The Tech
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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. THE TECH reserves the right, however, to reject unsigned communications.

In Charge of This Issue
P. R. Goldings.....T. W. Owen

Thursday, March 1, 1923

THE possibilities of the word circus are so nearly unlimited that it gives each one of us our own personal reaction. It may bring to mind memories of as varied a nature as the unrelated components which are thrown hurly-burly together to make it up. All circuses are alike, yet every one is distinctly itself. We may have seen a dozen, we may know what is on the program, but we can never mistake the mystery of it all.

Thus it has come to be the natural function of a circus to arouse our curiosity. The element of surprise is everything. Common sense, experience, all to the contrary still we still pay our money to see the five legged calf and the other wonders of the side show. We feel certain that it is a fake but we have got to find out how it is done. A circus is a sort of super magician holding out his tricks to us for inspection, and who ever resisted the offer to learn how a trick was perpetrated.

Tonight in Walker we will have another opportunity. It is scarcely probable that a few years or months the Institute have dulled our curiosity in any way, and so once more we have a circus challenging us to penetrate its hokus pokus. Many of the activities have conspired to dazzle the calculus-ridden brain and if Tech undergraduates still retain human weaknesses in spite of their surroundings Walker will rival the glories of the canvas temple this evening.

RARE BOOKS EXHIBITED AT CENTRAL LIBRARY

Old Editions Dating Back to 1508 Are Shown

An exhibit of rare books dealing with early thoughts about electricity, magnetism, and kindred subjects has been arranged in the Central Library. These books belong to the Vail Collection, a collection originally amassed by an Englishman, Mr. Edward Dering, and later acquired by the former President of the American Telephone and Telegraph Company, Mr. Theodore N. Vail, who presented it to the Massachusetts Institute of Technology Electrical Engineering Department—consequently the name in honor of the donor. The American Telephone and Telegraph Company contributes an annual sum for the support and development of the Collection, in an attempt to make it one of the foremost collections of its kind.

Of the volumes included in the present exhibit the following are amongst the oldest: "Margarita philosophica toti philosophie ratioalis; naturalis et moralis principia dialogice duo decrim liris doctissime complectens" published in 1508; "De magnete, magneticisque corporibus, et de magno magnete tellure," by William Gilbert, published in London in 1600; "A short treatise of magneticall bodies and motions," by M. Ridley, published in London in 1613; "Philosophica magnetica in qua magnetis natura penitus explicatur" . . . by N. Cabeo, published in Ferrarie in 1629; and "Tentamen theoriae electricitatis et magnetismi," by F. M. U. T. Aepinus, published in 1759. Mrs. Lane, Vail Librarian, will be glad to show any of the other rare books in the collection to those who are interested.

ALUMNI NOTES

Frederick Clark Moody '90, died at Northampton last Tuesday, after a prolonged illness. He was 58 years old. Mr. Moody prepared for Technology at the English High School, from which he graduated in 1886. After graduation from the Institute he was for many years connected with the Bell Telephone Company at Philadelphia, as superintendent of construction, and later lived in Kansas City.

After a month's illness, F. E. Wilkins '22, of Wakefield, Mass., succumbed to pneumonia on February 14. Wilkins was a graduate of Course XV. He prepared for Technology at the Wakefield High School. While at the Institute he was a member of Corporation XV, the Mechanical Engineering Society, and Track.

A. J. Browning '22, who was general manager of THE TECH, Volume XLI, was operated upon for appendicitis on February 12 at the Buffalo Homeopathic Hospital. He came through the operation very well, and is at present back at work in his position with the Robertson-Cataract Electric Company of Buffalo.

Henry S. Baldwin '96 was elected to the Board of Selectmen of Swampscott at the annual town election held recently.

Mr. Baldwin is a graduate of Course II and has been employed as an electrical and mechanical engineer by the General Electric Co. He is at present a Division Engineer with the Company at Lynn.

NOTICES
FOR UNDERGRADUATES

OFFICIAL

From February 26 to March 3 inclusive there will be an exhibition at the Rogers Building, 491 Boylston St., Boston, under the auspices of the Department of Architecture of the Massachusetts Institute of Technology, of the Birch Burdette Long Sketch Competition for 1922, conducted by **"Pencil Points"**; also a number of water colors by H. B. Warren, C. H. Walker, Walter Shirlaw and others. The exhibition is open to the public daily from 9 A. M .to 10 P. M.

UNDERGRADUATE

The night editor in charge of the next issue of THE TECH is J. P. Ramsey, Jr. '25. Tel. University 6053-R. All matters concerning the issue should be referred to him.

The Tech Circus Committee will hold an important meeting in the west lounge of Walker at 5 o'clock this afternoon.

Physics and Modern Industry

By Prof. C. L. Norton '93

For many years after the founding of the Institute it appeared that the graduates of Course VIII, Physics, at Technology were likely to find their particular field of usefulness in teaching, and the course was therefore set up to be of service especially to men preparing for the teaching of Physics.

Within the past ten years, however, there has grown up a demand for physicists in industry and in scientific research, which is quite comparable and exceeds in amount the demand for physics teachers. It was largely because of this growing demand of industry that there was established at the Institute some eight years ago the course in Industrial Physics. It had been found that many of the large industrial companies and the great research laboratories were meeting with problems in Physics as definite and of the same order as those of Industrial Chemistry; and therefore, it became necessary to attach to the staff of general production and research laboratories physicists as well as chemists. It was soon found that in many instances it was important because the physicist was also the pioneer worker in engineering. The success of industrial processes and the possibilities of constructing successful industrial equipment was found to depend quite as much on a proper study of the physical properties of the materials worked with or sought for, and upon the underlying physical laws, as upon the chemical properties or upon the engineering processes of production.

The work of the physicist in industry is particularly interesting in that he is primarily associated with development work, and therefore, most frequently working with the newer and more interesting portions of problems rather than with routine of production or repeated analyses. One set of physical problems becomes for instance as soon as it is solved, an adjunct to Electrical Engineering, and another which has been a problem in Acoustics for a long time, becomes when sufficiently developed to be a matter of routine, a part of Telephone Engineering. Some of the graduate physicists in our own laboratory of Industrial Physics have been working for years upon problems of refractory linings for furnaces and kilns. As soon as this problem is solved it becomes one for the operating mechanical and chemical engineer, and leaves the physicist free to seek new problems and possibly more interesting developments. This is a typical experience in Industrial Physics. A large group of young physicists at Technology is working upon the new photo-elastic method of studying the strength of structures and machines.

Some of the graduates of Course VIII may be found in charge of large research laboratories and scientific institutions. Others may be found working upon optics; upon the manufacture of glass and insulating materials; upon the development of vacuum tubes and radio apparatus; upon the development and manufacturing of all kinds of X-ray apparatus; upon the micro-structure and hardness of metals and other structural materials; upon the design of airplane structures and the study of airplane performance; and upon the structure of rubber. Other graduates are teachers of Physics or experts or consultants on special physical problems. The investigation of many problems which had been more or less counted as matters of engineering is gradually being turned over to the physicist. This is in part because of the recognition of the value of his services which came from the experiences of the war in the matter of submarine detectors, wireless telephony, sound ranging and similar developments. The growth of work in Industrial Physics has been sufficiently great to call for the formation of a professional society of physicists comparable with the great engineering societies such as the American Society of Mechanical Engineers and the Institute of Electrical Engineers. It is doubtful whether this group of men will ever be as large as the group of operative and constructing engineers, but it will undoubtedly be much larger in the near future than it has ever been before. Of the more recent graduates the larger part are engaged in Research.

The Institute is to be congratulated upon having as its new president a physicist of great experience with industrial problems who will undoubtedly be sympathetic with the efforts of the Physics staff to increase the effectiveness of instruction to students in Course VIII, and to make it possible to turn out men better fitted than ever before as Industrial Physicists.

It is interesting to note that four of the seven men who have served as presidents of Technology were physicists.

"MADAME X" THRILLS ST. JAMES AUDIENCE

By far the most emotional and well received play the Boston Stock Company has yet offered this season was presented last evening at the St. James, when the popular French melodrama "Madame X" enthralled an appreciative and applauding capacity audience.

Throughout most of the play, Jacqueline Floriot, driven from her home and her boy, portrayed a woman sunk to the lowest depths of degradation and misery. Returning to France from foreign countries she murders an unscrupulous paramour because he is about to blackmail her husband and dishonor her boy. The last scene is of the trial where the most emotional of climaxes presents itself.

CONTEMPORARY COMMENT

STUDY TO LEARN

(From the *Carnegie Tarton*)

Ptolemy, an Egyptian ruler, had engaged Euclid to teach him geometry, but his royal pupil did not enjoy memorizing theorems; he therefore went to his teacher and inquired if there was no easier way to learn the propositions. To this, the geometrician answered: "There is no royal road to geometry."

Today we find thousands of students in colleges seeking the royal road to learning, but there is no such thoroughfare; there is no sugar-coated hill of knowledge; there is only one way to learn and that is by study. Only by concentration and application can the problem be solved. We so often hear it remarked, that most students do not know how to study, and it may be true that the average person lacks the will power necessary to make him a student. Determination is what wins scholarships, procrastination brings flunks, to put off a lesson means that it will not be done, because the program is full; the daily assignments keep piling up, so as to make it impossible for an average individual to catch up. Do it today, tomorrow may be too late, and remember that the lesson unstudied is a distinct loss, for only by study do we learn.