

New Calculating Machine Solves Nine Equations

Civil Engineering Department Develops Device To Aid Research

Wilbur Perfects Calculator After Working Three Years

Mathematical Robot Designed From Laboratory Model Built In 1934

Development of a mathematical machine capable of solving nine simultaneous linear algebraic equations involving nine unknowns was announced at the Institute last night. Designed and built by Dr. John B. Wilbur in the department of civil engineering, the new machine now takes its place in the broad program under way at the Institute for the mechanical solution of mathematical problems which baffle and delay progress in engineering and research.

During the three years in which the new machine has been under development, Dr. Wilbur has had the close cooperation of Dr. Vannevar Bush, dean of engineering, whose own contributions in the field of mechanical solution of mathematical problems have received wide recognition.

Equations of the type solved by the new machine, which is known as the simultaneous calculator, constantly occur in engineering and scientific analyses covering a wide range of fields. Designed originally for the solution of problems in civil engineering. (Continued on Page 4)

Calculator

Faculty Club Diners Hear Oumansky Speak On Russian Problems

Councillor Of Russian Embassy Discusses Constitution Of Soviet

The Honorable Constantine A. Oumansky, Councillor of the Russian Embassy in Washington, spoke on "The New Soviet Constitution" at a luncheon of the faculty club held in the North Hall of Walker yesterday. Mr. Oumansky, who assisted in the drafting of the document, discussed the provisions providing for freedom of speech, press and religion, universal suffrage, and the secret ballot. He compared the Soviet parliamentary body to that of the United States.

A prominent student of international affairs, Mr. Oumansky served as foreign correspondent and director of Tass, the Soviet telegraphic agency, from 1921 to 1930 in Austria, Italy, France and Switzerland. He then returned to Russia as Chief of the press division of the People's Commissariat of Foreign Affairs, serving in this capacity until his appointment to Washington in 1936. He accompanied Commissar Litvinov on his trip to this country in 1933.

Various Stages In Industrial Designs Shown In Exhibit At Rogers' Building

A unique exhibit, the first of its kind revealing the various stages in the design of a wide variety of familiar industrial products, opened in the School of Architecture of the Institute yesterday.

The exhibit, showing the varied and complex steps in the design of such widely differing products as clocks and fabrics, automobile parts and electric fans, perfume bottles and furniture, will be in the library exhibition room of the Rogers Building at 491 Boylston Street until January 9. The aim of the exhibition is to indicate how the designer works and to show the nature of his contributions

Perfects Calculator



Dr. John B. Wilbur is shown with his machine, which will solve mechanically, equations containing nine unknowns.

Dorm Dance To Be In Cabaret Style

Formal Affair Will Feature Jimmy Carmody And His Orchestra

Cabaret style will be the feature of the Dormitory Christmas formal dance, to be held on Friday, December 18, in Walker Memorial. The dancing will last from 10 until 3, with Jimmy Carmody and his orchestra presiding over the festivities. This orchestra has proved popular at other Technology functions, and it was only with great difficulty that the dance committee was able to secure them for this affair.

Tickets, at \$1.75 a couple will be placed on sale in the main lobby today or Wednesday. Tables will be arranged seating six, eight and ten people, and for the benefit of those who wish to come in parties, whole tables will be reserved until the end of the week, after which they will be broken up and sold in sections. Attendance will be limited to two hundred couples.

The decorations are being kept a secret, and it is rumored that there will be many surprises.

The committee for the dance consists of Bernard W. Mehren, '38; Leo C. McEvoy, Jr., '38; Huyer T. Smith, Jr., '37, and Rubard S. Mandelkorn, G.

Outing, Faculty Clubs Sponsor Skating Rally

Tomorrow, December 9th, a Skating Meeting will be held in room 10-250 at 5:00 P. M. This sport, under the auspices of Mr. Vose of the Mechanical Engineering Department, will be sponsored by the Outing and Faculty Clubs. Four reels of movies will be shown at the meeting and all those interested in skating are invited to attend.

Baseball Meeting For Recognition Called Thursday

Leading Figures of Pro Diamond Will Speak For Sport At Technology

All Interested Urged To Attend

Making another bid to have varsity baseball recognized by the M. I. T. A. A. as a varsity sport, members of last year's independent and freshmen teams have called a mass meeting to be held in room 10-250 Thursday. The committee will present an imposing list of speakers which will include 'Bump' Hadley, 'Blondy' Ryan and Bernie Friberg of big-league baseball fame and Professor Lawrence of the English department.

The meeting will be presided over by Roy C. Heacock, '39, a member of last year's freshman team and chief proponent of baseball at the Institute. Heacock claims that the diamond game should be recognized by the M. I. T. A. A. because they have fulfilled the two years independent playing as required by A. A. rules.

The committee announced last night that members of the advisory board on athletics have been sent special invitations to the meeting and that all faculty members are welcome to attend.

Heacock stated that the interest shown at this meeting would directly affect any decision made by the M. I. T. A. A. He added that the members of last year's freshman team, which beat the independent squad, are ready and willing to represent M. I. T. in intercollegiate contests.

English Department Claims Part In Institute Research

Research at the Institute is not confined to science and engineering according to facts revealed by the new issue of the T. E. N. There are opportunities for research in English as well.

Professor Roberts is working on a book, "The Cult of Stability," which will be published as one of a 20 volume series, "The Rise of Modern Europe." Professor Greene has completed a novel about a New England mill town and has started another.

Professor Bridenbaugh is reaching completion of a work on American urban society, and Professor Lawrence's study of the beginnings of the oil industry in the United States is ready for final revision. Professor Pearson's biography of the late President Maclaurin of Technology is nearly prepared for publication.

T. E. N. Devoted To Aeronautics

Question Studied From British, American Viewpoints By Magazine

One word, "Aviation", can sum up the whole issue of the latest Tech Engineering News which goes on the stands this week. Everything in this month's version is given over to the one subject and all aspects from propeller design to modern problems in construction and air transport are discussed in the magazine.

(Continued on Page 4)
Review of T. E. N.

Says You?—Yes Says Me



As the candid camera saw quibblers at the Tech Union meeting with Wellesley last Sunday evening. Below are Miss Kay Campbell who spoke for the Wellesley faction and Stewart Martin, '34. Other faces are of anonymous debaters on Tech and Wellesley side of the question.

Four Hundred Dance At Boat Club Formal

Over 200 couples danced in the nautical atmosphere of the annual formal Yacht Party held Friday night in the Main Hall of Walker Memorial. Music was provided from nine to two by Leon Mayers and his orchestra.

Dr. Turner Lectures To Delta Omega Group

The ninth lecture of the Delta Omega Society, honorary public health fraternity, will be held Wednesday, Dec. 16, at 5:00 P. M. in Room (Continued on Page 3)
Delta Omega Lecture

Tech Union Holds Heated Argument With Wellesleyites

Technology's Speaker Compares Students Of Wellesley To Electrons

Institute's Lack Of Culture Deplored By Guest Speakers

"X and Y" Mental Outlook Is Thought An Aesthetic Disadvantage

The question of whether a Technology education would benefit a Wellesley student more than a Wellesley education would benefit a Technology scholar was hotly debated at a meeting of the Tech Union Sunday evening in 6-120. Because of the inclement weather, only a dozen Wellesley girls attended, instead of the forty that were expected.

Speaking for the ladies, Miss Katherine Campbell, Wellesley, '37, emphasized the cultural values of her Alma Mater, and deplored what she called "the x and y way of looking at things" characteristic of Technology. After painting a horrible picture of the typical Tech co-ed, as an example of the effects of a Technical education, she closed with an impassioned defense of culture as opposed to pure science: "We want to be what you want us to be—and we know it's not the science in us that you want. Which would you prefer, mechanical wives or cultivated husbands?"

With a suggestion that the question be changed to read "Would a Tech- (Continued on Page 2)
Tech Union

Debating Team Meets Middlebury College Thursday At 8 P. M.

Public Benefits Of Extending Consumer Cooperatives To Be Subject

Robert Treat, Jr., and Allen E. Schorsch, both Class of 1938, and Peter M. Bernays, representing the M. I. T. Debating Society, will take the negative of the question, "Resolved: that the extension of consumer cooperatives would contribute to public welfare," in a debate with Middlebury College Thursday night at 8:00 in room 6-120.

The banquet originally scheduled for this evening will be postponed, its place being taken by a regular meeting in the West Lounge of Walker at five P. M. today. Howard L. Schlansker, president of the society, stated that tryouts for the freshman team would be held at today's meeting, but that the first year men would do no outside debating until January, when they would meet Boston University. The Middlebury debate, he added, would be the last until after the holidays.

Last year's debate with Middlebury, on the subject of Congressional control of commerce, was won by Technology.

B.U., Sargent, M.I.T. Give Joint Concert

The M. I. T. glee club and orchestra will be heard at a joint concert with the girls' glee clubs of Boston University and Sargent College, at 8 P. M. Saturday, at the B. U. School of Music, Exeter and Newbury Streets, Boston. There will be dancing after the program.

The program will include two numbers by the three clubs together, three by the Technology glee club, and four by the Technology orchestra, including selections from Dvorak, Gounod, Palestrina and Brahms. A rehearsal is to be held at 7:45 the same evening.

The Tech

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SCHOOL SPIRIT

CAN IT BE INHERITED?

SYMBOLIZATION of all that it means to a prep school graduate for him to enter upon a course of study at Technology is supposed to be inherent in the much-discussed freshman tie—and yet that tradition is entirely lost on the majority of entrants. For them, the tie does not mean the beginning of a new life in the comradeship of new friends, but only a distasteful punishment imposed upon them by those in a position to belittle their accomplishments.

Evidence of this attitude is found in the observation that freshman ties are distinctly on the wane, and it is with almost audible relief that the class of 1940 lapses again into their separate selves.

Absolute conformity in personalities is never to be desired, but an element of sincere consociation above and beyond the individual is, in the final analysis, the essence of our school spirit—so juvenile to the uninitiated, and so priceless to those who have experienced it.

Genuine difficulties, as well as laxity, hinder the strict enforcement of freshman rules; but beyond that lies a broader snare.

Freshman rules are best obeyed when it is the freshmen themselves who desire their continuance—and this demands that they realize the purpose of regulations, and that they be willing to co-operate in achieving their end.

There is no better time than the present to consider how this ideal can be crystallized in the minds of the Class of 1940, and how it can be best presented to the Class of 1941.

OUR ORPHAN SPORT

DO WE WANT BASEBALL?

ALMOST every year since the M. I. T. A. A. announced that they had dropped baseball as a varsity sport there have been attempts made to have the national pastime re-recognized at the Institute. Thus the news that there will be another crusade this year comes as no surprise.

About every four years an apparently determined effort is made, with much ado about little, to put baseball on an official basis. These efforts have been entirely wasted because baseball has not yet been recognized. The reason that it has not been recognized thus far, is that the M. I. T. A. A. has a ruling that every sport must function for two years independently in intercollegiate competition before being granted formal recognition. Every attempt thus far has ended in failure because the terms of this provision could not be lived up to. Each year a team would be formed for

a long enough period for a few practices and the make-up of a tentative schedule. Sometimes a few games are played but with few victories and next to none of the necessary spirit.

The sponsors of the current movement are evidently prepared to do their best to put a Technology nine on the intercollegiate diamond. But they had best not let their enthusiasm run away with them. If they have any doubts that they cannot carry their project to its fulfillment, if they have not the utmost confidence in their ability to complete what they are starting, then they should abandon the proposed crusade until such a time when they are sure to win full approval from the M. I. T. A. A.

There is little to be gained from the sport here or elsewhere unless it be organized to the fullest extent, unless it have the support of the students, and unless it be recognized by the athletic association.

FOR A QUIET WALKER

SOUNDPROOF THE BOWLING ALLEYS

AMONG the minor annoyances that affront the inhabitants of Walker Memorial is the constant clatter of falling pins in the bowling alleys. Walker's smooth plaster walls provide a nearly ideal acoustical reflecting surface, so that the fall of even a single pin can be clearly heard in every room in the basement, through all of the front stairwells, and in almost every office clear up to the top floor.

At its worst the noise is a distracting influence of such magnitude as to prevent concentration by commuters who use the 5:15 Room as a study room. At all times it is unpleasant. Fortunately, it differs from most other evils encountered in this world of ours in that it can be mitigated.

Soundproofing the walls and ceiling of the room containing the alleys would eliminate the reiterated echoes from these surfaces, giving much the effect of bowling in the open air since only the sound that travels back in a direct line from the pins would be heard.

The cost ought not to be prohibitive, and the results obtained would be highly worth while.

Reviews and Previews

OPERA HOUSE:—The San Carlo Opera Company opened a one-week stay here last night with a creditable performance of Bizet's popular opera Carmen. A well-filled house indicated its satisfaction with generous applause.

While hardly up to the standard of the Metropolitan Opera of New York, the performance was excellent for a popular-priced, self-supporting venture, now in its seventh year.

Coe Glade as Carmen detracted from her performance by overacting a little too obviously. However, Dimitri Onofrei as Don Jose and Santa Biondo as Micaela gave excellent performances, although the former made a rather portly Don Jose.

The dances were really excellent, and deserving of more than passing mention. They were performed by the San Carlo Opera Ballet with smoothness and yet with vigor.

Perhaps the front row is too close to get an accurate perspective, but many of the supporting cast especially seemed to be older and stouter than they should have been. However, this was probably not noticeable farther back. All in all, the performance was well worth attending.

The repertoire: tonight, Aida; tomorrow, matinee, Martha plus ballet; evening, Lohengrin; Thursday, Madame Butterfly; Friday, Rigoletto; Saturday, matinee, Faust; evening, Il Trovatore.

LOEW'S STATE AND ORPHEUM:—Love on the Run with Crawford and Gable is held over until Wednesday. After that a double feature of Tarzan Escapes with the same team of Weismuller and O'Sullivan and Jean Arthur and Joel McCrea in Adventure in Manhattan is presented.

KEITH'S MEMORIAL:—Winterset continues for the second week with Burgess Meredith and Margo. Some say they do not like the departure in the film from the tragic ending of the play.

FINE ARTS:—The Ski Chase began last Sunday. It presents Hannes Schneider who is supposed to be the world's foremost expert on skiing, and who was at the Institute last week for a meeting of the Ski Club.

BEACON:—On Wednesday and Thursday Three Married Men co-features with Lew Ayres in Shakedown. Fred MacMurray and Jean (Sweetness) Parker come in Texas Rangers on Friday and Saturday. Two in a Crowd with McCrea and Joan Bennett concludes the latter bill.

EXETER:—Technicolor Ramona with Loretta Young and Don Ameche third-runs at the Exeter along with Edmund Lowe and Connie Cummings in Seven Sinners until Wednesday. After that Robert Young comes in Sworn Enemy and the co-feature Back to Nature.

Tech Union

(Continued from Page 1)

nology education for a Wellesley student benefit a Technology scholar more than a Wellesley education for a Technology scholar would benefit a Wellesley student".

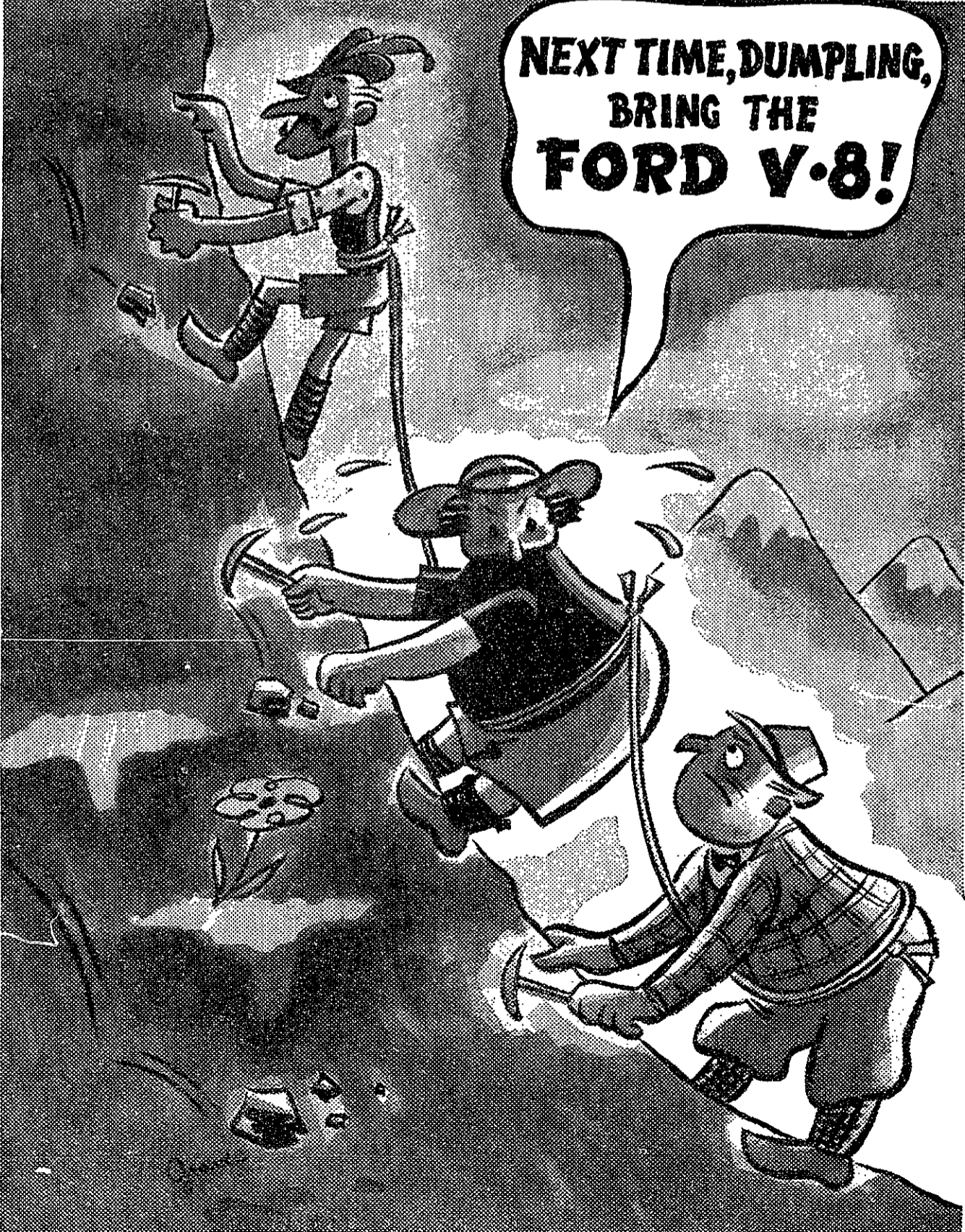
Stuart T. Martin, Tech graduate student gave a demonstration of the scientific approach to a problem. Liking woman to an electron, he stated that "we know it must be there, but we can't find it." With the aid of several blackboard diagrams and such terms as "potential barriers" and "energy levels", he explained what happens when a Tech man meets a Wellesley girl and becomes "perturbed".

In answer to a question, Mr. Martin replied that a Wellesley girl was definitely responsible for her frequency, but since her velocity, or speed, was a product of that and several other factors, she could be held only partially responsible for it. "Some girls," he remarked "are faster than others."

After Martin's speech, the meeting was thrown open to discussion from the floor. Among the points brought forward were the beautiful scenery around Wellesley, the search for culture as opposed to the search for truth, and the aesthetic aspects of Tech, if any. Life in the dormitories was praised as supplying the necessary variety in life that Wellesley lacked, and the question of whether or not co-eds came to Tech to "get a man" was discussed.

The following have been elected to the steering committee of the Tech Union:

Henry C. Meadow, '39; D. David Weir, '38; Benjamin W. Badenoch, '39, and Edwin M. Tatman, '39.



Hockey Team Loses Princeton Game, 7-3

Captain Muther of Engineers Stars In Second Game

Holding the lead for a short while over a fighting Princeton team, the Beaver sextet finally were subdued by a clawing Tiger to the tune of 7-3. The game was very tight, according to members of the squad, and the M. I. T. team showed much more aggressiveness than in the B. U. game. Princeton swept into the lead fifty-six seconds after the opening whistle when Pete Cook, Princeton right-winger, scored on a long shot that eluded Ed Walsh, Beaver net-tender. Walsh made thirty stops during the game.

After holding the tigers to one score for the first period, the Engineers scored three goals to lead three to two. The scores were made by Dick Muther, M. I. T. captain, 'Red' Cohen, and Al Minnett. Muther and Cohen scored unassisted.

The Tigers scored twice again in the second frame and then three times in the third canto to turn a close game into a rout for the Princetonians.

The summary:
Goals—First period, Cook (Bissell), 56.

Second period, Cohen 1:46, Cook 3:45, Minott (Cohen) 6:50, Muther 11:28, Covey 12:46, Burke 14:31.

Third period, Cook (Bissell) 4:13, Covey (Bissell) 6:40, Miller 18:31.

Penalties—Barrett (tripping); Acker (tripping); Picard (tripping); Hilliker (throwing stick).

Officials—McDonald and Fleet. Time of periods, 20 minutes.

Hoop Squad All Set To Open With Brown

McCarthy has Sophomore Squad To Depend On

The basketball squad, which is composed mainly of inexperienced sophomores, is working out regularly nights in the Hangar Gym in preparation for its first game with Brown on Saturday night. Beside Oliver Kangas, '38 and Vernon Lippit, '38, co-captains there are only two men who have had any varsity experience. Robert Gay, '37 and Nicholas Barbarossa, '38. Consequently, Coach McCarthy is starting to build a combination around these men, which will remain intact for the next few years.

Coach McCarthy states, "The material this year is only ordinary material and the results will probably show accordingly. We are hampered in practice because a great many of the candidates have outside work and are unable to come out regularly for practice.

When asked about the starting lineup for the Brown game he stated that he hadn't the slightest idea who would be on it and probably wouldn't know until just before the game.

The freshmen will play against the Brown freshmen here on Saturday. Freshman Coach Bill Garth expects his team to show up well in their first encounter because most of those out for the team have had previous experience in prep school.

Outing Club Sponsors Dry Course In Skiing

The first of a series of instruction periods in the elements of skiing will be held today at 5:00 P. M. in room 2-033. This instruction is primarily for those men who are interested in trying out for the ski team. Dr. Hauser of the Chemical Engineering Department, who will be in charge, plans to teach the subject from the standpoint of mechanics aided by well designed exercises to limber up muscles used in skiing.

SPORTS COMMENT

Extend your congratulations, as we do ours, to Jim Gillis, recently elected varsity soccer captain. Jim has been a standout on the booters for the past two years. He comes from Hartford, Conn., where he played soccer for Haverford High school. Jim is commodore of the Nautical Association and a member of Beaver Key. Gillis replaces Ed Brittenham who played the iron man of this season's team as he played every minute of every game. The secession of soccer won't keep Ed out of the spotlight, because he indulges, not infrequently, in wrestling, track, and boxing.

That baseball meeting which we spoke of a while ago is coming off Thursday. This will be an excellent chance for the proponents of baseball at the Institute to come out and show their interest and their determination to put the diamond game across here.

Wrestling seems on the upgrade again this year. Coach Ricks boys stand a fine chance of vanquishing the Harvard grunt and groaners when they meet at Harvard next Saturday afternoon. With admission free and the start slated for the early afternoon attendance from Tech should be plentiful. The wrestlers just need that extra push which comes from loyal adherents to put them into the mat heights this year.

Reports from the Hangar Gym bring us the info that Tommy Rawson hasn't selected the mittmen who will face Harvard Saturday. He hasn't selected a captain either in fact Tommy was very reluctant, for some reason, to divulge any information at all about his leather-pushers.

Munroe licked Hayden in the first dorm basketball game of the season last night by the close score of 11-7. As indicated by the score, the game was very tight and defensive play was paramount. Hayden put in seventeen substitutes while Munroe played the entire game with seven men. It looks like Munroe has a host of talent in 'them thar halls'.

Funny but true: The two hockey teams that have taken over the Institute icemen have been coached by two brothers, Dick and Wayland Vaughan of Tigertown and B. U. respectively. The old family game, hey!

Hockey is well under way with two games already played. From all reports that hockey game at Princeton was well played and the Tigers deserved to win because of the fight that they put up. One of these fine days (or nights) the sextet will come out of their shell of timidity and play real, hard, fast hockey and surprise the sporting world by taking over some big club. Don't think that we are alone in that surmise, because Coach Owen has confided to us that he has been preaching the same thing ever since the opening practice.

Seven Crowned Champs Exhibit

Seven champions resulted from the final round of the All-Tech wrestling tournament held in the Hangar Gym last Friday afternoon.

Although there was only one injury during the course of the tournament, it happened to the one man which the team could least spare. W. W. 'Bonebreaker' Bender, '38, who, according to a statement made by Nicholas H. Wheless, '38, manager of the team, was expected to star in the meet with Harvard this Saturday, was injured and will not be able to compete.

Wheless also said that several promising candidates were 'found' by the tournament. Vyverberg, '39, did very well in his matches, according to Wheless and Carnrick and Vanderpool, both freshmen, also exhibited potential ability for next year.

The champions:
118 lb. class, Vyverberg, '39, fall: 4:50; 125 lb. class, Stone, '39, fall: 4:30; 135 lb. class, G. Carnrick, '40, fall, 2:40; 145 lb. class, G. De Raismes, '37, fall: 8:10; 165 lb. class, W. Binder, '38, fall: 5:15; 175 lb. class, H. Milius, '38, fall: 5:50; Unlimited class, P. Baral, '40, fall: 5:35.

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Rifle Shooters Meet Arlington Tomorrow

Squad Loses To Beverly Friday With Score Of 900-905

Hoping to repeat the 914-890 victory of last year, the Varsity Rifle Team shoots against the marksmen of the Arlington Rifle club Wednesday evening at the Technology range.

Last Friday the varsity men were beaten by the Beverly Rifle team by a score of 905 to 900. High scorer for Tech was Myrick, with 183. Equaling his record, Miss Lydia Dow was high scorer for Beverly.

M. I. T. is also shooting two matches this Saturday, one, a shoulder-to-shoulder shoot, is with the Rhode Island State squad at Kinston, while the other is a postal match with Mississippi State.

Infirmiry List

Edward A. Brittenham, Jr., '37; Camillo P. Epifano, '39; Benjamin T. Howes, '39; Theodore H. Talbot, '40.

Soph Swimmers Sweep Diving In Winning Interclass Meet

With a clean sweep of the diving and a good showing in all of the other events, the Sophomores won the M. I. T. Interclass Swimming Meet held at the University Club pool last Wednesday afternoon. The freshmen placed second, while the two upper classes placed men in only three events and were badly defeated. The final score was: class of '39, 34 points; class of '40, 24 points; and class of '38, 4 points.

Delta Omega

(Continued from Page 1)

10-250. Dr. Clair E. Turner will speak upon "The Place of Health Education in National Health Programs." His talk will be accompanied by color motion pictures showing school children and scenic views of other lands.

Fly Home on TWA Skyliners At Reduced Rates

Arrangements with TCA give all M. I. T. students a 15% reduction on all airplane tickets and we should like to bring to your attention the fact that by using the new rail fare of \$4.60 from Boston to New York and flying TWA from Newark, your total fare is comparable to rail plus pullman. A typical schedule is to leave Boston by train at 10:00 A.M. arriving Grand Central at 3:00 P.M. TWA limousine leaves Grand Central at 3:45 P.M. to connect with planes leaving Newark at 4:45 P.M. arriving Pittsburgh 7:00 P.M.—Chicago 8:30 P.M.—St. Louis 9:50 P.M.—Kansas City 11:32 P.M.—Los Angeles 7:24 A.M. For further information on other schedules and rates call at TCA office between 12:40 P.M. and 1:00 P.M. or 4:30 P.M. and 5:00 P.M.

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SKIS Eriksen, Johansen Nilsen, Dartmouth, Northland \$2.95 to \$25.00	POLES Aluminum Token Calcutta Cane Plain or Colors \$1.45—\$4.95
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Harvard Sq. **BRINE'S** Store

Exhibit

biographical information on the designers themselves, because each has selected material to show how he worked out a particular problem. The work in each case was chosen because it represented some interesting point or points in technique rather than because of the importance of the product itself. Brought out clearly in the exhibit is the process by which a designer changes his own artistic conception of (Continued on Page 4) Exhibit

OL' JUDGE ROBBINS

SLATE PIPE

SLATE PIPES, EH? TOUGH TO GET A CAKE IN, I'LL BET!

IT PROBABLY TOOK YEARS

MY BRIAR'S NO DIFFERENT. HASN'T CAKED THE WAY I LIKE IT. AND IT STILL BITES LIKE BLAZES

THAT SHOULDN'T BE — NO TROUBLE LIKE THAT WITH PRINCE ALBERT

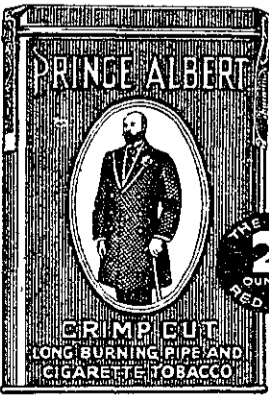
YOU MEAN THE TOBACCO IS SO IMPORTANT?

EVERY TIME! P.A. IS 'CRIMP CUT' — EACH BIT BURNS EVENLY... SLOWLY. THAT'S WHY IT CAKES NICELY — SMOKES SO COOL

AND BEST OF ALL, IT DOESN'T BITE. THERE'S NO OTHER TOBACCO LIKE PRINCE ALBERT. IT GIVES A MIGHTY SWEET TASTE TO ANY MAN'S PIPE

JUST WHAT MY PIPE NEEDS, JUDGE! IT'S GREAT

HERE'S WHY THERE'S NO OTHER TOBACCO LIKE PRINCE ALBERT: P.A. IS CHOICE MELLOW TOBACCO — "CRIMP CUT" FOR COOLNESS — WITH THE "BITE" REMOVED BY SPECIAL PROCESS. IT'S THE LARGEST-SELLING TOBACCO IN THE WORLD. AND SWELL FOR "MAKIN'S" CIGARETTES.



50 pipefuls of fragrant tobacco in every 2-ounce tin of Prince Albert

PRINCE ALBERT MONEY-BACK GUARANTEE:
Smoke 20 fragrant pipefuls of Prince Albert. If you don't find it the mellowest, tastiest pipe tobacco you ever smoked, return the pocket tin with the rest of the tobacco in it to us at any time within a month from this date, and we will refund full purchase price, plus postage.
(Signed) R. J. REYNOLDS TOBACCO COMPANY
Winston-Salem, North Carolina

PRINCE ALBERT THE NATIONAL JOY SMOKE

CALENDAR

Tuesday, December 8, 1936

- 12:00—Professor C. K. Locke Luncheon, Silver Room, Walker.
- 3:30—Tech Matron's Tea, North Hall, Walker.
- 5:00—Debating Society Meeting, West Lounge, Walker.
- 5:00—Glee Club Rehearsal, room 2-390.
- 6:00—A. I. E. E. Dinner, Main Hall, Walker.
- 6:30—Class of 1915 Dinner, Faculty Room, Walker.
- 6:30—Society of Automotive Engineers Dinner, Grill Room.
- 6:30—Society of Industrial Engineers Dinner, Silver Room.
- 7:30—Lowell Institute Alumni, North Hall, Walker.

Wednesday, December 9, 1936

- 5:00—Skating Meeting and Movies, room 10-250.
- 5:00—A. S. M. E. Movies and Meeting, room 5-330.
- 6:00—Graduate House Dinner, North Hall, Walker.
- 6:30—I. F. C. Dinner, Faculty Room, Walker.
- 6:30—Sub-masters Club, Silver Room, Walker.
- 7:00—Sponsorship Group Dinner, Fabyan Room, Walker.
- 7:45—Sub-Masters's Club, Silver Room, Walker.

Thursday, December 10, 1936

- 5:00—Baseball Mass Meeting, room 10-250.

T.E.N.

(Continued from Page 1)

C. G. Grey, Editor of *Aeroplane*, studies aviation from the English viewpoint and claims that "factories are turned to duplicating war-machines which were designed six or seven years ago when engineers and factories should be busy today producing new types of modern planes."

Editor of *Aviation* magazine, S. Paul Johnston, '21, gives us a "Who's Who Among Aircraft Manufacturers

in the United States," and discusses in detail the ancestry of the industry, the past and present centers of the aviation, and who builds what kinds.

Even the editorials and the engineering digest of the issue are given over to the main topic of aviation. The result of the whole issue is the production of a concise survey of aviation as it now stands in America and abroad. As such it should demand the attention not only of the aeronautical students but of all other students as well.—A. M. Y.

Calculator

(Continued from Page 1)

ing, such as the complex calculations that arise in the design of skyscrapers, the calculator promises to be useful in such diverse fields as nuclear physics, geodetic surveying, genetics, and psychology. For the mathematician it is a new tool for the evaluation of determinants.

Once the coefficients and constants of the particular equations to be solved are set up on the new calculator, a single movement of the mechanism accomplishes mechanically in a few seconds mathematical processes which might take days if carried out by the usual methods of calculation.

The simultaneous calculator, which weighs 2,000 pounds and has more than 13,000 separate parts, including six hundred feet of flexible steel tape and nearly a thousand ball-bearing pulleys, is the outgrowth of an experimental laboratory model built by Dr. Wilbur in 1934. The new machine has undergone exhaustive tests and is now in active operation. Construction of the calculator was made possible by a fund established by Sir Douglas Alexander of New York.

Built for the direct solution of nine simultaneous equations involving nine unknowns, the machine may be operated to solve questions containing even a large number of unknowns. Accuracy of results to any degree required may be obtained by successive solutions, each one yielding greater accuracy than its predecessor.

Sigma Xi To Discuss Earthquakes Friday

The fall meeting of the M. I. T. chapter of the Society of Sigma Xi will be held on Friday, December 11, in Room 6-120, the Physics Lecture Room of the Eastman Laboratory, at 3:15.

Following the business meeting, a symposium dealing with the Geological, Geophysical, and Engineering Aspects of Earthquakes will be conducted by Dr. Warren J. Mead, head of the Department of Geology, Dr. Louis B. Slichter, Professor of Geophysics, and Mr. Arthur C. Ruge, Research Associate in Seismology in the Department of Civil Engineering.

Exhibit

(Continued from Page 3)

the finished product in order to adapt it to the demands of the consumer and to quantity production.

Many of the exhibits show the working steps in the process of design, including original rough sketches, blue prints, drawings at various stages of development, survey mater-

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ial, variety in results, and, in some cases, the marketing methods. The number and variety of technological processes involved in the planning of industrial products, from bottles to automobiles, will be represented, and indicate the wide range of interest which the showing offers, particularly to manufacturers.

Theodor Carl Muller, lecturer in design of manufactured products at the School of Architecture, has assembled for the exhibit the work of a number of the foremost men in the field of industrial design, a phase of manufacture which involves the design or redesign of more than 8,000 products annually.



Tea Dancing IN THE BEAUTIFUL Sheraton Room

THE COPLEY PLAZA, BOSTON

Every Saturday afternoon at 4.30. Delicious refreshments are served a la carte—dancing 50 cents.

Glorious music by Meyer Davis' new

Sheraton Room Band

under direction of Jack Eaves

SUPPER DANCING NIGHTLY

at nine except Sunday

The Merry-Go-Round is the gathering place of smartest Boston



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that smokers enjoy

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from the Carolinas, Georgia, Kentucky, Maryland and Virginia—there's plenty of the best in Chesterfield.

...aromatic tobaccos

from Turkey and Greece—and plenty to make Chesterfields taste better—and different.

Pleasing taste and aroma, refreshing mildness—Chesterfields are chockfull of the good things you enjoy in a cigarette.

...for the good things
smoking can give you

...enjoy **Chesterfields**