

M.I.T. Will Conduct Pressure Tests for N. E. Power Company

Experiments Are Under Direction of Dr. Terzaghi

Apparatus for \$20,000 Test Will be Housed in Shed Next to Building 46

FOUNDATIONS STARTED

Technology has entered into a contract with the New England Power Construction Company to erect apparatus and run tests on the intensity of earth pressure in connection with foundations and dam construction. The papers were signed last Wednesday, and the project promises to be one of wide engineering significance, according to Professor Charles M. Spofford '93, head of the department of Civil and Sanitary Engineering.

These experiments are being occasioned by the problems which are confronting the New England Power Company in connection with its proposed erection of a 120,000 kilowatt power station at Five Mile Falls on the Connecticut River. Little concrete information is available in regard to many problems of earth pressures and it is hoped that the contemplated tests will furnish conclusive evidence on these subjects.

All the tests will be made under the direction of Dr. Charles Terzaghi, Associate Professor of Foundation Engineering, and must be performed in accordance with a rigid time schedule required in the contract. These will mainly deal with the problem of earth pressures on retaining

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CHEMICAL SOCIETY SMOKER IS TONIGHT

Dr. William Boos Will Talk on Experiences With Poisons

Dr. William Boos, noted physician and toxicologist, will be the principal speaker at the monthly meeting of the Chemical Society in the Faculty Dining Room of Walker Memorial this evening at 7:30 o'clock.

Dr. Boos has attained distinction as an expert on poisons and their effect on the human system, and his services in this capacity have frequently been retained by the State. He will give an informal account of some of his experiences. During the course of the evening a copy of "Elements of Industrial Chemistry" by Rogers will be raffled off, and there will be a discussion as to the best hours at which to hold the society's future trips.

BEGIN FOUNDATIONS FOR PROSSER ENGINE

Foundations are now being prepared for the new Prosser engine which has been donated to the Steam Laboratory by the designer, Mr. Joseph G. Prosser, a retired manufacturer of Chicago. Delivery is expected in about one month.

The department feels very fortunate in acquiring the new addition to its equipment, since very excellent economies have been obtained from this type of steam engine. It is arranged with a steam jacket on both cylinder heads and also around the cylinder barrel and the piston is made hollow so that high temperature steam may be used inside the piston in order to prevent condensation on the surfaces. The steam is admitted to the inside of the piston through a hollow tail rod running through the cylinder head, and the condensate is removed through the same rod, operation being similar to that of a one pipe steam heating system.

M.I.T.A.A. Rule Book Soon Ready For Distribution

Students Will Receive Official Copies on Paying Fees for Second Term

Every student registering for the second term at Technology will be presented with a copy of the new revised edition of the M.I.T.A.A. official rule book when he receives his receipt for his fees at the Bursar's Office. This was the statement issued by Dr. Allan W. Rowe '01, Secretary of the Advisory Council on Athletics at the meeting of that body last night.

This will be the fourth edition of an official rule book, and has been urgently needed, since the copies of the last one were all used long ago, the date of the previous edition being 1922. There will be 5000 copies of the present edition printed, and, according to Dr. Rowe, this should be enough for about three years. By that time there will have been enough changes made in the organizations and rules of the Athletic Association to warrant the printing of another edition.

About three-fifths of the present edition will be used in distributing it among the students this February. The remaining 2000 copies will be distributed to future freshman classes when they enter Technology in the fall.

As the copy now stands, the book will contain, besides the constitution and by-laws of the M.I.T.A.A., the rules regarding athletic organizations, rules regarding Institute insignia, rules regarding eligibility, and an appendix, written by Dr. Morse, on the athletic rules of the Department of Hygiene of the Institute. In the preceding edition, this last article was in the form of a folder which was given out with the book, but it is felt that the present arrangement is a great improvement.

All the copy for the book has already been approved and set up and most of it was read over at last night's meeting. It is estimated that the book will be bound and ready for delivery on Saturday, in ample time to let it be given out promptly on Registration Day.

CHANGE COURSES IN SIGNAL CORPS UNIT

Wire and Radio Communication No Longer Required

With the publication of the new 1929 catalogue several changes in the requirements for the Signal Corps unit of the R. O. T. C. will be listed. These requirements are modified in that Wire Communication 6.281 and Radio Communication 6.282 will no longer be necessary requirements of the Signal Unit Course.

As a result of the removal of these requirements they will be replaced in the various courses by electives and regular course subjects. Those students in Course VI will take professional electives in place of the omitted subjects, and Courses VI-A and VI-C will take the regular fourth year subjects.

Course VIII students will replace the subjects by taking elective courses in physics or communications which will meet the requirements of the War Department. Electrical Communication 6.301 and 6.302 will be substituted by Course IX-B men for the cancelled subjects and the regular fourth year schedule will be taken by the men in Course XIV.

E.E. COLLOQUIUM ENDED YESTERDAY

"Inductive Coordination" Subject Presented by R. Davis and J. Coleman

Approximately 50 students and members of the instructing staff attended the Colloquium on "Inductive Coordination" given by Mr. J. O. R. Coleman of the National Electric Light Association and Mr. R. F. Davis of the American Telephone and Telegraph Company. The Colloquium was held in Room 10-275 from 3 to 5 o'clock on Monday and Tuesday.

Such developments as telephone, telegraph, and arc lighting were outlined and the history of their improvements was given. Signal and supply systems since 900 were described in detail, and the fundamental theory covering induction from currents and voltages was covered.

After the above introduction, a discussion of the characteristics of power systems, communication systems, and inductive coupling was given. The growth of the cooperative method of approach to mutual problems was outlined, including early methods of treating the subject.

In closing the colloquium, the methods of treating specific problems were given, covering advance planning, calculation of inductive effects, and the cooperative solution of the problem.

Representatives of the New England Telephone and Telegraph Company and of the Edison Illuminating Company of Boston attended the meetings but did not speak.

"THE ARK" SELECTED FOR T.C.A. OUTING

Trip Will be Held Immediately After Examinations

According to a recent announcement the second annual Technology Christian Association Midwinter Outing will be held during the week following the midyear examinations. The party will leave for "The Ark," Jaffrey, New Hampshire, on Saturday afternoon, January 26, and will return on Wednesday, January 30. This outing is open to all students of the Institute.

The cost of room and board will be \$3.50 a day, totalling \$14 for the four days. The railroad fare for the round trip will be \$5.05. If any of the men wish to ride to the hotel from the station an extra charge of \$1 will be made. Two cottages have been engaged this year. If the weather permits, a trip will be made to Monadnock Mountain, which is somewhat over 3,000 feet in height.

Men who expect to attend should sign up at the T. C. A. office and deposit the railroad fare so that the tickets may be procured as soon as possible. The outing is limited to 25 men this year. Skis and snowshoes may be rented at the hotel at reasonable prices.

Prof. Wilkes Will Speak on "Cold" at Popular Science Lecture Friday

Development of Refrigeration Starting With Ancient Times Included

At the second of the Society of Arts Popular Science lectures to be held this year, Professor Gordon B. Wilkes '11, will speak on "Artificial Cold and its Applications." The lecture will be given in Room 10-250 on Friday and Saturday for students of high and preparatory schools and on Sunday for the general public. The first and third lectures will be at 4 o'clock whereas the Saturday lecture will begin at 2.30.

Taking as his subject "Cold" Professor Wilkes has chosen a topic of vast importance in industry today. Beside refrigeration, products of low temperatures are now being used to fight fires and in the production of pure gases from the atmosphere. Carbon dioxide snow has now great commercial importance as an ex-

Engineer Quintets Encounter Brown at Providence Tonight

Many Sign Up for Corp. XV Mid Term Trip to New York

Dinner Meeting is Cancelled as Mr. Harriman is Unable to be Present

Already about 15 men have signed up to go to New York on the trip organized by Corporation XV during the mid-term vacation and many more have signified verbally their intention of going. Corporation XV may be forced to close the list if so many desire to go and those who wish to be sure of going should notify Gordon F. Rogers '29, president of the organization, as soon as possible.

On the trip, which commences January 27, the following industries will be visited: Cheney Silk Mills in South Manchester, Connecticut; Pratt and Whitney Aircraft Corporation, Hartford; Laboratories of the Bell Telephone Company, New York; the New York Stock Exchange; Paramount-Famous-Lasky Corporation on Long Island; and S. S. Aquitania of the Cunard Steamship Company. Favorable replies from other organizations are being awaited.

Some of the companies visited last year expressed the desire for small groups rather than large ones. In this way each man receives personal attention from the guide and the employees of the factory are not disturbed by a large group. It has been said by students on previous trips that it is "a privilege and a treat" to go through eastern industries with such excellent escort.

In case the rates which the hotels give Corporation XV are not suitable it will be possible to hire a Pullman sleeping car at Hartford and rest in the railroad yards. The group will probably leave Boston on the 5:05 o'clock train on the evening of January 28. The last visit in New York on January 30 will be completed in time for the men to catch the boat for Boston.

Corporation XV has called off the monthly dinner meeting which was scheduled for 6 o'clock this evening in the Walker Grill as Mr. Henry I. Harriman, President of the Boston Chamber of Commerce, who was the speaker of the evening is unable to be present. The next meeting will be held soon after the beginning of the second semester.

Varsity Quintet Scrimmages With Yearling Squad

Game With Bruins is the First Contest that is Played Away from Home

Playing their first game of the season away from home, the Technology basketball team hopes for its fifth straight victory in the game with Brown University at Providence this evening. Last night the team held a vigorous workout with the freshmen as a final preparation for the game today.

Brown will have the advantage of playing on its own floor and is going to do its best to hand the Engineers a defeat. They have lost several games and they are anxious to make up for these setbacks. The B. U. game was very close and the Bruins are rather anxious to make up for that defeat as they lead throughout the entire game. Brown has been more or less noted for handing the Cardinal and Gray defeats.

However the game promises to be close and interesting no matter which side wins. On Saturday the Cardinal and Gray meets Harvard in what will probably be the most crucial game of the season, and it will also be the last game this term.

Coach McCarthy is taking ten men along on the trip and as usual he will choose his starting lineup from the following eight men. Captain Brockleman as usual will be at center while it will be between Brig Allen,

(Continued on Page 3)

T.E.N. TO ANNOUNCE STAFF PROMOTIONS

Hold Annual Banquet Tonight at Longwood Towers

"The Tech Engineering News" will hold its tenth annual formal banquet at Longwood Towers in Brookline tonight at 6:30 o'clock. At that time the results of the Managing Board, Junior Board, and Staff elections for the coming year will be announced.

Mr. MacGregor Jenkins, who has been until recently the publisher of the Atlantic Monthly and allied magazines will be the principal speaker at the banquet. He has been the lifelong friend of Mr. Ellery Sedgwick, the editor, and has aided a great deal in the development of these publications.

Among the guests at the banquet will be President Samuel W. Stratton, Assistant-Dean Harold E. Lobdell '17, Isaac W. Litchfield '85, Orville B. Denison '11, and Professor Samuel C. Prescott '94. In addition the General Managers of other Institute publications as well as several of the past members of T. E. N. Managing Boards will be present.

With the announcement of the new Managing Board for the coming year, several Managing Board charms will be awarded to those staff men who have done the best work in their departments during the past year. Volume IX closes with the January issue which will be out next week and the new Board will assume control of the publication at that time.

RADIO CLUB STATION WILL BE MOVED SOON

Arrangements are being completed for the removal of the Radio Club's transmitters to their new location in the building back of the Hangar Gym. It is expected that at least one transmitter will be in operation by the opening of the second term.

Due to a misunderstanding, the aerials which have been constructed for the new transmitters will have to be replaced as the present ones require better insulation. Entirely new transmitters will be constructed and located in the new quarters.

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OFFICES OF THE TECH: Walker Memorial, Cambridge, Mass. News and Editorial—Room 2, Walker, Telephone Univ. 7029; Business—Room 302, Walker, Telephone Univ. 7415; Printer's Telephone—HANEcock 5060-1-2

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In charge of this issue: Frank C. Fahnestock '30

LABORER OR SCIENTIST?

AS it is with all great issues, there are several sides to this matter of American versus European educational methods. By exponents of the European ideas, it has been pointed out recently that the schools abroad give their students much better training than do ours to cope with the problems with which graduates are likely to come in contact. In Europe, say these men, the student chooses his school because at that particular place he may work under professors who are peculiarly fitted to give him knowledge of a special phase of the work. Specialists these men are, and with their help, and the typical problems which they are able to present to the students, the graduate is able to go out into the field perfectly adapted to solve similar problems.

Educational methods in America have essentially the same "raison d'etre"—they too aspire to train their students to become, for instance, civil engineers. Granted that American institutions may pay more attention to real estate and laboratories than to the personnel of their teaching staff, they are doing their best to give to their students educational qualifications which they believe will fit them for the field. Among even the highest type of technical schools, the idea is essentially that of the trade-school—to turn out engineers in the shortest possible time.

In the discussions and opinions to which these columns have been lately devoted, no one until today has mentioned definitely one fundamental error. Freshmen and Sophomores fail to realize the lack in their courses—upper-classmen struggle with the system which condones it, but do not appreciate their basic need. The industries very likely would raise enormous opposition if the present system were changed to correct it.

This is the trouble—technicians are not scientists. Nothing which schools are doing is likely to make them so. Underclassmen take scientific subjects only because they are required to get to the more advanced courses. But, and here is where the lack is most noticeable, when the men start with advanced courses, they find that their training is pitifully inadequate. They don't know even their freshman physics and chemistry; how can they expect to master heat, "theoret", hydraulics, or structures?

However, not only are these difficulties limited to the men's experience in school. Time and again graduates are baffled by problems which are only a little different from those with which they had become familiar at school—they are unable to adapt their knowledge to the matter at hand. When conditions are not the same as those which they have been taught to expect, they are quite ready to give up. But if they had an unassailable knowledge of the underlying principles—not advanced intricate theory, but a solid background of elementary science—they would be enabled to tackle problems much harder, and solve them with ease.

Industrial opposition to this plan would be inevitable. The average employer wants human slide rules, and walking handbooks; men who, at the outset, will give him a reasonable return for the salary he pays. As it is a big task now to impress on underclassmen the worth of scientific subjects as preparation for later courses, so it would be difficult to show an employer that men scientifically trained would be able very shortly to master any problems which his particular industry would offer. But when he saw that inevitably their training would make them much superior to the "trade-school" graduates, why should he continue to demur?

In this day of men who want to do, it is hard to advocate more pure science and mathematics. Were such a plan adopted at the Institute, the registration would likely fall off considerably. But to a fair thinker, the plan offers much. We all know the difficulties we constantly experience with advanced courses. We hear much of graduates' similar troubles. Why then do we look on the idea with such horror? To say the least, there is a great need on the part of every student of a realization that a mind well trained scientifically will produce practical results completely to the satisfaction of the owner, and which will bring both him and his employer much larger gains.

THE OPEN FORUM

Opinions from the Faculty

An interesting and somewhat different viewpoint is expressed in this letter to the Open Forum Column from Professor Hans Muller, of the Department of Physics. Dr. Muller received his Diploma in Mathematics and Physics at the Eidgenossische Technische Hochschule, Zurich, Switzerland, served as Assistant there for a period of two years, and was then awarded his Doctor's degree. He came to M.I.T. in 1925, and is now an Assistant Professor of Physics.

To the Editor of the Tech:

The criticism of M. I. T. in the article "Blind Braggadocio" is not justified insofar as the writer bases it on a comparison between the scholastic standings of M. I. T. and the European "Technische Hochschulen." Our undergraduate courses do not correspond to the four years which the European engineer spends for his scientific and professional training. Our freshmen are on the average at least one year younger than the European "mules," and their preparatory instruction is not of the standard of the German Gymnasia or the Swiss Mittelschulen. In fact the schedule of our freshman and sophomore years corresponds substantially to the teaching in the last two years at the technical branch of the Swiss Mittelschulen or the German Real gymnasium. Therefore, it is evident that the technical instruction in the last two years at M. I. T. must be fundamentally different from the four-year course at the European institutes.

It is my opinion that this fact explains most of the differences between European and American engineering education. The European schedule gives ample time to teach thoroughly the fundamental sciences, mathematics, physics, and chemistry, and the professional instruction can therefore be of a higher scientific standard. Consequently, the European instructing staff must consist more uniformly of first class scientists, and the produc-

tivity of valuable scientific research is greater than in this country. This fact may also partly explain the difference in the social standing of the professors in the two continents.

The European schedule produces a different student body than we have here. The man who has no ability for scientific thinking is already eliminated in the Gymnasium. Such a man may still get a professional education in the field of engineering at "Technikum," a school which in many ways is more nearly comparable with M. I. T. than the Technische Hochschule. On the other hand, the student at the Hochschule, being older and more mature, has a different moral attitude than the American student. As a result the methods of instruction differ widely from ours. They require more independent work on the part of the student and give him more freedom.

To summarize, M. I. T. tries to give to students who have at least two years less instruction in the fundamental sciences than the European students the same instruction as the Technische Hochschule. I do not believe that this can be done, but consider the graduate courses necessary to complete the education of an engineer.

Very truly yours, Hans Muller

With the victory of Sonnenberg over "Strangler" Lewis, another college man comes to the fore in the realm of professional sports. Sonnenberg may not agree with the picture of a typical college man as most of us see him. Nevertheless, he has a college trained mind and body, for he is a Dartmouth graduate.

Grantland Rice, in his sports column in "Collier's Magazine," points out that with the exit of Tunney and Dempsey, the boxing field is peculiarly void of any shining lights. Likewise, says he, there is a lack in many of the other sports. The men and women at the top now have long been in the public eye, and are likely to stay there for some time to come, but there is no new blood on the way.

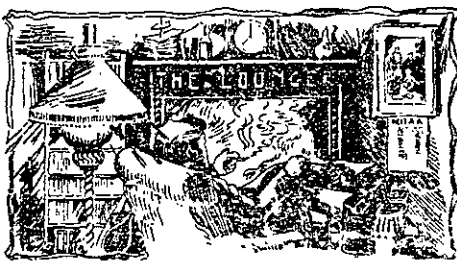
To most of us, athletics as a career may not have any appeal. However, we are excellently equipped for the work. Supposedly we are clear thinkers—this is an essential characteristic in any athlete. We have imbued in us the ideals of fair play—whether this is necessary to the "pro" would seem doubtful. Finally we have correct ideals of health and should have developed our bodies to some extent.

To you who flunk Triple E or Applied, this should be a good thought. The game brings lots of money, and the field is not at all crowded!

One hundred and fifty hours in the air! The attention of the country has been centered lately on the super-human feat which the crew of "The Question Mark" has accomplished. Nearly a week without touching terra firma, separated from their fellows by nothing but air, certainly, but by space which might at any moment bring them disaster and death.

It seems that nothing is impossible. To have prophesied ten years ago that

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"Ha-ha," laughed the Lounger, as he read that a referendum on the extinct Circus will soon be held, "the trush and Sopns are beginning to make themselves felt in local politics. Before many moons they'll be petitioning for a revival of Tech Night. Heh-heh."

The Lounger has bethought himself quite considerable on the Circus Question, and he has seen many more Tech Circuses than have most of the petitioners. List, ye thirsty ones, and hear what a real brawl you may become the parents of, and then use discretion when you cast your votes.

The last of the famous Circuses occurred in the Spring of '27. Beginning with a mammoth Circus Parade at 12:45 P.M. and concluding in a mammoth sort of wake at around eleven, the afternoon held nary a quiet moment. The Lounger and his classmates, released from classes at noon, fell in with the vociferous mob along Memorial Drive and Mass. Avenue, and awaited the coming of the parade. Not for nothing did they wait patiently, for in the vanguard were divers and sundry notables around school, clinging precariously to a real water-wagon, albeit the Lounger thought several of the dignitaries had fallen off the wagon earlier in the day, and were only back again for a short time. A band recruited from the most incurably addicted musicians that ever played solo in unison blatted and blared intermittently, thus confusing the marching delegations to a considerable degree.

As for the delegations in the parade, the best thing that can be said is that they were a good hand-picked bunch of radicals. Huge placards were the order of the day, announcing that this group was in accord with the sentiment of "Down With So-and-So," while another group proclaimed, "To Hell With Such-and-Such." At the tail end of the parade were various nondescripts who had so far caught the spirit of the day that they could not forbear to add their support to all the protestations that preceded them in line. Traffic was impeded on the avenue for a short time, but no serious damage was done to anyone but certain of the dancing girls, whose makeups were so alluring that many a poor fellow failed to recognize his own room-mate.

At the conclusion of the parade, things quieted down till evening while

(Continued on Page 4)

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THE CURRENT STYLES IN CLOTHES, HATS, SHOES AND HABERDASHERY FOR LOUNGE, SPORTS AND CAMPUS USAGE WILL BE EXHIBITED IN YOUR TOWN ON DATE GIVEN BELOW. YOU ARE CORDIALLY INVITED TO ATTEND. At HOTEL LENOX, BOSTON Thursday and Friday January 10th and 11th BOB GRAY, REP. THE FINCHLEY Establishment FIFTH AVENUE, NEW YORK JACKSON BOULEVARD, CHICAGO

HALLAHAN NAMED TRACK CAPTAIN Cagemen Meet Brown at Providence Tonight

Popular Member of Track Team Elected to Succeed Ex-Captain Miles R. Gray

John T. Hallahan '29 has been elected captain of track for the present season. Hallahan has been chosen to succeed Miles B. Gray '29 who found it necessary to resign on account of the extra work required of Seniors in Course IV.

Hallahan entered Technology as a freshman in 1925 from the Peabody High School. He started as a novice when he came out for track in substitution for P. T. as he had not done any running previous to entering Technology. This did not prove to be a very serious handicap, however, as Hallahan holds the freshman record for the quarter mile on the board track.

Continuous Record in Track

In addition to holding this record, Hallahan was captain of the freshman track team. He also ran with the freshman cross country team in 1925, and was a member of the freshman relay team. During his Sophomore year, he was elected captain of the Sophomore Field Day relay team and was one of the outstanding runners on the team.

During the latter part of his Sophomore year, he won a berth on the varsity relay team and continued his excellent work in his Junior year, again running on the varsity team. He is expected to form the nucleus of the varsity relay team for the present season. He has been a consistent high scorer in the various handicap and other track meets and demonstrated that he has lost none of his ability by winning the four lap race in the handicap meet held December.

POLO TEAM GRANTED RECOGNITION AGAIN

Advisory Council Acknowledges Payment of Team's Debt.

Provisional recognition of the Polo Team as an undergraduate sport at Technology was restored to the members of that organization by the Advisory Council on Athletics at their meeting last night. This recognition had been withdrawn a month ago by the Council due to the fact that the men playing polo had illegally run into debt, making further official competition impractical.

Since their recognition had been withdrawn, however, the members of the team had raised sufficient fund from outside sources not only to pay their outstanding debts, but also provide for the financing of the team throughout the remainder of the season. This action was entirely in accordance with the regulations of the M. I. T. A. A., so that was no longer any reason for continued withdrawal of recognition.

It was reported by the fencing team that, due to the large number of game which had been played away from the Institute in past years, the team had to play almost all of its games here this year, and that the consequent expense was \$125 in excess of the amount stated in the budget. The Council immediately voted to supply the team with the needed funds.

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VARSITY MATMEN WILL FACE TUFTS IN MEET TONIGHT

Varsity Will be in Wonderful Shape for First Meet of Season

FRESHMEN EXPECT A WIN

Will Elect Captain After Meet Tonight—Axford Acting Captain

Final practice has been held, and the Cardinal and Gray grapplers stand ready to meet the Tufts Jumbos tonight at 7 o'clock in the Hangar Gym. The Technology team lost its meet last year, but expects to deal defeat to the Medfordites tonight. The Tufts team has been widely known in collegiate wrestling circles as one of the strongest teams in the East, and will furnish real competition for the M. I. T. matmen. This is the first meet for both teams, and their competition strength is still unknown.

The lineup of the Varsity wrestling team as it will appear tonight is as follows; Chibas, 115 pound class; Perkins, 125; Cooper, 135; DerMarderosian, captain, 145; Pittbladdo, 155; Easley, 165; Stone, 175; with an empty berth in the unlimited which will be forfeited to the Jumbo squad.

Last year Capt. DerMarderosian, and Perkins won their matches against the Jumbo matmen, and are expected to pile up points in the meet tonight. Both are in wonderful shape, and hope to start the season with a win. Cooper, who lost his match in the last second last year, after having piled up a four minute time advantage also expects to score a win against his Jumbo opponent, Pittbladdo, who also lost his match last year to a man ten pounds heavier, is wrestling in a lighter class, and is counted on to win his match.

Freshmen Hope For Second Win

Having had the much needed experience of a meet to their credit, the victorious yearling squad is prepared to duplicate the showing made last Saturday against the Crimmon frosh. Axford will act as captain of the squad, the captain to be elected tonight after the meet. In practice Axford has shown up wonderfully, and promises to be invincible in this berth. He scored a fast fall against his Harvard opponent, and should win his match tonight.

The lineup of the freshmen as they will appear is as follows; Axford, 115 pound class, Lazar, 128, Knoepfel, 135, Vassolotti, 145, Negus, 155 Ward, 165, Rudnick, 175, with Rabinowitz, 240 pounds in the unlimited. Vassolotti has done outstanding work in practice, and expects to down his man in short order. Also Rabinowitz, our 240 pound protege, will undoubtedly make an impressive appearance against the Jumbo squad. The freshmen got away with a fine start this year by defeating the Harvard team, and although they will probably meet a stronger squad in the Jumbos, they should win their half of the meet.

New Rules Will Be Used

All of the matches tonight will be fought under the new collegiate wrestling rules. Under the old rules the matches lasted for ten minutes, and there was a tendency for the men to stall in the last few minutes, and over-time periods cut down the quality of the match considerably. Under the new rules, if the wrestlers are off the mat at the end of the two minute period, two four minute bouts are run, both men starting on the mat. The first advantage is given by the toss of a coin. In the second bout the man getting the advantage the first time loses it to his opponent and the match continues to the full ten minute limit. If any over-time is necessary, two three minute bouts are held, and the winner is picked by decision of the referee, if no fall is scored. It was under these new rules, that the freshmen met Harvard, and they proved to be very successful. George Morrison will act as referee again tonight, having refereed the freshman meet with Harvard last Saturday.

It is of general interest that Paavo Nurmi, Finland's greatest distance runner, was recently granted his registration as an amateur athlete by the Metropolitan Association of the Amateur Athletic Union. He appeared at the association headquarters and announced that he intended to remain at least a year in the United States.

Yearling Quintet Hopes To Hand Brown a Defeat In Battle at Providence

Hoping for their first victory of the season, the freshman basketball team meets Brown at Providence at 7:00 o'clock this evening. It will be the yearlings' first away from home game of the season. The game promises to be interesting as Brown is supposed to have a strong team this year and will have the added advantage of playing on their own floor.

Varsity Quintet Ready for Brown Contest Tonight

Game With Bruins is the First Contest that is Played Away from Home

(Continued from Page 1)

Bob Nelson, and Bates for the forward berths.

Team Has Good Guards

It will be a toss-up among four men for the guard positions. George Lawson is pretty sure to be at left guard as he has started in every game so far this season. Either Dave Motter, Coffey, or McDowell will be at right guard. Motter and McDowell have been alternating at this position throughout the year while Coffey has played occasionally.

Dickenson and Harrison are the other two men who are taking the trip. Dickenson is a guard while Harrison is a forward. Both of these men have seen action in games this season.

Monday's Scrimmage Weak

Scrimmage Monday night was rather slow and the team did not look any too good. This was the chief reason for putting the men through a strenuous workout last night. Yesterday's scrimmage was fast with the Varsity scoring a majority of the points. The teamwork and passing seemed good as the Varsity easily broke through the yearlings defense.

Rifle Marksmen Have Busy Week On Firing Range

Technology vs. Boston U. Match to Feature Sportsmen's Show —Meet U.S. Marines

After a rest during vacation, the Varsity Rifle Team is hard at practice again. The schedule for the week includes one shoulder-to-shoulder match, two telegraphic matches, and the firing of the first stage of the First Corps Area Intercollegiate R. O. T. C. match.

On Friday night the Institute marksmen will fire against a team from the U. S. Marines in a shoulder-to-shoulder match on the Institute range. As usual, ten men will fire on each team, the five highest scores to count. During the week telegraphic matches with Connecticut Agricultural College and Johns Hopkins University are being shot.

Engineers In Exhibition Match

One of the features of the Sportsmen's Show next week will be a shoulder-to-shoulder match fired on the night of Friday the eighteenth between Boston University and Technology. This match will be fired at the Show, and will be viewed by many of the spectators.

Members of the squad are continuing to show improvement, and it is expected that they will follow in the footsteps of last year's team to a very successful season. Lieutenant A. T. W. Moore, who is coaching the team, seems satisfied with the progress shown so far.

To get back to sports at Technology, it seems gratifying to be able to comment on the large number of men who came out for practice during the holidays. Such spirit speaks well for the team and its coaches.

The list of Varsity sprinters has been strengthened by the addition of Barbour '29, a star of last season, who came out recently to get in a little early training for the spring meets.

Ten men from the freshman squad are making the trip. They are: Castleman, Paul, and Sears as guards, Richard at center, and Rash, Stockwell, Ross, and Weller as forwards. Oh this group Rash, Paul, and Rickard are practically sure to start as they have been in both of the previous games. Ross may also start, as he did some good work in the Wentworth Institute game.

Scrimmage With Varsity

Last night's scrimmage showed that the freshmen had lots of pep. They gave the Varsity a lively scrimmage; although the Beaver regulars led in the scoring. However, the yearlings were able to sneak through a number of baskets and kept the Varsity continually on their toes.

In all of the previous freshman games the scores have been close, and in tonight's game the yearlings hope to come out on the long end of the score. However, the Brown yearlings handed Bridgewater Normal a 54-24 trouncing and have several strong men on their team.

Sawyer Leading Brown Player

Sawyer, a center, is probably the Bruin's leading player as he is good at getting the tap and was high point man in the Bridgewater Normal game. Harris and Wright, right and left forwards respectively are dangerous men as both are very good shots and are likely to score when anywhere near the basket.



Coach Hedlund once more warns the freshmen that they must sign up before Tuesday, January 15, if they wish to substitute track next term. This is an important requirement and should be attended to as soon as possible.

The cold weather of this week has not found the track enthusiasts lacking in spirit. They are out there every day, preparing for the handicap meet which the coach has planned for Saturday afternoon. This will probably be the last one before exams, as the following week will be devoted to relay trials.

The list of events will be the same as usual, with a 50-yard dash, 300, 600, 1000-yard and 1 1/4-mile runs, 45-yard low hurdles, shot put, and high jump. The new feature in this meet will be the 1 1/4-mile run, which amounts to fifteen laps on the board track.

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OFFICIAL BULLETIN

BIOLOGY AND PUBLIC HEALTH

A meeting of the Sedgwick Biological Society will be held Wednesday, January 9, at 7:00 P.M. in the Emma Rogers Room. Officers for the next term will be elected. All members are urged to be present.

ECONOMICS

The following speaker will lecture before the class in Business Management in Room 1-190:

Mr. Carle M. Bigelow
President of Bigelow, Kent, Willard & Co.
Management Engineers
Friday, January 11, 2 P.M.
Subject: Management Engineering

CALENDAR

Wednesday, January 9

- 1:00—Advisory Council for Course XV Luncheon Meeting.
- 6:00—Civil Engineering Society Dinner Meeting, North Hall.
- 7:00—Chemical Society Smoker, Faculty Dining Room.
- 7:00—Varsity and Freshmen Wrestling vs. Tufts, Hangar Gym.

Thursday, January 10

- 6:00—Mass. Safety Council Dinner Meeting, North Hall.
- 6:00—'50 Club Dinner, Grill.

Friday, January 11

- 2:30—Society of Art's Popular Science Lecture, Room 10-250.
- 6:00—M. I. T. Italian Club Dinner Meeting, North Hall.

Saturday, January 12

- 4:00—Society of Art's Popular Science Lecture, Room 10-250.
- 7:00—Varsity and Freshman Basketball, Hangar Gym.

Notices and Announcements

SIGNAL UNIT REQUIREMENTS

The 1929 catalogue will contain detail of the changes which are listed below in general terms:

Wire Communication 6.281 and Radio Communication 6.282 will no longer be a requirement of the Signal Unit Course. These two courses have been replaced as follows:

- Course VI. Professional electives.
- Course VI-A. Regular fourth year course.
- Course VI-C. Regular fourth year course.
- Course VIII. Electives along physical or communication lines, which will meet War Department requirements.
- Course IX-B. Electrical Communication 6.301 and 6.302.
- Course XIV. Regular fourth year course.

Anyone desiring further information about these changes will please see Capt. George S. Eyster, Signal Corps, Room 3-003.

CREW

All freshmen substituting crew for P. T. I. must check their attendance

THE EDITORIAL SPECULUM

(Continued from Page 2)

men would stay up in a heavier-than-air machine for six days and over would have been heresy. But most of us realize that the only limiting factor in the performance is a mechanical one. As Lieutenant Quesada stated when he descended from the ship after the gruelling flight, it was the motors which finally gave out and forced the plane to the ground. To anyone of us who is at all interested in things mechanical, a distinct challenge is offered by this flight. If motors can be designed to stand up for 150 hours and to cover 12,000 miles, why not make them still better? The intense interest in aviation at Technology is augmented by "The Question Mark's" epochal flight. Transfer from the ground to a flying plane of supplies and equipment is a field only recently opened. Further developments in this line may revolutionize commercial and war-time aviation. Space is again shortened; round-the-world flights are very possible. We have gone half way around the world in six days—what next?

CATHOLIC CLUB TO HOLD DINNER DANCE

For the first time in its history, the Technology Catholic Club will hold a combined supper and dance with the St. Cecilia's College Catholic Club. The affair will be held in the Riverbank Court Hotel this evening from 7 o'clock until 12. Tickets for the supper may be procured at \$1.00 each and those for the dance at fifty cents.

records with Mr. McCarthy and make up all cuts before January 19.

To substitute crew for P. T. 2 a clear record in P. T. 1. is required. Men wishing to substitute crew for P. T. 2 may do so by signing for it in Mr. McCarthy's office any morning before 12 o'clock from January 4 to January 17.

REGISTRATION MATERIAL

Students who have not obtained their registration material should get it immediately from the Information Office.

Registration material must be returned to Room 3-106 not later than 1 o'clock, Friday, January 11 to avoid the fine of \$5.00.

INSTRUMENTAL CLUB

There will be no rehearsal of the Instrumental Club tonight.

TECH SHOW

There will be rehearsals of the skits, "The Cook's Tour" and "Cafeteria," in the West Lounge of Walker tonight at 7:30 o'clock. These will be the last rehearsals until after examinations.

Four Colleges in New England Have Fires in 4 Days

Amherst, Middlebury, Smith and Dartmouth All Suffer Heavy Losses

During the four days from last Thursday until Monday, four of the New England colleges suffered from losses by fire. The most extensive damage was reported from Middlebury, where first reports stated that three fraternity houses had been destroyed in a \$125,000 fire. Later information showed that only one fraternity and one sorority had been burned out, but members of both of these lost all of their possessions. The fraternity Beta Psi, and the sorority Sigma Kappa, are both nationals and have no chapter houses at Middlebury, but rent suites of rooms.

The Delta Tau Delta house at Dartmouth was destroyed by fire last Thursday. No cause has been discovered as yet. All members were away for the vacation and so the fire was not discovered until it had made considerable headway. The house was one of the finest and newest at the college, having been built only five years ago.

Damage estimated to be between \$8,000 and \$10,000 was caused Saturday by a fire in the Dawes House, a Smith dormitory. Injury from loss of personal property was estimated at several thousand dollars.

The latest of the four fires took place Monday night, when a room in Morrow dormitory at Amherst, was burned. A Chinese student, occupant of the room, lost all his personal belongings. He expressed the opinion that the fire was caused by a cigarette which he had left on the desk upon retiring.

CORPORATION GIVES DEGREES TO 82 MEN

List of January Graduates is Announced—Ph.D. Awarded Three Students

Awards of degrees to 82 students have recently been announced by the Corporation. The degrees were awarded in December, and were mailed to the students who are to receive them immediately after the Christmas vacation.

The number of degrees awarded in the various courses is as follows:

- Doctor of Philosophy..... 3
- Master of Science
- In the Cooperative Course in Electrical Engineering..... 1
- In Electrical Engineering..... 8
- In Physics..... 2
- In Sanitary and Municipal Engineering..... 1
- Without designation of Department..... 2
- Bachelor of Science
- In Civil Engineering..... 11
- In Mechanical Engineering..... 8
- In Mining Engineering..... 2
- In Metallurgy..... 2
- In Architecture..... 5
- In Architectural Engineering..... 3
- In the Cooperative Course in Electrical Engineering..... 1
- In Electrical Engineering..... 12
- In Physics..... 1
- In General Science..... 1
- In General Engineering..... 2
- In Chemical Engineering..... 4
- In Sanitary and Municipal Engineering..... 1
- In Electrochemical Engineering... 1
- In Engineering Administration... 11
- In Aeronautical Engineering.... 1

The following men received the degree of Doctor of Philosophy: Philip K. Bates '24, Henry C. Gunning '26, and William E. Messer '24.



(Continued from Page 2)

the crowd went home to dig out old clothes, and the committees worked feverishly putting the finishing touches on the exhibits. At about seven o'clock, the Armory began to fill, and by eight it was comfortably full, and everyone was comfortably tight. By eight-thirty, pandemonium had broken loose, and the Lounger was the only sober one here. List to the tale of woe which he has to tell, what happened when Tech boys got together on a real bender, and what will surely as hell happen again, if the student body and Institute Committee don't work things better.

The Aeronautical Engineering Society had prepared an airplane exhibition—a freak plane was to make a circuit about the room, suspended from overhead by a rope. At the appointed time, the pilot took off, but he had barely cleared the heads of the crowd when all the available artillery present, in the form of bottles, real man-sized bottles, most of them, the Lounger will swear, filled the air, and forced him to make a hasty landing.

The Dormitories were conducting a Penny Arcade, and, as usual, Tech men were unable to resist any such display as a peep-show. When the lineup outside the Arcade was some fifty or more feet long, the tail end decided to become the head, with result that the Arcade was shortly a mess of splinters and swearing dancing girls. None of the girls was injured seriously, and they were soon mingling with the crowd and adding to the whoopee which had already reached gargantuan proportions.

A chariot race between the fraternities, a runaway Toonerville Trolley, and an over-anxious fire department charged the mob simultaneously, the Sigma Chis bombarded the crowd with patent medicine bottles, while Voo Doo merrily tossed pies from the safety of the gallery. Shortly after this, nothing remained but wild disorder, and the Lounger beat a hasty retreat with one of the architects, thinking that he was a disguised coed in distress.

If the foregoing tale of the good old days brings anything at all to the minds of you frosh and Sophs, let it be a warning to you that any Circus or Carnival, or whatever you call it, must be dry, orderly, and in good manners in the future. If such a gathering is the wish of the undergraduates, then the Lounger will be on hand in his most benign mood, to lend the affair grace and dignity.

M. I. T. RECEIVES \$20,000 CONTRACT TO DO EXPERIMENT

Dr. Terzaghi in Charge of Earth Pressure Tests for N. E. Power Company

WORK ALREADY STARTED

(Continued from Page 1)

walls, whether the material under observation be wet or dry.

It is estimated that the gross cost of the entire experiment, including the expense of construction of the building, erection of apparatus, and running of tests, will amount to approximately \$20,000. Of this amount, by far the greater majority is being furnished by the New England Company, the Institute is merely supplying the site, pile foundations, electric wiring, steam heat, water, and similar details.

Operations have already started on the foundations, for which the excavations commenced last week adjacent to Building 46. Drawings and specifications for the apparatus, retaining walls, bins for earth, and other part of the project are now being prepared.

The "building," as it might be termed, will be a temporary wooden shed, rather small in dimensions. It will contain a retaining wall, and the earth bins containing the different materials to be used, together with apparatus for exerting pressure and observing their results.

It is estimated that the building will be complete, and all the apparatus set up by the middle of March. At that time the running of tests will start immediately, and is expected to continue for about five weeks with the result that the entire experiment should be completed by the early part of May at the latest.

Further articles concerning the processes to be used in these experiments, and the results expected to be obtained will be published in succeeding issues of THE TECH as more information becomes available due to progress of the construction and experiments.

TWELVE MEN GIVEN O.R.C. COMMISSIONS

Military Science Graduates Are Appointed Lieutenants

Twelve members of the Advanced Course in Military Science have recently received commissions as Second Lieutenants in the Organized Reserves. The commissions were given to members of the group which graduated at the beginning of the year, and date from the time these degrees were awarded.

Those commissioned were: Robert Marion Harbeck, Robert Joseph Joyce, Vernon Stevens Brown, Thomas Guille Harvey, David Myer Fuller, John Winthrop Joyce, Richard Benjamin Rubin, Fred Lewis Zappini, Jr., Norman Cornell Estes, David Palmer Moore, Malcolm Oliver Petrie, Ralph Theodore Jope.

CLUBS ENTERTAIN ELECTRIC COMPANY

Robert B. Semple '32, Gives Solo On Saxophone—Lexington Concert Next

Employees of the Edison Electric Illuminating Company were entertained at a concert given by the Combined Musical Clubs at the Edison Club Hall in Roxbury, last Monday evening. Although the attendance of Club members was poor the program proceeded smoothly and was very well received. At that, the audience was considerably larger than was present at this affair last year. A large crowd enjoyed the dancing which followed the concert. There was only one feature act on the program, a group of saxophone solos by Robert B. Semple '32, but this number met with a great deal of applause.

The next concert is to be given before a meeting of the Lexington Teachers' Club, and will be held Friday evening at Lexington. Club members are to go by buses, which will probably leave at about 7 o'clock.

BIOLOGY CLASS SEES HEALTH DEPARTMENT

Annual Visit Held to Explain Use of Vital Statistics

In order to observe the methods of handling the records pertaining to births, deaths, and communicable diseases in a large municipality, the class in Vital Statistics visited the Boston Public Health Department yesterday morning.

In addition to describing the use of the various methods of keeping health records, the manner in which vital statistics are used to analyze the health conditions of a community was explained. The use of different types of punch cards was described as well as the punching machine, the sorting machine, and the calculating machine. The latter machine adds, multiplies, subtracts, and divides and is a valuable time saver in statistical work.

This trip, which was directed by Professor Murray P. Horwood of the Biology and Public Health Department, is one of the regular visits the class makes annually in order to link up practice with theory.

By the way, Nurmi said that he came to this country primarily to study automotive methods in America as he is a draftsman for a Finnish automobile firm. Though he plans an active track campaign he is not yet ready to announce his athletic program.



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