



## Van Pelt Discusses Requirements of a Graduate Engineer Ability to Speak Well Very Important

"What is expected of an engineer" was the subject of the talk delivered last Friday in the auditorium by Mr. J. R. Van Pelt of the Museum of Science and Industry in the first meeting of the Armour Branch of the Western Society of Engineers. Widely respected for his large engineering experience and prowess as a speaker in scientific circles, Mr. Van Pelt was enthusiastically received by a large audience of students.

Mr. Van Pelt announced immediately that he did not intend to attempt building up the engineering profession or encouraging students to specialize in any particular field. His purpose was rather to present the requirements which graduate engineers would find must be met by those who would attain the higher reaches of the profession. The speaker enumerated important considerations of employers in hiring engineers. Foremost among these is the knowledge of how to get along with people and intelligibility in both writing and speech. Officials of corporations usually are non-technical men and cannot understand anything but plain English. It therefore becomes the task of the engineer to give reports on his research and professional activities entirely free from encumbering technical phrases.

### Basic Work Important

Mr. Van Pelt spent considerable time stressing the importance of thorough schooling of the engineer in basic engineering laws and basic sciences, physics, chemistry and math. It is no longer true that engineers coming into companies must always know their specialized work as the tendency is now for the larger companies to give their own courses. Since the company laboratories are devoted to their specialized field it is necessary that basic engineering laws be firmly ground in during the engineer's formal education. Basic engineering laws do not change but industrial processes change every day.

Important to the engineer also is a general knowledge of economics. A large percentage of men in the engineering field eventually become executives where an understanding of economics is essential.

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## A.I.E.E. Begins Busy Schedule

Activities of the Armour Branch of the American Institute of Electrical Engineers will start off briskly next Friday when the first meeting of the season takes place at 10 a.m. in Room 2 west in the Mission Building. Featured will be a talk on why an electrical engineer or student should become a member of the A.I.E.E.

Of great importance in A.I.E.E. circles was the Great Lakes District Convention held in Minneapolis September 27, 28 and 29. Representatives from the Armour Branch were Professor Freeman, Instructor Reed, and students Al Veras, George Frost, Daniel Shaver, Griffith Damm, and Robert Rehwaldt. A special meeting was held in which the only papers presented were by students from the various branches in the district. The Armour Branch contribution, concerning activities of the past semester and the coming season, was delivered by President Al Veras.

### Increase Social Activity

According to Veras there will be a considerable increase in social activity this semester. At least two smokers will be held, at one of which Eta Kappa Nu will hold a pledging session. Four inspection trips are also being planned. Concerning the fourteen weekly meetings to be held, eight outside lecturers and six student speakers will have the floor. Several of the students talks will be based on personal experience in special technical industrial fields during the summer. The program committee is also angling for several new technical movies from various prominent industrial organizations.

## 'Hazing Is Out' Order of Dean

For the information of some over ambitious sophomores, hazing has been definitely outlawed by the dean. The dean's office said that enforced cooperation will not be tolerated in any form. This does not mean that there is a possibility of the return of the green hats. Dean Tibbals has suggested that some distinguishing articles such as a common cravat such as is worn by the freshmen at M.I.T.

Another plan has been forwarded by the dean, allowing the return of green hats on condition that there would be no hazing as an enforcement. The decision on this plan would be accomplished through a vote of the entire student body.

Abolished last March, the green hats were considered completely outmoded and not in accord with the spirit of Armour.

## A.S.C.E. Hears A. J. Hammond

Alonzo John Hammond, nationally prominent civil engineer, will be principal speaker on the A.S.C.E. program for next Friday's meeting.

Mr. Hammond was graduated from Rose Polytechnic Institute in 1889 and went to Massachusetts Institute for post graduate work. After serving as city engineer in several Indiana cities, Mr. Hammond came to Chicago where he occupied various engineering positions, being in charge of engineering design and construction of the Chicago Union Station from 1914 to 1922.

### Outside Work

After varied experience away from Chicago, including construction of Hydro-electric power plants and bridges, he returned to the city for the straightening of the Chicago river.

Of the various engineering societies of which he has been a member, Mr. Hammond was president of the A.S.C.E., the Construction League of U.S., and the Indiana Engineering Society, and is now vice-president of the American Engineering Council. Other affiliations include the American Institute of Construction Engineers, American Railway Engineering Association, and the Western Society of Engineers.

## Record High On Rifle Club Men

Applications for entrance into the Rifle Club reached the all time high of 64 this semester. Of this total, 39 have already been accepted and it is expected that many more will officially be placed on the list by the end of this week. According to the re-elected president, Bill Mashinter, those wishing to be members must apply soon, as the membership will be closed in the near future.

Meets with Wheaton, Brookfield, and Brooklyn Polytech of New York have already been scheduled, in addition to the University of Chicago Midwest Invitational classic which will take place in the first week of April.

### Plan Two Teams

Because of the keen competition contemplated, the rifle club this year will be composed of an A and B Team. This step will increase the possibilities of claiming high ranking positions in the Midwest Invitational meet, in which Armour placed 3rd last year.

Encouraged by the record of eight out of ten wins last year, and with most of the old men returning to bolster the array of new material, the club has every intention of capturing first ranking in the U. of C. meet toward the close of the season.

Bill Mashinter as president will be assisted by Henry Dryer, sec-treasurer, August Galandak, Manager; Jimmy Baker, Range Officer; Ed Dost, Team captain and R. Peterson and Joe Hartman composing the executive committee.

## "Am I in the Way, Boys?"



## Coal Movie Shown By Godwin, Heeren

Following their program of publicizing the new "liquid coal" developed by Drs. Godwin and Heeren of the Research Foundation, the Public Relations Department this last week has had prepared a motion picture depicting the preparation and rise of the new liquid coal. The picture gives more exact information on the present method of manufacture than has been available in the past.

Dr. Heeren is shown preparing the coal "fires" or dust by means of a "screening" machine. The process of mixing the coal and the oil is shown by Dr. Godwin. Essentially a mixture in correct proportion of a light oil, a volatile "starting fraction," and the 300 mesh coal is processed in a colloid mill for a period of 5 hours. At the end of this process the fuel is ready for use.

### Three Distinct Types

To date three types of colloidal fuels have been used successfully in stock automobile engines. In all types the coal used is the same—a 300 mesh coal dust. The types vary in the oils used. The first type uses a mixture of gasoline, fuel oil, and lubricating oil. In the second the coal is suspended in what is commonly known as a Deisel oil. The third uses a form of range oil with the addition of a small amount of a volatile hydrocarbon or "standing fraction." The addition of the small amounts of volatile substances is to facilitate quick starting. In all cases the treatment of the mixture is the same. At the finish of the colloidal process the mixture is chemically stabilized to keep the coal, which is now reduced to about 500 mesh size, in permanent suspension.

One of the most remarkable properties of this "liquid coal" is its use (Continued on page four)

## Bradley Sponsors College Meetings

Bradley Polytech has announced a convention of students of mid western universities and colleges to be held on Friday and Saturday, Oct. 13 and 14. Four students have been selected from the student body to attend. These men, a representative group of the entire school, are: Jack Clark, President of A.T.S.A.; Eugene Worcester, editor of the *Cycle*; Don Sande, president of Interfraternity Council; and Frank Lasker.

Organized for the purpose of discussing the pressing problems of students now attending institutions of higher learning, the convention is planned on a "round table" basis.

## Von der Broek Developed Two New Theories

The first in a series of sixteen lectures on engineering mechanics was given September 27 by Professor Van der Broek of the University of Michigan, in the Engineering Building, 205 Wacker Drive, in the rooms of the Western Society of Engineers. These lectures are scheduled for each Wednesday night and, although they are being given at night, Dean Grinter of the graduate school said that interested day students may get cards to allow them to attend.

Professor Van der Broek came to this country from Holland at the age of fourteen and received his education at the University of Kansas. For the past twenty years, he has been with the University of Michigan where he is now Professor of Engineering Mechanics. It was here that he developed his two new structural theories.

The theory of elastic energy is the first theory he developed. It is used in making analyses of bending moments in any type of structure whatsoever. His book on this subject "Elastic Energy Theory" was published in 1931 by John Wiley and is a handy reference book for the practicing engineer.

### Has Second Theory

While working for the Canadian Bridge Company, Professor Van der Broek worked out his second theory, the theory of limit design. Ordinarily, one designs for working stress; the maximum stress on the structure is determined, a factor of safety is applied, and the appropriate materials are then used. In using his theory of limit design, Professor Van der Broek designs his structure to resist failure, so that instead of a fault occurring when double the maximum stress occurs, the steel in the structure actually begins to float and thereby changes the stresses throughout the entire structure, and until the maximum stress is equalized throughout the entire structure there will be no faulting. When faulting does occur in structures thus designed it occurs in dozens of places at once. Designing according to this theory is quite effective in reducing the cost of construction. At present its main use is in designing the towers we see all over the nation for carrying high power transmission lines.

For the past two years, on the basis of his work in engineering mechanics, Professor Van der Broek has been employed as a consultant by the Elgin Watch Company of Elgin, Illinois.

## Radio Club to Contact 'Cruiser'; Install 1000 Watt Transmitter

### Larger Dance Club Launches Season With 75 Members

Under the leadership of Dan Stone, the Dance Club launched into its third year with 75 members present at a special meeting held Monday, October 2, in the Student Union.

At this meeting the club's constitution was revised to conform to the present semester's calendar. Membership is to be closed on October 25 and after this, admittance to the classes will be granted only to those possessing membership cards. All students interested in dancing, whether experienced or not, are urged to report Wednesday at 5 p.m. in the Student Union. The following officers were elected for this year. Roman Mankus, president; E. J. Colant, vice-president; Fred Holle, secretary and treasurer; and Charles Jones and L. J. Mays, sergeants-at-arms.

### Have Dating Bureau

Soon after the Thanksgiving holiday the first social will be held. By this time the beginner will have acquired ability in the art of dancing and will look forward to dancing with the fairer sex. To assist the backward (those who don't know many girls) the club's dating bureau maintains an extensive file, which has descriptions of all the girls. A pamphlet of instruction in the social graces is being compiled and will be distributed as soon as it is ready.

Dan Stone, who has contributed his services to the club since its organization, will again be the instructor. Formerly a professional dance instructor at the Mildred Wall studios, Mr. Stone is now a pre-junior M.E. co-op. Assisting him will be Fred Tills and several other advanced and professional dancers. Straight ballroom dancing will be taught. Jitterbug dancing will not be included as the purpose of the club is to teach beginners the art of dancing and to acquaint them with the proper social etiquette.

Mrs. Orcutt, sponsor, said the club was organized because she recognized in many students an inferiority feeling caused by a lack of the important ability to dance. "Boys," Mrs. Orcutt said, "must know how to conduct themselves when in the presence of young ladies, and the ability to dance is quite an asset."

## Co-ops Dance Saturday Eve

Opening the fall social season next Saturday, October 14th, the Co-op "B" group will hold their annual dance. The auditorium of the Student Union building will provide the setting, while Norman Forbes, with ten men and a girl, will provide the musical background.

The dance committee has completed the plans for the decorations for the occasion. Multicolored streamers and balloons will convert the familiar study room into a gaily festooned ball room.

While the orchestra is flooding the building with dance music, the lounge will provide a welcome retreat for those seeking relaxation. The fountain will be open for refreshments.

### Bobco Is Chairman

Bill Bobco has led the committee concerned with the preparations for the occasion. The orchestra was selected after critical auditioning of several bands. The bids arrived at the beginning of last week, and their appearance has aroused favorable comment. They are assembled in book form, with a tan cover, a white inner page, all bound with a silk cord. Interested Armourites may see bids on display in the bulletin boards, and may purchase theirs at the bookstore, or from committeemen and officers of the Co-op Club. Bids are being offered at the price of \$.75 apiece.

The music will start at 8:30 and will continue until 1:00 a.m. and bids will be on sale at the door until 9:00.

### Operate on Three Bands Use Code, Phones

When the Snow Cruiser reaches the Antarctic early next January, a group of amateur radio operators here in school will be tuning over the bands, straining their ears for first sounds from the 500 watt transmitter which will serve to keep the expedition in contact with the outside world.

Faint signals, travelling half way around the earth, will be spelling out *K4USC K4USC, go ahead, am listening, K*. Should conditions be favorable and the signals picked up here at W9YW, a 1000 watt transmitter will be ready to go on air to reply at the flip of a switch. And if past experience is a guide, there is good chance for direct communication between the Snow Cruiser and the base station at Armour. Transmissions from the last Byrd expedition in the Antarctic were heard clearly a few years ago, at the very receiving location that will now be used.

### Plan New Antenna

No stone has been left unturned to insure dependable communication. The transmitter here will be the most powerful allowed on amateur frequencies. It can be set to operate in any part of the 40, 20, and 10 meter bands so that a different part of the high frequency spectrum can be resorted to, if one band proves unsatisfactory. Three or four new receivers are in the process of installation. These have the highest sensitivity and selectivity that it has been possible to obtain consistent with a low noise level. A \$250 rotary beam antenna will be erected, making it possible to concentrate the transmitted wave at a small angle, directed toward the receiving location.

Although code will be used for traffic handling, a good part of the operating will be done on phone. It should be possible for Dr. Poulter or Dr. Wade to converse with their associates here at the research foundation while they cruise about near the south pole.

### Location Approved

Felix Ferranto, the radio operator who will take care of the cruiser station, was here, at W9YW, last week. He investigated all points concerning the base station at Armour and gave recommendations to the research department. He approves the present location of the apparatus in the Rho Epsilon Radio Fraternity rooms.

Amateur operators who attend Armour and are interested in doing some of the operating at this end are invited to give their names to O. Leonhardi, president, or J. D. Pierson, communications manager. Operating schedules with K4USC, official amateur station of the U. S. Antarctic Expedition, will be worked out as soon as possible.

## 'Eye' Plans Evening Meeting October 12

Announcement has been made by Jim Rummell, head of the program committee, that the camera club will hold its first evening meeting in the clubrooms on October 12, Columbus day. As now scheduled the affair is to begin at 7:30 promptly. No speaker has been announced, but this will be given out in the near future.

Don Crego is planning to give a course in darkroom technique to all of the club pledges, but all members are welcome to come if they like. The course will cover all modern phases of developing, fixing, printing, enlarging, and special processes. Instruction will be given in use of special developers which have come on the market for fine grain work.

General instruction in photography is always available. Lighting effects, focusing, new angles, and interesting subjects are all taken up in the regular session of the club and demonstrated by the salons and pictures displayed on the hall wall in the Union outside the lunchroom.