VOL. XXVIII

WORCESTER, MASS., DECEMBER 22, 1936

No. 11

### "When Science and Religion Meet" Subject of Address By Prof. Kirtley F. Mather

Emphasizes Fact That Science Pres. Earle To And Religion are Both **Essential to Man** 

### UNUSUAL ADDRESS

#### States That the "Scientific Habit Of Mind" Science's Greatest Contribution

Professor Kirtley Mather, eminent geologist, emphasized the fact that both science and religion are essential to the welfare of mankind and should be closely coordinated in order that civilization may progress, in developing his subject, "When Science and Religion Meet", at the third of the series of Fuller lectures. The assembly was conducted by the S.C.A. Thursday, December 17, in the gymnasium. Kingston Atwood, president of the S.C.A., opened the assembly and introduced President Earle, who in turn presented the speaker. Professor Mather, a versatile character, has traveled widely during his career as geologist, lecturer, and author. A man with technical training, Professor Mather presented his subject with refreshing clearness.

Declaring that the mision of science is to inspire men to turn aside and see" Professor Mather continued in explanation: "Seeing," means the use of all the intelligence one possesses, not merely looking. Religion is the call to duty. It is a call to help men be come free, whether in a physical, economic or intellectual way. Science is essential in giving us a new method of approaching the world in which we live and finding out things about ourselves. The scientific method and habit of mind, which has given to us innumerable gadgets, devices and inventions, is now gaining a place in religion that was formerly closed to it. fundamental attitude toward truth, the invariable and accurate observation of facts regardless of whether they are in agreement with former precepts has made a decided impact on the religions of the present

Professor Mather declared that religion should select the goals toward which science shall strive. The tools given to us by science might be used for good or evil. For example, the airplane, may on one hand be used as a messenger of good will, while on the other, be turned into an effective machine of destruction, dropping death

Science deals with magnitudes and motions perceptible to the senses and works in a world that may be measured. Yet, science has found spiritual and esthetic qualities that cannot be measured, such as beauty, love, truth law, and goodness. The deeper science probes into the secrets of nature, the more wonderful and mysterious they become. No matter how much you know relative to the manifestations

(Continued on Page 2, Col. 3)

# Give Last Talk Of This Year

### Subject of Tuesday's Chapel Talk Will Be a Christmas Spirit

When we assemble here again, vacation will have come and gone, and with it the two holidays that are the most widely observed in the world. Christmas and New Year's. That period will be dominated by the spirit of giving and of cooperation that comes to all, a spirit of generosity and of sacrifice towards all our fellows. If we try to find the reason for this spirit we learn it is not one our finite minds can grasp, it comes to us in a mysterious way and comes to all in every part of the world. It is one of the universal things accomplished through our reli-

lege, you will use this period to cement your home ties and home friendships and also you will see what college and your friends there mean to you; and upon your return, benefitted and refreshed as you must be by this unique but welcome interlude in your lives, you will seize more and more the opportunities given you at college to make a real life.

Realizing that only the great literary men of the world can properly describe what Christmas and this "good will" to men means, I quote from them. Washington Irving writes:

"It is a beautiful arrangement, also derived from days of yore, that this festival (Christmas) which commemorates the announcement of peace and love, has been made the season for gathering together of family connections, and drawing close again those bonds of kindred hearts, which the cares and pleasures and sorrows of the world are continually operating to cast loose; of calling back the children of a family who have launched forth in life and wandered widely asunder, once more to assemble about the paternal hearth, that rallying place of the affections, there to grow young and loving again among the endearing mementos of childhood."

That Washington Irving was right is is blind and needs the guidance of of the year. Christmas brings a bles- height of the Empire State building. sing to all.

Strange things then happen at sea, as this forecastle bard truly writes. We are apt to think that "Christmas at sea is just like Friday on the farm,' but it isn't, any more than is that say ing true that aboard ships "six days shalt thou labor and do all that thou art able, and on the seventh holystone the decks and chip the cable." A. M. Harbord in the London "Tat-

ler" puts the matter thus: (Continued on Page 2, Col. 3)

## **Engineers Rally In Closing** Seconds To Defeat R. I. Rams



### As you absent yourselves from col- A. S. C. E. Hears Address On The **Grand Coulee**

### Mr. George Sanford Gives An **Excellent Account of the Work Being Done**

Mr. George Sanford, chief engineer of the Bureau of Reclamation of the Department of the Interior, spoke at the third A. S. C. E. meeting on the subject the Grand Coulee Dam and irrigation system, which was held rally. Wednesday afternoon, December 16, in Boynton 19.

Mr. Sanford graduated from Tech just before the turn of the century. His field was Reclamation and Irrigagation Control.

With the aid of slides and several reels of motion pictures he gave the A. S. C. E. a clean cut and vivid picture of the work going on now and the work to come

Grand Coulee Dam is on the Columbia River, ninety miles west of Spo-When completed the dam will be 550 feet high and 4,300 feet long.

The plans call for an excavation of 15,000,000 cubic vards of earth and the placing of 11,000,000 cubic yards of concrete. The amount of concrete in Grand Coulee Dam is two and a half more and more impressed upon us all times the amount used in Boulder the hero, Jaworski, former Worcester the older we grow, but yet there is in Dam. If the concrete were piled on us from childhood this unusual spirit the area of one city block it would and desolation from the clouds. Science of generous fellowship at this season be 3,375 feet high or 2.7 times the

The total cost of the dam is estimated at \$186,000,000 and for the completed project \$394,000,000. The dam is being financed by a loan from the federal government. The Bureau of Reclamation expects to be able to pay this debt off in fifty years from the sale of the electric power.

At this moment the excavation is going on and also the building of the coffendam. Work goes on twenty-four (Continued on Page 2. Col. 4)

Al Raslavsky Sinks Two As Game Ends To Climax Most Amazing Individual Performance Seen in Tech Gym

#### JAWORSKI FAILS IN RETURN TO WORCESTER

### McEwan and Forkey Play Major Part in Astounding Upset Over Highy Favored Rhode Island State Team

The Tech hoopsters defeated a highly touted and highly favored Rhode Island State team Saturday night in the closing seconds of the game on two long shots by Al Raslavsky who had completely dominated the play during the entire game.

After a slow start, during which the Rams went out to a five-point lead, the Biglermen went to town on shots by McEwan, Rushton and Raslavsky. Showing much better floor work than they displayed last week, the guards had complete mastery of the underbasket situation and continually blocked the Ram short shots. The Staters, sensing they were stopped under the basket, took to long shots with fair success and managed to pull up to within four points of Tech at the half.

Beginning the second half even faster than they started the first, Rhode Island climbed up to a tie and then went ahead as their long shots began to find their mark more often. Jaworski, who hung under the basket several times to take long passes and sink sucker shots, led this short-lived Ram

Tech began closing in on the opponents with but six minutes to go and were but one point behind when Tasjian, the outstanding Rhode Island player, sank the long shot which every one thought had sewed up the game. But Al Raslavsky, who was hardly able to stay on the floor because of exhaustion, took a quick pass from Ray Forkey and arched one in. With only ten seconds left Forkey tapped to Raslavsky, and again without a moment's hesitation Al flipped it through. The game ended just after the next center

Raslavsky had to be aided to the dressing room and was treated for a multiple of injuries received during the game. Just as Al Raslavsky was High School player, was the goat. Resupposed to run rampant. His advance newpapers notices promised fun-full affair without precedent. Tech an extraordinary scoring spree; but Jawowski had not bargained with the kind of defense Tech presented and he found himself completely bottled up except for the many times he hung under basket to take quick passes from his mates.

port from the varsity squad lost a Prom last June the orchestra proved hours a day, and at present one cubic hard fought game to North High all advance reports. With this versa-School 17-14.

The scores:		
	PROTE	
WORCESTER 7	f	
y g	0	4
Munson f 2		-
McEwan f 4	1	9
Forkey c 4	0	8
Raslavsky g 6	1	13
Rushton g 2	1	5
Folmsbee g 0	0	0
Totals 18	3	39
_		_
R. I. STAT	E	
Messina f 2	1	5
Tasjian f 5	1	11
Elliott f 1	0	2
Jaworski c 5	1	11
Wright g 1	1	3
Thacks g 1	0	2
Caprelian g 0	0	0
Partington g 1	0	2
McCarthy g 1	0	2 2
Fay g 0	0	0
Totals 17	4	38
		-
NORTH HIG	NIT.	
Powers (	0	0
Powers f 0	0	0
Johnson f 0	2	
Delia f 0	0	2
Lavin c 1	-	2 2 7
Splaine c 3	1	0
Kapish g 0	0	
Butler g 3	0	6
TO CALLED TO THE PARTY OF THE P	_	
Totals 7	3	17
Referee, Wilkinson.		
TECH JAYVI	EES	
Wingardner f 0	0	0
Cameron f 1	0	2
Holt f 2	1	ð
Shlora c 1	0	2
Blanchard g 1	0	5 2 2 1
Thulin g 0	1	1
Krolyshun g 1	0	2
The second secon	100	11.075

### Jan Campbell To Furnish Rhythm at Interfraternity

Totals ..... 6

### Ball To Be Held Tuesday At Hotel Bancroft From Nine 'till Two

Glamorous Greeks will stage their gala social affair of the season in the turning to play against some of the form of the annual Interfraternity Bail men he had opposed when his high to be held at the Hotel Bancroft on school played the Jayvees, Chet was Tuesday, December 22, from nine till two. Everything points to a gay,

Jan Campbell and his Washington and Lee orchestra have been engaged to supply the dance rhythms for the evening. This orchestra has been very popular and well received at numerous college gatherings as well as at several leading hotels in prominent The Jayvees, strengthened by sup- New York cities. At our own Senior

(Continued on Page 3, Col. 1)

#### TECH NEWS

National Advertising Service, Inc. College Publishers Representative
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CHICAGO - BOSTON - SAN FRANCISCO
LOS ANGELES - PORTLAND - SEATTLE

Member 1937

**Associated Collegiate Press** 

Distributors of Collegiate Digest

Published every Tuesday of the College Year by The Tech News Association of the Worcester Polytechnic Institute

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NEWS PHONES

Editorial 2-9632 Business 3-9411

#### TERMS

Subscriptions per year, \$2.00; single copies, \$0.10. Make all checks payable to Business Manager. Entered as second class matter, September 21, 1910, at the post office in Worcester, Mass. under the Act of March 3, 1897.

All subscriptions expire at the close of the college year.

> THE HEFFERNAN PRESS Worcester Mass

## — editorials –



### christmas message

It is with especial joy that, at times like this, editors are glad they are not They really never want "ex-editors." to be in the latter category, even though it is sometimes suggested by "rip-bottomed" fanatics, for though monetary increment is not the reward, there is always the personal satisfaction in doing such a thing as is hoped for in this message of "good cheer and happiness"; and that is, to express to all you students, who after all maintain the NEWS, and to the Faculty, some of whom we shall not see around Tech next Christmas-a very Merry Christmas and a pleasant New Year.

To the first group-the students, six hundred strong, there is yet more to say. And that is, remember the great sacrifices being made by those who send you to Tech.

### greeks rest

yet as sure as day follows night, and anyone present. We hope that more Year! as welcome as an oasis on the Safari, of our faculty will continue to turn out is the post-rushing period at the various and take an interest in this team of fraternities. All houses "made out" which we have reason to be proud. well and are to be commended, not only for the men they pledged, but also for is leading the five this year. Captain the manner in which the two weeks' Dick Munson is one of the finest team period was carried out. It again workers to ever lead a hoop team. His shows the value of an engineer's care- name is not mentioned prominently as ful training as against the training of a high scorer because he is not a high Tech fraternities!

### ramblings

Those of you who were present at the game Saturday night had an op- the Institute guards the man." portunity to witness one of the finest basketball games ever to be played on Boynton Hill. This game, as has already many times, was comparable only to the Brown game last year. This game was by far a faster game spectators biting his nails for the full forty minutes. Never before to the enthusiasm and exuberance. Nor have they before raced onto the floor or the field of play to overwhelm and not expected to come out ahead, but the fact is that we did and it is the final score that counts.

the faculty present at these athletic benefit your own character and make encounters. Such interest by the staff of instruction is sure to breed a better and mean more to you than you had feeling between student and instructor, believed to be possible. and a better understanding in a small one of our athletic encounters and last done you good. Like the day after Armistice, and night he was as wildly enthused as

Few people realize what a fine man those at colleges where such things scorer. But he is the team's hardest as "cut-throat" rushing occurs. There worker and he plays ball every minute are few decisions we have to make that for the team and not for the number are preceded by so much "laying of of points beside his name the next cards on the table" as is that of de morning. His spirit is high and his deciding upon a house. More power to termination strong. Such a man leads the five this year.

### Chapel Talk

(Continued from Page 1, Col. 2)

HAPPY SHIP Christmas Latitude 10° S Las' night when I relieved the wheel the Southern Cross hung low;

The steady swell beneath her keel, :t made her swing and yaw; And as I swung the spokes about the

Mate began to jaw, I've never known the perishes so blooming friendly yet;

But with a kind of bloke like him you never seem to know,

For some folks do remember things that other folks forget.

I didn't know t'was Christmas Evet'was all the same to me,

The bow wave turned the water up a

kind o' shiny green. The stars was dusted thicker'n I think

I've ever seen; Sun-East by South I held her on with

all the world asleep. End o' th' watch-the same of ship,

the ol' oily sea-A Merry Christmas!" says the Mateit knocked me all a heap!

Today, who minds sun glarin' down on ocean smooth as sin?

The Chief's brought out his local brand-distilled in Achnasheen,

The bosun, Lord knows why! is singing "Wearing o' the Green' There's puddin' in the galley and

there's Christmas in the air. The Old Man's even shipped a grin! So what do sailors care?

This little true, even if homely, sketch of the spirit of the season comes to me through the "Mainstay," the booklet of the Seaman's Church Institute, an organization founded in the spirit of Christian fellowship for "as the Mainstay safeguards the mast, so

It remains for Dickens in the Christmas Carol" to give us best what "There are many the season means. things from which I might have deprobably been pointed out to you rived good, by which I have not profited I dare say," returned the "Christmas among the rest nephew. But I am sure I have always thought of Christmas time, when it has come than that last year, and although that around-apart from the veneration due Brown game was a thriller, this tilt to its sacred name and origin, if any with the Rams had every one of the thing belonging to it can be apart from that—as a good time; a kind, forgiving charitable, pleasant time; the only time I know of, in the long calendar of the writer's memory have the student year, when men and women seem by body showed such a wild display of common consent, to open their shut up hearts freely, and to think of people below them as if they really were fel low passengers to the grave, and not another race of creatures bound on congratulate their team. And this win other journeys. And, therefore, unclewas even more gratifying since we enthough it has never put a scrap of tered as the underdog; we were really gold or silver in my pocket, I believe that it HAS done me good, and will do me good; and I say, God bless it!" So as you leave us here at college

for a short time, keep this spirit of It is gratifying to see so many of Christmas ever with you, and thus the world and your college seem better

Generously thinking of others I am school such as ours would carry us sure you'll return here, keen to go on all a lot further. Notable among the and do better and better with good faculty enthusiasts was our President will still in your hearts and the cer-Earle. Prexy attends practically every tainty that the Christmas spirit has

Merry Christmas and Happy New

RALPH EARLE, President.

### Assembly

(Continued from Page 1, Col. 1) of mechanics, radio telepathy, etc. there still remains the original mystery Awe and wonder accompany each forward step of the scientist and the

greater knowledge and more lasting Mr. Slauer demonstrated many differ-

environment and existing in the world and other gases. The most familiar of of natural law that science has revealed. Within that circle a man can be free but he cannot make any progress beyond its confines. No one can truthfully say that he has made the most of his life within the confines of his natural ability except the inmates of an insane asylum. Yet, a man may select a sector of his circle and develop that, putting responsibility on others for support in other sectors. Responsibility should be placed upon individuals so that a man may make up his own mind, so that he can change the course of

"A world of law and order must have some sort of administration, otherwise the discoveries of science would have no basis. The administration of the universe can be called simply the administration of God. He is proven to be a God of love, a God of law and a God of kindness. He proves himself to be a wise God by giving us the means by which we may go on to greater things by using the most of our opportunities.

"The solution of our communal problems can be readily attained if man close to the generator. would only allow religion to select the goals and then use the tools of science n their attainment."

President Earle will deliver the follow ing address on Tuesday, December 22 at the last chapel service of this year.

#### C. E. Meeting

(Continued from Page 1, Col. 3) rard of concrete is being laid every eleven seconds. The capacity of the mixing plants is one cubic yard every five and one-half seconds or 16,000 cubic yards per day

To help the setting of the concrete and to remove the heat generated by the hardening process, over 2,000 miles of piping is being placed in the dam, through which cold water will be cir

At one place a serious slide imperiled the progress of the dam. At a cost of \$27,000 an ice dam was erected across its path and progress was resumed.

When completed the dam will raise the river level 355 feet and create a lake 4,000 feet wide and 150 miles long. The generators will develop 2,520,000 horsepower or thirty-five per cent more than Boulder Dam. The current will be sold at the rate of two mills per kilowatt hour.

One-seventh of the flow from the dam will be pumped 280 feet higher to provide a reservoir for irrigation

### M. E. Dept.

Mr. John H. Wenman spoke at the recent fall meeting of the Drawing Teachers' Association of New England held in Springfield at the Technical High School. The paper he presented was entitled "Descriptive Geometry by the Direct Method." About one hun-mic Ray Ionization under Various M. M. Wellman and Downing as well as Mr. Wenman

Benches and recepticles have been placed in the basement of the M. E. Building near the West Street entrance to provide a suitable smoking room for the students. It is hoped that students will take advantage of this and refrain from smoking in the corridors. Established 1821

### E. E. Dept.

The Worcester section of the American Society of Electrical Engineers held mystery of the discoveries become more their December meeting in the Commons room of Sanford Riley Hall Tues-The need of the present day is to use day, December 15, with Richard Slauer the method of science and the purpose of the Westinghouse Light Division of f religion which, combined, make for Bloomfield, New Jersey, as the speaker.

peace", declared Professor Mather. Re- ent lighting methods and apparatuses

ligion selects the goal. Science tells us One of the newest and most important of these was the new gas filled electric "Around every person there is a circle light bulbs. Westinghouse is experiof action prescribed by heredity and menting with bulbs filled with helium this new form of lighting is probably the sodium vapor lamp which is the nearest science has come to producing artificially the light which is practically the same as sunlight. The mercury vapor light also was another of these new lights which was shown. In addition several light bulbs were shown with different gases and pigments on the inside of the glass which produced red, green, white, blue, and yellow

> Another form of light and its results as shown by Mr. Slauer, was that of the invisible or black light which is merely ultra-violet rays. The rays produce the phenomenon known as floresence, that is the showing up of colors that are unseen in normal light. Many different colored designs on cloth were shown in the normal light and then changed mostly for the more beautiful under the ultra violet rays.

A wireless form of lighting was shown but one which is still in the experimental stage. A generator of a very high wattage will only light a few bulbs and only those that are held

One electric light which Mr. Slauer showed was only the size of the common peanut with the shell on. This was one of the new type gas filled lights. At first it only glowed dimly but after heating up it produced the ight of an 85-watt bulb, and at the same time only drew a fraction of the current that a regular light of the same size would

A series of very interesting slide: were shown which clearly represented the actual breaking up of different filaments of various metals under test conditions. It is through this method that the present tungsten filament was developed.

Another form of light which is similar to the light of the firefly was created chemically but inasmuch as it would cost twenty-five dollars to make the light to read only the headlines of the average newspaper, the process is not practical. The important feature of this light is that it is cold. Most light is created through heat and the effic ency of the light bulb is very low. more honor and distinction will be awarded to the engineer who creates cold light than was ever accorded Edison and Steinmetz.

Several of the professors attended this meeting as well as about twenty Freshmen from the dormitory.

### Physics Dept.

During the coming Christmas vacation, while students will be seriously Departmental Notes intent on keeping thoughts of schoolwork out of their minds, Dr. Richard A. Beth and Dr. Robert T. Young of the faculty of the Physics Department plan to visit Atlantic City from December 28-30. They will attend the meeting of the American Physical Society, where Dr. Young will present a highly interesting paper.

dred drawing teachers attended this Thicknesses of Lead Shield in Northern Equatorial Latitudes at Different Altitudes This paper is based on investigations made by Dr. Young while at Harvard and was finished after his arrival at Tech.

There will be no Physics Colloquium until after the Christmas holidays.

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### Home Swimmers Top M.I.T. Outfit In Closely Contested Meet

Tech Takes Early Lead Winning Medley Relay But Lose **Next Three Successive Events** 

### Tech Shows Well Balanced Letters Awarded Aggregation Contrasted To Individual Stars

The varsity swimming team of W. P I won their first meet of the new season with the M. I. T. team by the score of 43-34 Saturday afternoon, December 19, in the Fuller pool.

The meet started soon after three o'clock with the medley relay which was won by Worcester in 3:31 1-5. Many close finishes and a fine exhibition of diving enlivened the meet. The 150-yard backstroke was won by Dodge of M. I. T. in 1:50 3-5 which was a new record for their team. W. P. I. had Pope and Gardner but still won. The ing in the engineering field. dives included the front and back back jack knife with and without a tinned the diving

The summary:

300-yard medley relay-Won by Worcester (Bob Evans, Paul Murphy, J. Morrison Smith); 2nd, M. I. T. (Wil-liam Brewster, Pete Bernays, Cleon Dodge). Time, 3 minutes 31 1-5 sec-

220-yard free style—Won by Harold Chestnut, M. I. T.; 2nd, Ed. Hanson, ; 3rd, Frank Gardner, M. I. T. Time, 2 minutes 43 1-5 seconds.

40-yard free style—Won by Cleon Dodge, M. I. T.; 2nd, Jack Karna, W.; 3rd, Archie Main, M. I. T. Time, 20 1-5

4:10-yard free style-Won by Harold Chestnut, M. I. T., 2nd, Jack Karna, W.; 3rd, Charles Small, M. I. T. Time, 6 minutes 22 3.5 seconds.

150-yard backstroke—Won by Cleon Dodge, M. I. T.; 2nd, Ed. Hanson, W.; 3rd, Dave Officer, W. Time, 1 minute 50 3-5 seconds.

200-yard breaststroke—Won by Bob Evans, W.; 2nd, Paul Murohy, W.; 3rd, Pete Bernays, M. I. T. Time, 2 minutes 54 3-5 seconds.

100-yard free style—Won by Archie Main, M. I. T.; 2nd, Fred Wiley, W.; 3rd, Winthrop Steele, M. I. T. Time, I minute 4 seconds flat.

Low-board diving—Won by Hank Dearborn, W.; 2nd, 224 points; 2nd, Harold Pope, M. I. T., 189 points; 3rd, Frank Gardner, M. I. T., 179.6 points.

400-yard free style relay—Won by W. (J. Morrison Smith, Bob Evans, Ed Hanson, Jack Karna); 2nd, M. I. T. (Archie Main, Charles Small, Richard Martin, Harold Chestnut). Time, 4 minutes 22 2-5 seconds.

Final score, Worcester Tech, 43; Massachusetts Tech, 34.

Officials: referee and starter, Harold Aldrich: judges at fin.sh, Fred W. Strong, Phil Baszner, John Simkonis: timers, Pete Bigler, Fred E Strong, Professor Percy R Carpenter: diving judges, Harold Aldrich, Phil Baszner, John Simkonis: clerk, Allen Benjamin.

### Interfraternity Ball

(Continued from Page 1, Col. 5) tile organization of twelve pieces the

dance is certain to be the "tops." Patrons and patronesses for the eve

ning will be President and Mrs. Earle Professor and Mrs. Gay, Professor and Mrs. Swan and Mr. and Mrs. Carl Johnson.

The committee in charge is: Dana W. Woodward, chairman, C. John Lindegren, Jr., Roland O. Farrar, James 1-Hayes-1009 M. Smith, Robert W. Powers, Douglas 2 K. Merrill, Robert A. Langer, Richard 3

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# At Sports Banquet

### Prexy and Captain Jones Are **Guest Speakers**

Sanford Riley Hall. President Earle night which race will determine the and Captain G. W. Jones were the guest relay championship. A résumé of the speakers of the evening. Captain Jones, now manager of the Horace Partridge Sporting Goods Company was formerly a football, track, and baseball coach at Worcester Tech. In only Dearborn for the diving against sized the importance of physical train-

Professor Percy R. Carpenter presomersaults, full gainer, the front and sented the following men with letters: In football: John E. Germain (Capt.), quarter twist, and several others. One Raymond J. Forkey, Richard D. Elunlucky fellow provided quite a spec-liott, Frank G. Gustafson, Albert C. tacle by landing flat on his back while Stone, John H. Peters, Harold R. S. A. E. T. X. lowered its time again attempting a dive and one-half forward, Townsley, Richard B. Wilson, Carl by deteating T. U. O. in 2:232. somersault but he was unhurt and con- Lewin, Everett W. Leach, Malcolm R. Caleb D. Hammond.

> In soccer: John S. Mudgett (Capt.), David McEwan, Ernest N. Ljungren, through with 2:26.4, winning by 25 feet. John G. Hollick, Thomas S. Wingardner, Walter L. Abel, Kenneth C Fraser, Charles C. Bonin, Walter H. 2:23.1, winning over T. U. O. Holt, Richard J. Donovan, and John H. Chapman (Mgr.).

Zareh Martin and James B. Patch. cWe.

'Homecoming' were shown.



### 1940 Physique Drops in Height; Weight Over '39

Statistics recently compiled by the Department of Physical Education from the Freshman physical examination which have just been completed. show that the Class of 1940 is 6-10 of a pound lighter and 1-8 of an inch horter than the Class of 1939. While the height and weight line has been showing a gradual rise during the past ten years, this year's is a slight drop over last year's entering class.

AVERAGE Weight-147 pounds Height-5 feet 8 7-8 inches Lung capacity-423.6 Strength, Back-159.6 Strength, Legs-235.6 Pull Up-7 Push Up-6.4 Right Grip 57 Left Grip-52.1 Total Strength 613.6

6 Hotchkiss 861 Boynton-901 7 Lambert 850 Altier 897 Francis 844 Charboneau-894 9 Lovell-830 5 Handy 868 10 Fritch 818

TEN STRONGEST

MAXIMUM Davidson-205.2 lbs. Koerber 6 feet 4 5-8 inches Shaw, Haselton 560 Altieri, Boynton 250 Hayes 430 Love, Hayes, Martin-15

### Two Undefeated Relay Teams To Meet on Monday

### Phi Gamma Delta, Theta Chi Have Same Time of 2:23.1 Seconds

Interest about the Interfraternity Relays is rising to fever pitch, Phi game was a remarkable triumph for Gamma Delta and Theta Chi continued to romp over their opponents. With seven victories and no losses apiece The annual fall sports banquet was these two fine teams are scheduled to held last night, Monday the 21st, in run against each other on Monday week gives the following results:

On Monday, December 14, T. U. O. i. X. took L. X. A. handily in 2:23.3. his speech to the athletes he empha- S. O. P. 2:27.4. P. G. D. not sched-P. in 2:30.1.

On Wednesday, December 16, P. G. D. ran an exciting victory over L. X A. in 2:242. P. S. K. romped over T. X. P. in 2:273 which also was the time A. T. O. ran when they defeated

On Friday, December 18, T. Chandler, Isadore Toubman, Harold I. lapped A. T. O., winning in 2:23.1. S. Johnson, William P. Frawley, and O. P. defeated T. X. P. by about six ieet in 2:29.4. P. S. K. went off the victory road when S. A. E. came The climax of the evening came when P. G. D. equalled T. X. best time of

A comparison of the times of the two leading contenders, Theta Chi and Phi Cross country: Hector L. Cameron, Gan ma Delta, reveals Theta Chi opening the season with 2:25.4 while Phi Also Willard T. Gove, Robert E. Dunk- Gam ran 2:26.3. In the next race Phi ee, Ernest J. Lawton, Harold N. Cox, Gam knocked off two-fifths, winning in and Frans E. Strandberg received their 2:26.1 while Theta Chi proved consistent, repeating their previous time of After the supper, motion pictures of 2:25.4. December 7 was a "blue Moncampus life at Tech and of the last day" for both teams with very slow times. December 9 Theta Chi turned in the fastest time of the season, runn ng 2:24.1 while Phi Gam elipped their best time a little. December 11 Phi Gam lowered their time to 2:25.6

Present standing:

	WOIL	LOSE
Phi Gamma Delta	7	0
Theta Chi	7	0
Lambda Chi Alpha	4	2
Theta Upsilon Ome;	ga 4	3
Sigma Alpha Epsilo	on 2	5
Alpha Tau Omega	3	4
Sigma Omega Psi	2	5
Phi Sigma Kappa	2	6
Theta Kappa Phi	0	6

### Boeing Offers Scholarships In Aeronautics

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The W. E. Boeing Scholarships, spons- their own choice. ored by W. E. Boeing during the past seven years, will be offered again during before March 15, 1937, will be judged by the school year 1936-37 to University. College, and Junior College undergraduate students in the United States and Canada, who are interested in aviation as a career. Four awards in the form of flying, technical, and semi-technical courses with a tuition value of \$11,000 will be given at the Boeing School of Aeronautics, Oakland, California, a division of United Air Lines Transport Corporation.

The scholarships will be awarded on the basis of a thesis competition. To

> Love-17 Lainer 82 Fritch 75 Hayes-1009

## tech news sport slants

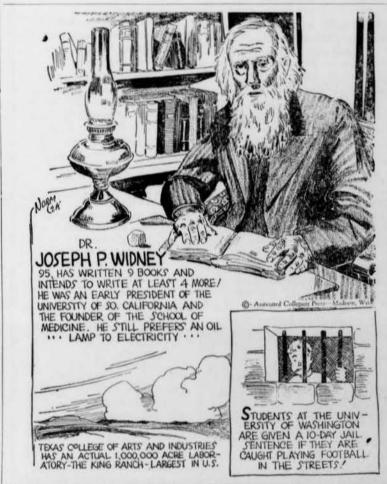
for one of Tech's greatest stars, the eleven points. favored opponents.

taking every shot off of the Rhode Island backboard before the Rams all year. could follow up, Tech had possession was victorious over S. A. E. in 2:26.0 Staters' last breaking method of play opened the day of thrillers with their 2. S. K. came through and defeated did not realize it in time to change to anced team, the natators should put uled to run. A. T. O. won from T. K. Most of their plays ended in fancy maining meets.

Comparable only to last year's Brown shots by Chet Jaworski who had game, Saturday's game will go down in trouble finding the hoop most of the Tech athletic history as one of the evening. Jaworski came heralded as greatest ever seen in Alumni Gym a super-scorer but found the opposition Besides being an individual triumph sult went back to Kingston with only

The Jayvees lost a heart breaker to teamwork. Playing as a machine, the North High School after they had team showed form which if continued, started what looked like a winning will spell disaster for the remaining rally. Walt Holt and Tom Wingardner, playing forward the first part of With Ray Forkey and Jack Rushton the game, teamed up to show the first real passwork the Seconds have shown

The swimming team, led by Morrison of the ball most of the time. The Smith, Jack Karna and Bob Evans, was highly unsuccessful here and they close win over M. I. T. A well-bala slower, more accurate form of play on some good exhibitions in their re-



be eligible students must meet the following requirements:

1. They must be male undergraduate students in good standing and in regular attendance in some University, College, or Junior College in the United States or Canada, which offers at least two years of work leading to a Bachelor's Degree in Arts or Science.

2. They must be of the white race, between the ages of 18 and 25, of average height and normal weight, have normal eyesight, and be free of any physical handicaps,

3. They must submit a technical or non-technical treatise of not over 3500 words on any aeronautical subject of

Papers, which must be mailed on or a National Committee of Award com posed of prominent educators under the chairmanship of Dr. Baldwin M. Woods of the Department of Mechanical Engineering. University of California

In determining the awards, the follow ing points are emphasized in different degrees: (a) the completeness and soundness of subject matter; (b) the success of the candidate in analyzing his subject matter and drawing conclusions from it; (e) the merit of the paper as a composition; (d) the originality of subject matter, and (e) the choice of subject.

In former competitions students from the following universities and colleges have been awarded scholarships: An-

tioch College, Bethany College, California Institute of Technology, Clarkson Memorial College, Massachusetts Institute of Technology, Mount Union College, Oregon State College, Santa Barbara State Teachers College, Stanford University, University of California, University of Maine, University of Michigan, University of Minnesota, University of Nebraska, University of Oklahoma, University of Washington, and University of Wisconsin.

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### THETA CHI

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### LAMBDA CHI ALPHA

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### PHI SIGMA KAPPA

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### THETA UPSILON OMEGA

Robert M. Taft, Miss Mary Hampshire, Worcester. Gilbert B. Smith, Miss Louise Kenworthy, Worcester. William S. Lyhne, Jr., Miss Ruth Bull, Bridgeport, Conn. Everett W. Leach, Miss Eleanore Hapgood, Worcester. Henry C. Dearborn, Miss Ruth Lindegren, Worcester. Robert C. Dunham, Miss Mary Johnston, Dorchester. Julian R. Buck, Miss Janice Butler, Worcester. Raymond Forkey, Miss Janet George, Worcester. Gleason Jewett, Miss Margaret Whitman, Marlboro. S. P. Stafford, Miss Ruth Mayall, Oxford. J. C. Harvey, Jr., Miss Jane Allen, Chaffins. Harold I. Johnson, Jr., Miss Peggy Schmeltz, Framingham

Bradford Ordway, Miss Dorothy Duckers, Worcester. Stan Olson, Miss Florence Peterson, Worcester. Donald Stevens, Miss Leona Tannahill, Worcester. Ned Chapin, Miss Dorcas Ray, Southbridge. Richard Munson, Miss Barbara Hanson, Worcester. Byron Wilson, Miss Ruth Fuller, Hudson, N. H. Benjamin Lambert, Miss Constance Keene, Marshfield. C. John Lindegren, Miss Priscilla Adams, Worcester. Randy Whitehead. Jack Manchester. Andrew M. Fine, Jr.

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Arthur H. Malboeuf, Miss Janet Northrop, Holyoke. Richard F. Burke, Miss Estelle Reardon, Wellesley. Edward J. Kichner, Miss Martha Simpson, Boston. Eugene Gravlin, Miss Marion Bicket, Waterloo, N. Y.

## End of Rush Week Finds 118

### Record Number Pledged by The Eight Houses; L. X. A. Gets Largest Delegation

the eight national fraternities on the W. Francis, New Bedford; Robert H. Hill pledged a total of 118 men. Twenty Gibbs, 25 Beeching street, Robert E. five of these were Worcester men and Higgs, Malverne, N. Y.; Kenneth H. three were upper class transfers. This McClure, Washington, D. C.; Richard year will probably be remembered as T. Messinger, Hartford, Conn.; Donald one in which there were very few hold- R. Midgeley, Hopedale; Frederick B.

### Phi Gamma Delta

William H. Bosworth, Jr., Florence; Hector L. Cameron, Middletown, Conn.; Arthur S. Dinsmore, Glen Rock, N. J.; Stephen J. Haselton, Manchester, N. H.; Warren C. Hotchkiss, Norwich, Conn.; Harding B. Jenkins, Amherst; Melvin H. Knapp, 35 Englewood avenue; David A. Kuniholm, Gardner; Spencer K. Lang, Westboro; Ernest I. Lawton, Jr., Palmer; Pierre H. Myers, Jr., Putnam, Conn.; Donald P. Ramaker, South Glastonbury, Conn.; and Herbert W. Shaw, Milford.

Sigma Alpha Epsilon baug, Conn.; Harwood C. Burdett, Walpole; Willard T. Gove, Walpole Leominster; L. Mario Carangelo, New William Gundlach, Brooklyn, N. Y.; Haven, Conn.; Harvey W. Eddy, Sara-Rolfe G. Johnson, 6 Watson avenue; toga Springs, N. Y.; Edward E. Hafey, James L. Krause, Millville, N. J.; Carle-Hartford, Conn.; Arthur R. Koerber, ton C. Ledin, Stamford, Conn.; Richard Northampton; Wesley E. Lazott, 43 G. Mayer, Springfield; Gust W. Nurmi, Berkmans street; Thomas P. Love, Westerly, R. I.; Bruce G. Potter, North-Webster; Russel M. Lupien, 47 Orange boro; Alden T. Roys, 12 Roxbury street; John Henry MacLeod, West street; Carleton F. Swasey, Jr., Stam-Medway; Peter A. Muto, Willimansett; ford, Conn.; Cyril W. Tourtelotte, Nor-Edward F. O'Gara, Tiverton, R. I.; wich, Conn.; James S. Walter, Bloom-James F. Ryley, Fall River: Jerome D. field, N. J., and Charles J. Wilde, Savaria, Chicopee; Richard B. Stevens, Ridgewood, N. J. North Brookfield; Charles F. Sullivan, Millville; Lawrence Sullivan, Chicopee; and Robinson M. Swift, Wolfboro, N.

### Theta Chi

S. Chatfield, New Haven, Conn.; Ken- 14 Crystal street; William C. Goodneth W. Fowler, Winthrop; Robert C. child, Springfield; Charles C. McDon-Hannigan, Jr., Amesbury; Judson D. ald, Yonkers. N. Y., and Thomas S.

Springfield; Robert G. Newton, Niagara Falls, N. Y.; Henry J. Paulson, Springfield; Robert F. Reid, Taunton; Marcus A Rhodes, Jr., Taunton; Frank B. New Pledges Stevenson, North Andover; George F. Taylor, Willimantic, Conn., and Walter O. Nygaard, Saugus.

#### Alpha Tau Omega

Ralston E. Bates, Springfield; Fletcher G. Boynton, Hamden, Conn.; After two weeks of fraternity rushing Frank A. Crosby, Springfield; Arthur Miller, Springfield; William A. Patterson, 58 Commodore road; Richard E. Ryan, 12 Vassar street; Philip E. Sherman, Mansfield; Stanley M. Terry, Montelair, N. J.; William G. Thatcher, Flushing, L. I.; James I. Thurston, 20 Juniper road; Herbert L. Tyvesson, Bridgeport, Conn.; Frank J. Delaney, 34 Fruit street; C. Kenneth Olson, Brockton, and Raymond B. Piper of Balboa Heights, Canal Zone.

### Lambda Chi Alpha

Clayton H. Allen, Whitinsville; Donald R. Bates, Norwich, Conn.; George S. Bingham, Fitchburg; Malcolm S Burton, 46 Beaver street; Richard A. Colman, Estill. S. C.; Robert E. Dunk-Anthony F. Altieri, Waterbury, ald, South Natick; Richard Glencross lee, Jr., Brattleboro, Vt.; Clyde L. Ger-Conn.; Alexander W. Bodreau, Quine Attleboro; Edward S. Goodrich, East

### Phi Sigma Kappa

Howard L. Anderson; Chicago, Ill. Philip D. Bartlett, Springfield; Ronald S. Brand, 6 Copperfield road; Richard S. Davidson, Rye. N. Y.; John H. Dow-James E. Ahearn, Manhatten, Kan- er, 15 Farnum street; Carl G. Flygare, sas; John E. Bentley, Norfolk; Donald 116 Forest street; Kenneth C. Fraser, Lowd, Northampton; Arthur A. Morin, Wingardner, Chatham, N. J.

### Theta Upsilon Omega

Edward L. Chapin, Jr., Southbridge; Raymond J. Forkey, 3 Wildey avenue; Frank G. Gustafson, 76 Maywood street; Benjamin A. Lambert, Mansfield; Harold J. Manchester, Jr., New Haven, Conn.; Donald L. Stevens, 592 Park avenue, Frederick R. Water. house. Kennebunk, Me.; and Randall Whitehead, 34 Circuit avenue.

#### Theta Kappa Phi

Clement V. Charbonneau, Northboro; David J. Fitzgerald, Springfield; Peter Gaidis, Jr., Nashua, N. H.; Walter F. Gruzdis. 39 Canton street; Edward G. Harvey, I Geneva street; Raymond E Lupien, North Grafton: Noel Maleady, Pittsfield; Edward A. Martell, 162 Beacon street; Edward W. Fox, 3 Wallace street; Raymond B. Shlora, 27 Arlingtan street; Ferdinand S. Skwark, Monson, and Daniel A. Bundza, 26 Hacker

### Interfraternity Basketball

Jan. 4 T. X.P. S. K.

S. O. P.S. A. E. 5 P. G. D.-A. T. O.

L. X. A.-T. U. O.

6 S. A. E.-T. K. P.

T. X.S. O. P. 7 L. X. A.-A. T. O.

P. G. D.-P. S. K.

8 L. X. A.-P. S. K.

P. G. D.-S. O. P.

11 T. X.-T. K. P. T. U. O .- A. T. O.

12 S. O. P.-L. X. A.

T. K. P.-P. G. D. 13 S. A. E.-T. X.

P. S. K.-T. U. O.

14 L. X. A.T. K. P. P. G. D.-S. A. E.

15 P. S. K.-A. T. O.

T U. O.S. O. P.

18 P. S. K.-S. O. P. T. K. P.-A. T. O.

19 T. X.-L. X. A.

T. U. O.-S. A. E. 20 P. S. K.-T. K. P.

P. G. D.-L. X. A.

21 A. T. O.-S. A. E.

T. X.T. U. O.

22 T. X.A. T. O. S. A. E.-P. S. K.

25 T. U. O.-P. G. D.

S O. P.-T. K. P.

26 T. X.P. G. D.

L. X. A.-S. A. E. 27 A. T. O.S. O. P.

T. U. O.-T. K. P.

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