

NEWS-LETTER

UNIVERSITY OF ILLINOIS

Department of Metallurgy and Mining Engineering

JANUARY, 1970

A Message on the State of the Department

—C. A. Wert

The department is much concerned with long range planning for growth and the development of new programs. While planning for the future has always been parts of our operation, it has played a much more significant role since the establishment of the State Higher Board for Education. This Board carefully reviews the budgetary implications of all operations, and attempts to evaluate on a very quantitative basis the efforts and needs of each department. Small departments like ours are under a severe handicap in this numbers game which penalizes small class sizes and individual faculty-student contacts. Even so we are fortunate in being able to justify our staff both in its size and wide ranging interests.

Our present undergraduate enrollment is about 65 students; this gives us an annual graduating class of 15 to 20 students. Most efficient use of our faculty and laboratories would exist with a student body of about 100 students. We are striving to attain this goal through our scholarship program and through extensive contacts with high schools in the state. Our continued thanks go to those of you who have helped in establishing our scholarship program. Its existence is essential.

The graduate enrollment is also about 65 students. Since most graduate students receive aid through fellowships or assistantships, we must also continue to seek support for this program. At the present time we obtain support mainly from the Federal Government and from industry. About 12 of our 17 faculty are heavily involved with direction of thesis students—this average of more than 5 per man is

much larger than the college average. Our annual research support in dollars per man is, in fact, more than twice that of the college average. With less than 4% of the faculty of the college we are producing about 8% of the Ph.D.'s of the college.

Graduate education is expensive. The cost of education of advanced degree candidates in engineering is about \$15,000 per year per student. Even though the state is encouraging the University to increase even further our graduate enrollment, it is providing only a small part of the funds for thesis research (less than 10% for our department). Consequently our faculty has the task not only of maintaining its grants for research, but of increasing them greatly if our enrollment is to increase to the 100 or more we project for 1975.

Faculty members are working diligently both at the task of education and at the problem of keeping us financially solvent, both at the undergraduate and graduate levels. You in industry can help both by encouraging your companies to maintain and expand (if possible) their scholarship and fellowship support. We can all help by expressing our concern to state legislators and national congressmen for adequate support of engineering education. In these crucial times, we need more than ever the engineers not only to work on the purely technological problems we face, but also the difficult socio-technological problems of society.

I could not end this statement without paying tribute to the quality of our students. Each year I think the Senior class is the best ever, and this year is no exception.

More Freshmen Admitted for '70

University admission policy has been somewhat confused this year. A "random selection" policy was chosen to deal with the problem of applications by more qualified students than can be admitted. Under this policy, the students to be admitted were selected at random from among all those qualified (from the top half of their class, and with good test scores). The outcry by those rejected was so great that it was decided advance publicity about the program was inadequate, and all qualified applicants who applied early have now been admitted. How this affects next year's quota for admissions, or next year's admission policy is not known.

This enrollment pressure is not such a problem in engineering, where enrollment continues to decline. We about held our own in metallurgy, with about 65 undergraduates, but the college was down 150. Our program to stimulate interest in metallurgy is still being vigorously pursued, and your cooperation in any way possible is needed.

The moral of this story to those who know of a student about to enter the University is 1) apply early, 2) select metallurgy as your curriculum.

We have a remarkable group of men graduating in February and June. Not only are they technically good, but they are exceedingly savvy to the ways of life; I predict some company president in this group. Our graduating Ph.D.'s also are excellent. Both groups too have classes behind them who obviously will be heard from.

Thus, like you, we have our problems and our successes, our fears and our aspirations. We may not reach the goals we have set for ourselves but (to paraphrase a remark made to me some time ago by one of our faculty members), "We will never give up."

NEWS

FROM THE DEPARTMENT

Prof. Paul Beck presented a number of invited papers during the past year: at the Bureau of Standards Symposium on Electronic Density of States, the Magnetic Conference in Philadelphia, and at Harvard University.

Prof. Walter Bruckner presented a course on the metallurgy of welding at Caterpillar Tractor Co. last Spring. Twenty-eight students registered for the course, and were highly enthusiastic about the value of the lectures.

Prof. Fred Lawrence received an Undergraduate Teaching Award last summer. These are grants by the University of a summer appointment plus expenses to support projects aimed at improving undergraduate instruction. Fred worked on improvements in our service course in materials engineering offered to students in other departments. Fred is the fourth member of our department to have received this award in the last few years.

Prof. David Lieberman was honored by an invitation to present a paper on phase transformations in metals as part of the international symposium celebrating the 80th birthday of Sir Lawrence Bragg. The Bragg Symposium is called "X-Ray Analysis — Past, Present,

and Future," and will be held in London in April.

Prof. Marvin Wayman spent a sabbatical spring and summer last year as Visiting Professor in the Metallurgy Department at Cambridge, England. His visit was sponsored by Guggenheim and Churchill College, Cambridge Fellowships. Marvin did research on thin film growth in the electron microscope and wrote up several papers including one on studies of martensite that was presented at the NATO conference in Antwerp on recent developments in diffraction techniques applied to materials science. He also presented lectures at Oxford, Leeds, Liverpool, Sheffield, Surry, and Imperial College as well as at Cambridge on phase transformations. He was also honored by election as a Fellow of the Institution of Metallurgists. While Marvin was away, his students continued to chop wood, and five of them submitted Ph.D. thesis drafts on his return.

Paul Mortensen has joined our staff as business manager to the department. Paul worked on an hourly basis for us when he was an undergraduate working on his degree in Marketing. Since his graduation in 1964, Paul worked for the McLean Trucking Co. in Indianapolis, Cleveland, Winston-

Salem, and Decatur. His experience with our operations made his transition to this post an especially smooth one. We are fortunate to have such a capable person helping us with our business operations.

Tony Graziano, who held this position previously is still with the University as Assistant to the Vice-Chancellor for Academic Affairs. Tony spent some time on the administrative staff of the College before being promoted to his present important position.

Prof. Bruckner, Eckel, and Ricketts were recently honored by the undergraduate students for their service to the department and to students that combines to over 90 years. The students learned that Earl and Barney had started here in 1939, and Walter the year before, and decided to make an occasion of this 30th anniversary. Plaques were ordered and engraved with appropriate sentiment and presented at a student society meeting. It would be hard to find a more deserving trio in the college for this honor, and we are just as proud of the students for recognizing this fact and acting on it.

Miss Hazel Allen Has Passed Away

With deep regret we note the passing of Miss Hazel Allen on October 27, 1969. Hazel was known to a generation of alumni as the departmental secretary. She started her career at the University in 1933, and retired in 1963. Although she had planned to retire to a warmer climate, she never did, and finished out her days in her home on Gregory Street just a few blocks from her former office.

Hazel had no living relatives at the time of her death. We remember Hazel best for her intense loyalty to the department and the people in it. When work was to be done, Hazel gladly worked through the evening hours. Harold Walker, who was department head during most of Hazel's service, was here to attend to the final arrangements.

Alumni Present Talks in Materials Technology Seminar

The department has again offered a materials technology seminar for our students this Fall semester. This program was initiated in the Fall of 1967, in cooperation with Battelle Memorial Institute, who provided speakers for the series. Speakers this year were invited from various industries to discuss how basic knowledge is applied to the solution of real problems in technology. This program complements very well the department's regular colloquium, with its more fundamental orientation.

A number of alumni accepted invitations to speak, and their presentations were uniformly excel-

lent: Russ Duttweiler (GE), Don Boone (Pratt & Whitney), Bob Leutje (Armco), Stan Paprocki (Battelle-Columbus), Glenn Goetsch (GE), and Deane Biehler (Caterpillar). Other speakers were Paul Schnedler (Armco), Robert Gibson (INCO), Ted Bierlein (Battelle-Northwest), Carl Samans (American Oil), Joseph Fisher (USI Chemicals), and Ken Trigger (U of I).

This has been a very successful program, and the students are enthusiastic about the opportunity to become familiar with facets of technical problems not covered in the classroom.

NEWS

. . . . FROM THE ALUMNI

Charles H. Dodge, '24, has written to call our attention to the latest discussion on backfilling mine stopes with unmarketable tailings. We appreciate the continued interest of the "old-timers," and greatly admire the vitality that Mr. Dodge maintains.

Robert H. Hafner, '40, is now with the Research and Development Department of the Clow Corporation in Coshocton, Ohio. Bob's new address is 1657 Bayberry Lane, Coshocton 43812.

Adler E. Spotte, '40, is now associated with Consolidated Coal Company, P.O. Box 112, Blacksburg, West Virginia, 26521.

Harry Czyzewski, '41, continues as watchdog of the materials interests in the Northwest from his Metallurgical Engineers, Inc. offices in Portland. Most recently, Harry was elected President of the Oregon Board of Engineering Examiners. Harry won top honors in the Consulting Engineers Council engineering excellence competition for his design of an instrumented blade used in paper manufacturing. Harry has also authored the second article of a series in **Civil Engineering**. The paper is entitled "Metal Structure Geriatrics," and describes procedures for extending the life of old structures. Harry's firm is the surviving company resulting from a recent merger with Charlton Laboratories. The two firms have shared the same building over the years, and always worked closely together.

Ray Carlen, '42, is now President of Ryerson Steel.

M. V. Nevitt, '43, has recently been appointed Deputy Director of Argonne National Laboratory. His major responsibilities will be the laboratory-wide programs in materials. Succeeding Mike as Director of the Metallurgy Division at Argonne is Paul Shewmon, '52. Paul has been Associate Director of Metallurgy, but more recently was Associate Director of the EBR-II Division, in charge of the critical materials problems related to the fast breeder reactor program.

Joseph Semens, '44, has moved to 2608 Athens Road, Olympia Fields, Illinois, 60461.

Houston Meyer, '47, is back in Hammond after 14 years in the East. Hoot was Assistant Superintendent, Cold Finishing for Jones and Laughlin in Pittsburgh. He is now Division Manager of the Hammond plant. Hoot is now a grandpa three times over, and has two children in college and two still at home. The new address is 1339 MacArthur Boulevard, Munster, Indiana, 46321.

Burton Person, '47, has left McKinsey and Company in New York, and is now Director, Group Product Management for the Singer Company, 30 Rockefeller Plaza, New York 10020. This position has called for a considerable amount of travel in Europe and Canada, as well as in the U. S.

We have learned that Lloyd Sheep, '48, suffered a fatal cerebral hemorrhage last August 8. Some of his friends might want to express their sympathy to his widow at 212 Caro Lane, Marietta, Ohio.

Stuart Rice, '50, has been promoted to Staff Project Engineer at Caterpillar's Research Laboratories in a newly created division called Tribology.

E. T. Gale, '50, is Superintendent—Finishing for Sunbeam Corporation. Ed is living at 634 Cedar Avenue, Elmhurst, Illinois, 60126.

Marvin Pohlman, '51, is now Vice-President of Eastern Carolina Steel Corporation of Davesport, South Carolina, a division of Nuclear Corporation of America. Marvin's new address is 1435 DeBerry Boulevard, Florence, South Carolina, 29501.

R. B. Greenwalt, '53, is now Manager of Metallurgical Design at Arthur G. McKee and Company in Cleveland. Dick's work involves development and engineering work for large-scale pelletizing and sintering facilities. Dick's address is

7127 Ashlawn Drive, Brecksville, Ohio, 44142.

Jim Dobbin, '53, is working for his M.S. in industrial management. Jim joined General Electric upon his graduation, and then served two years in the Air Force. Since then he has been with Alcoa for 11 years; first at Davenport and now at Massena, New York. His work now is in the fabrication of wire, bar, and rod products. Jim's address in Massena is 79 Cornell Street.

Lew Markow, '54, has a new address: 23 Twain Circle Road, Conyngham, Pennsylvania. Lew is one of those long lost friends who showed up again at the alumni dinner this Fall.

Professor Altstetter met R. R. Berry, '54, while attending an Educators' Conference sponsored by Olin. Dick is Assistant Director of Manufacturing at the East Alton plant.

Orville Kimball, '55, who received his doctorate from Northwestern, is now teaching metallurgy at the University of Michigan.

Sal Grisaffe, '57, has moved to 2771 Gibson Drive, Rocky River, Ohio, 44116.

Ron Nylen, '57, is now Vice-President of Homogeneous Metals, Inc., West Canada Boulevard, Herkimer, New York.

Another graduate who has joined the academic ranks is Jim Horak, '58, who is an associate professor in the Nuclear Engineering Department at the University of New Mexico. Jim is teaching materials science and also maintains his association with the Sandia Corporation on a part-time basis.

Another address change reported is for George Roman, '61, who now lives at 6102 North Damen, Apartment 1B, Chicago 60645.

Eugene L. Smith, '62, visited the campus this Fall. He is working
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Read Lecture To Be in April

Friends of the late Prof. Read will be pleased to know that the first Thomas A. Read Lecture will be given in Urbana in April by Cyril Stanley Smith. Dr. Smith is one of the great figures of the profession, and his appearances are always awaited with great expectation. His humanistic and technical insight into the history of metallurgy and mining uniquely qualify him to discuss the past and project into the future of the field. A formal announcement of the program will be made in the near future. It will be an occasion of some note, and we hope as many alumni as can will be present.

The lecture series was established by contributions from friends, students, and colleagues of the late Professor Read who tirelessly and selflessly served us and our profession. The income is used to sponsor lectures by outstanding men on topics of broad professional interest at appropriate intervals.

In addition to the lecture series, Professor Read's unique service has been recognized by the Department through the installation of a bronze memorial plaque mounted in the hall of our building. This was executed by a local artist, Harry Breen, in consultation with Mrs. Read, and was cast by Prof. James Leach of the Mechanical Engineering Dept. The Department is also naming the student lounge as the T. A. Read Student Lounge, a particularly fitting gesture since obtaining the funds to remodel this space was a personal project for which Tom Read struggled long. The value of the lounge has been justified by its popularity and constant use by the students.

ALUMNI MEET IN OCTOBER

One of our most successful alumni dinners was held in Philadelphia last October. Over 65 alumni and faculty attended the meeting, held in conjunction with the Metals Congress. Prof. Wert discussed recent developments on the campus and within the department, but most of the program was informal as alumni reminisced over old times, and wondered why Eckel and Bruckner never seem to get any

MORE ALUMNI NEWS . . .

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for the Natural Gas Pipeline of America and lives at 2049 North Keeler, Chicago 60639.

Roger J. Austin, '62, has completed his studies at Stanford, and his address now is 2322 North Upton Street, Arlington, Virginia, 22207.

Denes Bardos, '62, has left his position in the Metallurgy Division at Argonne to become Chief Metallurgist of the Ft. Wayne Metals Company, a division of Sylvania. He will be responsible for research and development in the field of high temperature alloys.

Bob Wittman, '62, has resigned his position at Battelle-Columbus, and is now working for Columbia Gas in Columbus, Ohio. Bob is looking for industrial uses for gas.

Ralph W. Leonard, '63, moved last summer from the Shell Research Lab in Wood River to U. S. Steel's Applied Research Lab in Monroeville, Penn. Ralph's current address is 745 Presque Isle Dr., Pittsburgh 15239.

Chuck Dollins, '64, has taken a position as research metallurgist with Westinghouse's Bettis Atomic Power Division in Pittsburgh. His wife, Anabeth, is teaching math at Penn State University in McKeesport.

Ed Efsic, '64, has resigned from the Columbus Lab of Battelle, and is now working for General Electric in Columbus.

Charles Robbins completed his Ph.D. this year and joined Ed van Reuth, '64, at the Marine Engineering Lab of the Navy at Annapolis.

Charles White, '65, is now Assistant Professor of Metallurgy at General Motors Institute in Flint, Michigan. Chuck is teaching courses in materials science.

Jim Watters, '66, finally made it to the altar October 4. Jim's wife,

older.

Next year's meeting will be in Cleveland. Watch for our announcement, and make plans to be there.

Elaine, works for Bethlehem. Now that Jim has outside support, he is applying for graduate work in business administration.

Ron Gibala, who received his Ph.D. here in 1965, has been presented the Alfred Noble Prize for his paper "Internal Friction in Hydrogen-Charged Iron." The award was established in 1929 to honor young engineers, and is given annually in recognition of the outstanding paper published by one of the sponsoring societies—AIME, ASCE, ASME, IEEE, or Western Soc. of Engineers. Ron is now Associate Professor at Case, and maintains an active research and teaching schedule in addition to serving the local professional societies. We all congratulate Ron on this distinctive honor.

Jose Isasi Diaz, '66, was here last Spring to complete details on his Master's research. Jose moved from Dow and is now with Westinghouse's Steam Division in Pittsburgh. He is in the metallurgy laboratory that serves the entire steam turbine division. At the time of his visit, Jose was concerned about moving into a new laboratory and setting up an electron probe in the physical metallurgy group. Jose's address is 111 MacDade Blvd., Fullers, Pa.

Professor Bohl and students holding scholarships sponsored by Caterpillar spent a day and a half observing facilities at Ctaerpillar last Spring. Larry Happ, '68, made all the arrangements for the trip. Since that time, Larry has resigned from Caterpillar and is now working as a welding engineer for the Trane Company in La Crosse, Wisconsin. Larry's new address is: 2826 Birch Street, La Crosse 54601. During the trip, they met Loyie Sims, '66, who was just ready to leave for an assignment in Caracas, Venezuela after having completed a term of duty in Canada.

Phil Funk, '69, is now working for the Allen-Bradley Company in Milwaukee. His duties involve welding, brazing, and soldering problems. Phil's address is: 5069 West College, Apartment 14, Greendale, Wisconsin 53129.