

THE TECH

VOL. XXXII. NO. 34

BOSTON, MASS., FRIDAY, NOVEMBER 8, 1912

PRICE TWO CENTS

ADVISORY COUNCIL ISSUES REGULATIONS

Rules for Field Day Must Be Observed — Dinner Held Tomorrow Night.

The following regulations for Field Day have been issued by the Athletic Advisory Council:

No one will be admitted without a ticket or a badge. Officials and marshals will be provided with badges, and competitors will receive tickets through the managers of their respective teams.

The following rules must be observed by spectators, substitutes, officials, marshals and others:

During the football game only the players and officials directly connected with the game will be allowed on the playing field; substitutes and coaches will not be allowed to approach nearer the side line than fifteen yards, and then only on the north side of the Field (opposite the spectators' stand).

During the Relay Race, only the Referee and the officials connected with this particular race will be allowed on the Field. During the Tug-of-War trials only the teams and officials in connection therewith will be allowed on the Field.

AT NO TIME will any one be allowed between the Field and the spectators in the stands, except marshals who may be detailed to particularly enforce this rule, and football officials.

Officials will be designated as follows:

Football Yellow badge
Relay and Tug-of-War Blue
Marshals and Managers Scarlet
Press White
The FIELD DAY DINNER, to which all participants on Field Day, including officials, managers and competitors are invited, will be held at the Union at 6.30 P. M., Saturday, November 9th.

(Signed) J. H. ROCKWELL,
Chairman.

FIELD DAY OFFICIALS.

Complete List of Men Who Have Charge of Afternoon Program.

The full list of officials at the Field Day is as follows: Varsity Track Manager, J. M. White; the Senior Marshals, W. R. Mattson, chief; L. C. Hart, L. H. Lehmaier, A. G. Ranney, W. P. Muther, G. N. Rollason, R. M. Freeman, G. R. Thayer, R. B. Haynes, R. W. Weeks.

The football officials are: Referee, J. B. O'Reilly, Dorchester H. S.; Umpire, S. L. O'Brien, English H. S.; Head Linesman, Fred J. Hoey, Boston Journal; Linesman, Senior, F. D. Murdock; Junior, C. D. Bryant.

Relay race judges and officials are as follows: Judges, Senior, W. R. Byland; Junior, L. A. Wilson; Inspectors, Seniors, H. D. Peck, E. W. Brewster; Juniors, A. T. Wyman, W. Brotherman.

Tug-of-War Judges. Senior, E. W. Taft; Junior, C. P. Fiske. Relay and tug-of-war Timers, Senior, M. L. Waterman; Junior, T. H. Guething.

The Junior Marshals are T. H. Huff, C. E. Fox, H. S. Wilkins, G. W. White, E. L. Sutherland. E. B. Germain, Clerk of Course.

Athletics cost Yale about \$100,000 last year and Harvard \$127,945.

MISS SUNSHINE INTERVIEWED BY THE TECH

She Thinks That Tech Men and Technology Are Quite the Best Thing.

Of all the many stars in "From Broadway to Paris," there is one who shines forth with a brilliancy that dims the light of the others. Dainty, pretty, nimble, graceful Miss Marion Sunshine is the star of them all. Although she does not play the major role in the show, she is one of the leading characters, and her daintiness is the most refreshing thing in the whole performance.

She was interviewed yesterday in her suite at the Brewster by a repre-



MISS MARION SUNSHINE
Of "Broadway to Paris" Company.

sentative of THE TECH, whom she told what she thought about Tech Night and Technology men, in her pretty Southern accent. She comes from Kentucky. When she was seen she was very ill from tonsillitis, but her disposition, as sunny as her name, dispelled the large army of glooms that such a malady brings together. When asked if there was any chance of her being too ill to be in the performance, she said with a smile: "Oh, I'll be there if I have to come on crutches."

Her enthusiasm for Tech Night is unbounded, and she just loves to play for college audiences, because they are so appreciative. The entire cast is looking forward to a lot of fun.

Miss Sunshine has only seen a few Tech men, but those she has met are very nice, she said. Like all stage people, she receives a lot of notes and many of them come from Harvard boys, while she has only received one or two from Tech men, hence she thinks that these fellows are more sensible and more deserving of her respect.

She thought it was nice that the boys picked out "From Broadway to Paris" for the annual celebration, and was especially delighted to be chosen for an interview in THE TECH.

Being interested in college yell (Continued to Page 2, Col. 1.)

SIR WILLIAM RAMSAY GIVES LAST LECTURE

He Finished the Description of the Gases of the Atmosphere Last Night.

Last night came the last of the lectures by Sir William Ramsay on the gases of the atmosphere. In spite of the bad weather the hall was nearly filled and the audience showed their enthusiasm and appreciation of the lecture by frequent bursts of applause.

Sir William Ramsay first spoke of the weather, saying that the air was so moist that the electroscopes which he expected to use would not retain their charges for any length of time,

and so some of his experiments would not work. He went on to speak of the old idea of two forms of static electricity, positive and negative. Modern theory shows that what is called negative electricity is a surplus of electrons, rather than a deficit of positive electricity in the absence of electrons. The latest idea of the nature of the gradual escape of an electric charge even in the driest air is that air above the earth's surface is negatively charged. Sir William announced the novel idea that this is due to the presence in the air of a gas, niton.

air of a gas niton. To describe this niton he first brought to the attention of his audience some of the more important results that Becquerel had made on the nature of light. Becquerel found that salts of uranium affected a photographic plate through black paper, even though the uranium had never been exposed to light. This peculiar property was investigated by the Curies, who found that the ore from which uranium was extracted was capable of discharging an electroscope more rapidly than the content of uranium or thorium would warrant. Madame Curie investigated the precipitate produced an analysis of the ore, and found the precipitate of the bismuth group was considerably radio-active. This property she ascribed to a new element which she named polonium. The barium group precipitate also was radio-active, and from this she extracted an element very similar to barium but whose atomic weight was about 227. This she named radium. Sir William had a tenth of a milligram of a pure salt of radium with him, and he exhibited it to many of the audience after the lecture.

Radium was found to give off three kinds of rays in the course of its gradual decomposition. These were named the alpha, beta and gamma rays. The first kind could not pass through paper, while the last kind penetrated 10 cm. of lead, which (Continued to Page 2, Col. 2.)

CLASS TEAMS EAGER FOR AFTERNOON FRAY

Events Start at 2.15 With Tug-of-War Freshmen to Have Band.

This morning finds the class teams in the best of condition and humor. Yesterday the Freshman football squad held a light practice, which included a short signal drill. Both relay teams reported at the Field but nothing was done except that they received rub downs from the track teams' expert rubber. The Freshman tug-of-war held no practice and were given the final instructions. Each team received yesterday the full regalia that they will appear in this afternoon.

All this week Bill Hines has prepared the field and track till it was nearly perfect. Last night's rain will take the polish off his efforts, but the field ought to dry up quickly. Last night the student body bemoaned the fact that History might repeat itself and a Day appear like the one two years ago. The weather bureau, however, promised fair and cold weather, and the spirits arose and the teams obtained a good night's rest.

The Freshmen will open the afternoon with a burst of enthusiasm about 1.30, when they will arrive at the Brookline Transfer Station with a real brass band. The rosters will gather in this place till there is a sufficient number to fill the cheering section.

Then to the tune of the most popular song suggested they will march as straight as their spirits will let them from the station to the Field, where they will scramble for the best seats. The band will sit in the section and keep the spectators full of enthusiasm with Tech songs and popular melodies.

The first gun will be fired at 2.15. A few minutes before the tug-of-war teams will line up, and at this signal will commence the struggle for class supremacy. At 2.25 the football teams will line up for the first period. After the first half the relay team will start at 3 o'clock. At 3.10 the second pull of the tug-of-war will be held. At 3.20 the second half of the football game will start, and after the game the tug-of-war will close the events of the afternoon.

Oxford and Cambridge are negotiating with Harvard and Yale for an international track meet to be held in this country next year. The Englishmen are very enthusiastic over the prospect of a meet, and a representative of the English universities has already interviewed the Yale athletic leaders, who are said to favor the plan.

WEATHER.

Forecast for Boston and vicinity: Fair and colder today; brisk westerly winds.

CALENDAR.

Friday, November 8, 1912.
12.00—Exercises Suspended.
1.30—Freshmen Meet at Brookline Village Transfer Station.
2.15—Field Day Begins.
6.00—Sophomore Dinner.
8.00—Tech Night at Shubert.
Saturday, November 9, 1912.
6.00—Field Day Dinner.

THE TECH

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FRIDAY, NOVEMBER 8, 1912

We announce a special Field Day Issue of THE TECH which will be on sale about 11 o'clock this morning in various places at the Institute and at the Field this afternoon. It has been our aim in presenting this special issue to make it a souvenir of Field Day as a whole. There will be a short history of the event as well as the lineups of all the teams with various pictures taken just after the choices were made. Aside from these features will be the account of interviews with members of the "Broadway to Paris Company," now playing at the Shubert Theater, where Tech Night is to be held tonight.

EDITORIAL CONTEST.

It is announced that the subject for the next editorial of the Pi Delta Epsilon Editorial Contest is an optional one. Following are the rules governing the contest:

1. All editorials must have the name, class and address of its writer on each page.
2. Each editorial must be addressed to Pi Delta Epsilon Contest Committee and left at the Cage or in the upper TECH office by 5 o'clock of the day on which it is due.
3. Each contestant must have written on at least seventy-five per cent. of the subjects to qualify, and more credit will be allowed the contestant who writes on all subjects.
4. Contestants shall use their own judgment as to style and way of handling each subject, but shall refer to the editorial columns of THE TECH for the proper length.
5. Two subjects will be given out weekly during the first period of the contest, the first of which will be due on Tuesdays, and the second on Fridays. The subject for the editorial due on Tuesday will be published Saturday, and the second on Wednesday.
6. The information upon which editorials are based may be obtained from any source.
7. The manuscript of the editorials must be neat and present a good appearance.

TECH NIGHT INTERVIEW.

(Continued from Page 1, Col. 2.)

the "We Are Happy" yell was given for her benefit, and she thought it was fine.

This afternoon, if she is able, Miss Sunshine will come to see Field Day with two or three others of the cast, and an attempt will be made to work in some local hits into the show. All who have seen Miss Sunshine before are looking forward to this evening and hoping that "Her Daintiness" will be there behind the footlights as usual, cheering and charming every one.

SIR WILLIAM RAMSAY.

(Continued from Page 1, Col. 3.)

blocked completely the beta rays. Sir William Ramsay went on to explain what is meant by the "life" of an element. This is taken as the period of time in which half of a given quantity is changed into something else. As the decomposition in the case of all these substances is gradual, complete decomposition would take an infinite time. The half life period of radium is up in the thousands of years, but that of the radium emanation, which is a gas, is found to be very slightly under four days.

The investigation of this gas, which had the power to discharge an electroscope, was begun by Rutherford and Soddy. They found that many other products are formed by the step-like decomposition of these unstable elements, and they gave them such names as Radium A, Radium B, etc. But the complete investigation of the properties of this gas, the radium emanation, was only accomplished when the most refined methods for the handling of minute quantities of gas were used. Sir William Ramsay gained the necessary experience in his investigation of xenon, of which he had at no time more than 4 cc. But the new gas was only obtainable in quantities less than one-tenth of a cubic millimeter. To handle this small quantity required methods so exact that at first the problem seemed insurmountable. But the difficulties have been overcome, and Sir William Ramsay showed pictures of the apparatus. Some of the pieces were so ingenious as to excite the admiration of the whole audience. In particular he made clear how they constructed a balance which will give the weight of a definite volume of the emanation. This balance is sensitive to the five millionth part of a milligram.

In the investigation of the gas they found that its spectrum was that of a new element. It obeyed the gas laws of Boyle and Gay Lussac, and hence was a gas. He showed it was a new element, and named it niton because of its power of giving off light. This light is shown with particular brilliancy when the gas is solidified by liquid air. It then glows with a violet light. The density determinations gave this element an atomic weight of 223.

The fact that helium was found in minerals containing uranium and thorium, and the fact that these minerals sometimes contained radium led Sir William Ramsay to decide that the helium came from the radium. This was found to be true on investigation, and recent measurements have shown that each atom of radium, whose atomic weight is 227, in decomposing gives one atom of helium, with the atomic weight 4, and one atom of niton, with atomic weight 223. He found moreover that niton when allowed to stand for three months gave the spectrum of helium alone. This showed that niton further broke down into helium and other elements.

The niton and the helium that accompanied it were electrically charged, and they and the electrons which formed the beta rays were as capable of ionizing gases. This allows photographs of the path of electrons to be taken in a very ingenious manner. Water-saturated air is allowed to expand suddenly, but as there are no dust particle present no precipitation takes place. But if a trace of radium is placed in the air space the water particles condense on the ionized gas molecules, and the paths of the helium and niton atoms flying off from the radium can be photographed.

After hinting that he might come back to Boston to describe electrons and their properties, Sir William Ramsay thanked his audience for the reception that they had given him. After prolonged applause the lecture was over, but he was kept answering questions for half an hour more.

SPECIAL FIELD DAY ISSUE OUT THIS NOON

Assets Old Colony Trust Co. (Oct. 18, 1912)	\$97,000,000
Assets other Boston Trust Co.'s (Sept 4, 1912)	170,000,000
Combined Assets all Boston Trust Co's.	<u>\$267,000,000</u>

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Guess I'll have to see "Good Old Burke the Tailor" pretty soon.

That big brother of mine told me to be sure to call on him at 18 School St., or to see Tom Hayes at 843 Washington St., as soon as I landed in Boston, and the bunch here tell me that was good dope.

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 Activities, 4c. per line.
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FACULTY NOTICE.

Candidates for Graduation.

October 28, 1912.
 Notes in regard to status with reference to graduation have been sent to fourth-year students. Any student who has not received a note should consult me if he expects to be a candidate for graduation in June, 1913.
 A. L. MERRILL,
 Secretary of the Faculty.

STUDENT VOLUNTEERS—Give your names to L. R. Talbot, T. C. A. office.

PRECISION OF MEASUREMENTS.

The lectures in Precision of Measurements for entering College Students will be held on Mondays and Fridays at 4 P. M., in Room 23, Walker Building, during the first five weeks. (8-11)
 H. M. GOODWIN.

FACULTY NOTICE.

Third Year—Elements of Electrical Engineering—Change of Recitation Hour.

Section F will change from Tuesday, at 10 o'clock, to Wednesday, at 9, to recite in Room 20, Engineering B.
 WALTER HUMPHREYS,

FACULTY NOTICE.

GYM CLASSES begin Monday, November 11, as noted on the Freshman tabular view. All men must be in Gym suits at the first exercise. No Cuts allowed during year.

A sporting goods representative will be at the Gym from 1.30 to 4 o'clock on Wednesday.

F. M. KANALY,
 Gym Instructor.

TO LET—In a strictly private family, a front room with good board, 5 miles out from city, 20 minutes ride from Sullivan Square; 5 cent fare; near both steam and electric. 145 Oliver street, Linden, Malden, Mass.

Do you know that there is a filed list of student addresses at the Cage in the Union?

Watch for the two issues of THE TECH on Field Day.

The special issue on Friday will be worth saving.

The after-effects of the parade was noticeable on the Progressives on Monday morning.

Those reports for the Freshmen are about due.

RECEIPTS for Seniors who paid class dues with their ballots may be obtained at the Cage. (31-51)

ROOM FOR RENT—Back room for two men, large desk, steam heat, continuous hot water, two closets, three windows; \$5.00 per week. 88 St. Botolph St. (Tues-Thurs-Sat)

PRIVATE HOME—One large room, 2 connecting rooms, beautifully furnished, fine library; preferably professors or graduate students. Convenient to all electric. 19 Howard Ave., Brookline.

LOST—At Tech Field, an open-faced gold watch with H. R. B. on back. Reward if returned to 16 Exeter street. (28-21 p)

LOST—A 10-inch Slide Rule, in the Union, Monday, Oct. 28. 1.30 to 2 P. M. Return to Morrill, '14, for liberal reward. (28-21 p)

FOUND—Slide rule and case, Pipe case, Raincoat, Text-books, Umbrella, Bunch of keys, 2 Stick pins, 2 Note Books, 3 Watch Fobs, Fountain Pen, Watch, 2 pairs of Rosary Beads, Fraternity Pin. Apply at Bursar's office.

Dancing Parties every Wednesday and Saturday evenings. Lundin Gymnasium, 44 St. Botolph street, Boston. Refined patronage. (Tues-Fri)

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FACULTY NOTICE.

Attention is called to the following extract from the Rules of the Faculty: "All marks of D incurred in the second term must be removed not later than the end of the following November. In case a mark of D is not removed at this time, the student shall be required to discontinue any dependent subjects which he is taking, and can obtain a clear record only by repeating the subject in which the D was given."
 A. L. MERRILL,
 Secretary of the Faculty.

THE TECHNOLOGY SOUTHERN CLUB will hold a dance at the Hotel Carlton, Boylston and Hemenway streets, on Saturday evening, November 9th, at 8 o'clock. (32 & 33)

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