

AN anonymous donor has given Yale University bonds valued at over \$100,000 for the department of university health.

STANFORD UNIVERSITY will have on its campus for the 1923 intercollegiate contests a stadium seating at least 60,000 spectators and costing approximately \$750,000. The engineering commission, composed of Professors W. F. Durand, C. D. Marx, and C. B. Wing of the engineering departments of the university, has been requested to proceed at once with the preparation of the final plans of construction.

SAMUEL W. DUDLEY, at present chief engineer of the Westinghouse Airbrake Company, has been appointed professor of mechanical engineering on the Stratheona Foundation at Yale University.

DR. EDWARDS A. PARK, associate professor of pediatrics at the Johns Hopkins University, has been elected professor of pediatrics in the Yale Medical School. Dr. Park graduated from Yale with the degree of Bachelor of Arts in 1900.

FRANCIS MARSH BALDWIN, (Ph. D. (Illinois), associate professor of physiology in the department of zoology at Iowa State College, has been raised to the rank of professor. F. A. Fenton, Ph.D. (Ohio State), has been advanced to the rank of associate professor of entomology, and is acting chief of the Entomological Section of the Experiment Station, during the absence of Professor E. D. Ball, now assistant secretary of agriculture.

DISCUSSION AND CORRESPONDENCE

WRATTEN FILTERS

TO THE EDITOR OF SCIENCE: My attention has been called to the fact that some biological workers have been using Wratten filters for measurements of the response of living animals to light, and that there is a possibility that results obtained in this way may be vitiated by the infra-red transmission of such filters. Measurements show that practically all these filters transmit the infra-red; the monochromatic series, for instance, transmit

over 50 per cent. of the radiation of longer wave-length than 750μ which is transmitted by glass and gelatine. The filters were made for photographic work and are suitable for visual research, but no attempt has been made to eliminate the infra red, and they are quite unsuitable for work where infra red radiation may introduce errors unless that radiation is absorbed by some suitable filter such as the solution of copper chloride recommended by W. W. Coblenz, *Bulletin of the Bureau of Standards*, Volume VII., 1911, p. 655.

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THE COST OF GERMAN PUBLICATIONS

TO THE EDITOR OF SCIENCE: Mr. Howe's communication seems to deserve some further remarks. A recent letter from a prominent dealer in Leipzig tells me that prices for Germany are doubled for foreign customers and that he has no reason to believe that American dealers will be able to furnish at a lower rate. Postage is ten times higher and there is a government export tax of 8 per cent. of the invoice. The course I took was to write the dealer not to send me anything; that in future I would not buy anything as an individual in Germany and would try to do the necessary reading through libraries, thereby dividing the cost among a number. I added that I objected particularly to the export tax.

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A QUESTION OF BIBLIOGRAPHY

TO THE EDITOR OF SCIENCE: In his well-known volume on "Fur-bearing Animals,"¹ the author, Elliott Coues, described on the authority of "Mr. Lockhart," an extraordinary act of the wolverene in the presence of man. The wolverene will squat on his haunches and shade his eyes with one of his

¹ U. S. Geol. Surv. Misc. Publ. VIII., Washington, 1877.

forepaws whilst peering at the intruder. In E. T. Seton's "Life-histories of Northern Animals," the story is repeated from Coues, but in the index the entry is credited to J. G. Lockhart. In the Encyclopædia Americana, the only J. G. Lockhart is the biographer of Sir Walter Scott.

Is it possible to get a line on this "Mr. Lockhart" who saw the wolverene on two occasions shading its eyes with a paw?

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JONATHAN EDWARDS AS A FREUDIAN

SINCE Jonathan Edwards has been brought forward as a precursor of Einstein, I wish to file a claim in his behalf as a pre-Freud Freudian. In that very remarkable record of autoanalysis, his Diary, he notes under date of May 2, 1722:

I think it a very good way to examine dreams every morning when I awake; what are the nature, circumstances, principles and ends of my imaginary actions and passions in them; in order to discern what are my prevailing inclinations, etc. Not only did Edwards use dream analysis for the discovery of his secret sins, but he also employed the Freudian therapeutics of frank self-examination starting with random reverie and following the thread of association until he reached the complex that he desired to eradicate by confession and sublimation. For instance, the entry dated "Saturday August 10, about sunset," reads:

As a help against that inward shameful hypocrisy, to confess frankly to myself all which I find in myself, either infirmity or sin; also to confess to God and open the whole case to him, when it is what concerns religion, and humbly and earnestly implore of him the help that is needed; not in the least to endeavor to smother over what is in my heart but to bring it all out to God and my conscience. By this means I may arrive at a greater knowledge of my own heart.

When I find difficulty in finding a subject of religious meditation in vacancies, to pitch at random on what alights in my thoughts, and to go from that to other things which that should bring into my mind, and follow this progression as a

clue, till I come to what I can meditate on with profit and attention and then to follow that.

COLUMBIA UNIVERSITY EDWIN E. SLOSSON

SCIENTIFIC BOOKS

Plant Indicators. The Relation of Plant Communities to Process and Practise. By FREDERICK E. CLEMENTS. 388 pages, 92 plates. Publication 290 of the Carnegie Institution of Washington, Washington, D. C.

This is a companion volume to Dr. Clements's book on *Plant Succession*.¹ The aim of the present work is to show the value of the natural vegetation as indicating climatic and soil conditions, and hence, indirectly, the suitability of the areas covered for agriculture, grazing and forestry.

The earlier literature is briefly reviewed, with especial emphasis upon publications which have appeared since the plant indicator concept became definitely established (Hilgard, 1860, Chamberlin, 1877), and especially since quantitative methods began to be employed in the study of vegetation. The indicator concept is discussed on pages 28-34, stress being laid upon the superiority of the plant community to any single species. The author's point of view is illustrated by the following quotations:

As is shown later, plants may indicate conditions, processes, or uses. The simplest of these is the first, the most practical is the last. The plant may indicate a particular soil or climate, or some limiting or controlling factor in either. This would seem to be axiomatic, but it is well known that grassland, which is typically a climatic indicator, often occupies extensive areas in forest climates. Thus, the presence of a plant, even when dominant, is only suggestive of its meaning. It is necessary to correlate it with the existing factors and, better still, to check this correlation by experimental planting, or an actual tracing of the successional development.

Indicators of processes usually require a double correlation, namely, that of the plant with the controlling factor, and that of the factor with the causal process, such as erosion, disturbance, fire,

¹ Clements, F. E., "Plant Succession," Publication 242, Carnegie Institution of Washington, 1916.