

DORM DANCE TO HOLD SPECIAL FEATURES

Bert Lowe Of Spring Concert
Fame to Furnish Music—Tommy
Hawkins, Famous Drummer,
Will Play

DANCE HELD APRIL 4

The Institute will reopen its season of social activity after the vacation with a dormitory dance, which will be held in the Walker Memorial on Friday, April 4. On account of examinations and vacation, the sale of tickets has not been so great as has ordinarily been the case, but as the men return to school a rush for the remaining tickets is expected. For the convenience of outsiders tickets will be on sale at the Technology Branch and at the Walker Memorial. The admission price is one dollar.

The music for the evening will be furnished by Bert Lowe, who played for the Spring concert, and the six-piece orchestra will include Mr. Lowe himself and his famous drummer Tommy Hawkins. Older men at the Institute may remember the latter's contest with the late Vernon Castle a few years ago. Castle at the time was playing at Boston in "Watch Your Step" in which he did a fancy drumming act, juggling his sticks and traps. He used to issue to anyone in the audience a challenge to engage with him in a drumming contest, never expecting that it would be accepted. But one night Hawkins came forward, and amid the applause of the audience, completely "out-drummed" Castle and won the decision of the judges, beating the actor at his own game.

The presence of Hawkins assures entertainment as well as music at the dance, and there is every indication that the affair will be such a one as will appropriately usher in the social activities of the new term.

COLONEL COLE ISSUES BULLETIN ON INSURANCE

Some letters are reaching the Institute Military Science Department in the case of men who forwarded their insurance payments and were notified that no application had been received in their cases, and were requested to furnish certified copies of their applications.

These apparent mistakes are probably due to the fact that lists in Washington have not been properly checked. Unfortunately, when the demobilization was completed, our retained papers, that is, the duplicates, were all ordered sent to Washington, and the Personnel Adjutant was discharged, consequently it takes some time to look these matters up.

Men who receive such letters should report to the office of the Department of Military Science in person without delay, so that the facts can be investigated, and men not at the Institute should communicate promptly by letter.

However, this is of the utmost importance. Do not allow any irregularities of this kind to interfere with keeping up your payments. If one has signed an application for insurance and has made payments on it, everything else is merely a matter of having clerical irregularities straightened out.

If payments are allowed to lapse while these matters are being investigated, the insurance may be lost, and it will not help matters to claim that one did not pay, pending investigation, etc. Even if it should be decided that a fatal error was made and one were never insured, and it is hard to imagine such a case, any money paid in on the account would be refunded.

The payments must be kept up or the insurance will lapse. It is backed by the government and is cheaper than any other insurance.

(Signed) EDWIN T. COLE,
Colonel, U. S. Army, Ret.

FINANCE COMMITTEE MEETING

There will be a special dinner meeting of the Finance committee, Tuesday, April 4, at 5:00 in the Walker Memorial, which all members are urgently requested to attend.

AIR PILOTS ORGANIZE

New England War Flyers Expect 2000 Members

The first meeting and banquet of the Air Pilots of New England was held at Young's Hotel last evening and was attended by 85 men who had flown in the service either in this country or abroad. This is merely the nucleus of an organization which will probably have 2000 members in a few months, as it is estimated that there are at least 3000 men in New England who have been flying the past two years or more.

Technology was well represented at the meeting and an Institute alumnus, namely Paul W. Shedd, a graduate of the Class of 1914 with Course I who has been with the engineering department of the Gray and Davis Company of Cambridge, previous to his entry into government service, was elected president of the association.

It was a jolly gathering of active athletic looking young men whose expressed object is to help make the United States the foremost Nation in the world in aeronautics and to develop a public interest in the science of aviation which will be reflected in the main-

(Continued on page 3)

CHATEAU THIERRY CLUB OPENS IN NEW YORK FOR WOUNDED

A recreation building under the name of the Chateau Thierry club has been opened in New York for wounded and convalescent soldiers who are stationed in the different hospitals throughout the city.

The Chateau Thierry club caters exclusively to wounded sailors, soldiers and marines, more especially to those still confined to the hospitals yet able to get out, or be taken out for a few hours daily as a welcome relief from hospital routine.

The club house is ideally located on a bluff overlooking the East river, in a roomy old house which lends itself admirably to hominess yet is spacious enough for all club requirements. It is charmingly furnished and provided with all that should interest the mind, cheer the spirit, rest the body, or delight the eyes; a free canteen is served every afternoon for jaded appetites.

On the second and third floors which are exclusively for men, there are billiard and pool tables, reading, writing, smoking and rest rooms; music, games, typewriters, etc. The atmosphere of the main floor reflects the home touches of the feminine thought, interest and presence.

The club has a large ambulance bus which makes the rounds of the hospitals daily, to transfer these weary boys into a world of brightness and relaxation. The hospital authorities have shown themselves in full accord with the purpose of Chateau Thierry club, and because the hours for the release and return of the boys have been strictly adhered to, the club has won the confidence of the doctors in charge, who express themselves as highly gratified by the freshened revived spirits of the boys after their sojourn at the club house.

To help in the readjustment which many of our boys have to face, to help bring them back to everydayness and ease their first contact with normal conditions—this is the prime motive of the club.

Boys who come forth "different" are found to have a certain sense of shyness at first; this they soon drop in genial environment, and even the boys who will be "just as good as new" need relaxation also, for they too have been racked with pain. For such as these are the purposes of Chateau Thierry club.

MANY HARDSHIPS FACE TROOPS AT GALLIPOLI

Lionel Lehmaier '13 Describes
Horrors of Campaign Waged
There By Allies in Special Let-
To THE TECH

WATER SOLD AT A PREMIUM

The following article describing the work of the Allied forces in the Gallipoli Campaign, and their subsequent campaigns in France has been specially prepared for THE TECH through the courtesy of Captain Lionel H. Lehmaier '13 who relates his own experiences. Captain Lehmaier's story of his part in the vast European struggle is one of the most thrilling and amazing that has yet been received in this country, showing as it does the indomitable spirit of a man who has always attacked his work with utmost vigor, earning the deserved esteem and praise of all those with whom he came in contact, through the success he achieved.

Captain Lehmaier attended the Institute with the Class of 1913. He was prominent as a student and was active

(Continued on page 2)

CAPT. WALCOTT DIES

Institute Alumnus Was Gassed
and Wounded

Capt. William W. Walcott '01, regimental surgeon of the 101st Engineers, died in France, March 16, according to a telegram received by his sister, Miss Harriet Walcott of Natick, Mass., from the War Department on March 25. Capt. Walcott's last letter home, written Feb. 20, said that he was well and looking forward to returning with the 26th Division, of which his regiment was a part.

A cable Saturday brought the information that he was seriously ill and would probably live two weeks. The cause of his death is not known to his sister, who is the only surviving member of his family and lives at the old homestead on West Central street.

Capt. Walcott was born in Natick 39 years ago, and prepared at Newton High School and Harvard Medical School for the Institute. He was graduated from Technology in Course IX with the Class of 1901.

He served as house officer in the Massachusetts General Hospital and eventually engaged in practice, shortly afterward becoming district health inspector under the State Board of Health, which position he held when called to the colors.

Capt. Walcott was on the medical staff of the 1st Corps Cadets about ten years and went to France with the outfit when recruited to war strength in the 101st Engineers.

He saw service at Chateau Thierry, Chemin des Dames, St. Mihiel and Verdun, being in the last-named sector six weeks at the signing of the armistice.

Last summer he was wounded by a piece of shell and gassed, spending a month in a hospital on account of his injuries. He was promoted from first lieutenant to captain. Having weathered the severest campaigns and writing home so recently, giving assurance of his health, the news of his death comes as a distinct shock to the community in which he was universally loved and admired for his manly qualities.

TWENTY-FIVE YEARS AGO TODAY

The Course X '95 Bowling Team would like to arrange matches with any other Course Team—preferably Course IV '95.

More or less dissatisfaction seems to be expressed by second-year men in English over the trifling and many times irrelevant questions required of them in recitations in some of the sections.—The Tech, Vol. XIII, 1894.

DO IT ELECTRICALLY

When Milli Ampere first saw Volt
Her charms past all resistance.
A spark coiled in his heart, poor colt—
He needed prompt assistance,
And she, though plighted to old Watt,
Could alternate affection,
So let her eye bolt glance hot,
Right in poor Volt's direction.
The current of Watt's wrath flowed
strong!
He vowed Volt should not meter.
For daughter Poly Phase had long
Hoped that Volt would be sweeter,
And so to Milli Ampere, he
A stern note did transmitter.
Requesting she transform, and be,
If possible, less bitter.
So Milli Ampere flirted not,
But knew that it was wise
To regulate the rage of Watt
And with him synchronize.
Then Volt with Poly Phase did fuse—
From her he did not roam.
They rectified divergent views
And started a small Ohm.
—W. F. Leggett, in Western Electric
News.

MULTIPLEX TELEPHONY IS LATEST INVENTION

American Telephone and Telegraph Company Develops
System Whereby Five Mes-
sages May Be Transmitted
Over One Pair of Wires

MANY ALUMNI CONCERNED

The problem of multiplex telephony and telegraphy, one which has faced the world of engineering and research since the first days of the double line telephone has at last been solved, according to the announcement of Mr. Theodore N. Vail, president of the American Telephone & Telegraph Company. This problem, initiated into telephony by Mr. Bell, the inventor of the practical telephone, has long been the dream of that man, in addition to invading the mind of every practically inclined student and worker in the various fields of engineering. Not only has it claimed the attention of many electrical engineers, but in addition that of civil and mechanical engineers and physicists, as is shown by a study of the men who have been responsible for this last great development in the world of the telephone. Prominent among these are several Technology graduates of high repute in the engineering field, including such men as Blackwell '06, Campbell '01, Osborne '08, Affel '14, Kendall '06, and Scriven '10.

The announcement of Mr. Vail is that it is now possible to transmit over two metallic conductors, at least five distinct telephone conversations and two telegraphic messages, without any interference whatsoever between the individuals carrying out the operations. The system has been practically constructed and demonstrated by actual service for over a month in a communication line between Baltimore, Maryland and Pittsburgh, Pennsylvania, and has been inspected and tested by Mr. Vail himself, in the presence of distinguished government, telephone and telegraph officials. In the test, five telegraph conversations were carried on without any interference, each circuit working fully as well as if it were independently connected.

As yet, however, this new multiplex system is of such a nature as to be inapplicable to short distance telephony, being neither economical nor practical in such a case. It is, nevertheless, applicable in a large degree to long distance work, and steps are being taken to introduce the system throughout the American telephone companies, in spite of the large monetary expense associated with its installation.

The Multiplex Efficiency Increase.
What a remarkable step this new invention in the electrical world is, may be realized when the telephony previous

(Continued on page 3)

SUCCESSFUL SWIMMING SEASON NEARS CLOSE

Team Has Only One Defeat
Against Its Record In Four
Years — Several Records
Broken

UNTERSEE ALONE TO GRADUATE

In spite of strong opposition, the Technology swimming team has come through the season winning three meets out of four and placing several men in the Intercollegiate meet. The teams of Brown, Annapolis, the College of the City of New York, and Columbia, have all met and fallen before the steady swimming of the Technology mermen. Yale, the winner of the Intercollegiate meet, is the only college that has beaten the Institute's team during the last four years. The team has had three strong men and consistent point winners in C. W. Scranton '21, S. M. Biddell '22 and H. C. Fish '22.

The swimming candidates were called out December 4 and held their first practice the beginning of the second term under the direction of William McCarthy. Over one hundred candidates reported during the first part of the season. Among the successful competitors are F. J. O'Daley, Jr., C. D. Greene, Foster, R. I. Skinner, W. B. Purington, and Stalbird.

The first meet of the season was staged in Providence, R. I., with Brown as the opposition. The Brown swimmers were defeated by a score of 30-23. The showing in the dashes and plunge was especially noteworthy as the Institute swimmers took first in all the events and second in all but the plunge, third being captured in that. Captain Untersee, Biddell, Fish, and O'Daley starred in this meet, all of them winning a first.

On Saturday, Feb. 15, the Institute mermen won an exciting and close meet with Annapolis by the score of 33-20. All of the individual events were close, even the outcome being in doubt until the very last. The relay, which Technology won, was the deciding factor. S. M. Biddell '22, started off the relay and managed by hard work combined with clever swimming to hand to H. C. Fish '22 a lead of about a foot and a half. Fish, on account of his lack of weight, lost a little at the turns and Captain Untersee struck the water even with his opponent. Max made a foot and a half on his man by clever work at the turns. Although fighting against the navy captain, C. W. Scranton '21 held his lead and crossed the line in 1 minute 20 4-5 seconds, 28 seconds faster than the relay time at Brown. In the 40-yard dash, Scranton again barely nosed out Captain Goggins of the Navy, the time being 20 4-5 seconds. The Navy captain was playing out of luck, for Biddle defeated him in the last ten yards of the 100-yard swim by a sudden burst of speed. Biddell broke his own record in this race.

The Institute natators met and defeated the College of the City of New York and Columbia with ease on Wednesday night, February 24, in a triangu-

(Continued on Page 2)

INSTITUTE AIRMEN TO MEET FOR SPECIAL DISCUSSION

An invitation has been extended to all former members of the air forces of the United States and the Allied nations, particularly pilots, observers, and balloonists, to meet in room 3-270 on Thursday, April 3 at 5 o'clock. Paul D. Scheeline '19 will tell about the proposed aeronautic meet to be held at Atlantic City in May or August of this year. A general discussion among those present on the advisability of such an aerial tournament will follow.

A detailed account of the Institute's plans for possible participation in the contest will appear in the next issue of THE TECH.

The Tech

Established 1881

Published twice a week throughout the year by the students of the MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Entered as second-class matter, September 16, 1911, at the Post Office at Boston, Mass., under the act of Congress of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 19, 1918.

MANAGING BOARD

Homer V. Howes '20	General Manager
Count B. Capps '20	Editor
Raymond A. St. Laurent '21	Advertising Manager
Scott H. Wells '20	Circulation Manager

EDITORIAL BOARD

H. F. Hedberg, '20
J. B. Ford, '21

NEWS DEPARTMENT
Acting Managing Editors
C. A. Clarke '21
H. L. R. Kurth, '21

Night Editors

F. W. Adams, '21
R. H. Smithwick, '21
E. A. Ash, '22
H. D. Folinsbee, Jr., '22, Ass't.
H. S. Gayley, '22, Ass't.

Photographic Department

P. E. Guckes, '21, Editor
L. J. Powers, Jr., '22, Ass't.

Sporting Department

J. H. Coyle, '20, Editor
E. N. May, '22

Military Editor

E. R. Haigh, '21

News Board

J. O. Bower, '22
R. C. Geckler, '22
E. H. Koehler, '22
J. Musnitsky, '20

ADVERTISING DEPARTMENT

T. Wilson Adler, '22
Edwin J. Allen, '22

CIRCULATION DEPARTMENT

Sales
Karl D. Bean, '20
Richard B. Oakes, '22
James Remsen, '22

Distribution

W. G. Thompson, '22
Fred J. Burt, '22

Subscription \$1.50 for 53 issues, in advance. Single copies three cents. Subscriptions within the Boston Postal District or outside the United States must be accompanied by postage at the rate of one cent a copy. Issues mailed to all other points without extra charge.

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

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

IN CHARGE THIS ISSUE

H. D. Folinsbee, Jr., '22 Ass't. Night Editor
William K. Taft '22 Assistant

SATURDAY, MARCH 29, 1919

SMOKING

WHY do the students still persist in smoking in the corridors and main lobby of the Institute buildings? It should not be the place of the Faculty to enforce the glaring placards prohibiting smoking in the buildings. The students should enforce it amongst themselves. These buildings are ours and if we are real Technology men we should take enough interest in them to keep them clean.

In the outside business world the men who have no regard for smoking rulings are dealt with quickly and effectively. We trust that such action will not be necessary.

This interest in keeping our buildings clean should be one of the integral parts of the Technology spirit. Let us get the spirit then and the buildings will take care of themselves.

BASKETBALL

SOMETIME ago there was quite a bit of discussion among undergraduates of the Institute upon the subject of basketball. A number of men had got the idea that they were deeply interested in this sport and that arrangements should be made whereby they could indulge in it at the Institute. They wanted inter-class, inter-dorm, and inter-fraternity teams and a varsity team was not out of the question.

Application was made to use the gymnasium in Walker for practice but this was at first denied. Such action was considered by those men so vitally interested to be inexcusable. What was the use of a gymnasium if it could not be used for a sport which would prove so beneficial to the students. The matter was taken before the Advisory Council on Athletics and finally the desired permission was granted.

Everything seemed ready. We were interested to watch the phenomenal rate at which this activity would gain favor. But alas, here the subject seems to have been dropped. Whether it was dropped because its original supporters had gained their objective or because of the approaching examinations, we do not know, but nevertheless, the enthusiasm disappeared.

Basketball will always hold its place as one of the popular leaders in collegiate sports and here at Technology, where there is not time for baseball and football, it should reach the same degree of development as our track activities of the present day enjoy.

We earnestly hope that those men so enthusiastic at first will regain their enthusiasm at the beginning of this term and do the things which they had planned to do when they were working for the permission to use the gymnasium.

Alumni Notes

LIEUT. JAMES OWEN GREENAN '11 sent in the following letter to his class secretary, Orville B. Dennison: "Am leaving Paris today—came in to the Tech bureau to leave my change of address—saw the November 'Review'—and noticed Kinney's letter in the 1911 column, about Gibbs and the Tech bureau.

"What he says is certainly true. The bureau does more to make us feel at home here than any other one thing, and that is largely due to the personality of Gibbs. He is the ideal man for the job. Those who are responsible for the installation of the bureau, and, particularly for the choice of Gibbs as director, deserve the heartiest thanks of all Technology men on this side."

CAPTAIN WALTER L. MEDDING '17, Course XV, who is still in France with the A. E. F. has just completed a 2500 mile trip by auto, over the entire battlefields examining the bridges of the Allies and Germans. Captain Medding was one of the nine graduates from the



CAPT. WALTER MEDDING '17

Civil Engineering Course who were appointed Provisional Second Lieutenants in the Engineers Corps, U. S. Army, as a result of the examinations held at the Institute in June, 1917. After a six weeks' training at the Engineers' Officers' Training camp at Fort Leavenworth, Kansas, he was assigned to a regiment and commissioned as captain. Captain Medding, who prepared at the Malden High School, was a member of Theta Tau, Masonic Club, Civil Engineering Society and Corporation XV. He was elected treasurer of his class in his senior year at the Institute. Captain Medding is a Phi Sigma Kappa man.

HORACE GREELEY LOBENSTINE '92, of 1250 Seminole avenue, Detroit, Mich. announces for himself and family that by order of the Probate Court of Wayne County Michigan, he has been authorized to use the English version of his German name, Horace Greeley Preston. Preston graduated from the School of Mechanic Arts in 1888 and from Course IX of the Institute in 1892. After leaving the Institute he became president of the Detroit Leather Specialty company of Detroit, Michigan.

POSITIONS ASSURED FOR TWO HUNDRED DISCHARGED MEN
Sergt. Moore to Assist Colonel Cole in Military Science.

In conjunction with the general movement now on foot throughout New England to place returning soldiers in positions which they formerly occupied, or at least in a position where they will be enabled to earn themselves a livelihood, the government is making arrangements to discharge about 200 men from the army stationed at Camp Devens, Ayer, Mass. and give them positions in the Quartermaster corps as civilians, which positions they have been filling for the past few years as members of the army. In addition to this movement, several men are to be sent to the various colleges about New England where military instruction is being given, to act as assistants to the professors of military science. Technology is to receive as its assistant Sergeant Walter A. Moore.

This replacing of enlisted men by civilian workers began at the camp Monday, when, in the Quartermaster's Sub-Depot here the first batch of non-coms and enlisted men were discharged from the service and resumed their work as civilians. During the last few

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

days civil service examinations have been held at this camp. Men of the Quartermaster Corps who were able to pass the examinations have been assigned to the same duties they had as soldiers. But where they have been doing the work in the past for \$30 a month, or a little more, they will now receive salaries ranging from \$750 to \$1500 a year.

In all about 200 men at the Sub-Depot Quartermaster's at this camp will be given the Civil Service jobs. Besides their salaries they will be quartered and rationed in the camp if they so desire, and their status will be the same as that of other civilians who are attached to the cantonment for duty. If they desire to do so, however, they will be allowed to live outside the camp, and there will be no restrictions placed on their movements or doings outside of working hours.

Five New England colleges are to receive enlisted men from the 36th Infantry at their camp. The men are to be assistant instructors of military science and tactics. They are all Regular Army men and they will be under the professor of military science at each college for duty. Sergeants, Frank R. Kenrick and Henry Mattikow go to Boston College, Sergt. Walter A. Moore goes to Technology, Sergt. John E. Snyder goes to Massachusetts Agricultural College, Sergt. Walter E. Bewer goes to Rhode Island State College and Sergt. Joseph Freedman goes to Connecticut Agricultural College.

DEVELOPMENT IN CONCRETE SHIPS DATES BACK TO 1849

Concrete pontoons used in Building Panama Canal

Reinforced concrete was first used in making a boat in France in 1849, but its use languished from 1849 until 1887 when the small concrete boat was built in Holland. This boat was first used by duck shooters on account of its high stability, and in 1918 it was still in use by a cement-products company in Amsterdam. Italy, Germany, and England next fell in line, and a revival of concrete boat construction in France took place in 1916. Concrete boats were constructed also in New South Wales, Canada, China, and Spain. After the outbreak of the great war, as her ships were destroyed by submarines, Norway naturally lost no time in building concrete ships. At the Fougner plant, at Moss, the Nannsiifjord, a 200-ton concrete cargo vessel, was built and, after a successful trial trip, engaged in traffic between Norway and England and along the Norwegian coast. This was practically the pioneer sea-going self-propelled concrete ship.

Concrete shipbuilding in this country really began about in 1912, when the Furst Concrete Scow Construction Co. built a 500-ton concrete scow for the Arundel Sand & Gravel Co., of Baltimore, Md. Vessels of this type have been in use ever since that time by this company and have rendered excellent service. In the same year a concrete barge of the Gabellini type was finished at Mobile, Ala., and it is still in service. Concrete pontoons built on the Panama Canal in 1914 are still used as landing stages for small steamers. Concrete motor boats, yachts, tug boats, and row-boats have also been built in this country. In 1918 the construction of two fleets of concrete barges, each barge measuring 20 by 130 feet and of 550 tons capacity, was begun at New Orleans, La., and at Seattle, Wash. In 1918 the Faith, a concrete self-propelled merchant vessel of 5,000 tons dead-weight capacity, was launched at San Francisco, Cal.

From 1849, when the first concrete boat was made, to 1918, when the Faith was launched, seems a long period, but, after all, the leap from the rowboat to the 5,000-ton freight carrier may well cover two generations, and it must be remembered that it is practically only since the outbreak of the European war that there has been any large construction of concrete ships. The enormous destruction of shipping by submarines and the immense demand for new shipping to meet the requirements of the war made the construction of concrete vessels almost imperative.

Advantages of Concrete Ships
In the stress to supply new ships reinforced concrete was adopted as a building material mainly for the following reasons: First, the concrete materials required are easily obtained, and the steel needed is employed in a form and quantity which makes no strain on the rolling mills; second, the labor is less skilled and is recruited from a class totally different from the ordinary shipyard labor, so that the work does not increase the stress on the existing shipyards; third, a concrete ship costs no more than a steel ship and requires less expenditure for its upkeep; fourth, the time of construction is shorter.

When these facts are coupled with three considerations which make reinforced concrete most valuable for shipbuilding, there seem to be abundant reasons for its present larger use for that purpose. These considerations are: first,

the concrete ship can be made practically waterproof; second, the reinforcement can be completely inclosed by the concrete so as to prevent rusting; third, concrete and reinforced concrete are absolutely fireproof.

Concrete used as construction material improves with age; there is no definite knowledge today as to the limits of its durability in time. It is not known to be attacked by insects; mold, vermin, and bacteria find no soil for growth in it; and consequently reinforced concrete vessels can easily be kept clean. The ease of repairing a concrete ship by the simple application of new concrete is also a distinct advantage.

SWIMMING SEASON NEARS CLOSE

(Continued from page 1)

lar meet in New York. Technology's thirty-four was larger than the twenty of Columbia and the eleven of the College of the City of New York combined. This is the most decisive meet of the year, being Technology's all the way. The relay was easily won and was captured with a margin of fifty feet. The fifty, hundred and two-twenty were run off in heats. Scanton won first in the fifty and Foster third. Captain Untersee was fairly nosed out of the hundred by Biddell; C. D. Greene led in the two-twenty up to the last length when he was passed by Schiff of Columbia and Lehrman of C. C. N. Y.

The first defeat in four years was met at the hands of Yale on March 5, at New Haven. During the whole meet Dame Fortune refused to smile on Technology's struggling mermen, the decision being against the Institute team.

The coaching that the swimmers have received has been of the best. Alex Sutherland, formerly coach of Amherst, has whipped a strong team into shape. The team was a collection of stars before he came but now he has made a real team out of these men. He has improved the time of Untersee, Covells, Scanton and Rudderham by applying his knowledge and experience for the benefit of the Institute men.

The prospects of an invincible team for next year are very bright if Mr. Sutherland returns, according to Manager McKay. Most of the credit of this year's team is due to the coach, says McKay. Technology will lose only Capt. Untersee by graduation this year, so the hopes are bright for next year's season. With Alex Sutherland back as coach next year's team will be especially favored.

TROOPS SUFFER AT GALLIOLI

(Continued from page 1)

in undergraduate organizations, among the latter being an editor of THE TECH. From Technology Captain Lehmaier went to Australia where he remained until August, 1914, at which time he left for the German possessions in the Pacific, and participated in the Gallipoli Campaign until the evacuation in 1915. After three months of patrol duty in Sinai in 1916, he was transferred to active service in France, where, in May, 1916, he was promoted to the rank of Captain on the field. Continuing, Captain Lehmaier modestly admits having participated in the battles of Pozieres, the Somme, Lagnicourt, and Bullecourt. He was shell-shocked, wounded, and was in such a precarious condition suffering from concussion that he was buried alive on the field of battle! He miraculously escaped, however, and was invalided to Australia in 1918. After being discharged from service August 26, 1918, Captain Lehmaier again entered business, and is now acting in the capacity of foreign representative of the Guaranty Trust Company of New York. Following is Captain Lehmaier's description of his life "over there."

Since my arrival in this country I have been impressed with the point of view apparently adopted in all quarters concerning the Gallipoli Campaign of 1915.

So little authentic information seems available on the subject that the experiences of any eye witness and participator in part of the Dardanelles operations may prove of slight interest.

The prevalent opinion existing, is that the entire attack on the Turkish Coast was a failure, that thousands of men were sacrificed unnecessarily and that the whole affair was a funeral pyre of English and Colonial blood without any resultant good.

An opinion expressed, must of necessity be a personal one; but it is firmly fixed in the minds of the survivors of the Dardanelles Campaign that although the objectives were not attained the moral effect (on the Central Powers) of the operations was without limit.

It will be remembered that in the early days of 1915, Bulgaria was in a most perilous condition, sitting on the fence hesitating which way to fall. Greece was in an unhappy state, Ven-

(Continued on page 4)

Results of the
Mellin's Food
Method of
Milk Modification



*Jean A. Whites
Arliston, Okla.*



*Ronald J. Barce
Norwalk, Ct.*

"We are advertised by our loving friends"

ENTER MULTIPLEX TELEPHONY

(Continued from page 1)

to this time is considered. Heretofore, the best telephone methods known to the art provided only one conversation at a time over a single pair of wires. A number of years ago, the American Telephone & Telegraph Company developed a "phantom circuit" arrangement by which three telephone conversations were obtainable with two pairs of wires, an important improvement, of which extensive use was made. Now, by the new multiplex method, five telephone circuits are obtainable over one pair of wires, that is, ten simultaneous telephone conversations from the two pairs of wires, which formerly could be used for only three simultaneous telephone conversations. This represents an increase or more than threefold in the telephonic capacity of the wires as compared with the best previous state of the art, and a fivefold increase under conditions where the phantom circuit is not employed.

In telegraphy, as well as in telephony, sensational results have been obtained by the new system: By combining two telegraph wires into a metallic circuit of the type used for telephone working and by applying the new apparatus and methods to this metallic circuit the capacity of the wires for telegraph messages has been enormously increased. As applied to high-speed printer systems, eight times as much can be done as is done now, and as compared with the ordinary duplex telegraph circuit in general use, ten times as much. These increased results are attained without in any way impairing the quality of telegraph working.

The nature of these developments is such that if desired, wires may be used partly for telephone and partly for telegraph work. The pair of wires is available either for five simultaneous telephone conversations or for forty simultaneous telegraph messages, or partly for one and partly for the other.

Institute Men Prominent

These developments have been the result of the work of the technical staff of the Bell System, acting as an organization, and are the outgrowth of their combined inventive and engineering skill. Hundreds of the men of the Bell staff have co-operated in the work and it is impossible to name any one man who is entitled even to the major part of the credit for the result. Without however, detracting from the credit due to any one of them, there are twelve men, six of whom are Technology graduates, whose contributions to the system have been so distinctive that they should receive mention. They are Otto B. Blackwell, an Institute graduate of Course VI with the Class of 1906, and who has been employed with the American Telephone Company for some years; George A. Campbell '91 of Course I, who has received the degrees of A. B., A. M., and Ph.D., and is employed in the research department of the American Telephone Company; Harold S. Osborne '08 of Course VI, who is with the engineering department of the American Telephone Company; Herman A. Affel '14 of Course VI, who is now a research assistant at the Institute; Burton W. Kendall '06 of Course VIII, who is employed in the engineering research laboratory of the Western Electric Company; E. O. Scriven '10 of Course VI, who is also with the Western Electric Company; and J. R. Carson, Lloyd Espenschied, John Davidson, R. A. Heising, H. J. Vennes, and H. P. Kortheuer, who are not Institute men. Many men other than those above mentioned have given their efforts in the attempt to develop the multiplex system, and even though heretofore no substantial results have been attained, nevertheless these efforts have proven to be of the highest suggestive value. Particularly may be mentioned Major-General George O. Squier, Chief Signal Officer of the United States Army, who advanced a suggestion about ten years ago which was of great value and which attracted considerable attention at the time. Furthermore, while working in entirely different fields and with a different objective, Dr. Lee DeForest, a number of years ago, invented a wireless device known as the audion, which by the improvements and adaptations of the American Telephone & Telegraph Company has been made an important part of their system.

From the nature of the apparatus and the methods employed, the system is not practically advantageous on short lines, either telephone or telegraph. On long lines its application will be extended immediately, but its introduction must necessarily be gradual on account of the nature of the apparatus required and the rearrangement and adaptation of the lines themselves and their associated apparatus to the new methods of working. The studies of the Bell System show, however, that this system of multiplex telephony and telegraphy will have great usefulness on long open wire lines. It is not too much to characterize

this new system as marking an epoch in the development of long distance telephony and telegraphy, according to the statement of Mr. Vail.

The Multiple Theory

The fundamental theory of the multiplex system depends upon the different range of frequencies obtainable over a copper conductor, the transformation of voice frequency into electrical frequency and the isolation of these voice-carrying electrical frequencies to independent telephone circuits. The human voice has a variation of frequency up to 2000 alternations per second which means that when a person speaks into a telephone transmitter, electric currents of a very greatly varying frequency are set up. If a telephone circuit is to be operated satisfactorily it must, so far as the receiver is concerned, be free from electric currents of voice frequency except those which are produced in the transmitter of the line by the person who is talking.

AIR PILOTS ORGANIZE

(Continued from page 1)

tenance of the military and naval branches of the service at a high state of efficiency, and to encourage commercial flying. The guests were Lieut. Chester E. Wright of the 93d Squadron, which did valiant work in the Verdun sector; Councilor Winchell of Malden, the first man in the State to endeavor to secure municipal landing places for flying machines, and A. J. Philpott. The toastmaster was Gustaf Madsen.

Some rollicking songs were sung, including "Beautiful Kewee," which was sung on every aviation field in the country the past year. "Kewee" is the popular name for an aviation officer who has not flown. And judging from the remarks there are a great many more such officers in both the military and naval air service of the United States Government than are necessary.

General Edwards Praises Flyers

Letters of regret were read from Gov. Coolidge, Mayor Peters and Eddie Rick-enbacker. A letter from Gen Edwards spoke in the highest terms of the work of the American aviators overseas. He wished the club godspeed and great success.

Lieut. Chester E. Wright told of flying conditions on the Western front. There were plenty of aviators, but very few machines, and were it not for France there would have been still fewer. He said the American machines were not up to standard and as a result about three out of every six in a squadron just shot down in flames.

Nobody had wit enough to put a parachute in an airplane and provide against such a disaster. When a German airplane caught fire the pilot opened his parachute and came down safely. He said one German air captain who came down in this way and was made prisoner expressed his amazement at the mechanical inefficiency of the American airplane service. The only thing that saved the Americans time and again was daring and luck. As it was the percentage of disaster was something awful.

Lieut. Wright rather reluctantly told why he had been decorated. He said: "Anybody—any of you fellows—would have done the same thing. It was on the Verdun sector and a German observation balloon was directing a destructive artillery fire on our massed men. A couple of us were asked to go up and shoot down the balloon. We did it and we were in luck, for a lot of German airplanes rather objected to our doing it; but we got away all right. I don't know how, but we did."

Sick of Hero "Bunk"

That was the story, told haltingly, and as has been said rather reluctantly, for as he said: "You know we've had a lot of heroes in the aviation service who drew on their imagination until everybody is sick of that kind of bunk. You can rely on any American to do his bit and more when necessary, and that's what makes me certain that we can have the greatest flying force in the world if we want it."

Councilor Winchell told of his efforts to get a bill through the Malden City Council providing for a municipal aeronautical landing place in anticipation of what he considers a certainty in the near future—aerial service. The Malden Board of Aldermen laughed his bills "out of court." They couldn't see them. But he is going to persist and he wanted the help of the club.

A. J. Philpott told about the first aviation meets in New England in 1910, 1911 and 1912, which brought together the greatest aviators in the world at that time

Lieut. Brown of the British Royal Flying force, but a resident of Boston, told of the necessity of such a club if anything like intelligent legislation governing flying is to be passed at the State House and in all the States—legislation which is inevitable.

The officers elected were: Theodore B. Hedlund, president; Paul W. Shedd, vice-president; George O. Wright, treasurer and Leslie P. Dodge, secretary.

STETSON SHOES

fulfil the exacting requirements of men and young men.

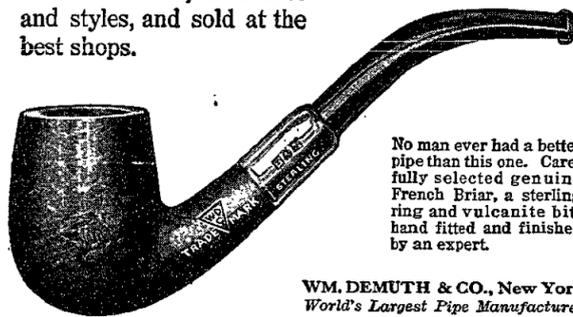
We are sole Boston Agents.

Shoes, Hats, Furnishings, Street floor, just inside the door.



Shuman & Co.
Boston
Shuman Corner
THE SERVICE STORE

If you want the best pipe that can be made, you can get it in a W D C—up to \$6. If you want the best genuine French Briar that as little as 75 cents will buy, you can get it in a W D C. American made, in all sizes and styles, and sold at the best shops.



No man ever had a better pipe than this one. Carefully selected genuine French Briar, a sterling ring and vulcanite bit, hand fitted and finished by an expert.

WM. DEMUTH & CO., New York
World's Largest Pipe Manufacturer

Two Banking Offices in the Back Bay

Massachusetts Ave., Corner Boylston St.
Copley Square, 579 Boylston St.

STATE STREET TRUST COMPANY

Main Office, 33 State St.

NEW ENGLAND STRUCTURAL CO.

INDUSTRIAL ENGINEERS

and

SPECIALISTS IN STEEL CONSTRUCTION

Complete Contracts for Power Plants, Factories, and all Industrial Enterprises

Works: EVERETT, MASS.

Sales and Engineering Office: 110 STATE ST., BOSTON, MASS.

IRON STEEL METALS

Arthur C. Harvey Co.

374-394 Congress Street BOSTON, MASS.

TELEPHONE, MAIN 7000

TOOL STEEL SHEET IRON BOILER TUBES
PLATE STEEL CONCRETE RODS METAL LATH
SOLDER COPPER ZINC

We Are Equipped to Cut to Length Anything Carried in Stock

WALTON LUNCH CO.

Nearest Luncheon Room

At 78 MASSACHUSETTS AVE.

Johnson's Orchestra
Formerly of the Colonial
Colored musicians and entertainers furnished for all occasions.
Walter Johnson, Mgr.,
181 Tremont St., Boston
Room 36-37 Beach 1176

Fay, Spofford & Thorndike
Consulting Engineers
BRIDGES AND OTHER STRUCTURES
STEEL AND MASONRY, FOUNDATIONS, RIVER AND HARBOR WORKS.
Charles H. Fay Charles M. Spofford
Sturgis H. Thorndike

STONE & WEBSTER
FINANCE public utility developments.
BUY AND SELL securities.
DESIGN steam power stations, hydro-electric developments, transmission lines, city and interurban railways, gas plants, industrial plants and buildings.
CONSTRUCT either from our own designs or from designs of other engineers or architects.
REPORT on public utility properties, proposed extensions or new projects.
MANAGE railway, light, power and gas companies.
NEW YORK BOSTON CHICAGO

Herrick's Theatre
TICKET AGENCY
Has The Best Tickets For Every Show in Town.
Copley Sq. Tel. BB. 2328