



COMMITTEE HAS SENIOR JEWELRY SAMPLES READY

Three Kinds of Rings and Keys Are Displayed

DEPOSIT REQUIRED

Class jewelry is now on display in the trophy case outside Mr. Allison's office, and seniors may place their orders by leaving a deposit with some member of the senior jewelry committee. There will be someone taking the orders between one and two o'clock each day at the table in the main floor hall.

The rings and keys are being made by Spies Brothers, there being two designs in the former and one in the latter.

New Ring Design

The eight dollar ring is of solid ten carat yellow gold with a fourteen carat face. The head has a curved onyx top upon which is overlaid the A. I. T. monogram. This emblem is not similar to the seal that appears at the top of the Armour Tech News. In the monogram, the numerals "32" appear between the horizontal bar and the peak of the A. The rings are quite massive. On one side of the head appear three symbols: a gear, a sprinkler head, and a transit, to represent the mechanical, fire protection, and civil departments. On the other side are the symbols for the architectural, a Doric column; chemical, a distilling flask; and the electrical department, a resistance schematic. A deposit of three dollars is required at the time of ordering.

Small Deposit Required

At a price of four dollars and a half is a ring identical with the first excepting that the shank is of silver instead of gold. A deposit of two dollars is required on the silver-shafted ring.

The key is of solid fourteen carat yellow gold with the onyx face and monogram like the rings. The price of it is five and a half dollars with a deposit of two and a half with the order.

Members of the committee on jewelry, any of whom will be willing to take care of orders, are as follows:

E. A. Scanlan, Jr., Chairman.
E. W. Carlton.
W. H. Hornberger.
W. A. Holland.
G. W. Schodde.

Armour Engineer Was Distributed Friday

Friday, November 20, "The Armour Engineer" was out for distribution. Among the articles is "The Well-Rounded Engineer," by Dr. Allen D. Albert. This is a copy of the commencement address given by him to the Armour graduating class of June, 1931.

Other articles are James W. Juvinall's prize-winning Eta Kappa Nu contest essay, "Sunspots and Radio"; G. W. Schodde's "The Hoover Dam"; C. W. Farrier's "Illumination Features of the Century of Progress Exposition"; and A. R. Viel's "The Eleventh Annual E. C. M. A. Convention".

Professor Krathwohl Is Officer of M.A.A.

Professor W. C. Krathwohl, head of the Institute's mathematics department, has been elected recently to the position of vice-chairman of the Illinois section of the Mathematical Association of America. Armour is an institutional member of the Association, which is designed, primarily, for college and high school teachers.

The interests of the Association are not only in the pure research field, but extend considerably into the application of mathematical principles and into the fundamentals of teaching itself.

Improvements in Chemical Labs

Work on the chemical engineering laboratories is now practically completed, with the result that much better distribution of the apparatus is possible, and more space is available.

New equipment for heat flow measurement has been installed in the metallurgical lab, and all of the apparatus has been rearranged to give more convenient set-ups.

By shifting equipment about, it has been possible to reserve a whole room for the preparation of metallurgical samples. In this room, which was formerly the industrial lab, there is the machinery for the microscopic examination as well as the preparation of the sample. The equipment includes grinding wheels, metallurgical microscopes, electric furnaces, and dark room accommodations for the examination of microphotographs.

The physical and electro-chem labs have been reorganized to give more locker space. When the work is done, the apparatus will be all that is necessary for the two subjects, and some equipment for the other courses will be housed as well. The calibrating equipment for pyrometry, the bomb calorimeter, and the apparatus for the most accurate gas analysis will be in this laboratory also.

Senior Jackets Are Distributed Today

Senior jackets of the first shipment will be accessible to purchasers today, in the Electrical Lecture room at 10:30 A. M.

The representative of the Rexford and Kelder Company will take measurements of those who did not place their orders the first time. This will be the last time any measurements will be taken at the school. The seniors placing new orders need pay only a reasonable deposit. After today all measurements must be taken at the Rexford and Kelder Company, 25 E. Jackson Boulevard.

Since considerably more jackets have been ordered to date than were ordered at the same time last year, it is reasonable to assume either that the jackets are better looking, or that the present senior class has more collegiate spirit than their predecessors.

COUNCIL MAKES SCHEDULE

Thursday, November 19, an Interfraternity Council meeting was held in the Tau Beta Pi rooms and pairings were drawn up for the interfraternity basketball schedule. The results of the pairings will be posted on the bulletin board in the main lobby.

THANKSGIVING HOLIDAYS

The Armour Institute of Technology will be closed Thursday, Friday, and Saturday, November 26, 27, 28 for the annual Thanksgiving holidays.

Dramatic Club Is To Present Play

The Dramatic Club held its meeting last Thursday at 5:00 P. M. in the Tau Beta Pi rooms. At this meeting the cast for "A Night in the Inn" was definitely selected. Lines were read and the parts were thoroughly reviewed. The one act play will be presented by the Club as a part of the Christmas Concert. The cast chosen for the production will include the following men:

S. H. Morris.
W. W. Davies.
C. C. Schults.
L. Gabriel.
E. L. Curran.
J. J. Gura.
A. D. Burnett.
S. Finlay.
H. J. Monger.

The Club has been presented with some courtesy tickets to the Goodman Theatre, which the Office was kind enough to obtain. It is hoped that the members will be able to see one of the Goodman presentations during the Christmas holidays. In this way the aspiring actors can get an intimate view of a fine theatrical performance.

Rehearsals Being Planned

H. J. Monger and J. W. Juvinall recently visited the Chicago Arts Theatre, 410 S. Michigan Blvd., and studied the lighting and scenic effects. Their discoveries and plans were made known at the meeting.

Men were appointed to head the various groups that will take care of the presentations. The lighting and stage managers of the Dramatic Club will cooperate with the business manager of the Musical Clubs in order that there may be no conflict in the program.

Rehearsals are being planned, with the culminating dress rehearsal coming just before the actual presentation.

Musical Clubs Plan Christmas Concert

Plans for the Christmas Concert by the A. I. T. Musical Clubs are now under full sway.

The date has been set for Thursday, December 17, and the concert is to be in the Assembly Hall between 10:30 and 11:30. The meeting at which the plans were formed was held last Friday, at eleven o'clock, in the Eta Kappa Nu rooms. A tentative program was also drawn up.

University of Illinois Honors Professors Leigh and Mangold

At the University of Illinois, Associate Professor of Theoretical and Applied Mechanics, Jasper O. Draffin, is gathering together the portraits of prominent men in the field of mechanics. These portraits will soon appear on the walls of the new Materials Testing Laboratory at the University.

In this connection Professor Draffin has sent letters to Professor Leigh and Professor Mangold asking them for permission to include their pictures in this gallery. He says, "— wish to have a group of contemporary authors in these different fields so that the students may come to know something of the appearance of the men who write the books which they are using or to which they are referred from time to time."

While we are all more or less familiar with the textbooks written by these members of our faculty, there are other equally interesting facts about their lives which we shall set forth in the following abbreviated biographical sketches:

Illinois conferred a B. S. degree upon Charles Wilber Leigh in 1897.

His first position was that of an instructor at Fort Worth University, where he was the head of the mathematics department for three years.

In 1901 Professor Leigh came to Armour and he has been with us ever since. His activities as an author extend also into the field of trigonometry and arithmetic; he having revised arithmetic texts for the American School of Correspondence and written some of their texts on trigonometry.

"Plane and Spherical Trigonometry" used here as a textbook was written by the late Dean Palmer and Professor Leigh.

"Practical Mechanics and Strength of Materials" which was first published in 1923 is a well-known textbook which has been used for a number of years at several state universities. Among the more extensive writings of Professor Leigh was a series of articles which ran for two years in the "American Builder" magazine under the title "Three Simple Stresses" which, as the name indicates, dealt with tension, compression and shear.

(Continued to page 4)

SOCIAL ACTIVITIES COMMENCE WITH SENIOR INFORMAL

Dance to Be Held at Medinah Athletic Club

Social activities at Armour will begin on December 11, in the Grand Ballroom of the Medinah Athletic Club.

The occasion will be the Senior Informal, which promises to have all the requisites of a good time for all concerned. Music will be furnished by Waddy Wadsworth and his R. K. O. Orchestra, composed of ten pieces. This orchestra is one that plays at private dances only and specializes in school functions.

The Medinah Athletic Club is located on Michigan Avenue north of the bridge. Thus it is easily accessible to all. It also has an excellent floor.

Bids are Distributed

Bids will cost \$2.50, the usual charge for this dance. They may be obtained from any member of the senior social committee which is made up of:

J. J. Casey, Chairman.
M. R. Beal.
W. E. Baumann.
W. M. Trauten, Jr.
H. W. Yount.

Pictures will be taken of the dance for publication in the Cycle, according to the editor, Glen W. Schodde. Several alumni have already asked for bids to the dance. They made reservations when they found the tickets were not yet available.

Professor Libby at Convention in Texas

Professor Libby of the Mechanical Department attended a four day convention of the National Association of Refrigerating Engineers, which began November 10, in Houston, Texas.

A large number of the association's 3000 members attended the convention this year.

The majority of the members are operating engineers, chief engineers, and superintendents, who look after the production and operation of refrigerating devices.

The purpose of this association is primarily to further the education of its members in the art and science of refrigeration engineering. The yearly meetings are devoted to the business of the association and to all topics relating to the education and instruction of its members.

Libby is Chairman

Professor Libby is the chairman in charge of educational work for the association, and has published a handbook dealing with various phases of refrigeration engineering, the operation of certain ice machines for example.

The educational work helps to perfect the technique of the operator, and it thereby makes him more efficient in his work.

In order to develop interest in this branch of engineering, the educational committee conducts paper contests in the universities and colleges throughout the United States each year on subjects pertaining to practical operating work. The association has a questionnaire every month which is circulated to the operators who are expected to answer it.

Next year's convention will be held in Chicago. The Chicago chapter has 500 members.

Six New Men Pledged By Musical Honorary

Pi Nu Epsilon, honorary musical fraternity, pledged the following six men, last Friday in the Eta Kappa Nu rooms:

W. C. Breh, '32.
J. A. Clear, '32.
W. W. Lange, '33.
H. S. McCall, '32.
H. P. Richter, '32.
H. W. Richter, '32.

New Telephony Inventions Seen

Last Tuesday, November 17, in the Grand Ballroom of the Stevens Hotel, a demonstration and lecture was given by Mr. Sergius P. Grace of the Bell Telephone Laboratories, New York. A large number of faculty members of Armour were present in addition to some members of the student body.

During the course of the evening the following features were explained and demonstrated.

High notes were turned into low ones, low notes into high ones, producing a strange language when words were spoken into the "scrambled speech" machine. When "unscrambled", the inverted notes resumed their original positions. "Scrambled" speech from London was brought across the Atlantic to the audience by telephone and then "unscrambled".

A direct long distance telephone connection into the radio dispatching station of the United Air Lines hundreds of miles away enabled the audience to hear communications between pilots and dispatching operators.

By using a special alloy in a long coil of wire coupled to a control circuit, words spoken into one end of the coil were made to come from the loud speakers from one to four seconds later.

Telephotos, familiar sight in newspapers, are sent over telephone wires in the form of electric impulses which can be changed into sound or light, depending on what receiving apparatus is used. In the sound reception, the high notes represented the light spots, the low notes the shadows.

By using a sensitive microphone and a powerful amplifying device, the sound of a heart beat can be recorded, just as words or music. Other muscles of the body also make a noise when they contract. With the ultrasensitive microphone and a powerful amplifying unit, these contractions were heard in the loud speaker.

In telephone calls from a dial exchange to a manual exchange, the new automatic call announcer changes the dial impulse to a voice, calling the numbers without human intervention.

(Continued to page 4)

Professors Now at Work on Wave Forms

Professor Moreton and Professor Nash of the Electrical Engineering department are working together to make practical a method for determining the wave-form of A. C. voltages varying from 50 to 50000 volts.

The system makes use of the parallel operation of radio tubes of either the 245 or 171A types as amplifiers in conjunction with a voltage divider resistor. This imposes a low voltage on the grid of the vacuum tube. Accuracy is possible because the grid circuit draws practically no current. An oscillograph connected to the plate circuit gives the wave form either visually or as a photograph.

It may not be practicable to reach the desired high potential of 50000 volts as the cost of resistors is very high. The resistors for use at 25000 volts cost \$35.00 while those for use at 50000 volts are priced at \$75.00.

CALENDAR

Tuesday, November 24th
5:00 P. M. Orchestra practice, Assembly Hall.
Triangle Basketball practice, Gymnasium
Drama Club meeting
Tau Beta Pi rooms.
Wednesday, November 25th
5:00 P. M. Stresses and Strains practice, Assembly Hall.
Thursday, November 26th
Thanksgiving Holidays
Begin.
Monday, November 30th
5:00 P. M. Boxing practice Gymnasium.

TECH CAGE SQUAD CONDITIONING FOR OPENING CONTEST

First Game with Alumni Looms as Test For Team

BANQUET AFTER GAME

Now that the Armour Tech basketball squad has moved to the Armory for their nightly workouts, the grind is on in preparation for the season's schedule.

This year's squad is one of the strongest in years, and competition is very keen for each position on the varsity. There are six regulars back from last year's team, including Captain Rossing, ex-Capt. Robin, Lind, and Setterberg who are forwards, Beemsterboer, center, and Rummel, and Omiecinski, guards. With all the good material on hand, Coach Krafft said that he would probably use at least three teams in the first game of the season, which is with the Alumni, December 1.

Last year's Alumni game was rather a rout with the Varsity winning easily by a score of 44 to 18. But according to Professor Kuehn, who is in charge of the Alumni team, the score this year will not be so lopsided. However, he qualified his statement with a few "ifs" by saying that if enough of the alumni come out so there will be plenty of substitutes, and if all the men he has asked to come, will turn out, the Alumni will present a strong lineup composed of many stars of former years. The tentative starting lineup for the Alumni is: Ott and Simpson, forwards, Havlicek, at center, and Hofer and Kufel at the guard positions.

Because he wishes to see what each man can do in actual competition, Coach Krafft will change his men around until he finds the best combination, and so no lineup is available.

But even without a starting lineup, the dopesters maintain that Tech's Varsity should win the game because of the size of the score last year, and the probable strength of this year's squad.

An interesting sidelight on the Alumni game is the fact that there will be five registered referees at the contest. These five include the official referee of the game, Osborne; Coach Krafft; and Downs, Kuehn, and Schumacher, who are alumni.

After the game a banquet for the members and pledges of the Honor "A" society will be held at the Phi Kappa Sigma house.

Civil Engineers to Hold Inspection Trip

November 30, the civil engineering department is going to hold an inspection trip to the Municipal water treatment plant at Waukegan, Ill. This is a sanitary water plant designed by the firm of Allen and Vagtborg of Chicago. The latter member of the firm is Assistant Professor of Municipal and Sanitary Engineering at the Institute.

Waukegan's sanitary plant is electrically operated, and has been a highly successful undertaking. It is considered one of the finest in the country.

Professor Vagtborg says that the trip will prove very interesting and very instructive to the students. The plant will be in actual operation, filtrates being washed and all other processes carried out as usual. One of the units will not be action in order that the students may study more closely the principles underlying the system.

Arrangements are being made to inspect other plants in the vicinity so that other systems may be studied also.

Both seniors and juniors are to go on this trip.

Professor Vagtborg will post any further information on the bulletin board the first part of the week.

Armour Tech News

Student Publication of the
ARMOUR INSTITUTE OF TECHNOLOGY
CHICAGO, ILLINOIS

Published Weekly During the College Year



SUBSCRIPTION RATES

\$2.00 Per Year Single Copies, 10 Cents Each

MANAGING BOARD

Editor-in-Chief.....Wilbur H. Rudolf, '32
Managing Editor.....Max J. Schinke, '32
News Editor.....Edward W. Carlton, '32
Business Manager.....James J. Casey, '32
Faculty Adviser.....Professor Walter Hendricks

EDITORIAL DEPARTMENT

Feature Editor.....J. R. Jackson, Jr., '32
Assistant Feature Editor.....R. F. Rychlik, '33
Fraternity Assistant.....Harold Bodinson, '33
Architectural Assistant.....W. W. Davies, '33
Reviews.....Morton Fagen, '32
Columnist.....George Bonvallet, '32
Features.....E. E. Eberth, '33
Assistant News Editor.....Orville T. Barnett, '33
Copy Editor.....L. G. Wilkie, '32

Assistants.....J. B. Dirkers, '32
J. W. Juvinall, '33
F. W. Paine, '33

Reporters

H. Fishman, '33 J. A. Scheyer, '34
E. G. Avery, '34 B. B. Abrams, '35.
J. J. Bachner, '34 C. K. Goldberg, '35.
N. E. Colburn, '34 E. N. Searl, '35.
W. Krol, '34 S. M. Lillis, '34.

SPORTS DEPARTMENT

Sports Editor.....H. P. Richter, '32
Assistant Sports Editor.....H. F. Becker, '33

Reporters

C. H. Fox, '32 B. Hanson, '34.
H. W. Davidson, '34 D. F. Landwer, '34
R. A. Fleissner, '34 S. J. Viktora, '34
R. Armsbury, '35.

BUSINESS DEPARTMENT

Advertising Manager.....M. A. Collick, '32

Assistants

R. E. Nelson, '33 W. L. Bengston, '32
E. J. Wiltrakis, '32 L. Ingram, '34.
T. F. Quilty, '35.

Circulation Manager.....J. S. McCall, '32

Assistants

E. H. Chun, '32 L. Marcus, '34
R. Dufour, '33 T. C. Peavey, '34
M. J. Erisman, '33 C. B. Sommer, '33
E. A. Svoboda, '34

Vol. VIII NOVEMBER 24, 1931 No. 10

Commercial Papers and the News

An address on the subject of modern journalism was delivered at Yale University last year by the editor of one of the large daily newspapers of the country. The speaker, a man famous in his field, presented his views in an effective manner, advocating the introduction of some new features into our daily pages and omitting some others already existing.

While we may not all agree with him on some of his ideas, none of us is qualified to contradict a man so much more experienced in the field of journalism than we are. However, we might find it interesting to apply (in imagination only) some of his ideas to the *Armour Tech News*.

In the first place, the speaker mentioned above recommends the use of colored paper by newspapers. He points out the more life-like appearance made by pictures printed on pink newsprint as compared with those on the ordinary white stock. He sincerely regrets that the men who discovered the superiority of pink paper were those who published the more "racy" periodicals. It is because of this association of colored paper with "yellow journalism" that people in general are opposed to its use for more than a few pages of any paper.

Try to imagine what your own reactions would be if the *Armour Tech News* were to publish its next issue on pink paper. Probably your first thought would be that the *News* had become a turn-coat and had started to follow the principles of the more radical of our daily news-organs. No, such an idea would be completely out of place in such a paper as ours. The prejudice against colored newsprint is far too strong for us to consider adjusting it even if we were so inclined.

The second important item that met with the hearty approval of the speaker previously mentioned was the use of "screamer" headlines. This is a feature of the modern commercial newspaper that received a much better response from the public than did the colored paper. Such headlines proved their value and popularity so quickly that they are now used quite generally.

However, such headlines lose much of their value when used on college newspapers of the type of *Armour Tech News*. It is true that often, when the school is located in a small town, the college publication is also the news-organ of the municipality. In such a case the "newcomer" head would still retain some of the value attributed to it by the commercial newspapers.

The *Armour Tech News* has never used headlines to any great extent and during the past year has used almost none at all. Such an abstinence from headlines increases their value when they are used.

The speaker at Yale was viewing the subject of headlines, as he himself says, not from the artistic standpoint but from the commercial. In the case of the *News* the commercial advantage is removed and little remains but the artistic.

"The Slipstick"

Cleave to "The Slipstick"; let
the Slapstick fly where it may.

Buy Your Tickets Now!!



Here's one chance for all you seniors, juniors, sophomores, and freshmen to see your senior, junior, sophomore, and freshmen friends in a vastly different attitude than in a calc quiz or a thermo problem.

As a rule they are on their good behavior at a function of this kind, for obvious reasons. On the other hand, Mr. Krafft might perchance find some good track material.

You will remember that this is not the first time that Waddy Wadsworth has played for us. If you seniors remember "way back when" when you were freshmen, you will recall that he furnished the accompaniment to our Freshmen Informal.

Don't sit at home that Friday evening and mope. Join the frolic!

Remember, seniors, it's your last chance as seniors (we hope) to attend a senior dance.



"Brethren and sistern, when de las' day arrives dere shall be weeping and gnashing ob teeth."

"Oh Lawdy, Lawdy!!"

"Sister Mandy, what am it dat ails yo'?"

"I aint got no teeth."

"Hm, er, teeth will be furnished," added the kindly parson.

Of Importance to Smokers

The smoker season will soon be on in full swing. A. I. E. E. and A. S. M. E. smokers are to come off pretty soon. The other technical societies will be doing likewise.

For this reason we advise an immediate purchase of guaranteed smoke rings: We are acting as local agent for a reliable manufacturer of smoke rings which are guaranteed to be perfect under all conditions of temperature, pressure, and humidity.

"Never Faile" Smoke Rings are a product of umpteen years of research and improvement and represent the apex of perfection. They may be carried very conveniently in the handy box of twelve in the wallet or purse without flattening or crushing.

Individually wrapped in moisture-proof cellophane, "Never Faile" Smoke Rings are a bargain at half the price. Act now! Only a few more left! One man bought six!

The photog committee has completed its work of selecting the studio where the best pictures may be made. It has been said that the committee members have been so engrossed in their work that they have cut classes right and left.

That's the way, men, always look out for your classmates' best interests.

Quite a bit of favorable (and, of course, otherwise) comment was heard in regard to the "TECH SNORTS" department of the colyum of last issue.

If you pick up a bit of scandal, some student wisecrack, or some freshman caper which might interest the rest of us, drop a line in the Main Floor contribution box.

"The evening cloak," explained one clerk to another, "was a redingote design in gorgeous brocade with fox fur and wide pagoda sleeves."

After twenty-five minutes of this, the long suffering customer broke in with:

"I wonder if you can supply me with a neat red stamp, with a dinky perforated hem, the tout ensemble treated on the reverse side with gum arabic? Something about two cents."

SOLVED

"Taxi, sir?"

"Thanksh, mush obliged—wazh jusht wondering what it wazh."

And so the senior bowlers have challenged the faculty. It wasn't enough for the rifle club to attempt such a thing but now somebody wants to use bowling balls—my dear, no, they couldn't even attempt to do such a thing to the faculty.

Teacher: "Johnny, can you define nonsense?"

Johnny: "Yes, teacher, an elephant hanging over a cliff with his tail tied to a daisy."



Don't, dear reader, don't get sick next Thursday, for you'll have work to do the following Monday.

We join all classes in thanking the faculty for reserving those little love letters, often known as flunk notices, for their distribution after the holidays.

The Bongineer.

REVIEWS

CULTIVATING PERSONALITY

By William S. Walsh

What is this thing called personality? A bright freshman wrote a theme a few years ago in which he defined it as "what Clara Bow's got lots of", but that definition perhaps was as unjust to Miss Bow as it is to the idea. He's a senior now so don't hold it against him. The gentleman whose name heads the column has a few words to say on the subject; you'll find him considerably more illuminating.

The title "Cultivating Personality" is a modest one; this book is much more than a presentation of how to astound your friends in ten days or your money refunded. In a readily understandable manner, Dr. Walsh discusses the psychological background of personality, its development, and the common faults which in many of us militate against the acquirements of a pleasant character. Most valuable of all, he offers constructive counsel based upon what will at once appeal to us as scientific treatment.

The subject matter is presented in an entirely practical way, prepared for and applied to every day life. Be warned that some of his examples of disagreeable personality traits are going to strike pretty close to home. There's no getting away from the fact; we all have them in varying degrees. Walsh's attitude is the quite sensible one that once they're dug out and brought into the light of reason, the battle is half won. So that accounts for a series of chapters on snobishness, shyness, irritability, depression, anxiety, and derogation or plain meanness. He shows how these things come about and why, how they react upon us and, externally, upon our fellows, how they may be discovered and subjected to the proper treatment.

A defense set up by most people is that their character is born, not made; that their traits of personality are fixed from birth and hence, efforts at self-cultivation are useless. It's no good; they're simply trying to excuse themselves for their weakness, attempting to justify a laziness of character by a defense mechanism. And you'll read all about them in the book. "Off with the mask, dirty Jack Dalton, we know you now."

Cultivating personality is a slow process and a long one. The authors plan of treatment is: first, an honest endeavor to know ourselves as we really are, without alibi or self-justification; second, a courageous stand in facing the facts we discover; and third; a constant striving to rid ourselves of objectionable mental traits. It shouldn't take much reaction to convince us that it's worth while; in this highly competitive system of today, it's just as important to be able to get along with people as it is to have the ability to apply technical knowledge. I am convinced that those salary scholarship curves presented by General Rees last week might go through some wild distortion if they were applied on a broad scale and the disturbing factor would be personal likeableness.

I understand that a senior is going to spend his life digging bones in the Mojave Desert. He needn't read "Cultivating Personality." For the rest of us, there is a copy right off the press down in the Library. Get your reservations in before the snow falls.

Morton Fagen.

Plane Wheels Stand Up Under Four Tons

Think of expecting a single pneumatic tire of an airplane landing gear to stand up under a load in excess of four tons without crushing. Yet the aeronautical experts of the Society of Automotive Engineers report the testing of air-wheels with inflation pressure up to 25 pounds per square inch and loadings up to 9600 pounds. The results indicate that shock-dissipating mechanisms should be used in conjunction with air wheels. Aircraft landing gears are made with springs, rubber, air, and oil shock-absorbing media. The best combination so far obtained seems to be the oleo-pneumatic or oil and air. It is the lightest and can be made to offer the least aerodynamic resistance

THE ART OF SOUND PICTURES

(by W. B. Pitkin and W. M. Marston)

The advent of the sound effect into motion pictures has revolutionized that industry. Today, the fever of violent change and upheaval is abated somewhat and the tense excitement which a few years ago shook Hollywood has to some degree subsided. Out of the chaos a new art has come, that of producing sound pictures.

In "The Art of Sound Pictures," widely known psychologist, W. M. Marston, and an authority on story writing, W. B. Pitkin, join forces to analyze the field. Their work is primarily a guide and handbook for the scenario writer, dealing in complete fashion with all the elements that go into the production of a successful screen script: the wants of the public, the limitations imposed by censorship, the use of suspense, coincidence, character and dialogue, and the employment of sound effects. An unusually thorough treatment of the feelings and emotions experienced by various types of motion picture audiences is given, based on the experience and psychological laboratory work of William M. Marston.

It was interesting to find that the movie-going public is considered as being without intellect, relying primarily upon instinctive reactions to stimuli. There's an idea. Tell the girl friend that movies aren't made for her highly intellectual type; bridge (at home) is so much more uplifting. Your reviewer disclaims all credit for the plan and all responsibility for the consequences arising therefrom. He has troubles of his own.

To get on with this business. The rather complete treatment of the technique of sound pictures is only part of the story. In addition, there is contained a brief account of the mechanics of productions written in quite elementary style. The equipment used in recording and reproducing, the details of photography, with sound, and the technical features of color movies are all presented in simple terms understandable by anyone able to spell out the words. Perhaps this "I am May" treatment may seem a bit childish, but keep in mind that the purpose of the book is to guide story writers along the rocky road to fame. They have little need for analyses of attenuation networks and sechlike. Very properly, this section on the mechanics of the art is handled in a broad, general way.

Well, anyway, these two guys wrote a book and it's keen stuff. Lots of dope that'll wise you up on these here squawkies.

Morton Fagen.

Rodebush Speaks to Chemical Society

The regular monthly meeting of the American Chemical Society, Chicago section, was held last Friday evening at the City Club. Dinner was served at 6:15 to approximately one hundred and twenty-five members.

The speaker of the evening, Worth H. Rodebush, was introduced immediately following the dinner. Dr. Rodebush is a capable speaker and has had much experience in the chemical industry.

Dr. Rodebush has devoted much of his time to research work in the realm of physical chemistry including work on atomic structure, vapor pressure of metals, and the magnetic properties of atoms.

Paul N. Leech of the American Medical Association's chemical laboratory staff spoke to one of the groups on "Examination of Medicinals." This included the importance of records in analytical work.

In the Organic group, F. W. Sullivan of the Standard Oil Company of Indiana addressed the members on "The Relation Between the Chemical Constitution and the Physical Properties of Lubricating Oils."

Simon Freed of the University of Chicago, addressed the Physico-Chemical group on the "Electronic Isomers in Crystals and in Solution." Dr. C. B. Davis and Dr. G. M. Curtis, also of the University of Chicago, told of "Blood Iodide Studies in Thyroid Disease."

An elementary lecture table demonstration on the reduction potentials was given by F. T. Gucker and F. A. Van Atta.

Professor H. A. Vagtborg

(A Biographical Sketch)
By Franklin W. Paine

Harold Alfred Vagtborg, Assistant Professor of Municipal and Sanitary Engineering was born in Copenhagen, Denmark. His education was received first in Chicago, and then at the University of Illinois where he was awarded the degree of Bachelor of Science in Municipal and Sanitary Engineering.

While at the University, Professor Vagtborg was editor of the *Technograph*, the publication which corresponds to the *Armour Engineer*. His activities included the chairmanship of student inter-college debating, membership in the Engineering Council, and work on special hydraulic problems for the Department of Theoretical and Applied Mechanics. In addition he was host at the Engineering Open House.

Professor Vagtborg has written articles on sanitation and water supply for the professional journals at various times. He is a member of the following societies: W. S. E. A. S. C. E., Illinois Society of Engineers, Central States Sewage Works Association, and the South-west Water Works Association. He is also a member of the Executives' Club of Chicago.

Until last year, Professor Vagtborg was in charge of concrete work for a construction company. He made special studies on pouring concrete in cold weather. Applying the principles, an eleven story concrete skeleton building proceeded at a rate of three floors a week in zero weather. Later, Professor Vagtborg supervised the construction of three hotels, and the Pierce Arrow Service Station at 25th street and Federal. He also supervised the building of the 600 car garage at 56th street and Stony Island.

Since January, 1930, he has been a member of the firm of Allen and Vagtborg, Inc., Consulting Municipal and Sanitary Engineers in Chicago, who are engaged in the design of water systems, treatment plants, reports, sewage disposal plants, etc. for various municipalities in the central states.

Professor Vagtborg is now advisory engineer on sewage aeration by special methods for the Engineering Experimental Station, University of Illinois.

While at the University of Illinois, Professor Vagtborg became a member of the following fraternities: Kappa Delta Rho, Sigma Tau, Honorary Engineering Fraternity; Pi Delta Epsilon, Professional Journalistic, and Mu San. Professional Engineering Fraternity.

Sewage Plant Visited By Junior Chemicals

The junior chemicals completed the last of a series of water treatment examination tours with their inspection of the North Side Sewage Disposal plant at McCormick road and Howard street last Thursday afternoon.

The waste matter comes in through two large mains and is passed through a seven inch mesh screen to remove larger debris before it is pumped by the centrifugal pumps, which with seven large air blowers, are located in the pumps and blower house.

Leaving the pump house, the sewage flows by gravity at the rate of seven feet per second into the grit chamber where the sand and heavier particles settle out. It is then run through five-eighths inch screens into the clarifying tanks where from 5 per cent to 50 per cent of the solid settles out. A percentage of activated sludge is now added, and the whole is aerated in long tanks. After the treatment, the sewage is run into the final settling tanks and the clear liquid is drained off into the canal.

The chemical laboratory was visited, and it proved of great interest to the juniors because of its modern equipment. It is here that organic tests are made of the efficiency of each of the various processes. It is a fact that during dry weather, due possibly to a lack of an excess of water, the treatment does not leave the water as clear as in rainy weather.

BEARING WORKS INSPECTION TRIP MADE THURSDAY

Machine Shop Class Views Precision Gauges

The Thursday machine shop class made an inspection trip to the Ahlberg Bearing Co. at 29th Street and Prairie Avenue. Mr. McQuinn, secretary of the company, made all arrangements.

The thirty men who were present were divided into groups of six each, a guide conducting each group through the plant. This plant specializes in ball-bearings and a high degree of accuracy must be attained. The minometer, a device which measures within a forty-thousandth of an inch attracted general attention.

Machines which cut the inside and outside diameter and the ball race, and chamfer the ends of the stock all without human supervision, were performing these operations, casting aside the finished product, and starting the next with tireless regularity.

The bearings are hardened by being heated to about 1525 degrees and quenched in oil. The heating furnace is equipped with a recording thermocouple showing the temperature of the rings or bearings at all times. After cooling they are heated to 300 degrees to complete the process.

After examining some drawings showing various ball bearing applications, the men were taken to the office, where Mr. Okner, engineer of the company, talked on bearings. He mentioned that the ordinary friction bearing has an efficiency of 96 per cent while ball bearings are 99 per cent efficient. This means a large saving of fuel. A few questions were asked, then booklets and rules were distributed and the men departed homeward.

General F. Dixon Talks to Group

The importance of the engineering department at the National Board of Fire Underwriters was the theme of the talk by General Frank S. Dixon, who is associated with the National Board, at the meeting of the F. P. E. Society last Friday morning in C Mission. E. A. Scanlan, Jr., president of the society, introduced the speaker.

The topic was "The Organization and Function of the National Board." General Dixon first stressed the importance of fire insurance, giving a new and broader definition to the term. Most of the nation's business is transacted on faith and confidence, which the bankers call credit.

The National Board is a voluntary organization or superstructure, which has no authority over its members and no jurisdiction over rates or premiums. Its main purpose is educational.

The board is divided into various committees such as Actuarial, Finance, Legal, and Fire Prevention Engineering.

This body maintains a corps of technical engineers who are sent to various municipalities to study fire hazards and protection facilities and makes recommendations to the city officials. Surveys are made without cost to the cities and carry no authority. However, studies show that where the recommendations have been rejected, the "burning ratio" has increased.

Engineers who establish civic standards make non-political and thus more authentic surveys. One feature which was an important part of the work was standardization of hose couplings and sprinkler systems. At one large fire, the fire trucks were called from a neighboring town but were unable to assist because of odd size couplings. Fortunately, most of these conditions have been eliminated. Another important feature is the work accomplished in the Underwriters' Laboratories.

General Dixon is connected with the legal end of the National Board. He served in military service for 29 years both in the Spanish-American and World War.

Professor J. B. Finnegan, head of the F. P. E. department and C. P. Holmes, assistant professor, were present along with about sixty F. P. E. students.

FRATERNITY NOTES

THETA XI

Last Monday, November 16, a smoker was held at the house for the Freshmen and on Tuesday night they were pledged. The following men are now wearing the pledge button:

C. Adair, M.E., '34.
F. Cassil, Ch.E., '35
K. M. Hanson, E.E., '35.
L. R. Ingram, C.E., '35.
H. C. Reynolds, E.E., '35.
W. Scharringhausen, C.E., '35.
F. Schwab, C.E., '35.
C. T. Seaberg, Arch., '34.
R. Smith, Ch.E., '35.
V. Smith, F.P.E., '35.
L. C. Willis, Ch.E., '35.

In honor of the new pledges there was a dance at the house last Saturday night.

Four brothers from Ohio State stayed at the house over last Sunday. They were on their way home after visiting the Wisconsin Chapter during Homecoming.

TRIANGLE

This Wednesday evening a radio dance will be held at the house. The majority seem to think that they need something to take their minds off of school and put them in a spirit for the vacation.

Last week Bro. Don Fetterman '31, who has been living at the house until now, left for New York City.

The basketball team has begun its work in earnest. Monday a game was played with S. K. D. to get the basketballers in trim for the coming interfraternity contests.

BETA PSI

Brother H. Hostetter was formally initiated into the fraternity last Friday and immediately following the initiation, a banquet was held in his honor.

DELTA TAU DELTA

An election of officers to fill the vacancies recently left in the chapter was held last week. The newly elected officers are:

President—Marshall R. Beal.
Vice-President—Glen W. Schodde.
Messenger—John McLane.

Doc Weiland's 30th annual banquet for all Delta freshmen was given Saturday, Nov. 14, at the Interfraternity Club. All our freshmen and a good number of actives and alumni were present. Among the alumni was H. R. Harbeck, '02, one of the Charter Members of Gamma Beta Chapter.

Three Division Presidents, members of the Arch Chapter of the Fraternity, attended the banquet and later stopped in at the House for a visit on Sunday.

SIGMA KAPPA DELTA

"Chief" Stehno, '31, last year's Tech mound ace, found his way over to the House this week. During the past summer he starred as pitcher for Dubuque baseball team.

The annual all-house ping-pong tournament is nearing the end of the first round. Several men have discovered hitherto unknown talents and are making heroic efforts to round into championship shape for their first matches.

Final results in the big bridge game give the Professors the edge. Professors Leigh and Eeald showed "Charley" Hawes and "Bill" Booth just how the game should be played.

PHI PI PHI

Phi Pi Phi announces the pledging of Miles B. Hora, E.E., '35.

Saturday, Nov. 14, the pledge dance was held. Besides alumni, actives and pledges, the following men from school attended: Frank Ustrycki, Frank Koko, Raymond Tilt, George Stalzer, and Richard Meagher. It rained, of course, but that didn't dampen the spirit of those who attended, as everyone had a good time.

FLUNK NOTICES SOON

Flunk notices will be issued by the Dean's office Monday, November 30, following the Thanksgiving holidays.

The recipient of a failure notice is not necessarily going to fail in the subject, but he is warned that to date his work has not been satisfactory.

E. G. Stecher Talks On Train Control

A talk on Automatic Train Control Systems, at the A.I.E.E. meeting held last Friday was given by E. G. Stecher, signal engineer of the Chicago and Northwestern railroad.

Control is necessary when more than one train is run on the same track. In order that trains running in the same direction may be properly spaced, the track is divided into sections one or one and a half miles in length, called blocks.

The old fashioned system of control used the familiar block semaphores at the beginning of each block. These semaphores indicated that the train should stop if another train were in the block ahead. If the engineer failed to regard this, an accident was likely to occur.

Other systems were developed but proved faulty, until the "two speed continuous automatic train control system" was invented. It is the most modern system and is used on trains of the Chicago and Northwestern railroad.

When the train is run at an excessive speed (50 miles per hour for freights and 73 for passenger trains) two horns are blown in the cab of the locomotive. One of these stops when the engineer pulls an acknowledging lever. The other horn blows until the speed is reduced. If the engineer fails to reduce the speed, the brakes will set automatically.

ARX NEWS

Results of the Senior Judgment in New York have been returned, and to Donald Braun go the honors! A second medal was awarded him by the New York jury, his plate having exceptional merit. There were a few mentions and half mentions, and then the seniors began work on their terra cotta plant.

Tough? Oh boy, are those juniors tough! Last year during a baseball game, if you remember, a senior's collar-bone was broken. Never failing to uphold that good old Armour custom, the juniors helped break George Nelson's collar-bone a week or so ago, then feeling that they left their own dear class out, they patiently waited their time and smashed into Sydney Shapiro and cut his face rather badly with his glasses. Mighty lucky for Syd that he's cross-eyed or he might have lost an eye! All joking aside though, we hope both you fellows heal up mighty fast.

Silence! Silence! Not a sound could be heard. Then the click that comes from perfect elasticity! Well, I'll be; those architects are playing billiards again. Funny how lunch hours stretch from a half hour to an hour and then to an hour and a half and then . . . Oh well, with Roy Phlak on the wrong end of a cue, even Sandy Sandstedt hasn't got a chance. Betcha Willie Hoppe could beat Roy!

Memorial Window Depicts Success

The memorial window to Philip D. Armour, Jr., was presented to the Armour Institute in 1901 by the Church Glass and Decorating Co. of New York. It was designed and built under the personal supervision of Edward P. Sperry, art director of this company.

The subject illustrated in the Armour Memorial is "Success," a very difficult theme to portray. In the central opening of the window is depicted the figure of a young vigorous man. The artist has striven to express by this figure that success can not be waited for, but must be grasped and conquered by brain, force, and energy. The young man has not waited for success to come to him, but has gone forth and taken from the altar of fame the crown of triumph. He has fought through every difficulty, and has reached success and fortune by his own efforts and deeds.

The side panels personify heat, light, gravity and motion, and show that man, having taken these under his control, has used them for his material welfare and benefit.

It should point out to ambitious students that in their correlation and conservation they have been the instruments through which successful men have obtained a place in the Temple of Fame.

NEW BOOKS

J. R. Cameron
Sound pictures

Carl Clemens
Religions of the world

C. H. Grattan
The critique of humanism

T. C. Hall
Religious background of American culture

E. S. King
Celestial photography

C. S. Parsons
Amateur stage management

W. B. Pitkin
*Art of sound pictures

A. A. Roback
Personality

Samuel Selden
Stage scenery and lighting

C. G. Shaw
The road to culture

W. S. Walsh
*Cultivating personality

E. J. Wall
Practical color photography

*(Reviewed in this issue.)

"I protect my voice with LUCKIES"

"It's that delightful taste after a cup of coffee that makes Luckies a hit with me. And naturally I protect my voice with Luckies. No harsh irritants for me . . . I reach for a Lucky instead. Congratulations on your improved Cellophane wrapper. I can open it."

Edmund Lowe

Who can forget Edmund Lowe as "Sergeant Quirk" in "What Price Glory"? That mighty role made Eddie famous in filmland—and he's more than held his own in a long line of talkie triumphs. We hope you saw him in "The Spider." And be sure to see him in the Fox thriller "The Cisco Kid."

Made of the finest tobaccos—The Cream of many Crops—LUCKY STRIKE alone offers the throat protection of the exclusive "TOASTING" Process which includes the use of modern Ultra Violet Rays—the process that expels certain harsh, biting irritants naturally present in every tobacco leaf. These expelled irritants are not present in your LUCKY STRIKE. "They're out—so they can't be in!" No wonder LUCKIES are always kind to your throat.

"It's toasted"

Your Throat Protection—against Irritation—against cough

And Moisture-Proof Cellophane Keeps that "Toasted" Flavor Ever Fresh

TUNE IN ON LUCKY STRIKE, 60 modern minutes with the world's finest dance orchestras, and Walter Winchell, whose gossip of today becomes the news of tomorrow, every Tuesday, Thursday and Saturday evening over N.B.C. networks.



***Is Mr. Lowe's Statement Paid For?**
You may be interested in knowing that not one cent was paid to Mr. Lowe to make the above statement. Mr. Lowe has been a smoker of LUCKY STRIKE cigarettes for 6 years. We hope the publicity here-with given will be as beneficial to him and to Fox, his producers, as his endorsement of LUCKIES is to you and to us.

MOISTURE-PROOF CELLOPHANE
Sealed Tight—Ever Right
The Unique Humidor Package
Zip—And it's open!

See the new notched tab on the top of the package. Hold down one half with your thumb. Tear off the other half. Simple Quick. Zip! That's all. Unique! Wrapped in dust-proof, moisture-proof, germ-proof Cellophane. Clean, protected, neat, FRESH—what could be more modern than LUCKIES' improved Humidor package—so easy to open! Ladies—the LUCKY TAB is—your finger nail protection.

PUGILISTS FIGHT FOR SCHOOL TITLE IN TOURNAMENT

Armour Tech's second annual boxing tournament, held last Friday evening in the gymnasium, provided 23 rounds of boxing thrills to all who saw the bouts. Although no decisions were won by the knock-out route, one match came so close to being one, that only the bell saved the victim, and then it took some time before he could stand on his own feet.

Campioni, Rush Fight to Draw

The tournament opened with an exhibition match between Rush and Campioni, both being members of the boxing team. After three rounds of heavy slugging, they came out even up, the decision being a draw.

Behmer Beats Ruben

W. Behmer and Z. Ruben met in match number two, at 115 pounds. This bout was one of the fastest of them all. It was not so much a slugging affair as a boxing match. The round was almost even but Behmer was a little bit better than his opponent in the second and third rounds and gained the decision. In the second round Zorra was groggy but Behmer was unable to take advantage.

Core Gets Decision

Castanes and Core met in bout number three. They boxed in the 126 pound class. From start to finish it was essentially a slugging match. Castanes piled up an early advantage but after the third round had been concluded, the bout was a draw. In the extra one minute round Core had a slight advantage, and the decision went to him.

The next match, also in the 126 pound class, found Morris and Reardon exchanging punches. Morris had Reardon against the ropes in the first round and pounded away at his face and body. Morris gained an early lead and Reardon's rally was not enough to overcome it. The second round was comparatively slow but in the third round the slugging was renewed with Morris having the better of the exchanges. Morris was awarded the decision.

Schavilje Beats Ostheimer

The Schavilje-Ostheimer match was next on the card. The gentlemen in this bout gave the fans an assortment of plain and fancy boxing and no boxing at all, during their three rounds of maneuvering. Yes, there was slugging; there was clinching; there were wild hay makers sailing through the atmosphere, and rest periods wherein the tired boxer sat down on the floor to rest for an eight count intermission. Mr. Schavilje came out victorious. They boxed in the 138 pound class.

In the 143 pound class L. Marcus and E. Wojtasik exchanged three rounds of terrific toe to toe slugging. The first round came out about even. Toward the end of the second round, after a terrific exchange of blows, Marcus sent a right to the jaw and Wojtasik went down for a count of four when the whistle blew ending the second round. As soon as the third round opened Marcus continued to land punches but it was not until the last second of the third round that he landed a blow that sent Wojtasik to the floor. Only the whistle saved him from a knockout. The decision went to Marcus.

Koko and Rigoni Draw

The final bout of the evening, between F. Koko and B. Rigoni, went four rounds to no decision. In this bout, as in the last previous one, toe to toe punching was the order. Round number one consisted of fast and furious in-fighting, but as the bout went on the boxers separated and traded punch for punch. The boxers weighed in at 147 pounds.

The referee for the tournament was Coach Weissman and the judges were Montesano, former member of the team, and Sandstrom, the captain of the boxing team.

Last night the two winners in the 126 pound class, Core and Morris, fought for the championship of that class. Scherringhausen met Schavilje in the 138 pound class and either Koko or Rigoni met Marcus for the championship of the 143 pound class. However, the results of these matches are unknown as the Armour Tech News went to press.

New Rochelle College has started a campaign against snobbishness by inauguration a 'Hello Week,' during which time everyone is expected to be particularly friendly to all other students on the campus.

Annual Christmas Seal Drive Commences Twenty-Fifth Year

As the annual Christmas seal sale opens this year, marking the twenty-fifth anniversary of the continuous, organized war on tuberculosis in the United States the question may arise in the minds of thinking people why science has not developed some quick and certain cure, such for example, as the toxin which prevents diphtheria.

Research workers have been faithfully at work on this problem but as yet without success. The control of tuberculosis must still be based on accurate early diagnosis and the perfection of treatment by means of the recognized methods; rest, fresh air, and nursing care. The disease kills only one person today where it killed two a quarter of a century ago. Nevertheless tuberculosis is still a major public health problem. More people between the ages of 15 and 45 die of it than of any other disease.

In spite of its failure to discover a specific cure, science has quite recently made two advances in the study of Tuberculosis of great practical value. One is the purification of tuberculin—the substance used everywhere to detect infection — so that results from its use are sure to be uniform. The other assures making X-ray pictures free from blurring and of standardized depth of shadow. Both these contributions to tuberculosis work increase the physician's ability to make early and accurate diagnoses which, in turn, increase the hope of cure.

The new tuberculin will be known as "MA-100." For many years tuberculin has been used in a simple and harmless skin test as a means of determining infection. This did not mean disease existed when persons reacted positively—but that those who responded would be found all those with active tuberculosis, so that in the hunt for cases among large groups such as school children, for example, further inquiry and examination could be safely limited to the positive reactors to this test — the others could not be in any danger. There was one flaw in the process. The old tuberculin contained ingredients other than the active principle, some of which might cause reactions when there was really no infection at all. In addition to this, it was impossible to graduate the dosage uniformly, because the substance was not pure, and this interfered with that accurate study and comparison of results upon which medical science depends for progress in human betterment.

The new tuberculin marks a great step forward, and comes as a result of several years' research in a number of laboratories by scientific men working under a cooperative plan as the Research Committee of the National Tuberculosis Association. This is the organization which sponsors the Christmas seal sale through its 2084 local associations and committees throughout the United States, and part of the money raised through the seal sale goes to pay the expenses of such research.

Standardizing X-ray pictures has long been a problem among specialists in tuberculosis. Variations in mechanism, in local conditions, in the personality of operators, conspired

to interfere with scientific accuracy. For example, pictures made in one city with a certain apparatus would be found, if the patient moved to another city, to be of little use when compared with those taken later in watching the progress of the patient, because the second physician would not be conversant with the variables of the first machine, and would be unable to make allowances for them. Differences in lighting and mechanical action rendered it imperative for the physician reading the negative to understand fully the peculiarities known to exist in the operation of the apparatus. It was next to impossible for physicians to confer with each other by correspondence, because the interpretation of shadows would differ in many instances. The new instrument devised to remedy this grave fault establishes a standard which the operator can use to know in advance of taking the X-ray that a certain established density in the picture will be obtained. This reduces those variations which have heretofore stood in the way of accurate judgment, and constitutes a notable achievement in the war against tuberculosis.

Another improvement in mechanism developing at the same time, is a method of synchronizing several short exposures between heart beats to produce a clear, composite negative, free from blurring caused by the heart's action. It operates something like a machine gun on a combat airplane, which shoots bullets through whirling propeller blades.

By such gradual advances as these the relentless campaign against tuberculosis is waged. They are not spectacular instances of brilliant inspiration, but rather striking examples of careful, plodding work such as characterizes the all-year-round efforts throughout the nation to prevent and cure tuberculosis, which are financed by the Christmas seal sale.

Rifle Team Awaits Outcome of Match

(Continued from page 1)

He and Professor Mangold are at present writing a text book as a sequel to the first on the "Mechanics of Motion."

Professor Leigh also finds time to act as Faculty adviser for both musical organizations and is an Illinois Tau Beta Pi.

Professor Mangold attended Cornell College and later went to the State University of Iowa where he received the degrees B. E. and C. E. During three summer sessions he took post graduate work at the University of Wisconsin.

He has taught at Mississippi A. and M. College, Grinnell College and the South Dakota School of Mines, leaving the last named twelve years ago to teach here at Armour as an associate professor in the Department of Mechanics. In collaboration with Professor Leigh he worked on the enlargement and revision of "Practical Mechanics and Strength of Material" which has been mentioned before. Professor Mangold has contributed a series of articles on reinforced concrete which appeared in the American Builder. He also says that he is interested in a good teachable text on hydraulics and has been gathering notes.

He has varied practical experience including surveying on a railroad in Northern Mexico, membership on the state highway commission in South Dakota, acting as City Engineer in Grinnell, Iowa, and since coming to Chicago has been in the employ of the Illinois Central Railroad on terminal improvement projects.

While on the Highway Commission he developed standards for short span bridges in steel and reinforced concrete. Professor Mangold is an associate member A. S. C. E. and during the world war was commissioned a captain of engineers. Several years ago, he qualified as a licensed and registered structural engineer in the State of Illinois.

Rifle Team Awaits Outcome of Match

The Armour Tech Rifle team is awaiting the outcome of the first of a series of three matches held every other week with the New York Stock Exchange. The results were mailed to New York Friday. Although the Armour men made 1,871 points, they are rather anxious because the Stock Exchange was shooting well in the 1,870's all last year.

Don Wilson, high point man of the shoot, got 378 out of a possible 400. Hollmann and Helmick both made possibles in the fifty foot prone shooting.

A meet with Ontario, California, has been arranged for this week. The team plans to join the National Rifle Association in order to compete in the inter-club activities. Sometime in the near future there will be a meet held with the Humboldt Park Club for the silver cup.

Marow and McBride, freshman gunners, are high among the new aspirants. Marow was a member of the Lake View High School team.

An inter-fraternity match is being planned with a view to stimulating inter-class competition.

PLAN INTER-HONORARY BANQUET

December 18 has been chosen as the date of the annual inter-honorary banquet. The recent pledges of all of Armour's honorary fraternities as well as all active members are eligible to attend. John O. Cavanagh, president of the inter-honorary fraternity council, is making arrangements to have it held at one of the loop hotels.

Glee Club Rehearses For Winter Concert

Only two more rehearsals of the Glee Club will be held before the presentation of the Christmas Concert on December 17.

By the time of the concert, it is hoped that the selections of the Glee Club will have been memorized so that they may be presented without sheet music. Because the Thanksgiving holidays begin this week Thursday, there will be no rehearsal this week.

As usual the members of the musical clubs will appear in white flannels. At the next meeting of the Glee Club, all members who do not have white trousers will have an opportunity of purchasing them through the school.

Athletes to Wear Letters Thursday

Attention is called to letter men of Tech that Thursday of each week is "Award Day". On this day every letter man should and is expected to wear his award.

Letter men are asked to observe this rule so as to foster a spirit and atmosphere which is sadly lacking at Armour. The Armour Tech Athletic Association earnestly bids each man to wear his award which all other students covet.

Henry Frank's Barber Shop
200 East 31st Street
Haircuts 40c

ALICE RESTAURANT
3117 Wentworth Avenue
Special Student Plate Lunches - - 25c
WHERE QUALITY AND SERVICE REIGN SUPREME
Home Cooking



... and don't forget to **keep kissable**



WITH **OLD GOLDS**

The marriage ceremony doesn't demand it. But the Newlyweds who take OLD GOLDS as their wedded choice in cigarettes are showing a nice consideration for each other.

For OLD GOLD is a pure-tobacco cigarette... 100% natural-flavored. Free of those greasy

flavorings that burn into clinging, staining, and breath-tainting vapors.

To prolong that honeymoon charm, smoke pure-tobacco OLD GOLDS. No throat rasp, no smoker's cough can come from their clean, sun-ripened, nature-flavored tobaccos. And they leave no objectionable odors either on your breath or clothing, or in the room.

© F. Lorillard Co., Inc.

NO "ARTIFICIAL FLAVORS" TO TAINT THE BREATH OR STAIN THE TEETH... NOT A COUGH IN A CARLOAD

Theatre

THE VANITIES

Mr. Carroll, Earl of Broadway—and Atlanta, where he was the guest of Uncle Sam for a year after the famous bathtub party—brought the eighth edition of his *Vanities*, or should I say "unveiled" it, at the Erlanger Theatre a week ago Sunday. It is by no means the best, but neither is it the worst of the revues your critic has seen; it ranks between Carroll's *Sketch Book* of last year and *Crazy Quilt*, which to me was not so hot. The present edition of Carroll's show opened in New York at the New Amsterdam, as the ultra-modern new Earl Carroll was then under construction on the site of the old; from there, it went to the police station. The "command performance" in court seems to have done little good, judging from some of the tasteless sketches that still remain. One, however, said to have been the main reason for the raid, is no longer in; neither is Jimmy Savo, who did it. The funny thing about Savo's skit was that Carroll intended removing it from the show as being not good enough, but John Law beat him to it by twenty-four hours. The reformers' only achievement, as usual, was to advertise the show.

Getting on to the good points, the overture, played by a capable orchestra, is followed by the recorded voice of Earl Carroll himself, "The Unseen Host," introducing his show. Another feature to which the Gotham gendarmes objected follows shortly—the Fan Dance, originated by Faith Bacon and now done by Renee Landau, to the tune of "One Love," and in an elaborate scene, behind a gauze curtain, called "A Field of Daisies." I saw nothing in it worth getting so upset over, although Miss Siegler of the movie-censor board probably will. The next thing of consequence is the "Hittin' the Bottle" number, elaborated on in several scenes, and including some good dancing. After more "blue" black-outs comes a glittering spectacle, "March of Time." Jack Benny, a master of ceremonies from Hollywood, and Herb Williams are all through the show, sometimes to good advantage, but the sketches they appear in, (and that's most of them), won't be elaborated on, because they contain little originality or humor. Other high spots are Chaz Chase eating everything from a lighted cigarette to his shirt; the hoofing of Curtis Coly; and the Dance of the Jewels by Vivian Fay, at the end of a long series of "living curtains." The substitution of a motion picture for a will, in which the dead man speaks his mind in making bequests, furnishes original material for one of the sketches. The songs "Nevertheless," and "Good Night, Sweetheart" are probably well known to you by *raddio*—and somewhat too well known to me.

The first act finale is a vehement and colorful pageant ridiculing our alleged Prohibition law which is best described by titles from the program—Let Freedom Ring, Voices of the People, Drummers of Discontent, and Is This the Law? Quotations from the Declaration of Independence and Lincoln's Gettysburg Address were used. Best of all is the paraphrase of "Over There", ending that "They put it over, while our boys were fighting Over There", or something to that effect. All this appealed to this wet observer, but I will admit it wasn't as effective as the "Noble Experiment" sketch in the *Sketch Book*, which caused that show to be raided on orders of politicians who saw too well that a mirror was being held up to their regime. Incidentally, Carroll is postponing the opening of the night-club under his theatre until New Year's Eve because, so he says, beer will return—legally, that is—by then. But Earl is a smart showman, and I'm afraid he was just talking for the sake of publicity; well, he gets it.

So much for the eighth *Vanities*; the ninth opened at the new Earl Carroll in August. Will Mahoney and William Demarest are prominent in it as they were in *Sketch Book*, and those who saw Mahoney stop that show with his dancing will ask no questions. A modernistic setting for a number entitled "Chromium," and especially a routine staged to a special arrangement of Revel's "Bolero," an outstanding modern composition,

were considered by "Variety" and the "Billboard" reviewers to be other high spots.

What will probably be a much superior revue to the one above reviewed will arrive Christmas—Max Gordon's *Three's A Crowd*. The cast includes Libby Holman, Clifton Webb, and Fred Allen, all of the first *Little Show*, and in the Broadway engagement they repeated their triumphs of that history-making revue. *Three's A Crowd* is the first show Gordon ever produced; since, he has given playgoers *The Band Wagon*, another revue, and *The Cat and the Fiddle*, an operetta with music by Jerome Kern, who did the scores for *Show Boat* and *Sweet Adeline*; these two are probably the best shows in New York at present. He also has in preparation *Waltzes from Vienna*, a London hit dealing with the life and music of Johann Strauss.

Robert B. Tague.

Tracksters to Begin Practice in Earnest

Coach A. A. Stagg, Jr., reports that practice will start officially for the track squad in the middle of December. Although some of the men have been working out for some time in Bartlett Gym, practice will be on in earnest as soon as the new field house is opened.

Coach Stagg is optimistic concerning the outlook for the coming season and admits that prospects might be worse.

New sweat suits have been ordered for the team but will not be distributed before the first meet.

Work on the formation of a schedule is progressing. Coach Stagg has been working on this matter for some time and from all indications a very satisfactory schedule will soon be arranged. Meets with several schools have been arranged.

A. S. M. E. Holds Meeting Friday

Last Friday, Mr. Richard Boonstra spoke on the subject of "Engineering in Agriculture."

Mr. Boonstra, the agriculture engineer of the Public Service Company of Northern Illinois, contrasted the old time methods of the farm with the very newest developments in farming. The plow is an excellent example of the progress made by the engineer in the design of farm implements.

The farmer of 1831 had no engineers working with him on his problems. Nowadays he has a county farm adviser to help him in the art of growing crops, and agricultural engineers from farm machinery manufacturers to advise him on the selecting of the right farming implements.

The influence of the engineer has been felt all over the country in the agricultural districts, but it has been a comparatively short time since the benefits of electricity have been extended to rural districts. Only about 10 percent of the market for selective power has been realized in farm communities. The problem at hand for the engineer is to make this service cheap enough to be in reach of the average farmer.

As the result of the increasing congestion and expense of building lots in a large city, there is a trend of people toward the rural districts to find homes. This tendency is also strengthened by the fact that the farm is becoming more and more attractive because of the application of electrical power to farm work. From the foregoing facts, it should not be difficult for engineers to realize the great opportunities before them in the electrical industry.

Senior Civils Hear Highway Lecture

Last week, the senior civils heard a series of three lectures on concrete pavement construction. The lectures were given by Mr. Barker of the Portland Cement Association.

His talks covered the derivation of formulae used in designing various highway pavements, latest developments in actual road construction, and investigations of causes of pavement failures.

Most of the road failures according to Mr. Barker are not due to the quality of the cement used, but to poor design and faulty assumption by the engineer in charge.

Policies regarding design vary throughout the country. These generally are determined by road-bed conditions and the results of the tests conducted by the various state highway departments.



"You needn't tell me
—I know Camel is
the fresh cigarette!"

Milder because they're fresh CAMELS are never parched or toasted!

FOLKS who smoke really *fresh* cigarettes made from choice sun-ripened tobaccos never have to give a thought to their throats.

That's because such fresh cigarettes retain natural moisture—and are gratefully smooth, cool, throat-friendlily, *mild*.

Camels are the *fresh* cigarette—everyone knows that now—they're blended from the finest Turkish and mild Domestic tobaccos that money and skill can buy.

We would never dream of parching or toasting

these choice sun-ripened tobaccos—that would only drive off or destroy the natural moisture that makes Camels fresh in nature's own mild way.

The Camel Humidor Pack protects a fine cigarette *fresh* with natural moisture—it could do little or nothing to freshen a cigarette that is dried-out or factory-stale.

If you smoke for pleasure, see for yourself what freshness means in mildness and flavor—switch to Camels for just one day—then leave them, if you can!

R. J. REYNOLDS TOBACCO COMPANY
Winston-Salem, N. C.

R. J. Reynolds Tobacco Company's Coast-to-Coast Radio Programs

CAMEL QUARTER HOUR. Morton Downey, Tony Wons, and Camel Orchestra, direction Jacques Renard, every night except Sunday, Columbia Broadcasting System

PRINCE ALBERT QUARTER HOUR. Alice Jay, "Old Hunch," and Prince Albert Orchestra, direction Paul Van Loan, every night except Sunday, N.B.C. Red Network

See local paper for time

CAMELS

Made FRESH—Kept FRESH

● Don't remove the moisture-proof wrapping from your package of Camels after you open it. The Camel Humidor Pack is protection against perfume and powder odors, dust and germs. In offices and homes, even in the dry atmosphere of artificial heat, the Camel Humidor Pack delivers fresh Camels and keeps them right until the last one has been smoked



CAMEL
HUMIDOR
PACK

Smoke a
FRESH
cigarette

GAMES START IN INTERFRATERNITY BASKETBALL WAR

Nine Teams Battle With Phi Pi Phi For Title

FINALS DECEMBER 11

Two interfraternity basketball games will be played on December 7, the other two preliminary rounds to take place on the 8th.

The game between Sigma Alpha Mu and Theta Xi should prove to be closely contested. Last year each of these teams was defeated overwhelmingly in their first contest. From former results the conclusion is drawn that Phi Pi Phi will emerge victor over Rho Delta Rho. If this prediction proves valid, last year's finalists, Sigma Kappa Delta, and Phi Pi Phi, will meet on December 9. Both of these teams are practicing hard and the game should prove to be exceedingly interesting. The S. K. D.'s will be out for revenge for they were also defeated by the Phi Pi's in indoor baseball last spring.

Game Schedule

The following is the game schedule drawn up by the Interfraternity Council:

December 8—Rho Delta Rho vs. Phi Pi Phi.

Sigma Alpha Mu vs. Theta Xi.
December 8—Triangle vs. Kappa Delta Epsilon.

Beta Psi vs. Delta Tau Delta.

The winner of the Phi Pi Phi-Rho Delta Rho game will meet Sigma Kappa Delta December 9 and the winner of the Theta Xi-Sigma Alpha Mu game will meet Phi Kappa Sigma on the same date.

Semifinals will be played December 10, with the final encounter determining the champion for this year, December 11.

Dirkers Is Appointed Swimming Manager

Professor Schommer has appointed Jerome B. Dirkers, senior F. P. E., manager of the swimming team. Ex-Capt. Knox will not swim this season, because his studies will be too hard this year. This year's captain is Weston, who was high point man last year. Coach McGilivray, of the University of Chicago, is again coaching the swimming team.

Managers of major sports (track, baseball and basketball) are appointed from the junior class to serve one year as assistant manager. In the senior year one of the several men who acted as assistant manager during his junior year is appointed manager, and he receives a letter at the end of the season, for his work. For minor sports, (tennis, boxing, swimming and golf) the manager is appointed from the senior class. Managers of major teams receive a major letter with the abbreviation for manager and a heavy sweater. Minor team managers receive a minor letter and a light weight sweater.

BASKETBALL SCHEDULE

Armour's basketball schedule is almost completed now, and counting the Alumni contest totals thirteen games, with the possibility that two more games may be added with De Kalb.

The dates for the De Kalb games will be on January 6 or 7, and on February 9 or 10.

The schedule at the time of writing is as follows:

Dec. 1—Alumni at Armour.

Dec. 3—Scrimmage with Chicago U. at Chicago U.

Dec. 10—American College or Phys. Ed. at Armour.

Dec. 15—Armour at North Central College

Dec. 17—Crane Junior College at Armour.

Jan. 12—Y. M. C. A. College at Armour.

Jan. 16—Armour at Augustana.

Jan. 21—Wheaton at Armour.

Feb. 6—Armour at Michigan Normal.

Feb. 13—Armour at Y. M. C. A. College.

Feb. 17—Armour at Crane.

Feb. 19—Augustana at Armour.

Feb. 25—Michigan Normal at Armour.

Gridiron Queries

By Professor John J. Schommer

Editor's Note: Professor John J. Schommer, star player, conference umpire, and leading football authority, will answer through this column any questions on football which are puzzling our readers. Questions may be submitted to the Sports Editor, H. P. Richter, or they may be placed in the Armour Tech News box, which is located in the main building adjacent to the elevator on the first floor.

Question 27. What would be the penalty if a team or player deflated the ball for purposes of concealment?

Answer. A penalty of 15 yards is inflicted.

Question 28. What are the positions of the officials when the ball is put in play by scrimmage?

Answer. Referee is behind the offense; umpire is behind the defense; field judge is about 35 yards behind the defense; head linesman is on sideline in line with line of scrimmage.

Question 29. Can a penalty produce a score directly? For example, a team is on its own 3 yard line, when a penalty of five yards is called for. What is the result?

Answer. In the example, the ball is put on the 1 yard line. Another penalty places the ball one-half the distance to the goal line and succeeding penalty places the ball one-half the remaining distance to the goal line. No matter how often a penalty is called, a distance penalty can never result in a score.

Question 30. Is a pass caught out of bounds or past the end zone complete or incomplete?

Answer. The pass is incomplete.

Question 31. What is the ruling when the ball is accidentally deflated during a play?

Answer. It is played over with a new ball.

Question 32. Team A punts the ball over the goal line of team B. Is team B allowed to advance the ball from behind their own goal line in the same play?

Answer. Not on a punt unless it is a free kick in which members of the kicking team are on-side.

Question 33. Is a forward pass to a man behind the line of scrimmage permissible?

Answer. Yes, providing the passer is 5 yards behind the line of scrimmage.

Question 34. How much of the ball must be over the line in order to make a first down?

Answer. If any fraction of the ball as it lies, is over the line, the first down is made.

Question 35. The offensive team advances to within a few feet of the goal line. On the next play, the back-field man carrying the ball dives over the goal line, but before he touches ground, is pushed back by the opposing team? What is the ruling?

Answer. The touchdown is made.

Tennis Players Will Try to End Tourney

Due to inclement weather, the tennis tournament this year has not been very successful, most of the players still being in the preliminary round, while a few have advanced to the quarter and semi-final rounds.

In an effort to end the tourney, Coach Colvert has extended the time for the play-offs a few more weeks, in the hope that the weather may be suitable for tennis.

To complete the tournament this year the games which have yet to be played, especially in the preliminary brackets, should be arranged within the next week, and players who do not make arrangements to play their games will have to default. It is not fair to those who have advanced to the quarter and semi-final brackets to be held back by those who do not want to or do not have time to play out their matches. Players should cooperate with Coach Colvert and notify him if it is impossible to play their opponents.

If the tournament is not completed this year, it will be started over again next spring. However, regardless of whether it is completed or not, Coach Colvert will pick his 1932 tennis team material from the farthest advanced players of the tournament, so that the team can get off to an early start.

Boxers Arrange Meet at Culver

Culver Military Academy will pit their boxers against the Armour stars on the last Saturday in February. This school is the first one to make a reply to Manager Ustrycki's requests for matches. Responses from six or seven other schools are expected within the next few days.

For the past two years the boxing and swimming teams have travelled together on the trip to Culver, but this year the pugs expect to make the trip alone. The team will be composed of ten men. The Academy, a junior college and senior high school, pays all expenses incurred by visiting teams and gives the opponents the best there is to offer in the line of entertainment, food, etc. All their games and matches are played on their own grounds.

Culver boxers are required to spend two hours every day in training. They have excellent equipment, a training table, and the other usual things which go with a sport at a school where athletics play a major role.

The Culver manager made a special request that a heavyweight should be taken down there. At the present time there are no heavyweights on Armour's squad, which means that Culver's star may not get a chance to show his punches.

TECH SHORTS

An Annual Affair

Tech's 36th basketball season will open next Tuesday night when the varsity will have their annual game with the Alumni. All students are urged to attend and support the basketball team. They will not only be able to see Armour's best basketball team of years in action, but also the stars of past years.

The tennis tournament is finally drawing to a close. Armsbury, freshman star, secured an upset in defeating Hendricks, winner of the tournament two years ago. He will now have to play Graham, another finalist in the previous tournament.

See Schommer

Any time you think of a football game between Notre Dame and Southern California, it brings to your mind that famous incident in 1927 at Soldier Field when Notre Dame won 7 to 6. Was it a safety, touchback, or what?

For an answer, see Professor John Schommer, umpire of the game. Warren Brown, columnist of the Herald and Examiner, states that, "you can be sure of at least one hour's violent conversation with John" about this incident.

We saw Sandstrom, 1932 boxing captain, in a few practice bouts last Tuesday in the Tech gym. Boy, he

sure did take a few hard ones on the chin and nose.

1932 Golf

Professor Leigh is bemoaning the fact that the stock value of his 1932 golf team has gone down considerably in the past two weeks. Captain Dave Pearson and F. Ollison left for Europe and will not be back to play next spring.

Tom Woods, last year's baseball manager, and Ed Stehno, leading Tech pitcher for 1931, were seen on the campus last week. Both of the men are leading a life of ease because of the depression.

George Is At It Again

George Nelson, star trackman of last season, is reported to be trying to get in the boxing tournament. He states that with his arm broken and in a sling, as it is now, that his handicap over his opponents will be evened up.

Bowling Tournament

Several of the upperclassmen have shown their interest in that great indoor sport of bowling. Why not start a school tournament again? It used to be an annual affair at Tech until 1910 when it was disbanded because of lack of interest.

H. P. R.

Hockey Team Shares Armory for Practice

Hockey enthusiasts held their second meeting in D Mission Friday, November 20. They were informed by Manager Koko that Professor Schommer and Mr. Allison had given their consent to the use of the unoccupied half of the Eighth Regiment Armory gym now being used by the basketball team.

Application blanks for entry into the Central Amateur Athletic Union were given out to the members of the team. Veterans back from last year are Barnett and Koko, defense men, Bestler, forward, and Munro, goal. Munro was goalie for St. John's College, Winnipeg, Canada.

New men out for the team are: R. Fenske, F. Cerman, P. Troemper, Wm. Nuetzel, and A. J. Kreuzhamp. Kreuzhamp played hockey at M. I. T. before coming to Armour.

We Call & Deliver

Phone MICHIGAN 1516

It must be done right!

HOLLIDAY'S DELUXE SHOE REPAIR CO.

77 E. 35th ST. AT MICHIGAN AVE.

Eat at the
BOULEVARD CAFETERIA
31st and Michigan



WHY

do more and more
smokers say:

"I've changed to
Chesterfield"

BECAUSE...

THEY'RE MILD. It's the *tobaccos*! The mildest that money can buy. Ripened and sweetened in the sunshine... cured by the farmer... then aged for two years in wooden hogsheads.

THEY TASTE BETTER. These tobaccos are put together right. Rich aroma of Turkish and mellow sweetness of Domestic, blended and cross-blended to Chesterfield's own **BETTER TASTE**.

THEY'RE PURE. Everything that goes into Chesterfield is tested by expert chemists. The purest cigarette paper made, tasteless, odorless. Sanitary manufacture... no hands touch your Chesterfields. They're as pure as the water you drink!

THEY SATISFY. You break open a clean, tight-sealed package. You light up a well-filled cigarette. Yes, sir... you're going to like *this* cigarette! And right there is where many a smoker changes to Chesterfield. *They Satisfy!*