:

> Of the several quantitative predictions furnished by Eddington's model, none is more striking or more general than this relation that the luminosity of a star, apart from a small factor depending upon the surface temperature, is a single-valued function of its mass. The relation contains but one disposable constant (the proportionality constant of Kramers's absorption law), and this is fixed from the mass, luminosity and effective temperature of a single star (Capella). It is then found that all thirty-seven stars of known mass and luminosity, both giants and dwarfs, lie on Eddington's mass-luminosity curve with the average residual of the order of half a magnitude.

UNIVERSITY AND EDUCATIONAL NOTES

KEUKA COLLEGE, at Penn Yan, N. Y., has received a gift of $150,000 from Ball Brothers, glass manufacturers, of Muncie, Ind. This makes a total sum of $250,000 which they have given to the college.

A CHAMBER OF COMMERCE committee in Cambridge, Mass., has reported that Cambridge property is $30,000,000 underassessed, chiefly because of the big holdings of its colleges. A conference is recommended with officials of Harvard University and the Massachusetts Institute of Technology to see what steps might be taken to halt the continuous acquisition of property by these institutions. It is asserted that as holdings were diverted to educational uses, they automatically came off the tax list, forcing up the tax rate and discouraging new developments.

PROFESSOR A. F. KUHLMAN, who has been on leave of absence during the second semester of the present academic year, working for the Social Science Research Council, resumes his work in the University of Missouri at the beginning of the academic year and will act as chairman of the department during the absence of Professor Ellwood.

DR. HARRY F. WILKINSON has been appointed assistant professor in the department of surgery, in charge of work in otolaryngology at the medical school of the University of Chicago. Dr. Wilkinson has been a fellow in otolaryngology at the Mayo Clinic for about three years.

DR. RICHARD H. MEADE, of Richmond, Virginia, has been appointed assistant professor of surgery in the University of Virginia.

M. ROUCIERE has been appointed professor of anatomy at the University of Paris, to succeed M. Nicolas; M. Loeper, professor of therapeutics, to succeed M.

Carnot; M. Tasilly, professor of physics, to succeed M. Daniel Berthelot, and M. Guérin, professor of botany, to succeed M. Guignard.

DR. EDWARD LUKAS, of the University of Graz, has been called to a professorship of folklore in the University of Tübingen.

DISCUSSION AND CORRESPONDENCE

PHILOSOPHY AND THE SCIENCES

NOTHING is more to be desired in the world of scholarship to-day than a sympathetic understanding between philosophers and scientists. Different as are their problems and their points of view, their tasks are vitally interrelated; and it is in the hope of promoting in some degree at least the necessary rapprochement that these lines are written.

The aim of every scientist, as I should conceive it, is to understand as intimately and in as great detail as possible some limited portion of our vast universe: the aim of the philosopher, on the other hand, is, not to fill out the gaps in scientific knowledge as it stands to-day, but to understand the facts that the particular sciences *have* revealed in their relation to all that is, to see things in the light of the whole. Being finite, no human thinker would dare pretend that this "synoptic view" can ever be more than the merest glimpse; but it is his hope that some such glimpse may be attained, nevertheless, however distorted in time and space that glimpse may be.

The astronomer, the physicist and the chemist, in their various ways, are interested in the composition of matter, the laws of energy and the structure of the material universe; the biologist seeks to understand the structure and activities of organisms, the conditions which make life possible and the laws of its evolution; the psychologist, when he remains within his proper field, examines in a precisely analogous fashion into the phenomena of the human (and animal) mind, with a view to analyzing and classifying these and formulating the laws of their succession and correlation. In cultivating their respective fields, the physical scientist definitely excludes vital phenomena and the whole realm of animal or human mentality from consideration; the biologist ignores the laws of non-living matter and, together with the physicist, disregards the influence of consciousness; and the psychologist concerns himself with those matters which both groups of his fellow-workers purposely and properly neglect. Moreover, in each of these domains the scientific investigator restricts himself to the question of how matter, life and mind, respectively, work—he does not inquire into their inherent nature, and still less into their relationships as parts of one great Reality. But what *is* matter? What *is* life? What *is* mind? What is the place of mind in physical nature? How are the truths of the various sciences to be unified into a great world-view? These are all questions over and above the specific programs of any one science: they are *meta*-physical, *meta*-biological, and *meta*-psychological questions. As for God, "I have no interest in that hypothesis," says science—and quite properly so; but if the follower of science is a man as well as a scientist he has an *ineradicable* interest in God which only philosophy can *intellectually* (I do not say emotionally or practically) satisfy. And the great and to many persons absorbing question of the correlation of religion and science is also a distinctively philosophical problem.

Again, philosophy and the sciences seem to differ fundamentally in their *attitudes* toward the world. The attitude of the scientist is a detached, disinterested, impersonal one: he wishes to know what are the facts about the world, quite regardless of their positive or negative value to himself or to other men; and he sets forth as his ideal the explanation, or at least correlation, of these facts in terms of the all-comprehending principle of causality, and in exclusion of any question of ends or purposes. But the philosopher is supremely interested in those very things which the scientist for his own purposes intentionally ignores: his paramount concern is that very "realm of ends" or of values which is quite properly taboo to the scientist. From this standpoint, the contention of many present-day scholars that ethics should be treated as an inductive science, "the natural history of goodness," is a complete perversion of the true place of moral philosophy in the general scheme of things. That there is a place for "ethology," the science of character as Mill proposed it, and for the "history of moral ideas" in Westermarck's phrase, there can be no doubt; but the former of these is a branch of psychology, and the latter a division of history, and both of them are scientific and so non-philosophical disciplines. The subject-matter of ethics as moral philosophy is the nature of the good as the supreme end of conduct, for as that of philosophical logic is truth, and of esthetics beauty—the value and validity of moral ideas, not merely their existence or even their evolutionary development.

When we consider religion, which is so closely interrelated with science, on the one hand, and philosophy, on the other, a quite different situation confronts us. Ethics is, indeed, a system of ideas, and so conceivably amenable to scientific treatment; and perhaps the same might even be said of theology, regarded as a theory of God and our relation to Him. But religion is not a system of ideas, religion is not