at the University of Prague, will deliver the first Harvey Society lecture at the New York Academy of Medicine on Saturday evening, October 13. His subject will be "Organotherapy."

CHARLES BURCKHALTER, astronomer and meteorologist, director of the Chabot Observatory, died in Oakland, California, on September 20, after thirty-eight years of service in connection with that institution.

PROFESSOR FREDERICK PUTNAM SPALDING, of the School of Engineering of the University of Missouri, died on September 4, aged sixty-six years.

DR. STEPHAN VON APATHY, professor of zoology at the University of Kolosvár, who was well known for investigations on neuro-histology, recently died at the age of sixty years.

THE International Horticultural Congress opened at Amsterdam on September 18. Papers were read on various subjects, including horticultural and plant diseases and the development of the dahlia.

UNIVERSITY AND EDUCATIONAL NOTES

THE new building of the Department of Chemistry of the University of Missouri is nearing completion. This building is the third building on the campus to be devoted entirely to chemistry. There will be an auditorium seating 175 students, and laboratory space for 600 students. There are five small research laboratories for instructors, besides administration offices and storerooms. The attic has been finished off into four rooms and will probably be used as research laboratories for graduate students.

A SOCIETY of Bologna has founded an endowment representing a stipend of 6,000 francs a year for an Italian student of physics and chemistry who desires to do research work in the Curie Laboratory, Paris. The fellowship is endowed for ten years.

DR. GEORGE W. MARTIN, of Rutgers College, has accepted an appointment in the University of Iowa, where he will be in charge of the work in mycology.

OSCAR E. HARDER, Ph.D. (Ill.), who has been in charge of the department of metallography in the School of Mines of the University of Minnesota, since 1919, has been given a full professorship. Mr. L. J. Weber, B.S., Ch.E. (Minn.), has been appointed instructor to take the place of Mr. C. M. Reasoner who resigned to become combustion engineer for the Pillsbury Flour Mills.

DR. WILLIAM LLOYD AYCOCK, Burlington, connected with the research department of the Vermont State Board of Health, has been appointed associate professor of preventive medicine and hygiene in the Harvard Medical School.

DISCUSSION AND CORRESPONDENCE

THE STRUCTURE AND ORIGIN OF COKING COALS

OBVIOUSLY, the logical method of discovering the structural features of coals which, on heating, become coke, is the investigation of thin sections. The best coking coals are, however, very difficult of manipulation, even by the improved methods devised by the present writer. After repeated efforts, success has been reached in the case of the well-known coking coals of the highest grade from the Pocahontas basin and the Connelsville field. In thin sections of these it is possible to determine the presence of quantities of charred wood and of structureless materials derived beyond any reasonable doubt from wood which has lost its organization in the process of transformation into coal. The spores which are so commonly present in bituminous coals from all parts of the world are conspicuous by their absence in coking coals of high rank. It is accordingly highly probable that coking coals as such are of purely woody origin, since they show no evidence of the presence of spores or any considerable amount of the dark matrix characteristic of cannels and oil shales. The hypothesis of the presence of "gelosic" or "algal" material is thus definitely negatived.

The investigation of more recent coals than those of Connelsville or Pocahontas is of interest in this connection. It has been found in certain instances that pure lignite, that is, coal-like substance which is entirely woody, is capable of giving rise to quite typical coke. This has been observed to be the case with lignites, both from the Mesozoic and Modern periods. Obviously, such lignites, representing as they do the modified wood of single trees, leave no chance for misinterpretation. Obviously, the various hypothetical substances which have been supposed to make coals capable of coking are by the very origin of the material excluded. It is interesting to note that coke, which has so completely replaced charcoal in the technique of modern metallurgy, is like charcoal derived from wood. Not all lignitic woods, however, are capable of being coked, and in fact, quite generally in brown coals, they do not possess that capacity. This condition arises out of the fact that the wood in brown coals has in general not undergone the right degree of chemical modification for the product to be a coking coal.

It is important in this connection to emphasize that cannels and oil shales, as such, are incapable of coking, and this conduct in the oven is explained by the fact that they are characteristically composed of a dark matrix and of spores, with a greater or less, but always proportionately small, amount of wood. Since the view has been put forward in many quarters that oil shales are composed of Algae, their conduct, when