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Although communications may be unsigned, if so requested, the name of the writer must in every case, be submitted to the Editor-in-Chief.

In Charge of This Issue

L. E. Fogg.....H. J. Ryan

Wednesday, February 21, 1923

PEANUTS VS. SERIOUSNESS

ABRAHAM LINCOLN always affirmed that he gained his ability to cope with the many serious problems that confronted him as president through his ever present readiness to enjoy a good joke.

With this in mind the perpetuation of the Tech Circus, which began so auspiciously on a rollicking evening last winter, should do much to relieve that much renowned seriousness of the Institute's engineers.

The "circus" will undoubtedly present plenty of amusing exhibitions for the audience if the 1922 many ringed show is any criterion. But better than that it will give every Technology undergraduate and professor, too, if they care to join the fun, an opportunity to forget the many duties that weigh on their mind.

"ELSIE" IS NEW MUSICAL SHOW AT THE SHUBERT

A new musical comedy, "Elsie," opened at the Shubert Theatre on Monday night. The show only recently was started in Chicago and has not been to New York yet.

The humor of the thing is rather boisterous but quite funny in places. The leading lady and man are not bad but relative to the rest of the company are not adequate.

The World's Affairs

Foreign

Feb. 20. Members of the Reichstag have declared that the policy of passive resistance which is being pursued in the Ruhr is for the purpose of forcing negotiations on the part of France.

Lloyd George, speaking in Parliament asked that America be invited to join with Great Britain in an attempt to have France withdraw from her disastrous policy in the Ruhr.

Feb. 20. Poland will agree to Lithuania's occupation of Memel only on the following three conditions: that Lithuania give over part of the Vilna Zone to Poland; that a settlement be reached on the Polish-Lithuanian boundary question, and that the Memel River be internationalized.

National

Feb. 20. The Supreme Court has upheld the decision of the Interstate Commerce Commission ruling that freight rates may be divided by the railroads participating in the service.

The Court also decided that the Railroad Labor Board is a board of arbitration which has no power to enforce its decisions, but must depend upon the public sentiment for support of its acts.

Feb. 20. The Western Union has distributed bonuses totalling \$1,775,000 among its employees.

DETAILED SECOND TERM EXAM SCHEDULE GIVEN (Continued from Page 1.)

- \*German L12 (2 hours) 2
\*German L22 (2 hours) 2
\*Heat Eng. 2.451 4
\*Heat Eng., Adv. 2.54 4
\*Hydraulic Eng. 1.63 4
\*Industrial Organ. Ec57 4
\*Iron and Steel 1.72 4
\*Machine Design 2.704 4
\*Mathematics M13 1
\*Mathematics M21 2
\*Mathematics M41 4
\*Physics 8.012 1
\*Political Economy Ec32 (2 hours) 1
\*Structures 1.49 4
\*Structures 1.50 4
\*Structures 1.51 4
\*Structures, Adv. 1.56 4
\*Theory of Elast. 2.28 4-G
Special Examinations

MONDAY, 1:30 P. M., MARCH 12

- \*App. Mech. 2.212 2-3
\*App. Mech. 2.213 3
\*App. Mech. 2.214 2
\*Business Law Ec60 4
\*Chem. Eng. 10.32 4
\*Chemistry 5.01 4
\*Colloidal Chem. 5.69 4
\*Elec. Com. of Intel. 6.56 4
\*Elec. Eng., Prin. 6.01 3
\*Elec. Eng., Prin. 6.05 4
\*Eur. Civ. & Art. 4.47 4
\*Fire Assaying 3.31 4
\*Geology, Economic 12.40 4
\*Heat Eng. 2.41 3-4
\*Heat Eng. 2.47 (Except III) 3-4
\*Heat Engineering 2.50 4
\*Industrial Plants 2.77 4
\*Mach. Des., Adv. 2.74 3-4
\*Naval Arch. 13.01 (2 hours) 4-G
\*Naval Arch. 13.02 (2 hours) 4-G
\*Chemistry M29 3
\*Mathematics M36 3-4
\*Political Economy Ec31 (2 hours) 3
Special Examinations

TUESDAY, 9 A. M., MARCH 13

- Alter. Cur. Mach. 6.52 4
\*App. Mech. 2.20 3
\*App. Mech. 2.22 3-4
\*App. Mech. 2.222 3
\*App. Mech. 2.225 3
\*App. Mech. 2.226 3
\*Chemistry 5.02 1
\*Distill. & Evap. 10.41 4
\*Dynamics of Mach. 2.25 4
\*Elec. Eng., Elem. 6.41 (2 hours) 3-4
\*Eng. & Hist. EH21 2
\*Hydraulics 1.65 4
\*Ind. Hyg. & San. 7.53 (2 hours) 3-4
\*Ind. Water Anal. 5.21 (2 hours) 3
\*Land & Civ. Des. 4.62 (Town Planning) 4
\*Military Science MS31 (2 hours) 2
\*Organic Chem. I 5.51 2
\*Structures 1.45 4
\*Structures 1.49 4
\*Structures 1.50 4
\*Structures 1.51 4
Special Examinations

TUESDAY, 1:30 P. M., MARCH 13

- \*App. Mech. 2.21 3-4
\*Banking Ec37 3
\*Chemical Eng. 10.36 4
\*Elec. Trans. & Dist. of Energy 6.44 4
\*Eng. & Hist. EH22 2
\*Hydraulics 1.62 4
\*Industrial Chem. 10.21 3-4
\*Hydraulics 1.65 4
\*Industrial Chem. 10.22 (XIV only) 4
\*Machine Design 2.72 4
\*Mat. of Constr. 10.61 (2 hours) 4
\*Mathematics M35 3
\*Mathematics M37 4-G
\*Mech. of Mach. 2.05 (2 hours) 4-O
\*Ordnance Eng. 2.632 3
\*Organic Chem. I 5.51 4
\*Physics 8.011 4
\*Plant Sanitation 7.67 (2 hours) 4
\*Steam Turbines 13.60 4
Special Examinations

WEDNESDAY, 9 A. M., MARCH 14

- Arch. History 4.42 3
\*Automotive Eng. 2.792 (2 hours) 4
\*Central Stations (2 hours) 4
\*Chem. Eng. 10.31 4
\*Chem. Prin. 5.63, 5.651 3
\*Electrical Com. I 6.31 3-4
\*Heat Engineering 2.40 3
\*Heat Engineering 2.51 3
\*Hydraulics 1.63 4
\*Hyd. & San. Eng. 1.75 4
\*Industrial Organ. Ec56 4
\*Machine Design 2.711 4
\*Mathematics M11 4-G
\*Organic Chem. 5.50 (2 hours) 2-3-4
\*Organic Chem. II 5.52 4
\*Ordnance Eng. 2.282 (2 hours) 4
(Continued on Page 3.)

NOTICES FOR UNDERGRADUATES

The night editor in charge of the next issue of THE TECH is P. K. Bates '24, telephone University 7077. All matters concerning the issue should be referred to him.

Many Openings for Biologists

By Prof. S. C. Prescott

For many years basic subjects in the domain of Biology have been taught at the Institute not merely from the standpoint of general information and culture, but essentially as a branch of Engineering, since its applications to human affairs and to industry are so manifold and so fundamental.

Although "natural history" was one of the subjects taught from the opening of the Institute in 1865 it was not until about 1874 that a department of Natural History was formed. In 1883 Prof. Sedgwick came to the Institute as head of the department, and for a few years two courses were conducted, one in Natural History or Biology, and one called Biology in Preparation for Medicine.

With the development of Bacteriology and the growth of knowledge pertaining to its importance in relation to disease control, water supply, waste disposal, agriculture, etc., the sanitary aspects of Biology were emphasized, and the course developed logically and rapidly into the Department of Biology and Public Health.

For thirty years the department has been a leading training ground for the Public Health professions, and has played an important part in the development of Sanitary Science in America.

Biology Important in Industry

The applications of Biology are not all in the field of public health, however, for there is a wide and constantly extending field of usefulness in many industries such as the fermentations, the dairy products, timber preservation, fisheries, canning, and other branches of the great food industries.

More and more microbes are being found useful as agencies of chemical change and new industries are being developed based on their activities.

To train men for such positions the option in Industrial Biology has been established, and at request of the fisheries industry a special course in Fisheries Engineering has been arranged.

Covers Wide Field

Few people appreciate the breadth of the field of usefulness that are open to the biologist whose training has been broad and properly co-ordinated. For example, one of our graduates, S. M. Gunn '05, today is perhaps the leading public health figure in Europe, for he is in charge of the great work being done there under the auspices of the International Health Board and the Rockefeller Foundation.

Within two weeks requests have been received for men for the following positions.

- Secretary of Committee on Public Health Films.
Bacteriologist in Food Preservation investigations.
Technical Assistant in Bacteriology in the United States Public Health Service.
Research biologist with General Motors Research Corporation.
Bacteriologist with the leading manufacturers of organic solvents.

These indicate a few of the many lines of scientific development which are open to the biologist.

To prepare men for such positions as will be seen from the course schemes presented on the preceding pages, the list of subjects studied is a varied one. The biologist, whether engaged in research, in public health, or in the applied or industrial phases of his profession, must have a sound fundamental training in general science in order to appreciate and understand the reactions of living things. Chemistry and physics are indispensable, hence during the first two years special attention is given to these and other basic and cultural studies. In the second year a course in general biology is followed by botany and zoology, and this constitutes the introduction to the professional work in the department.

The option in Industrial Biology is, however, a combination of biological subjects, coupled with courses in the Departments of Engineering Administration and Mechanical Engineering and supplies the type of training which is regarded by those in Food or Fishing industries as especially sound and desirable.

A bacteriologist with training in Heat Engineering, Mechanism, Industrial Organization and Business Management is unusual, but these are none the less the subjects in which

the good engineer must be well grounded.

Biologists are in Demand

The opportunities for special work of advanced character cannot be enlarged upon in this article.

It is a matter of regret that so few students are attracted to this interesting field of work. Possibly this is due to a lack of knowledge as to the types of positions to which they may aspire. The department is constantly being called on for men, and never has a supply adequate to meet the demands. The present outlook is for increased opportunity in all phases of biological work, and it is hoped that an increasing number of students will be enrolled.

A study of the occupations of living graduates and former students in the department during the past thirty-five years, shows the types of positions occupied by those who have taken the training afforded in its courses. It will be noted that the percentage of those still engaged in professional work of technical character or involving the special training received in the department is unusually high.

- Teachers: Deans of heads of departments in universities, colleges or professional schools 12
Teachers: Other college or professional school positions 21
Physicians and students of medicine 29
Industrial biologists 20
Health officers 11
Laboratory and research workers in biology, bacteriology and public health 12
Public Health laboratory directors 6
Directors of public health work for private organizations 11
Directors of water works and filtration plants 9
Directors of divisions, State departments of health 5
Sanitary and consulting engineers 4
Sanitary inspectors 3
Epidemiologist 1
Statisticians 3
Business men 10
Clergymen 2
Officer, United States Regular Army 1
Librarian 1
Artist 1
Women graduates, married and not now professionally employed 5

This list does not include a large number of special students who have taken only a limited amount of professional work.

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