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INITIAL AERO SHOW HELD AT NEW YORK

Thousands Attend Wonderful Exhibition of Airplanes — Many Institute-trained Men Have Booths

PEACE-TIME FLYING CERTAIN

The great Aeronautical Exposition which was held in New York from the 1st to the 15th of March was by far the largest thing of its kind that has ever been witnessed in aviation circles. America is emerging from the World War to find that many of her commercial pursuits have received an enormous impetus. During the war, aviation has been developed on an enormous scale, and today the United States finds that the aeronautical industry will soon be a large commercial enterprise, a face which the exposition has already assured.

It will, without doubt, be of interest to Technologians, to know that Technology was well represented at the exposition. Lieut. Alexander Klemin, well known as a former instructor of aeronautics at the Institute, was one of those who was connected with the exposition. Many Institute men attended, and many of the exhibits were conducted by aviators who had received their ground training at the old Technology School of Military Aeronautics.

Due to the proximity of the war, the machines exhibited in New York were largely of the military type. However, a very promising number of commercial airplanes were included. Great satisfaction was expressed in the beautiful construction embodied in many of the machines, indicating that American methods of quantity production detracted little or not at all from the quality of the product. In practically every case where American designers had modified foreign airplanes and engines to suit American methods, tests showed that the development was usually superior to the original article.

Great Variety of Military Types

The exhibit showed very completely the various types of airplanes in use by the several countries at the close of the war. In the great 59th Regiment Armory the first sight to greet the eyes of the newcomer was a huge Caproni triplane, so well-known as the great night-bomber of Italy's air forces. The machine exhibited was one of those used from 1915 and on, being of a 100 foot wing-spread as against the 130 foot spread of the new giant Caproni. However, this machine impressed the spectator as being of great size which it certainly was. In the center of the hall were two more Italian planes known as the "S. V. A." which were used a great deal in combat work high above the Alps. These machines are very fast, quick climbing, and easily maneuvered, and embody several very unique principles of construction, chief among these being

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ENGINEERS HAVE APPROVED DEFINITE SCALE OF WAGES

Railroad professional engineers, at their recent conference at Chicago approved the schedule of salaries made by the American Association of Engineers, fixing the pay for the various classes of work, and ranging from a salary of $15,000 a year for the chief engineer in charge of the entire system of a railroad, to a salary of from $90 to $110 a month for the lowest paid man.

The matter will next be taken up with railroad heads and federal managers, and negotiations will be carried on with the United States Board of Wages and Working Conditions for its approval. The railroad engineers say that while they are acting in unison on the matter, they do not expect to resort to coercion, but believe that when all of the engineers cooperate they will receive the increased salaries asked for. The American Association of Engineers, it was stated by F. H. Myers, assistant secretary of the organization, will probably take up the salary question of the municipal and highway engineers next.

PROF. SEAVER TO LECTURE TOMORROW AT ART MUESUM

Professor Henry L. Seaver, a member of the English Department at the Institute will give a talk on "Statue Reconstruction" tomorrow afternoon at 3:00 at the Boston Museum of Fine Arts. The talk will be given in the Classical Cast Court. On the same day at 2.00 and 3.00 Signor Giorgio Chiarappa will talk in Italian in the Evans Memorial Galleries on the subject "French and Flemish Art."

These talks are given regularly every Sunday and are free to the public.

FACULTY AND ALUMNI SPEAK AT M. I. T. WOMEN'S ASSO. MEETING

Major Prescott, Prof. Kennelly, Miss Spitz and Lansingh Talk

The M. I. T. Women's Association held a business meeting and luncheon recently at the Institute at which prominent Alumni and members of the faculty spoke on various subjects concerning the war. This organization has been an important factor in the lives of many of the women graduates from Technology and its meetings have been the scene of many interesting discussions of many different phases.

The first speaker of the meeting was Mr. Van Rensselaer Lansingh '98, an Alumnus who has probably done more for Technology's men in service in Europe than any other Institute man, serving in his former capacity as the director of the American University Union. This union was materially aided in its growth by the assistance given to it by the Technology Club of Paris, and would probably never have reached its present magnitude were it not for the efforts of that body. The union has grown from a small apartment of eight rooms to a complete building and has now been merged with the "Maison," a French municipal society, and has been presented with a valuable site of land in the center of Paris on which it can erect a new structure and thus perpetuate the Union in France. Mr. Lansingh further described the interior workings of the union and club under his direction and the development which it received in the time of need during the war. One of the most important reasons for the complete success of the union is due to the Women's War Service Auxiliary, which supplied the boys on the other side with articles of clothng, books, and other things which go to make a man away from home appreciate the support of his Alma Mater.

Miss Gertrude Spitz, who was a special student at the Institute spoke on the vital work rendered to wounded soldiers in the British hospitals. She described the methods used to cheer up

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MINUTES OF M. I. T. A. A. MEETING

The meeting was called to order at 5.20 p.m.

Minutes of previous meeting were accepted.

Mr. P. W. Anderson and H. J. Daube read and explained the Constitution. Discussion of the Constitution and By-Laws took place. Copies of Constitution are to be given to members of M. I. T. A. A. and definite action will be taken on any necessary changes and amendments.

It was moved, seconded and passed that each member of M. I. T. A. A. be fined $1.00 for absence after this date; excuse for absence may be accepted at discretion of M. I. T. A. A.

Discussion of having printed contracts took place. Mr. Cofren mentioned that the expense of printing of contracts would be borne by Insitute Committee. A committee will be appointed later to draw up contracts.

It was moved, seconded and passed that Downey, W. Rollins, T. H. Spitz, and G. Bawden be recommended to Advisory Council for "T." These men ran on the Relay Team which defeated Dartmouth at the B. A. A. games Saturday, March 1. They ran the 1560-yard relay in 3 min. 12 1-5 sec.

Capt. Track team, Capt. of Tennis Team and Manager Tennis Team were absent.

The meeting adjourned at 6.10 p. m.

Respectfully submitted,
RICHARD McKAY,
Secretary, M. I. T. A. A.

PLAN OCEANIC FLIGHT

Engines Are Only Unreliable Part of Machines

Mr. Cogni of the Handley Page Aeroplane Company, London, Eng., discussed the prospects of the Atlantic flight particularly the most recent announcement that Harry G. Hawker has left for Newfoundland with the intention of attempting an Atlantic flight in a two-seater Sopwith biplane, fitted with a single 375-horsepower Rolls-Royce engine.

While conceding Mr. Thomas Sopwith's abilities in airplane work, Mr. Cogni does not share his belief in the single engine craft for Atlantic crossing. The structure of airplanes gave airplane constructors no cause for undue concern, he said, and the human material would also withstand the rigors of an Atlantic crossing, but engines are not so reliable that aviators can make their calculations with absolute certainty.

He admitted that the Handley-Page machines had made trips to Constantinople and India, and a regular service of them had been maintained in the severest weather between England and France, day after day. But he pointed out that they were built for

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BIG PRIZE IS OFFERED FOR INDUSTRIAL ECONOMIC ESSAY

The National Industrial Conference Board offers a prize of one thousand dollars for the best monograph on any one of the following subjects:

1. A practicable plan for representation of workers in determining conditions of work and for prevention of industrial disputes.
2. The major causes of unemployment and how to minimize them.
3. How can efficiency of workers be so increased as to make high wage rates economically practicable?
4. Should the State interfere in the determination of wage rates?
5. Should the wages be definitely based on the cost of living?
6. How can present systems of wage payments be so perfected and supplemented as to be most conducive to individual efficiency and to the contentment of workers?
7. The closed union shop versus the open shop: their social and economic value compared.
8. Should trade unions and employers' associations be made legally responsible?

The Committee of Award is composed of: Frederick P. Fish, of Fish, Richardson & Neave, Boston, Mass., Chairman of the National Industrial Conference Board.

Dr. Jacob Gould Schurman, President Cornell University, Ithaca, N. Y.

Henry R. Towne, Chairman Yale & Towne Manufacturing Co., New York City.

The contest is open without restriction to all persons except those who are members of or identified with the National Industrial Conference Board.

Contestants are not limited to papers of any length, but they should not be unduly expanded. Especial weight will be given to English and to skill in exposition.

The copyright of the prize manuscript with all publication rights, will be vested in the National Industrial Conference Board.

Each competitor should sign his manuscript with an assumed name, sending his true name and address in a sealed envelope superscribed with his assumed name. No manuscript will be accepted the real authorship of which is disclosed when the manuscript is received by the Board, nor any which has been previously published in any way.

Manuscript, to be considered in the contest, must be mailed on or before July 1, 1919, to the National Industrial Conference Board, 15 Beacon street, Boston, Massachusetts, marked "For Prize Essay Contest in Industrial Economics."

The right to reject any and all manuscrips is reserved. The Board may, however, award honorable mention to several manuscripts and arrange for their publication in full or in part, at compensation to be agreed upon between the Board and the authors.

ELECTRICAL ENGINEERING ATTRACTS WOUNDED SOLDIERS

Electricity in all its branches is proving immensely attractive to the disabled soldiers, sailors and marines who are taking the free trade and professional education placed at their disposal by the United States government, through the Federal Board for Vocational Education, of which Roger W. Babson '98, is director. Men who had a smattering of electrical information before the war are now given the opportunity to perfect themselves and become really skilled in the particular branches which they have chosen.

This training embraces both practical and theoretical work, such as may be obtained at Technology, Case School of Applied Science, Georgia Tech, Alabama A. & M., with practial training with the General Electric Co., and in plants of some of the great power companies.

Men taking the courses are, if unmarried, supported by an allowance of $65 per month from the Federal Board; more is given if the man has dependents. There is no set time in which a course must be finished. The sole criterion is the ability of the man to make progress. If it is a wage earning branch of the trade he is qualifying for, a position is ready for him when he is ready for it, the placement division of the Federal Board having arranged for the employment. The Federal Board for Vocational Education, whose address is Washington. D. C., is anxious to hear from any war disabled soldiers who are interested in this free training provided by the Government, not as a charity but as a matter of justice to the disabled men who have been impaird in the nation's service.

DISSIPATED FISH

Are Result of Experiments of American Chemist

Mr. V. E. Shelford tells in the "Journal of the American Pharamceutical Association" how he corrupted the habits of goldfish. He provided a shallow tank for them into which water flowed at one end wth a drug in solution and at the other end without the drug. The outlet was in the middle so that the fish had complete freedom to swim away from the drug or into it and to select any concentration.

His first experiment was with carbon dioxide, giving the fish a kind of attenuated plain soda water. They swam into it and backed away again with protruded lower lip nd lifted gills, but despite what seemed like coughing and gulping they did not turn away from it. Perhaps they were practicing up against a sporting life to come. With morphine there was no apparent rejection even at first. They soon became sufficiently addicted to it to swim over to the inlet of the morphine solution and stay there. Some kept away from the greatest concentration, while others became regular dope fiends. With cocaine, after a short exposure they refused to leave the solution inlet and remained close to it until they died from its effects. With ethyl or grain alcohol they soon learned where a solution of about ten per cent was to be found and stayed there as long as possible. They are reported to have become "semi-intoxicated," but just how drunk a semi-intoxicated fish is we are unable to say. A tadpole basked cheerfully in a twenty per cent solution of alcohol and water which has the killing power of average whiskey mixed half and half with water. What a full-grown bullfrog would do under such a temptation it is difficult to guess. Perhaps he "would a-wooing go." Scientific research often confirms established traditions. Goldfish preferred the strength of a full bodied wine for theirs.

No record is given of the effects of the cigarette smoking habit upon fish. —The Little Journal.

WALKER LIBRARY OPENS SOON

The Walker Memorial will soon offer a new attraction to the students of Technology in the shape of the library, provided for in the will of Frank H. Cilley '89. Final arrangements are now being made, and the reading room will soon be thrown open to the undergraduates.

FAST TIME EXPECTED AT INTERCOLLEGIATES

Institute Swimmers Will Meet With Strong Opposition at Individual Championships Held in New York Today

YALE ENTRIES ARE FAST

The Technology Swimming team will engage inone of its hardest meets of the season today at the Intercollegiates which are being held at the College of the City of New York, and the outcome of the meet will determine a contest which has been waged for practically all this season between the individual swimmers of the eastern colleges. Three times as many men are entered as ever before, so many in fact that heats will be run off in the afternoon. The Institute is entering strong men in many of the events and especially in the dashes, and the manager is looking forward to some good time. One of the most interesting events is the 800-yard freshman relay, in which Yale, Princeton, C. C. N. Y., Columbia, and Pennsylvania all have strong teams. The Yale team has three men who were former Amherst men, and were coached by Sutherland, who is Technology's coach this year. The Penn team is expected to make a good showing, but until this time that team is still a "dark horse" in the swimming world, having had but little publicity in any of its previous meets. Both the Columbia and City College of New York frosh teams make faster time than the varsity teams and are expected to prove strong factors in the event.

One of the greatest hopes for success of the swimming team in the Intercollegiate meet lies in the coaching which it has received during the present season from Alex Sutherland, the former Amherst coach. The manager of the swimming team realized that the swimmers needed the service of one who understood completely the routine of coaching swimmers, and to that end secured one of the most noted mentors in the swimming world. Sutherland rounded the loose individuality of themen into a strong well organized team, in addition to improving the time and form of practically every man in the team. This is especially noticeable in the cases of Untersee, whose time was bettered by fully two seconds, Cowles, Scranton and Rudderham. The prospects for an excellent record in the meet today are of the best, according to the statement of Manager McKay, and for the most part the credit is due to Sutherland. With the start that has been made this year, the team should develop into an invincible one next year, if the services of the coach can be obtained for another season.

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NEW HAMPSHIRE CLUB ELECTS NEW OFFICERS

The Technology Club of New Hampshire held its annual meeting February 28th, in the club rooms of the W. H. McElwain Company's plant at Manchester, N. H., where a very pleasing banquet was served in accordance with the McElwain's efficiency methods. After the dinner the annual election of officers was held and those chosen for the following year were:—

President, E. W. Rollins '71 of Dover, N. H.; vice-president, Norwin S. Bean '94 of Manchester, N. H.; secretary, treasurer and representative of the Alumni Council, Walter D Davol '06 of Manchester, N. H.

A motion for a vote of thanks to President E. W. Rollins for the glorious entertainment given the Club last summer and for his invitation to again be with him next summer was introduced by John Chase '74 of Derry, N. H., seconded by Harold A. Smith '08 of Manchester, N. H., and passed on unanimously.

Later the Club was addressed by Lt. Leigh S. Hall '14 of Concord, N. H. on his experience in the Construction Department of the U. S. Naval Aviation Service and by Clarence D. Hanscom '17 on Aeronautical Development.

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Although communications may be published unsigned if so requested, the name of the writer must in every case be submitted to the editor. THE TECH assumes no responsibility, however, for the facts as stated nor for the opinions expressed.

Copy for Wednesday's issue of THE TECH must be in the hands of the night editor not later than Tuesday at noon, and for Saturday's issue not later than Friday at noon.

SATURDAY, MARCH 22, 1919

REVISING THE COURSES

THERE is not an institution which contributes to our modern civilization that has not been deeply affected by the war. In the political, religious, and industrial organizations many defects were emphasized when they were put to the supreme test by the requirements of war conditions, and those agencies are now undergoing thorough renovations. The particular phase of this upheaval and reorganization which especially interests us as Technology men is the new part which education, and particularly technical education, must play in the new arrangement of things.

Industry is making new demands upon technical colleges. These demands are not wholly the result of war time experiences, but are due as well to a gradual realization before the war of certain defects in technical education. Sensing this growth in the outer world of the feeling that the training of engineers is not quite what it should be, the English Department of the Institute made an inquiry in the summer of 1917 among several hundred of the most prominent Technology Alumni, asking them if they believed that the work of the department should be changed in any way in order to better fit students for the problems they will meet in practise. Many men of even national prominence were so interested in the matter that they answered the inquiry at considerable length. They were all emphatic upon one point. They said that Technology men are trained perfectly in technical matters, but they are unable to use the English language to advantage, they lack sadly the ability to convey their excellent ideas to others. This is not a small matter, for engineers are often called upon to present facts and ideas to boards of directors. They must make recommendations and be able to convince other men who are often of varied professions and attainments.

Acting upon these suggestions, the English Department adopted a new plan for the classes in third year English during the last eleven-week period. Each recitation class was organized as a board of directors, and at one meeting each week a committee of three from the class made a report upon some subject of general interest and made recommendations to the board. The class, or board of directors, then assuming that it had the power to act on the recommendations, discussed the question and finally voted upon it.

The plan was very successful. By producing artificially the same conditions that are met with in practise, the committees learned how to handle subjects under a pressure of time, to make the reports interesting, and above all to be concise. As members of the board the men learned to analyze problems and resolve the discussion to a few vital points. It is exactly the kind of training that will make students more useful in after life.

We have elaborated considerably upon this example, but we believe that there are other changes which could be made in the curriculum which likewise would give Technology men broader views and increased powers to expand into greater and more remote fields of activity.

Alumni Notes

PROFESSOR GEORGE H. BARTON '80 of Technology will take up the position of professor of geology at Tufts College, left vacant by Dr. Alfred Church Lane, who has obtained a leave of absence permitting him to do educational work with the Y. M. C. A. in France. Professor Barton will enter upon his duties with the beginning of next term. He graduated in Mining Engineering and has since been affiliated with several national geographic societies. He has been director of the Teachers' School of Science at the Boston Society of Natural History.

The death on February 8 in Philadelphia, from pleurisy and pneumonia, of **DR. FREDERIC PUTNAM GULLIVER, '87** is announced. Dr. Gulliver was connected with the chestnut blight commission in Philadelphia for some years, prior to which he was topographer in the United States Geological Survey. For eight years he was master of science at Saint Mark's School in Southborough, Mass. He was secretary of Section E (Geology and Geography) of the American Association for the Advancement of Science from 1907 to 1911. His course at the Institute was mining engineering.

Announcement is made of the engagement of **LIEUTENANT CHARLES ROGERS LORD**, of Newton, a graduate of Technology, Class of 1916, now with the American Expeditionary Forces in Italy, to Miss Maria Azzeroni of Turin, Italy. Miss Azzeroni has been active in war relief work in her country and it was this way that the young people first met and began the romance which has brought about their engagement. Lieutenant Lord is the son of Mr. and Mrs. Charles E. Lord of Newton. Following his graduation from the Institute where he was popular in various undergraduate activities, he went to Italy to engage in business as a sales manager for the Allied Machinery Company, with headquarters in Turin. He has remained in Italy ever since and with the entrance of this country into the war activities, he enlisted for service, in which he has since been engaged. His headquarters are now in Rome.

GARDNER F. WELLS '91 who has been until recently manager of the division of transportation of the United States Housing Corporation, has resigned to enter the consulting engineering field, paying particular attention to public utilities. From 1901 to 1916 Mr. Wells was with Stone & Webster. For the first five years of this period he was engaged in property management and in engineering and construction work, and after that he was an appraisal expert, making office and field examinations and preparing reports of appraisals of public utilities. Before joining Stone & Webster he spent ten years with the Thomson-Houston and General Electric companies on engineering construction with electric light and other utility properties, going with the first-named company immediately on leaving the Institute. Since March, 1916 he has been head of the corporation bond-buying department of Arthur Perry & Co., Boston, and during the war period served first as major in the Ordnance Department of the Army, and later on the staff of Otto M. Eidlitz, head of the government Bureau of Industrial Housing and Transportation.

LOUIS A. FERGUSON '88, vice-president of the Commonwealth Edison Company, Chicago, has just completed thirty years of service with the company and its antecedent companies. Mr. Ferguson has spent his entire business career as a central-station man. Promptly after graduating from Technology he entered the employ of the Chicago Edison Company. After serving in the underground department and in the trouble department, he was assigned to the electrical engineer's office, and in 1890 he became electrical engineer for the company. In 1897 he was appointed general superintendent in charge of all the electrical engineering, construction, operating and contracting of the company. Upon the formation of the Commonwealth Electric Company, Mr. Ferguson was made its general superintendent. In 1902 he was appointed second vice-president of the Commonwealth Electric Company and the Chicago Edison Company. Five years later these companies were consolidated under the name of the Commonwealth Edison Company and Mr. Ferguson was elected second vice-president. In 1914 he was elected vice-president in charge of contract, operating, construction and electrical departments a position which he still holds. To Mr. Ferguson belongs the credit of being the first central-station engineer in the United States to recommend the system of generating three-phase alternating current for distribution over transmission lines to substations containing rotary converters to transform the energy into direct current for general distribution. He has made three trips to Europe to study engineering development there. One of these investigations of European practice resulted in recommendations to the Chicago Edison Company that it adopt the differential rates now so largely employed. Mr. Ferguson is a past president of the Association of Edison Illuminating Companies, the National Electrical Light Association and the American Institute of Electrical Engineers. During the war he has been a member of the Federal Capital Issues Committee and other war bodies.

COMMUNICATIONS

To the Editor of THE TECH:

In Wednesday's issue of THE TECH an editorial, "A State University," appeared, which was written in such an un-American and undemocratic attitude that I feel forced to answer the arguments of the article.

It plainly states that "middle and far western state universities have achieved notable success." It ends with the statement "that aid should be given to secondary schools, rather than undertake a new enterprise which can be handled more effectively by the colleges now existing."

How illogical it is to think that because institutions like Harvard were founded in Massachusetts, that there should be no state university here! One cannot believe that men who could only afford to go to a free university—where all service, outside of tuition, is given at the minimum cost—would be able to go to such institutions as Harvard or Technology. And vice versa, it need not be feared that a state university would reduce the membership of existing colleges to any great extent.

The article also states "that a millennium would be attained if a free institution would create a social equality amongst the students." There is too much food for thought in this statement for me to digest properly at this time; but I'll take one step farther by saying—that not only would a state university create social equality amongst the students, but it would help to progress the social equality question after the students had graduated from the university. Regarding facts, see who the socialists, the anarchists, the bolshevists are; and you will find that most of these men never had the opportunity to have a liberal education. The state university is the very solution to the social equality question.

The article further claims "that in states where there are free universities, there are no larger percentage of college students in those states than in other states." This is a very misleading statement, because one can justly claim that were there no such universities in those states, a far less number would be able to go to the regular colleges if such were established. And in the state of Massachusetts, in addition to those attending regular colleges, there would be a large number who would be able to attend a state university. And since the majority should rule our government, it is better for the majority of the people that we have a state university.

Lastly, regarding helping the secondary schools, I might say that that is a separate question in itself. Why should appropriations be turned over to secondary schools to maintain a standard high enough for college entrance examinations, when the students will not benefit by it because they will be unable to attend college for lack of funds? Funds should be spent on bettering the standard of secondary schools, but more important than that—appropriations should be made for the founding of a state university—where everybody will be given the opportunity for higher learning.

We, the students who are given the wonderful privilege of being able to attend the Institute, should always remember that we are all covered by the unselfish Technology spirit of helping the other fellow. And in the subject under discussion we should show our Technology spirit by helping the fellow who is not as fortunate as we are, by advocating the establishment of a state university.

(Signed)
JAMES J. WOLFSON '20.

We hope our readers will read the above communication twice before they pass judgment upon its contents. After a second reading it will appear that the writer has given little thought to the matter, and has also mistaken the tone of the editorial to which he refers.

His letter implies that our editorial was ultra-conservative and that we would like to keep the colleges out of the hands of so democratic an institution as the state. On the contrary, we should be only too glad to see the state undertake the operation of a free university or enter into any other field of endeavor, but on one condition,—namely that the state can show that the effort will result in a benefit for the people.

In the United States there are only seven free universities. They are located in the far west, and are all very small. In Massachusetts alone there are three universities, ten colleges, five law schools, two medical schools and two agricultural colleges. The tuition in the agricultural colleges is free and in the other institutions it ranges from $50 to $250. In all the latter there are liberal scholarship provisions, and any man who shows both worth and need will have no trouble in getting practically free tuition. And that is exactly all that a state university would give. The major part of a student's expenses, however, are board and room, clothing, books and materials, and all the existing colleges are doing their utmost to supply these at the lowest possible cost.

As to secondary education that is the weakest part of our educational system, and we reiterate, that if the state has any money to spend, it should improve secondary education, a far more democratic proposition, we believe, than to establish a state university.—Editor.

To the Editor of THE TECH:

I have noticed in the issue of March 1, in an article on the problems arising from the abnormal increase in enrolment, the following paragraph:

"The only thing left to do seems to be to limit the number of students. This could be done by raising the entrance standards. Such a system has the objection, however, that it would tend more to admit those who had been specially prepared for the entrance examinations than those who were best fitness to become a good engineer.

It is pleasing to note a recognition in one quarter at least, of the fallacy that the passing of examinations, whether of very high, or just ordinary standard, is the sole criterion of a man's fitness to become a good engineers.

Sincerely yours,
(Signed) ARNOLD B. STAUBACH '19.

MEN IN SERVICE

CLASS OF 1899

Herbert H. Adams, I., General Manager, Railway Operation, Zone of Advance until Jan. 24, 1919. Returned to United States.

James K. Clark, II., Machinist's Mate, Submarine Chaser, U. S. N. R. F.

Charles D. Drew, I., Captain, E. O. R. C., 1st Reserve Engineers (now 11th Engineer Railway). Left for France July, 1917.

Charles S. Gaskill, II., Major, E. O. R. C., 19th Mission Barracks, Railway.

Reuben S. Henderson, I., 1st Ambulance Group, sailed June 25, 1917; arrived home.

Walter H. Hinman, X., Captain, Ordnance Department, N. A.

Jerome P. Jackson, IV., Captain, E. O. R. C., A. E. F.

Paul D. Laighton, IX., Ambulance Service at Saloniki.

Ralph W. Loud, I., Private, N. A.

George E. Lynch, II., Captain, E. O. R. C.

A. Wallace McCrea, IV., Army Engineering School, P. O., No. 714, A. E. F.

Charles S. McDonald, IV., American Red Cross., died in Paris, May, 1918.

Harry L. Morse, VI., Major, 324th Heavy Field Artillery, Camp Sherman, Ohio.

Albert F. Nathan, X., Major, 2nd Battalion, 307th Infantry.

William E. Parker, I., Lieutenant Commander, Naval Observatory, N. R. F.

Albert Plimpton, II., Lieutenant (j. g.,) U. S. N. R. F., Mine Sweeping Division Sq., 10, U. S. S. Newark.

Dudley M. Pray, V., Lieutenant, National Naval Volunteer.

James H. Richardson, I. Captain of Engineers, Office of Chief of Engineers, Washington, D. C.

Herbert H. Riddle, IV., Red Cross, No. 4, Paris.

J. L. Rockford, 2nd Battalion, Field Artillery, Plattsburg.

Jacob Stone, Jr., IV., 1st Lieutenant, 33rd Engineers, France.

Brainard Taylor, Major, Q. M. C., U. S. A.

James H. Walton, V., Captain, Sanitary Corps, Gas Defense, N. A.

Charles A. Watrous, IV., Major, Q. M. R. C, 313 Supply Train, 88th Division, N. A.

WAR COST 197 BILLIONS

"The cost of the war in money alone was $197,000,000,000, or $11,000,000,000 more than the total property value of all North America" Newton D. Baker, Secretary of War, told a gathering at the Commercial Club at San Francisco following his arrival with Gen. Peyton C. March, chief of staff, to inspect army posts. The fatalities from wounds in battle numbered 7,300,000 and the total fatalities in all the armies reached 9,000,000, he said.

TROPHY ROOM IS READY

No longer will Technology's well earned trophies reside in a state of more or less neglect. A room has been opened in the Walker Memorial where the cups won by the various Institute teams will be placed. Here they will offer a splendid exhibition to all.

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NEW YORK BOSTON CHICAGO

SWIMMERS AT NEW YORK MEET

(Continued from page 1)

This meet will lead up to the N. E. A. U. meet which is to be held at e Boston Y. M. C. A. on April 6. At e same time the Institute is trying arrange for an intercollegiate meet th Yale, Brown, Wesleyan, Harvard d possibly Amherst.

COLLEGE MEN

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A. Shuman & Co. Boston Shuman Corner

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TO TRY TRANSOCEANIC FLIGHT

(Continued from page 1)

safety, and capacity to carry heavy loads up to nearly fourteen tons, and therefore were fitted with multiple engines. If one of two engines failed, while it would be impossible to ascend, or to take off from the ground, it would be quite possible to continue a flight horizontally, or to make a landing where one wished, on suitable landing ground.

Mr. Cogni quoted the instance of the British bomber, which had been hit by a shell over the German lines, and had one engine put out of action and one wing smashed, and yet was able to reach home without crashing down.

On receiving a message to the effect that, in spite of the severe weather prevailing, a flyer had arived safe and quickly from Paris a short time before, Mr. Cogni emphasized the factor of reliability for the Atlantic, or other work over sea, both in the machine and the pilot. He does not favor the capacity for doing, what are called stunts, either in man or machine. There was no difficulty in carrying sufficient petrol, he added, for an Atlantic crossing; but there was great difficulty in keeping the course, through the absence of means to ascertain the drift of the machine while out of sight of land.

U. S. NAVY TO ATTEMPT FLIGHT

Lieutenant Commander Bellinger has been ordered to Washington from Norfolk to work on plans for the contemplated flight of a naval seaplane across the Atlantic. No date has been set for the flight, but it is understood it will be attempted this spring, possibly in May. The pilot has not been selected.

It is proposed to safeguard the flight by a patrol of destroyers placed at intervals along the route to be traversed and these will be in communication at all times with the seaplane, which will be equipped with wireless.

WOMEN'S ASSOCIATION MEETS

(Continued from page 1)

the wounded men, and the good nature which the convalescents showed. One thing that was especially noticeable in the demeanor of the wounded men was the appreciation which they showed to the hospital attendants, and the general trend toward cheerfulness of all. Miss Spitz, who went to the other side as a member of the Harvard Hospital Unit, under Doctor Cabot, attributes the success of her organization to the self-sacrificing spirit of the nurses and attendants to save the boys who had fought for a good cause.

Professor Kennelly of the Electrical Engineering Department of the Institute, gave a short address on the various fields, which, more than ever before, have been opened to women in the various branches of industry and learning.

Major S. C. Prescott '94, professor of Biology at the Institute, gave a very interesting talk on the "Dehydration of Food," a subject which he has personally and very deeply investigated under Government direction. He told of the great saving which could have been effected in shipping foodstuffs to France and gave some very interesting figures on the weight and cost of shipping various kinds of food. For instance, in the ordinary canned form, one case of tomatoes, containing twenty pounds of water, sixteen pounds of packing and only four pounds of tomatoes cost six dollars to send to France. Dehydrated, the same amount of food value costs eighty-seven cents to send with a corresponding decrease in the weight of the whole. This dehydrating process has been effectually applied to many other vegetables with a remarkable saving in money, time and weight. Another interesting branch of the process is the combination of ground dried peas and beans which are mixed so as to give a flour which may be easily transported and yet which gives a very nourishing food. The problem of shipping food to a great number of men, in the future has been largely solved by this dehydration process, according to the speaker's opinion.

HARTFORD TECHNOLOGIANS SEND IN COMMUNICATION

To the Editor of THE TECH:

The Technology Club of Hartford, made up of former members of the Institue, who reside in and about Hartford, Connecticut, held their annual meeting and banquet at the Hartford Club on March 15th.

A business meeting of the Club was first called, at which the governors and officers for the forthcoming year were elected. These were: Hiram Percy Maxim, president; George L. Mylchrilst, vice-president; George A. Baker, Secretary and treasurer.

An important subject discussed was the continuing of the bi-weekly Technology luncheons. The general opinion as expressed was that these lunches should be continued, as they kept alive the spirit of Technology, and indirectly assisted the Institute of today.

After the meeting, forty-five sat down to dinner, during which the old-time songs were sung, and the old-time Technology stories told.

After the dinner, the club and its guests, numbering upwards of eighty, listened to a lecture illustrated with lantern slides by Mr. J. O. Smith of the Wilson Welder & Metal Company of New York. Mr. Smith graphically showed how the repairs of the wrecked engines of the former German ships had been effected.

Mr. Van Rensslaer Lansingh, '98, vice-president of the Technology Alumni Association spoke on the work Technology had done in France, and also emphasized the necessity of the Alumni continuing keeping together in order that Technology spirit may be maintained and encouraged.

The club is a real live Technology organization and any Technology man is always welcome. The luncheons are held at the City Club of Hartford on the second and fourth Thursday of each month.

Yours very truly,
HIRAM PERCY MAXIM.
School of Mechanic Arts,
Technology. '86.

P. S. Second generation of Maxim now at Technology; H. H. Maxim '22.

Mr. Maxim himself is president of the Maxim Silencer Company and a prominent electrical and radio-experimenter.

Alumni personals, news of class and alumni associations, and other alumni activities will be gratefully received. The prompt arrival of such information will facilitate the work of the Associate Editor in making the department as timely and complete as possible.

MEN'S SHOES

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Frederic H. Fay Charles M. Spofford Sturgis H. Thorndike

FIRST AERO MEET HELD

(Continued from page 1)

the peculiarly shaped ply-wood fuselage. Nearby, and eclipsing every other machine in size was the monster Navy F-5-L flying boat made by the Curtiss Company. This machine had accommodations for five men, and carried a two-inch Davis gun in addition to eleven Lewis machine guns. It was also fitted with wireless telephone and telegraph apparatus, a complete telephone system, carrier pigeons, and five hundred gallons of gasolene—sufficient for a non-stop flight of over a thousand miles. Two 400 H.P. Liberty motors were the motive power. Only one-half of the machine was covered so that the interior construction could be easily seen. In direct contrast to this monster was the diminutive seaplane squatting under one of its wings. This machine was a single seater monoplane with a span of 19 feet and is said to be the smallest seaplane ever built. The "L. W. F." Company had an exhibit of three planes which had been used by the Government. One of these was a large flying boat equipped with a single low-compression Liberty motor. Of the other two machines one was a two-place tractor fighter and the other a two-place convertible seaplane. Another machine of much interest was a Government mail plane which had seen several months of active service on the route from New York to Washington.

In the Madison Square Garden many more Government machines were to be found. The largest of these was a Handley-Page heavy bomber, an English model put out by the Standard Aircraft company. This machine which was driven by two Liberty motors was an especially good example of American quantity production, as it was finely constructed in every way.

The Curtiss Airplane Company had an extensive exhibit of its many models. Practically all of these models may be easily converted from war machines to those equipped for commercial and private use. The world-famous J-N-4 tractor biplane, on which the great majority of our flyers have been trained, was one of the important features of this particular exhibit. The machine shown was only half covered, and all woodwork brightly finished, while the metal parts were nickeled. Another machine was a single float seaplane of new design possessing several radical features. The Curtiss-Kirkham biplane, known as the fastest two seater in the world, was an important part of this section. The construction in this machine makes it possible to practically eliminate the customary guying, thereby making a much stronger and more efficient airplane. The triplane of this same type has made a speed of 160 miles per hour with a full military load of 1100 pounds, and a similar performance is expected of the biplane exhibited at the Show. A fourth machine was the Curtiss M-F flying boat this machine being superbly finished and fitted up for pleasure flying.

At the front of the hall the Glenn L. Martin Company had on exhibition their large bi-Liberty motored bomber which is now to be converted into a passenger and freight carrying machine. This airplane will carry twelve passengers or an equivalent weight of merchandise, and is large enough to have a long non-stop radius. The Thomas-Morse exhibit of advanced training scout machines aroused much interest. Three of these airplanes had been used in advanced flying training, while the fourth holds the world's record for fast climbing. It is equipped with a 300 H.P. Hispano-Suiza motor.

The first of the American-made De-Haviland 4's was the source of much comment. This machine which is a refinement of the original English De Haviland, was manufactured by the Dayton-Wright Company, and has been in the air for a total of 1078 hours, during which time it covered some 111,000 miles. In all its career no mishap has befallen it.

As has already been intimated, it is the policy of many of these manufacturers to convert their present war models into machines suitable for commercial and private use, and doubtless the airplane will soon be coming into prominence as the most efficient mode of rapid long distance travel aid transportation.

The Commercial Exhibits

In addition to the large military exhibits there were the many types of commercial machines which have already been developed for the American market. One of the most radical of these was the so-called "Christmas Bullet," named after its designer Dr. William Whitney Christmas. This machine is well named the "Bullet" for its makers claim a speed of 197 miles per hour for it, thus making it by far the fastest machine in the world. The construction is extremely radical, for there is no strutting or guying employed, and the wings bow upward like those of a bird when the machine is in flight.

The Packard Motor Car Company, wishing to do its part in aiding commercial aviation, had on exhibition two types of airplane motors, an eight and a twelve cylinder. These motors are much the same as the Liberty in construction, but have several refinements which make them adaptable to commercial flying. The workmanship on these motors shows the usual Packard high quality. There was also shown a Packard biplane equipped with the eight cylinder Packard power plant. This machine was beautifully finished, and the accomodations for pilot and passenger most conveniently fitted up.

The tiny Dayton-Wright "Messenger" biplane aroused much interest. This minute machine is a single seater equipped with a small 4-cylinder V-type motor operating on the 2-cycle principle, driving the little machine at a speed of over 80 miles per hour. This midget is a marvel of simplicity, when compared with the other and larger planes. Plans have already been made to sell the machine at a very reasonable price.

In addition to its large seaplane bomber the Gallaudet Company was showing a small two-seater monoplane of very unique design. The machine is driven by two propellors located on the trailing edge of the wings and connected to two small 2-cylinder, air-cooled motors by an ingenious shafting arrangement. A clutch is provided so that both propellers may be operated on one motor should a break down in one of the power plants occur.

The Aeromarine Company's pleasure flying boat was a good example of the fine construction work done on present-day private machines. This machine was a three seater, the pilot sitting in front of the covered compartment containing the passengers.

Many American Motors Shown

In addition to the many airplanes exhibited, there were also the various types of air plane motors which have been developed in America during the past three years. The prince of all motors, which is recognized as the most powerful airplane motor in the world, is a recent development of the Duesenberg Company. This monster motor develops 850 H. P., and has sixteen cylinders set at an angle of 45 degrees. In the same exhibit there was also shown the Duesenberg modification of the Italian Bugatti motor. This motor, known as the King-Bugatti is also a 16-cylinder affair, but very unusual in that the cylinders, which are in two banks, are set perpendicular to the crankcase, thus requiring two independent crankshafts connected to the propeller shaft by gearing. This arrangement makes practically two motors connected together. Other motors of interest were the world-famous Liberty the Hispano-Suiza, the Curtiss K-6 and K-12, the Hall-Scott 6- and 12, the Packard 8- and 12-, the Aeromarine 6- and 8-, the Thomas Morse, the Gnome (rotary), the Le-Rhone (radical), and several other smaller motors which have been put out for light commercial planes.

In addition to airplanes and motors there were also exhibited many different accessories used in the construction of airplanes. These included everything from aerial cameras to non-recoil airplane guns, and from turnbuckles and streamline cable to the finest of propellers. A large space was given over to these exhibits, since from a commercial standpoint, the manufacturers of airplane accessories already have a considerable market for their goods.

All the exhibitors, and likewise the spectators were greatly pleased at the interest shown by the large crowds which thronged the two halls from the minute the show began until the doors were finally closed on the fifteenth of the month. The airplane companies are now preparing to adapt their products to the requirements of aviation in peace times, and a number of cheap but efficient machines will soon appear on the market. The future of American aviation is safe.

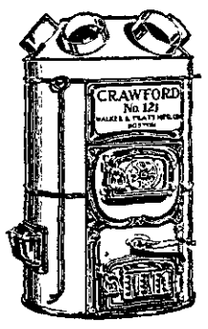
CUSTOM IS KEPT

Since the Institute came into the new buildings on this side of the river, it has been customary to give the windows a good scouring just before mid-year exams. Owing to the disbanding of the S. A. T. C. there was considerable doubt as to whether this tradition should be fulfilled in January or in March. The latter date was decided upon and now men may be seen climbing ladders on the outside of the buildings industriously washing off the opaque coating on the windows.

DRILL PROVIDES RECREATION

During the drill periods of the past week and a half the freshman regiment has been playing games on the parade ground. This idea originated with Walter Camp and was carried out very successfully in the army, as well as in the Canadian and British forces. Walter Camp was made athletic director of the U. S. Army during the war, and installed this system in all of the cantonments. The fundamental principle is to make the men enjoy drill by having the monotony of it broken by sport.

A FURNACE FOR TECH MEN



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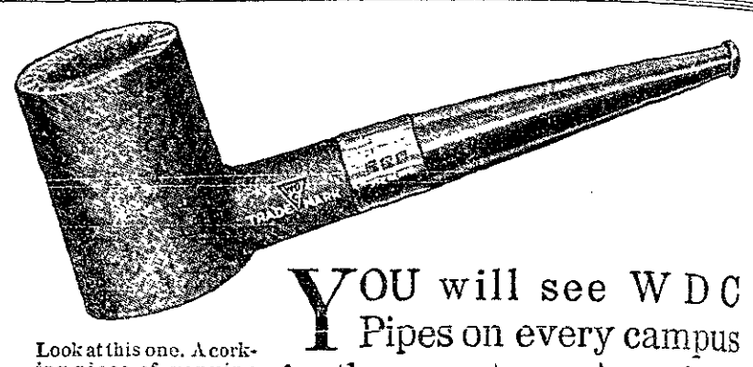

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