sources, including the Yosemite Natural History Association of Museums. The museum consists of four large exhibition rooms, a lecture hall and library and stack room, headquarters for the natural guide service, workrooms and laboratories, and a large supply of exhibition material. It is to be used by visiting scientists, students and casual visitors. Funds are also in hand for starting the construction of a similar museum at the Grand Canyon, and surveys are being made in other national parks.

UNIVERSITY AND EDUCATIONAL NOTES

THE General Education Board has promised a gift of $850,000 to the Yale School of Medicine for medical teaching and study, provided that a new endowment of $1,150,000 is procured for the school from other sources.

A GIFT from the Rockefeller Foundation, said to be between $1,500,000 and $2,000,000, has enabled the University of London to obtain the Bloomsbury site for which it has been negotiating with the British government for years. The Rockefeller gift, together with a government grant of $1,000,000, covers the purchase of about thirty acres of land near the British Museum and part of the cost of constructing several new buildings.

THE International Education Board has given to the University of Edinburgh the sum of $150,000 towards the establishment of a chair for research in animal diseases.

DR. WILLIAM F. VERDI, professor of clinical medicine in the Yale Medical School, has given $10,000 as an addition to the Yale endowment fund for the establishment of a scholarship fund in memory of his mother, Mrs. Rosa Verdi, of New Haven.

DR. ARTHUR B. COBLE, professor of mathematics at the University of Illinois, has been appointed professor of mathematics at the Johns Hopkins University.

DR. WILLIAM DILLER MATTHEW, for more than thirty years connected with the American Museum of Natural History and since 1922 head of its paleontological work, has been appointed professor of paleontology at the University of California.

DR. VICTOR C. MYERS has been appointed professor of biochemistry in the school of medicine, Western Reserve University. Dr. Myers left the Post-Graduate Hospital in New York in 1924 to take the chair of biochemistry at the University of Iowa and will assume his new duties in Cleveland in September of this year.

DR. WILLIAM PHILLIPS GRAVES, professor of gynecology in the Harvard Medical School, has been elected the first incumbent of the W. H. Baker chair of gynecology in the school.

AT Yale University, Dr. J. P. Peters, associate professor of medicine, and Dr. R. G. Hussey, associate professor of pathology, have been promoted to full professorships. Dr. H. W. Haggard has been promoted to an associate professorship of applied physiology. Promotions to assistant professorships include those of Dr. O. L. Lawrence, in physics; Dr. W. M. Agar, geology; Dr. N. I. Adams, physics, and Dr. H. M. Gehman, mathematics.

PROFESSOR ALAN D. CAMPBELL, of the University of Arkansas, has been appointed professor of mathematics at Syracuse University, where he will carry on courses in advanced mathematics.

DR. MELVILLE H. HATCH, assistant professor of entomology of the department of zoology of the University of Minnesota, has been appointed assistant professor of zoology at the University of Washington.

THE faculty of medicine of the University of Padua has called Professor Cesare Frugoni, director of the Institute of Medical Pathology at the University of Florence, to the chair of clinical medicine, to succeed Professor Lucatello.

DISCUSSION AND CORRESPONDENCE

LABILITY IN FERRIC OXIDE HYDROSOLS

RESULTS obtained in this laboratory point to the existence of a labile state in concentrated ferric oxide hydrosols. The particular sol studied was prepared by hydrolysis of $FeCl_3$ at the boiling point of water and dialysis of the resulting impure sol at 92° C. The final product contained 3.5788 grams of iron per liter and showed a completely negative test for chloride ions.

Partial coagulation of this sol was induced by shaking at room temperature, by very gentle stirring with a cold glass rod or by inoculation with a drop of mechanically coagulated ferric oxide sol containing a few particles of the freshly formed coagulum. Coagulation was not complete in any case but reached a fairly definite value and then ceased. The supernatant sol, obtained by centrifuging out the coagulated portion, contained approximately 3.2 grams of iron per liter, was clear to transmitted light and showed complete stability toward agitation and inoculation. Agitation at 92° C., the temperature at which the sol was dialyzed, did not induce any coagu-

lation. Dilution of the sol with pure distilled water gradually decreased the coagulation up to a definite concentration beyond which no amount of agitation or inoculation gave any precipitate. The effect of dilution, however, is not the same sort of straight line function as one finds in dealing with supersaturation in true solutions.

Immaculate cleanliness was observed throughout. All tests were carried out in sealed Pyrex tubes, thereby minimizing glass solubility effects and eliminating the influence of contact with cork or rubber stoppers. Since contact with Pyrex alone, without agitation, gave no coagulation even after several weeks, the possibility of adsorption or surface catalysis exerting any influence seems out of the question.

The results cited are merely preliminary. A thorough study of the observed phenomena is now under way in this laboratory.

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"FINGER PRINTS" OF MINERALS

RECENT developments in our knowledge of X-rays have made it possible to use them in the study of all sorts of solid matter. Truly solid matter consists exclusively of crystals each of which is composed of atoms having a perfectly definite and regular arrangement. These atoms form parallel planes in various positions through the crystal just as the hills of corn planted by machine on a level field form parallel straight lines in several positions across the field. The distance between any two adjacent planes determines the angle at which X-rays are reflected (in phase) by these planes. By exposing a finely powdered crystal to a beam of X-rays reflections can be obtained simultaneously from all the parallel planes in the crystal. These reflections make angles with the incident beam of X-rays which depend directly upon the distances between the planes of atoms. All crystals of the same kind produce reflections which are identical in intensity and positions, while two crystals which are not alike produce reflections which are unlike.[1] Accordingly, every kind of crystal can be made to produce its own characteristic X-ray pattern or autograph.

Scientists in this country and in Europe have obtained such autographs or "finger prints" and studied them in various ways. So far as known to the writer, no scientist nor institution has attempted to establish a reference collection of standard autographs, and the Department of Geology of the University of Wisconsin has undertaken this task.

It is evident that such autographs are most valuable as reference standards when they are obtained from substances whose nature and composition are fully known. Therefore, analyzed samples of all kinds of minerals are needed for the establishment of such standards. A very small portion of the material is sufficient—in some cases an autograph can be made from fifty milligrams of mineral.

In order to make it possible to identify X-ray patterns from unknown material it is important to make the collection of autographs from known material as complete as possible. At the present time about 550 autographs have been made, which include only 170 standards, the others being for purposes of identifying unknown minerals, for special problems relating to crystal structure, etc. The Department of Geology of the University of Wisconsin is anxious to obtain analyzed mineral samples to enlarge its collection of standard autographs as rapidly as possible. For this reason an X-ray pattern of such material will be supplied free of charge to any one supplying a sample together with an accurate chemical analysis.

A. N. WINCHELL

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[1] A few exceptions to this rule have been discovered; most of these are easily understood.

CORRELATION OF MEXICAN BEAN BEETLE POPULATION WITH ORIGINAL FOREST TYPE

THE Mexican bean beetle (*Epilachna corrupta* Muls.) was first discovered in Ohio in 1923, having spread from northern Alabama in three years. Through the cooperation of the Ohio Experiment Station, the Ohio State University and the Bureau of Entomology, records of distribution were obtained which showed that it was present in about ten counties in the south central portion of the State of Ohio.

The distribution of the beetle in Ohio in 1924 presented an interesting problem. It was easily found, and in many cases was abundant in the southern third of the state and very scarce in the remainder. Mr. M. P. Jones, assistant to Dr. D. M. DeLong, who was engaged by the Bureau of Entomology during the summer on the bean beetle project, consulted with Dr. E. N. Transeau, of Ohio State University, regarding the explanation of this distribution. Dr. Transeau had just returned from a trip over the eastern part of the state and noted immediately that the map showing the area of greater population coincided quite closely with what was then known of the distribution of the original mixed mesophytic type of forest.