UNIVERSITY AND EDUCATIONAL NOTES

GIFTS to Columbia University include $200,000 from Mrs. Charlotte E. De Sers, for the endowment of a professorship in memory of her father, Robert Johnson Niven, formerly a student of Columbia. The sum of $100,000 has been bequeathed by the late Charles H. Ditson to the department of music and by Frederick Bertuch to establish a fund for needy students; Colonel William Boyd Thompson, of Yonkers, formerly a student of the school of mines, has given $100,000 to the school of engineering. $70,000 from the Rockefeller Foundation has been received for research.

WORK will soon start on Ryder Hall, the new electrical engineering laboratory of Union College. The building is the gift of H. Russell Ryder, of New York, and will cost about $150,000. It will be completed next spring. Mr. Ryder has also provided for maintenance.

THE trustees of Pennsylvania State College have renamed the School of Mines and Metallurgy as the School of Mineral Industries. Expansion of all divisions of the School of Mineral Industries is expected with the completion next year of a new building for the school.

DR. GEORGE A. WORKS was formally inaugurated as president of the Connecticut Agricultural College on November 8. Governor John H. Trumbull extended the greetings of the state to the new president, and addresses were made by Chancellor Samuel P. Capen, of the University of Buffalo, and by President James L. McConaughy, of Wesleyan University.

THE *Experiment Station Record* reports that George S. Templeton, head of the animal husbandry department of the Mississippi Agricultural College and Station for the past six years, recently resigned to accept a position with the educational bureau of the National Cottonseed Crushers Association. D. S. Buchanan, professor of animal husbandry and associate animal husbandman, has been appointed head of the department, and the resulting vacancy filled by the appointment of R. H. Means.

DISCUSSION

THE OCCURRENCE OF ROTENONE IN THE PERUVIAN FISH POISON "CUBE"

A METHOD of fishing employed by natives of tropical countries is unique and effective. They throw pounded poisonous plants into streams or pools to stupefy the fish. This causes them to rise to the surface of the water, whereupon they are speared or netted.

Some of these fish poisons, notably certain species of Derris, have been shown to be good insecticides and therefore have attracted the attention of entomologists and others interested in insect control. However, little botanical information is available concerning many of these plants, which are known by native names only.

Derris has been the member of this group of poisons most extensively investigated, and rotenone has been shown to be the active principle of two species, namely, *Derris chinensis* and *Derris elliptica*. Rotenone has also been isolated from plants other than Derris, namely, *Lonchocarpus*,[1] *Milletia taiwaniana*, Hayata,[2] *Mundulea suberosa*, Benth,[3] and *Ormocarpum*.[3]

Among the poisonous plants that have recently attracted attention as insecticides is the Peruvian fish poison "cube." It is the root of a plant whose botanical classification is uncertain, but it is thought to be *Tephrosia piscatoria*. "Cube" is an active insecticide, and a patent has been granted covering its use for this purpose.[4]

Two samples of this material were examined, and in each case rotenone was found to be the active principle. In both cases rotenone was obtained by the usual procedure of ether extraction, after which it was purified by recrystallization from alcohol. The first sample of "cube" gave 7.2 per cent. of crude rotenone with a melting-point of 158°; upon recrystallization the melting-point rose to 163°, and when mixed with an authentic sample of rotenone there was no depression. George L. Keenan, of the Food, Drug and Insecticide Administration of the Department of Agriculture, found its optical properties to be as follows: In ordinary light the material consists of thin, irregular six-sided plates. The indices of refraction are $n_\alpha = 1.610$; $n_\gamma = 1.665$; both ± 0.003. The birefringence is very strong and the polarization colors brilliant. These data are identical with those obtained with an authentic analytically pure sample of rotenone.

The second sample of "cube" gave 7.1 per cent. of crude rotenone with a melting-point of 159°. Upon recrystallization it was identical with pure rotenone as to melting-point, mixed melting-point and optical properties.

From the information obtained with these two samples it would seem that "cube" would serve as an

[1] Greshoff, *Ber. d. d. Pharm. Ges.*, 9: 215 (1899); Tattersfield, Gimingham and Morris, *Ann. Appl. Biol.*, 1926, p. 424.

[2] Atsumi and Shinada, *Yearbook of Pharmacy*, 1924, p. 209.

[3] Greshoff, *loc. cit.*

[4] U. S. Patent 1,621,240.