physics, Washington Square College; Dr. Francis A. Jenkins, formerly of Harvard University, has become an assistant professor of physics at University College on the Heights.

NEW appointments at Cornell University include those of Robert E. Loving, of the University of Richmond, acting professor of physics; W. W. Nicholas, formerly National Research Fellow, acting assistant professor in physics, and John R. Johnson, of the University of Illinois, assistant professor of organic chemistry.

AT the medical school of Western Reserve University, Dr. Howard H. Beard has been promoted to an assistant professorship of biochemistry and Edward Muntwyler has been appointed demonstrator of biochemistry.

DR. HARVEY A. ZINSZER, acting professor of physics at Mississippi State College for Women, has been elected professor of physics and acting professor of mathematics at Hanover College, Hanover, Indiana.

DR. CHARLES SPARLING EVANS, Ph.D., Princeton, has been appointed associate in geology at Bryn Mawr College.

M. A. STEWART, formerly instructor in biology at the University of Rochester, known to entomologists for his work on Siphonaptera, has been appointed instructor in biology at the Rice Institute.

DR. HOBART A. REIMANN, who recently finished his research work as a fellow in medicine of the National Research Council at the University of Prague, has been appointed assistant professor of medicine at Peking Union Medical College, Peking, China.

DISCUSSION AND CORRESPONDENCE

THE EFFECT OF X-RAY ON TRYOSINASE

THE organic pigment melanin is considered to be the result of the interaction of tyrosine and tyrosinase. When mushrooms or potatoes are ground up with water the water contains a considerable quantity of the enzyme. This can be demonstrated by adding a few drops of the water extract to a dilute solution of tyrosine. This colorless mixture during the first few hours passes through various deepening shades of wine to become black after twenty-four hours. When either potatoes or mushrooms are X-rayed before their extraction with water, this extract invariably shows a decided increase in its powers of melanin production. This increase is in direct proportion to the strength of the X-ray dose. As far as the work has been carried exposures of 30, 60, 90 and 120 minutes at 30 KV., 22 ma., 26 cm. target distance result in increasing depths of color when added to a tyrosine solution that form steps sufficiently sharp to be obvious even in a photograph. Exposures over 2 hours and up to 4 hours produced no further perceptible change. From the results obtained with mice it seems probable that a very severe exposure of this enzyme would cause either a decrease or even a complete inhibition of its activity.

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DEFINING SOIL COLLOIDS

ONE of the most popular and widely studied and discussed problems at the present time in the domain of soils is soil colloids. And yet there are probably no two people interested in the subject who agree completely as to a definition of soil colloids. The concepts and definitions of soil colloids seem to vary enormously. Some people call soil colloids only soil particles of the very smallest size which have an upper limit of not more than .000005 millimeter, while other people call colloids soil particles whose upper limit is .005 millimeter and even .008 millimeter. It behooves us, therefore, to have a correct and standard definition of soil colloids.

Now the vital question is, what standard are we going to adopt upon which to base a standard and correct definition of soil colloids?

There are two apparent standards that present themselves—one is the size of the particles and the other the activity or energy manifestations of the particles.

In choosing one of these two standards, it is absolutely necessary to choose one that has or presents a natural transition or demarcation point which divides the soil material quite distinctly into colloidal and non-colloidal.

The activity or energy manifestations of the soil particles seems to meet the essential requirement of possessing a natural transition point which will divide soil material into colloids and non-colloids. For instance, such energy manifestation or phenomena as adsorption of water vapor, base exchange, heat of wetting, etc., are possessed only by the soil colloidal material and not at all or very little by the non-soil colloidal material.

A thorough examination of all the energy phenomena manifested by the soil particles that of the heat of wetting in water appears to be the most logical to adopt as a standard criterion for defining colloids.

The liquid to use in the heat of wetting measurement and hence, in the definition of the soil colloids is water. By using water all objections that might