Armour Tech News

Vol. XXV. No. 3. Armour Institute of Technology, Chicago, Illinois, Tuesday, March 5, 1940 Z—140

Junior Formal Bids Offered On New Plan

For three years the class of 1941 has waited for an opportunity to give the school a real party. And now with the announcement of the time and place of the Junior Formal, it seems as though their long wait has ended.

Bids Are $5.50

As was stated a few weeks ago, and as shown on the posters in the Union Lobby, the Junior Formal will be held on Friday evening, March 29, in the Bal Tabarin room of the Hotel Sherman. The price of the bid for this dinner-dance is $5.50, the same as it has been in previous years. For those who have already taken advantage of the "installment plan" this figure is being rapidly reduced.

Designed by Arx

So far, more than fifteen students have plunked their 50 cents down as each week rolled by. With each Thursday noon, the time payments are accepted, more students sign up for this way of purchasing their bid.

The details for the Formal are being worked out rapidly. The bid itself has been designed by the Arx, and will add a definite Formal touch to the affair. Arrangements for the renting of tuxedos are almost complete, and in a few weeks measurements will be taken of those who want to rent their formal outfits. These outfits will include all accessories—that is, all but the shoes.

Radiomen Get New Antenna

With an enlarged membership and new equipment, the Armour or Epsilon chapter of Rho Epsilon radio fraternity has formulated plans for this present semester. The purpose of the fraternity is to promote interest in amateur radio and to present all amateur radio operators at Armour with a medium of expression.

Contact Difficult

Although the efforts of the members have been characterized by perseverance, still they have not been successful in regard to communication with thhe Byrd Expedition. Ferranto, marine operator with the Snow Cruiser, has been attempting to contact "hams" in the vicinity of Chicago. He has contacted several amateurs, but has been unable to reach the radio station of the Rho Epsilon club at Armour.

Since the erection of a three element beam antenna, with assistance of the Research Foundation, hopes have run high for connection with Byrd's Expedition. According to Julian O. Leonhardi, president of the club, the operators of Rho Epsilon should start communication with Byrd any day now.

Another project of the Radio Club concerns the National Intercollegiate Press Association. The purpose of the N.I.P.A. is to exchange interesting college items for the college newspapers, through the medium of the amateur stations established at their colleges.

Schools Cooperate

A network has been organized to fulfill the purpose of the N.I.P.A. by the Rho Epsilon chapter here at Armour. Under the direction of Sigmund Mentzel of this chapter, the network has been enlarged to include nine college and university stations. Among the stations are ones at Ohio State University, Washington State, University of Washington, Montana State, and Michigan Tech.

The equipment of the fraternity includes a twenty meter phone and a forty meter telegraph, two prized possessions. Under construction at present is a 25.0 watt all band transmitter, which will be a valuable asset.

Although the club recently initiated seven pledges to increase its membership to twenty-five, it still hopes to enlist more amateur operators or those interested in radio work. The more erudite members of the club are willing to instruct those interested in the art of radio operating.

S.A.M. Group Hears Talk by Blaine Hoover

Expounding the essentials of government employment, at the S.A.M. meeting last Friday morning, Mr. Blaine Hoover, the speaker, pointed out the fact that the government, being our biggest business, is consequently our largest single employer. Our government is a business in which everybody is a partner. Exclusive of work relief, eleven percent of wage workers are in public service. Fifty-seven percent of the Federal, thirty-six percent of the state, and fifty-six percent of the municipal operating budgets, are utilized to pay government employes.

Federal Jobs Increase

Government employment has been constantly increasing. In 1830 there were only 20,000 employed while in 1937 there were 1,202,000. The increase was gradualy throughout these years except in 1933 when there was a slight drop. The population is now twelve times as great as it was in 1830 while Federal employment has increased sixty times. This increase is accounted for by the increase in governmental functions. Once installed, few government activities are ever relinquished. Enterprises involving social welfare have to be undertaken by the government. Government services have also been increased to include such new fields as automobile inspection, smoke elimination, and crime prevention. In all these activities the engineer is indispensable and is ever present.

Demands Increase

Engineers are now also being drafted for important executive positions where previously only attorneys were given consideration. This of course means that the engineer must deviate from his fixed course and incorporate social studies into his studying. The failure of many engineers lies in the fact that they can not work with intangible material.

Public service has dropped for two main reasons: the lack of prestige, and the failure to set standards. This in turn is caused by misunderstanding

(*Continued on page four*)

Harold Davey Gives Talk at S.A.M. Meet

Dr. Harold W. Davey, legal eagle of the social science department, gave a brief one-hour chat at a dinner meeting of the Chicago chapter of the Society for the Advancement of Management, which was held at the Electric Club on February 20. Dr. Davey, who has specialized in the field of labor relations, spoke on "Recent Developments Under the Wagner Act."

Pointing to the fine examples of Great Britain and Sweden, the Armour social scientist regretted the necessity of having a Wagner Act to guarantee the rights of collective bargaining and organization, already provided for under numerous other laws. The Swedes and the English, having had a longer history of labor relationship, need no such acts to guarantee labor's elementary rights.

No Amendment Needed

No fundamental changes, either substantive or proceedural, are deemed necessary in the Wagner Act by Dr. Davey, nor should any amendments prescribing unfair practices for employees be added. The "Coercion From Any Source" amendment and its kin would, in the opinion of the speaker, restore labor to its pre-Wagner Act inequality with respect to employers.

All the union excesses should come under local, civil, and criminal jurisdictions, thus avoiding the creation of a "tremendous labor policing bureaucracy." It is professor Davey's contention that after our labor and capital groups become accustomed to dealing with each other collectively, the need for the N.L.R.B. will diminish.

Talk by Calkin On "Space" to Be Given Friday

In room 105 Chapin Hall, Friday morning from 10:10 to 11:00 Dr. John W. Calkin Assistant Professor of Mathematics will deliver a paper entitled "Spaces with Infinite Dimensions." Professor Calkin intends to develop the concept through the exposition of analogies dealing with two and three dimensioned spaces. Though the lecture is to be devoted principally to the treatment of this thesis in the form of pure mathematics, it is expected that applications will be given considerable weight, particularly with reference to Modern Quantum Theory Mechanics, and to the prediction of frequencies of lines in spectral bands of heavier elements and compounds. To date the extension of the Bohr and subsequent theories to these molecules, has been delayed because of inadequate mathematical tools.

One of the outstanding authorities in the field of Space Geometry, Dr. Calkin has had papers published in the "Transactions of the American Mathematical Society and a series of notes for the National Academy of Sciences.

Frosh Support Hockey Group

Clarence McDonald, newly elected president of the freshman class, opened the freshman class meeting held last Friday with a discussion of Dr. Davey's freshman hockey team. The class voted unanimously to support the team and seek funds from the A.T.S.A. Board for equipment.

Then followed a spirited discussion on the subject of green hats. After much discussion a movement was made to appoint a committee to investigate the cost of green hats. Bill Lease was appointed chairman of the committee.

Will Don The Green

Preliminaries on the forthcoming Freshman Dance were given an airing. The chief point of this discussion was the selection of an approximate date for the coming out of the green. The matter was put to a vote and St. Patrick's Day was chosen.

A report on the partially completed plans of their dance was presented by John Peterson, social chairman. At present the affair will be held at the Knickerbocker Hotel on the 26th of April. Following their policy of "bringing out the green" the committee has chosen an attractive bid in the green motif. Selection of the orchestra is pending a decision between Peewee Johnson and Pearson and Hall.

The meeting was concluded with a brief discussion of plans for the spring rush.

Gus C. Mustakas Enthralls Audience At Concert Friday

Expertly directed by Mr. O. Gordon Erickson, the Armour Musical clubs delighted a large audience with their sincere performance at the Goodman Theater last Friday evening. Under lighting, blending to the mood of music and voice, soloists stood out as capable artists and at every opportunity the audience demonstrated its appreciation of the varied program. Numerous comments were also heard complimenting the staging as handled by Wallis Smith and Ade-Rolfe Floreen of the Art Institute.

Many Soloists

The program opened with the stirring overture *Orpheus* by Offenbach consisting of short solos by George Frost with his clarinet, Peter Woods on his oboe and Bill Mashinter and his violin. Perhaps the violin solo "Czardas" by Gus Mustakas was the hit of the evening, but the audience seemed to be unable to choose between the capable renditions of Bernard Domenz and Robert Hamman, or Harold Doolittle and John Segner. In *Glorious Forever*, *The Silent Violin* and *Great Is Jehovah* the ensemble showed to advantage the work of both Glee Club and Orchestra. Even after the husky strains of *Alma Mater* officially closed the performance, no great rush for exits was apparent, for the audience seemed to want the affair to last all night.

Father and Son Banquet Set for Saturday, April 13

Last Thursday afternoon the A.T.S.A. met in Sonny Weissman's office to discuss sports and a major social event, the Father and Sons Banquet. It was decided to hold this banquet on April 13, in the Student Union restaurant where a capacity crowd is expected. Charges will be $1.00 if tickets are purchased in advance; $1.25 at the door.

In the matter of letter award standardization, the following was decided: First awards will be yellow on black, second awards will be red on gray sweaters. After the decision the major letter awards were voted to Sherer, Markus, Shiwa, Sher, Schmidt, Fahey, Ludakas, O'Connor, and Lurz. Minor letters were voted to Brierly, Sieg, Carey, Herring, Barret-Smith, and Futterer.

Further decisions were as follows: Weissman was appointed Assistant Athletic Director, intramural bowling was established as a sport, hockey stands as an informal sport, horseshoe pits are to be constructed before spring in the open space behind Chapin Hall.

New Foundry Nearly Ready

At the south end of the Armour campus stands the new partially-completed foundry lab, which is being built to house a project by the Wetherill Manufacturing Company of Philadelphia. The purpose of the research, which is to be conducted there, will be to develop a process of die casting of cast iron by a method known as the counter gravity-flow system. The method may be operated at relatively low pressures.

In the present arrangement there will be a series of dies mounted on cars so that they can be moved over a pressure pot which will be fired by burners produced by the Surface Combustion Company. The temperature is automatically maintained at a constant. The molten metal will be produced in a Whiting cupola.

The dies will be constructed with interchangeable liners so that it will be possible to try a large variety of metals in order to determine which one best resists the heat. Upon completion, the dies will open automatically and eject the casting while still at a high temperature. The rate of cooling of the casting will then be controlled. By this method it will be possible to obtain the type of cast iron desired.

Work was begun on this building approximately 3½ months ago, and if everything runs smoothly it is expected that it will be completed within 60 days.

Spectrum Lab In Sub-Physics

In the near future some of the Physics Research Laboratories will be moved to the basement of the Physics building. Three or four rooms have been cleaned out and are now available. After a few walls have been inserted there will be three rooms of considerable size. This space will be used for the most part by Dr. Cleveland and Dr. Murray. One room will contain the apparatus for Raman Spectra Analysis which is now located in a temporary lab on the second floor of Physics building. This work has been going on for almost a year. However, because of the many vibrations from the traffic on the stairs and other interference from the railroad, it has been decided to move this lab to the basement where the vibrations will be of less intensity.

New Wave Apparatus

Another room in the basement is to house valuable infra-red equipment which is now being constructed for our school. This apparatus will contain two prisms polished down to the nearest 0.00001 cm., and its assembly will take four months. The prisms are to be made of sodium chloride and potassium bromide respectively, which necessitates a watertight coating that will absorb none of the infra-red heat waves.

A varnish of pyroxylin and amyl-acetate in dilute solution will suffice. Outside of these prisms which form the most expensive part of the whole machinery, the setup calls for a perfect, parabolic reflector, two galvanometers of 0.00000001 volts sensitivity, and a thermocouple.

Involved Theories

Dr. Murray of the chemistry department and Dr. Cleveland of the department of physics have been partners in the investigation of atomic structure by means of these methods for a long time. By very involved theories it is possible to deduce different conclusions about atomic structure through a consideration considering the intensity and distance between the lines in the spectra.

Last Thursday Dr. Cleveland left for New York to attend the meeting of the American Physical Society which will be held from Feb. 22-24. At this meeting there will be a symposium on molecular structure which is of great interest to Dr. Cleveland. He will read a short paper on "Raman Spectra in Acetylenes." An abstract of this will be published in "Physical Review."

Bailey Stresses Responsibilities In Engineering

"Engineering is the economic application of science to social purposes."

Such is the latest definition of engineering as quoted by Mr. A. D. Bailey, chief operating engineer of the Commonwealth Edison Company. Mr. Bailey spoke before a general assembly on night school students last Tuesday evening, on the "Responsibilities of the Engineer."

Social Knowledge Needed

His talk was an emphasis on the "social purposes" in the definition. Because of this, he said, the aspects of engineering have grown broader, especially duringthe last decade. An engineer now can work much better if he has a working knowledge of the social sciences, since it is his business to see that the technological improvements made are applied for the comfort of society. Many inventions these days have possibilities in so many directions that damage might be done unless their uses are carefully supervised. This is the job that confronts the engineer today. A solution of such a problem must come from knowledge in fields apparently foreign to engineering.

Instructor At Lewis

Mr. Bailey is a graduate of Lewis Institute, from which he received an M. E. degree in 1903. He was a night school instructor there for five years. He went to Commonwealth Edison Company in 1906, with whom he has been ever since. He has been their chief operating engineer since 1936.

At present Mr. Bailey is Vice President of the A. S. M. E., and is an active member of several of its committees. He is also a member of the National Electric Light Association, the Edison Electric Institute, the W. S. E., and several other well known organizations.

Hand Books To Be Awarded A.S.M.E. Student Speakers

Competition for student speakers to represent Armour at the convention of the student branch of the Midwest A.S.M.E. will begin at the next meeting of the Armour branch next Friday, March 8, at 10:00 A.M. in Science Hall. A student speaker will be chosen to represent Armour at this convention. Prizes amounting to approximately $100.00 will be offered.

The Armour chapter will award several valuable books to the winners of the local competition. Some of the books to be awarded are "Handbook of Engineering Fundamentals" by Esback, and "Diesel Engineering Handbook" by Morrison.

Talks will be of fifteen minutes duration and will be judged by the A.S.M.E. members in attendance. Those who are planning to compete are requested to see Leon Epstein, a senior mechanical.

Dr. Poulter to Be Home Soon

According to a radiogram received last week, Dr. Thomas C. Poulter has been relieved as commander of the Byrd Antarctic Snow Cruiser by Dr. F. A. Wade. Dr. Poulter is now somewhere in South America en route for the United States.

The message, probably sent by Dr. Wade, was received in Washington, D. C., at the Army radio station. From Washington it was relayed by Commander English to Armour Institute.

Byrd's Snow Cruiser is now at West Base in the southern polar region. The fluid in its hydraulic steering and lifting mechanism has been changed and the craft is now ready for the low temperatures. The tail section is being welded back into place by Clyde Griffith, chief me-

(*Continued on page four*)