

NEWS-LETTER

UNIVERSITY OF ILLINOIS

Department of Mining and Metallurgical Engineering Alumni

Vol. 4, No. 1

Fall, 1951

ADVISORY SYSTEM IMPROVED

An important obligation of the staff to the student is that of adequate advising and guidance during the four years of study at the University. While a satisfactory and coordinated advisory system at the University level is still lacking, the department is taking steps to be of as much assistance as possible to students in mining and metallurgy.

Most alumni will remember the existence of a rather hit-or-miss system of counseling wherein there was no particular place to turn for help in academic or other problems, especially during registration periods when unforeseen difficulties often arose. The first step taken by the department has been a thorough routine for preregistration which avoids much of the fa-

miliar problem of closed sections and changes of schedule during registration.

Recently, there has been an assignment of each student in the department to a particular member of the staff as his adviser. With this arrangement, the student has a definite place to go with his problems, and on the other hand, each faculty member has a small number of students under his close observation and can keep a careful check on the progress of each.

Clearly this arrangement does not represent the best system that can be obtained, and further refinements are expected in the future. For the present, however, it is believed that steps have been made to better help the student meet his problems while at the University.

Paul A. Beck on Physical Metallurgy Staff

An important step in adding to the department's program in research and graduate study has been taken with the appointment of Prof. Paul A. Beck as Research Professor of Physical Metallurgy. Professor Beck comes to the department with years of experience in education and research. His formal education includes Royal Hungarian University Technical Sciences (Budapest) 1925-1928, 1929-1930; Michigan College of Mining and Technology 1928-1929; Kaiser-Wilhelm Institute (Berlin) 1930-1931; Laboratoire de Chimie Physique (University of Paris) 1934-1935. He held a State of Michigan Fellowship in 1928-1929 and a Hungarian State Traveling Fellowship in 1930-1931.

Beck's wide experience includes positions as research engineer for American Smelting and Refining Company; Chief Metallurgist, Beryllium Corporation; Director of Laboratory for Cleveland Graphite Bronze; associate professor and professor of metallurgy, Notre Dame University. He had been

Head of the Department of Metallurgy at Notre Dame since 1950.

Paul will devote much of his time to research in recrystallization, grain boundary migration, and textures resulting from working and annealing, but will also teach graduate courses in his field of specialization. Paul has approximately forty publications resulting from his researches and his work at Illinois will be a notable contribution in the expanding field of physical metallurgy.

Departmental Enrollment Holds Steady

While some rather severe drops in enrollment were forecast for us a year ago, an examination of current figures indicates that for the present at least, such fears were groundless.

There has been practically no change in the total enrollment figures for either the engineering college or the department as compared to last year. There are now 50 miners and 69 mets on the campus, with 11 and 20, resp., at the

Prof. Bruckner Wins AWS Award

Prof. Walter H. Bruckner brought high honor and distinction to himself and the department when his paper "Micro-mechanism of Fracture in the Tension Impact Test" published in the September 1950 **Welding Journal** received the 1951 Lincoln Gold Medal Award. This award is conferred annually to the author of the paper judged as the most important contribution to welding.

Harry W. Pierce, President of the A.W.S., made the presentation of the award at the annual dinner of the society during the Metals Congress in Detroit last month. At this meeting, Walter presented the first supplementary report to the original paper.

The congratulations of all the staff and alumni are extended to Walter for this tribute to his careful work and clear presentation of his theory on the mechanism of brittle fracture.

Unfortunately it is necessary to add a sad footnote to this account of Prof. Bruckner's achievement. Upon returning from the Detroit meeting he was stricken with a severe illness, and has been away from his desk since that time. At this writing, in spite of continued signs of recovery, it appears that Walter may continue to be on sick leave for several weeks. Our deepest sympathy is with the Bruckner family, along with our sincerest hopes for a speedy recovery and return to his work.

University's Navy Pier Branch.

Only a few students were lost to the services—most draft boards apparently were following the policy of permitting students enrolled in the University to continue their education. Such immunity has not applied to graduates, however, as several June graduates are now in the service. Many of these, however, were in the advanced corps of the ROTC on the campus, and were commissioned on graduation.

NEWS OF THE ALUMNI

During the long period between the Spring and Fall issues of the Newsletter, a great many alumni find their way back to the campus, with summer vacation trips and football games the main attractions. This affords the opportunity for a rather extensive report on current activities of our alumni.

Last spring found Charles Jan-kouski, Min '50 reporting from the So. Illinois mining front during the slack season. He brought greetings from Harry Ward, Jack Webster, and Bill Campbell (who recently bought a home in Benton), all '50. About the same time, Don Bertossa, Met '50 was in Urbana from his job with Reynolds Metal Co., in northeast Alabama. Don is engaged in development work on aluminum alloys, with special regard to a problem important in both ferrous and non-ferrous fields—that of developing alloy specifications to conserve strategic elements.

Glen Wensch, Met '46, visited here in early June while on vacation from Los Alamos Scientific Lab, New Mexico, in good time to provide travel information to Profs. Forsyth and Ricketts who were planning western tours for their vacations. Since that time, Glen has taken a position of research capacity for Fansteel Metallurgical Corp., No. Chicago, Ill.

Keith Lampson, Met '49, included Urbana on his itinerary during his move from Oak Ridge to Indianapolis, where he is now working for Allison. Keith was engaged in the NEPA project which was discontinued by the government.

Two visitors from Western Cart-ridge, Alton, Ill., were Jean Louvier, Met '47, and Ed Hack, Met '50. The Louvier family were returning from Wisconsin vacation (no luck fishing), while Ed was preparing for a move to the Revere Copper Co. plant in Connecticut.

Sam Leber, Met '47, and Roy Brodnick, Met '49, were visitors during August. Sam is still one of the main cogs of Horizons, Inc., Cleveland, but has begun new duties specializing in X-ray crystal analysis. Roy was here long enough for 9 holes of golf and a bull session in which he reported on his success in leading the salesman's life introducing a specialty line of educational supplies and equipment in the territory around his headquarters, Grand Forks, N. D.

Ken Shimmin, Met '51, spent a

weekend in Urbana and showed all the signs of enjoying the life at Wright-Patterson Field where he was taking indoctrination courses preparatory to assignment. Although anticipating the military is hazardous, Ken thought his assignment would be in the Metallurgical Lab for work on high temperature alloys.

Looking every bit as successful as he really is, Houston Meyers, Met '47, came to Urbana hoping to find a recent grad of the department for his company, Monarch Steel, where Hout is Chief Plant Metallurgist.

Homecoming weekend brought at least three of the class of '51 to see Illinois move closer to the Rose Bowl. Before game time we saw Jack Raymer (Wright Field), L. R. Russell (Hayes Stellite, Kokomo, Ind.), and R. M. Necheles (International Harvester).

Consultation with our neighbors in the Ceramics Dept. on ceramic coating problems brought Den Dyke, Met '50 to Urbana early in November, and he stepped across the way for a visit with us in the lab. Don has recently transferred from G. E. to Hotpoint, where he is now helping in the organization and construction of a new plant in Milwaukee which will produce superchargers for reciprocating engines. His main duties will be quality control and development along with routine production problems.

Just beating the Newsletter deadlines were the appearances of Met. grads Gene Ellis '47, Bill Hensley '49, Eldon Moore '50, and Carl Weymueller '49. Gene was here from Timken Roller Bearing for a conference concerning work relating to research initiated by his M.S. thesis problem. Eldon Moore is working for LaSalle Steel Co. on machinability problems and was in Urbana attending a tool conference sponsored by the M. E. Department. Just visiting, Carl is in the research lab of Republic Steel working on boron steels, and Bill is working on high temperature alloys for Allison.

Kevin Beggan, sends his address (100 Warrenton Ave.) and regards from Hartford, Conn., where he is on development work on hollow steel blades for United Aircraft, Hamilton Standard Division. Kevin took his M. S. degree here last year and expresses his hope for

the maintenance of the department's "High standards of metallurgical instruction."

Arnie Litman, Met '46, has been assigned to the Army Chemical Center at Edgewood, Md., and anticipates some utilization of his experience in the line of research or development work. His address is now: Pvt. A. P. Litman, 9710th TSU-CMLC Det. No. 2, Army Chemical Center, Md.

Harlan E. Oehler, Met '37, writes to report his new address (1254 25th St., San Bernardino, Calif.) and ask what has happened to the gang from '36-'38. Harlan is Plant Supt. for Culligan Zeolite, and spends his off hours helping raise his family, now numbering three children.

Jim Skarda, Met '51, has transferred from U. S. Steel's South Chicago Works to U. S. Steel Supply Co. for work as a salesman or service metallurgist. Although his letter described a variety of interesting experiences in the mill, Jim expects to enjoy the new position more. Apparently Jim is a good correspondent, he reported hearing from classmates Ed Klimek, now in the Marines; Bob Anderson, Sheffield Steel in Texas, Jim Leeming, cheerful and happy as ever with U. S. Steel; Jack Raymer, Wright-Patterson Field; and Don Benson, with Alcoa in California—where he always wanted to be.

Phil Leighly, Met '48, has nearly completed formal requirements for his Ph. D. and has left the campus for his new position at Oak Ridge, but not before wedding the former Miss Elizabeth Peterson, who was infra-red spectroscopist for the Chemistry Department. Their address is: 1868 Hillside Rd., Apt. G, Oak Ridge.

A change in address is noted for Jack Hanson, Met '41, now reached at a most picturesque address: Dogwood Rd, Birch Hill, Whippany, N. J., Jack is rounding out nine years of flying for United Air Lines. The Hansons have two boys and are expecting baby sister any time now.

Two Illini metallurgists met last month under unusual circumstances (for engineers). Ole

(Continued on Page 4)

Third Floor to be Added to Met Lab

Expansion of the department's facilities by the addition of a third floor to the Metallurgy Laboratory has reached the stage of blueprints and cost estimates. While progress has been much slower than had originally been hoped for, many of the numerous details and problems associated with such a project have been studied and solved. Barring unforeseen obstacles, a great portion of the new area should be ready for use by the start of the next academic year.

The sketches below show how the new space is to be utilized, including changes in existing areas on the second floor. A major change noted is the placing of student metallography on the third floor; with two rooms for microscope work, and rough polishing, dusk and dark rooms handy to each. The two labs will permit much more latitude in scheduling laboratory courses, and continue the departmental policy of retaining small sections for most efficient instruction.

In the second floor space formerly used for metallography is planned another much-needed classroom, and lab space for electrometallurgy and analytical work for mining courses. This lab connects directly to the mining laboratory, so that its facilities will be convenient for classes in mining as well as metal-

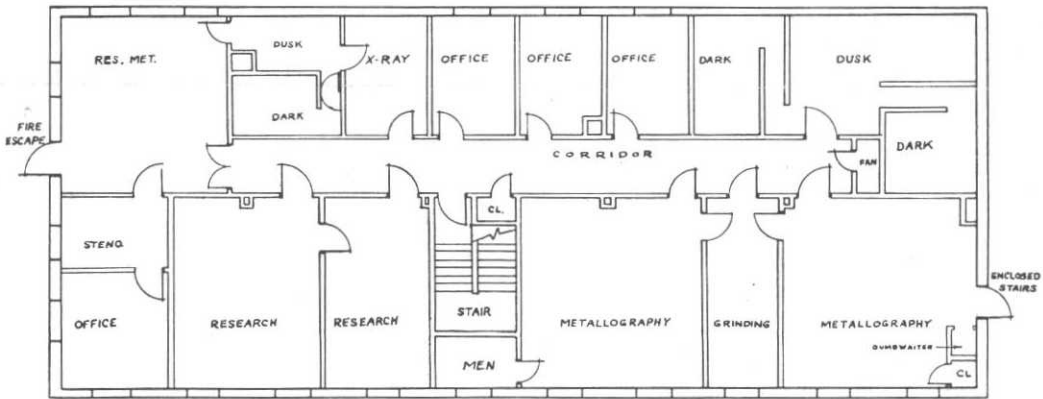
lurgy. Also adjoining the lab will be a balance room.

Space on the ground floor formerly occupied by electrometallurgy will now be used for powder metallurgy and location of some physical testing equipment. The old balance room will be fitted with polishers and microscopes to take care of the metallographic requirements of students in heat treatment courses.

The application of the space marked "Storage" on the second floor is quite flexible: it may be used for graduate research, student conference room, or actual storage of supplies and equipment, depending on the needs arising when construction is complete.

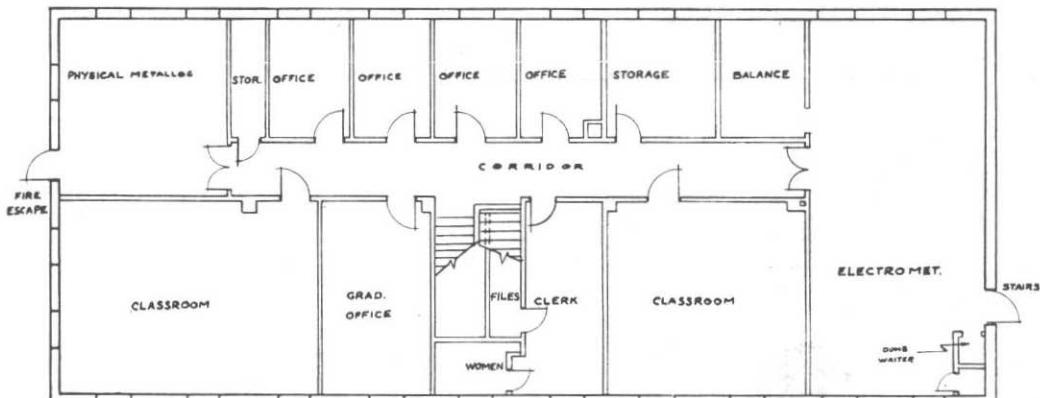
Increases in areas for research will be utilized principally by Profs. Beck and Bruckner. Space has been reserved for two stenographers, one for Prof. Beck's work and the second for other staff members with offices in the Met. Lab. A room has been reserved for X-ray work: an X-ray spectrometer has been purchased and will be used principally by Prof. Beck in his work on deformation textures.

Although the new arrangement will greatly relieve the crowded conditions in the laboratory, we are not abandoning the hope of some day obtaining a building suitable for housing the needs of the entire department.



Above: Sketch of proposed third floor addition to Metallurgy Laboratory.

Below: Sketch showing modifications to be made in existing second floor facilities.



ALUMNI NOTES . . .

(Continued from Page 2)

Paasche, '43, Assoc. Prof. of Mech. Eng., Oregon State College, and Harry Czyzewski, '41, Metallurgical Engineers, Inc. met as technical experts representing opposite sides in a maritime suit. Each had a full day on the witness stand, mostly under cross-examination. Such an experience is comparable to a thesis defense, but with the examining body including non-technical as well as technical people. Prof. Bruckner would especially appreciate the subject: "Low-energy Impact Failures of Welded Structures."

The record for long distance correspondence this issue goes to Jim Willett, Min '50, who has switched from the frigid temperatures of the Mesabi to the tropics of the Canal Zone. Jim is working for the government in the Survey Branch as a civil engineer. Some of the compensations Jim has for missing our winters of ice and snow are gasoline at 13c per gal., steak at 40c per lb., and cigarettes at 13c.

John J. Daly, Jr., Met '41, is now section chief of the test pack section in the research department of Continental Can Co., Chicago.

In recognition of his outstanding work on the interrelation between deoxidation practice and the structure of sulfide inclusions and their influence on the properties of steel, Clarence Sims, an Illinois man from the days before the curriculum in metallurgical engineering was established, received the 1950 Albert Sauveur Achievement Award. Clarence has always shown an active interest in the affairs of the department, and in return, we are especially proud of this recognition of his consistent high quality research efforts.

Frank Rough, Met '43, with Battelle, has purchased a new home in Columbus, and his mail reaches him at 3192 Karl Rd.

We've been waiting for this item ever since handsome Jim Bechtold, Met '47, left the campus to work for Westinghouse. Jim's wedding to Miss Rosanne Calderwood took place August 25, and their new address is 1065 Findlay Dr., Pittsburgh.

Two graduates in metallurgy of a few years ago are back on the campus for work on their Ph.D.

Czyzewski Resigns; Now Consulting on W. Coast

The department has accepted the resignation of Harry Czyzewski as Assistant Professor of Physical Metallurgy, effective Sept. 1, 1951. As many know, Harry was instrumental in the organization of the consulting firm Metallurgical Engineers, Inc., of Portland, Oregon, and has been actively engaged in its operation since he joined the staff here in 1947. The demands of this enterprise on his time had been such that Harry found the vacation periods of the academic life insufficient for the proper administration of the affairs of the firm.

Harry graduated from the department in 1941, and spent five years in the research laboratories of Caterpillar Tractor Co. before joining the staff here. While on the campus, Harry took his M.S. in Met. Engr., and has taken work towards his Ph.D. degree.

Topics of special interest to Harry were foundry and the physics of metals, and his research work here was directed mainly along those lines. He taught courses in metallography and physics of metals, although his last year on the staff was devoted exclusively to research.

in Met.—Mike Nevitt '44, on leave from Virginia Poly. Inst., and Jun Hino '43, recently at the Naval Research Lab.

Ralph G. Perry, Min '15, has left the Sahara Coal Co., Harrisburg, and is now employed by Pierce Management, Inc., at Palau, Coahuila, Mexico.

Members of the metallurgy class of June, 1951, are determined to keep in touch with each other, and have appointed Bruce Capek (which really means his wife, Dorothy) as secretary. The scheme is that all will keep Bruce informed on their activities, and the Capeks will send a composite letter to all the class from time to time. The department is also on the mailing list, so we may expect to keep close tabs on the class of '51. The first letter reaching us indicated a fair percentage of correspondents to Bruce, but no information had been received from Charlie Asherman, Jack Boesiger, Jerry Kachinskas, Bob Mican, Ken Shimmin, Charles Schruhl, and Jay Sturm. Let these men take pen in hand and start a letter to Bruce now.

Bruce W. Capek is Co-Salutatorian

As the climax to an outstanding academic career, Bruce W. Capek, June 1951 graduate in metallurgy, won the distinction of being named co-salutatorian of the University graduating class.

In earning 136 semester hours credit, Bruce received "A" in all but 6 hours for an average of 4.96. Two grades of "B" in non-engineering courses were all that prevented a perfect record.

Bruce, a modest and well-liked fellow from Riverside, Illinois, accepted a position with Esso Refining Co., and is now located in Baton Rouge, Louisiana. At the refinery, he is in charge of all investigations into the cause of metal failure and deterioration, and assists in writing material specifications for new construction and repair work. It is the prediction of all who are acquainted with Bruce that this excellent record marks only the beginning of a brilliant career.

QUENCHING MEDIA BULLETIN PUBLISHED

The publication of Engineering Experiment Station Bulletin 389 marked the culmination of several years' work by Prof. Earl J. Eckel and graduate students working under his direction. The bulletin is entitled "An Evaluation of the Hardening Power of Quenching Media for Steel" and, using the Jominy end-quench specimen as a basis for comparison, reports on the quenching power of several media under a variety of conditions of temperature, composition, and agitation.

The publication is divided into four sections. The first part describes early work on water, 9 per cent brine, mineral oil, compound oil, and air under agitated conditions. The second part, with Ross Mayfield as co-author, concerns 0-25 per cent brines in an agitated quench. Part three, with Glen Wensch, is a study of high temperature oil and ethylene glycol under agitated conditions, and the last section deals with solutions under still quenching conditions, and has Frank Rough as co-author.

The data published should be of great interest to those involved in heat treating operations, and copies can be obtained on request from the Experiment Station.