Dear Alumni,

About one year has passed since we last communicated with you through the ME Update. The year has been an exciting and challenging one for all of us in the department.

Many of the challenges we faced related to the new ME and ESM Building. The photograph of the northeast corner of the building, which was taken on September 21, indicates that this part of the outside construction is complete. This area houses a reading room, computer room and classrooms on the first floor; administrative offices on the second floor; faculty offices on the second and third floors. The remainder of the structure, which is still under construction, houses research and teaching facilities.

In addition to the usual research and teaching tasks and the very non-routine trials and tribulations associated with getting ready to move, the faculty has been engaged in interviewing several candidates for open positions. We are delighted to announce that two new faculty members joined us this fall. Rees Fullmer, a graduate of the University of Utah, will teach and do research in control theory. Jon Van Gerpen, a graduate of the University of Wisconsin, will work in the area of combustion with a particular interest in internal combustion engines.

On the debit side, we are faced with the retirement of Bob Fellinger. Bob’s leadership has been a basis for departmental growth and excellence, and we will miss his teaching acumen and his counsel. Some details of Bob’s career are given in a story on page 6.

I am delighted to let you know that the department is receiving increasing support from both alumni and from the business community. This issue gives details of important contributions from Digital Equipment Corporation, Schwab-Vollhaber, Positech Corporation, United Technologies and General Electric. We also present the story of an impressive increase in support from our alumni community and introduce Alan Acheson, ME ’90, who is leading the effort to bring the details of our needs to our alumni and to solicit their support. We’re proud to list all those people who have so far given or pledged their support through a gift to the Black-Hilstrom Fund.

Our students and faculty are grateful to all of you who are able to help the department. We will do the best we can to continue to merit your support.

James E. Bernard
Chairman
We are delighted to report that several of our friends in industry have come forward to help us equip our new quarters. This column will give a few highlights. We expect other contributions, which are now under discussion, to be announced in the spring 1985 issue of the Update.

Donations Modernize the New Charles L. Schwab HVAC Laboratory

The Charles L. Schwab HVAC Laboratory, which is being constructed in the new ME/ESM Building, will be one of the most modern teaching and research laboratories of its kind in the U.S. The HVAC Laboratory will contain a 5,000 cfm air flow loop, a full complement of coils, a 5-ton R-22 condensing unit, air-to-air heat exchangers, VAV boxes, pneumatic dampers, and a sophisticated control system. The flow loop and laboratory will utilize state-of-the-art instrumentation, including an assortment of turbine flow meters, hot wire anemometers, and temperature, pressure, and dew point transducers. This instrumentation has been carefully selected to allow for remote data acquisition using laboratory computers. This work is being coordinated and monitored by several faculty members including Michael Pate, Ron Nelson and Alfred Joensen.

The construction of the Charles L. Schwab HVAC Laboratory is being made possible by donations of key equipment components from several companies. The Schwab-Vollhaber Company of St. Paul, Minnesota, is donating equipment and technical support and is taking the lead in organizing donations from several other companies. When these companies heard that an HVAC laboratory was being established in the honor and memory of an Iowa State engineering alumnus, Charles L. Schwab, '58, they were eager to participate. Iowa Stater Fred Gerbig, '64, of the Schwab-Vollhaber Company, is coordinating these activities. In addition, he is generously offering his time and technical expertise in finalizing the design.

The companies donating equipment and working with Schwab-Vollhaber to make the laboratory possible are McQuay of Minneapolis, Minnesota; Des Champs Laboratories of East Hanover, New Jersey; Peerless Division of H.K. Porter of Warren, Ohio; Parametrics Unit of Barry Wright of Orange, Connecticut; Bell and Gossett of ITT; Cambridge Filter Corporation of Syracuse, New York; and Carnes Division of Wher Corporation of Verona, Wisconsin. In addition, the pneumatic control system is being donated by the Des Moines branch of Johnson Controls Company. Gary Reynolds, '72, '79, of Facilities Engineering at ISU’s Physical Plant, is providing liaison with Johnson Controls.

Positech Corporation Provides an Industrial Robot

The mechanical engineering department has been given a heavy duty 5 axis industrial robot for use in teaching and research. Mr. Thomas A. Melford, president of Positech Corp., Iowa, announced in May that the department would receive a Model CC1-A PROBOT this fall. The hydraulically powered machine, which has a 250 pound payload, is a cylindrical coordinate programmable device suitable for wide industrial application in machine loading, work transfer, and general payload handling and manipulation.

Professors Joseph R. Baumgarten and Donald R. Flugrad plan to utilize the CC1-A as a research vehicle to help establish the ME department's efforts in robotics research. They are seeking funding to support graduate research made possible by the new equipment. Research investigations are planned in the kinematic definition of end-effector positioning, dynamic response as a function of present position, stability analysis, optimum path prediction, and probabilistic analysis of positioning errors.

This gift provides much needed hands-on experience for our graduate students in mechanizing on-line control from a programmable controller. In addition, application of on-board microprocessors in the machine control function will provide the opportunity to generate algorithms for real time computer analysis of system response, system position error, and optimum machine function.

United Technologies Corporation Contributes Research Compressor to Turbomachinery Components Research Laboratory

Pratt and Whitney Group, United Technologies Corporation, recently made available to Iowa State a multistage, axial-flow research compressor, complete with drive system and a variety of compressor "builds."

This facility was actively used for a number of years by research and development engineers at Pratt and Whitney to simulate the conditions typically associated with stages of gas turbine engine compressors. The compressor will be installed in the Turbomachinery Components Research Laboratory in the new building where it will be used by faculty and research assistants for axial-flow compressor fluid dynamics studies. The geometrical variations and data acquisition options designed into the rig make it a very valuable research tool.

The challenges related to setting up this device in the new building are being addressed by Professors T.H. Okiishi and G.K. Serov and a group of ME students. It is already evident that this gift will provide an excellent tool for research in the area of turbomachinery for years to come.

A Partnership with Digital Equipment Corporation

Over the past several months, university computer experts, including George Junkhan of the Mechanical Engineering Department, have been studying the needs of the college in view of the opportunities opened by
the move of mechanical engineering and engineering science and mechanics into modern new quarters. As a result of their deliberations, the university submitted a proposal to the Digital Equipment Corporation (DEC) for a grant to support improved computing. DEC subsequently proposed entering into a research agreement for Partners in Engineering/Computer Science Education and Research (PEER) Program with Iowa State University. The PEER program is designed to provide support and assistance for a unique computer related research and development program at the university.

As part of this arrangement, DEC provides a matching grant in the form of an allowance on the purchase of equipment. The level of the grant provided by DEC under the PEER agreement will be about $1.8 million.

Based on this agreement, the two departments will join with DEC to provide a VAX 11/785 computer for each department. The agreement will include acquisition of more than one hundred microcomputers together with several plotters and printers. Ethernet, a system of hardware and software, will facilitate communication between all computing devices in the new building. Exact details of the hardware and software provided through the PEER agreement are being worked out now and will be reported in the spring 1985 issue of the Update.

Ralph Manns '27
Portrait of a Mechanical Engineer

Ralph and Gene Manns

Ralph Manns is an exceptional engineer and a dynamic, vigorous individual. He founded the Ralph E. Manns Company, a refrigeration engineering firm with offices in Los Angeles, Fresno, Sacramento, San Francisco, San Diego and Mexico City. Although he is retired, he remains active in a business which reconstructs old or damaged compressors.

Ralph really started being a mechanical engineer when he was 14. He worked during his summers for John Morrell and Company in Ottumwa, Iowa, and by the time he was 22, with just two years of college training behind him, was assistant master mechanic for the firm. Ralph liked and was liked by the foremen at the plant and he enjoyed the engineering work he was doing. Although he had been given the title, acting master mechanic, and plenty of responsibility, he found that those who had college degrees were making twice the salary he was. So, Ralph resigned and headed for Iowa State.

Two years later, with his mechanical engineering degree in hand, he accepted a position with the U.S. Gypsum Company. Ralph wanted a position in the company's Chicago office, but he was sent instead to Port Clinton, Ohio, to work in a paper plant. There he worked 11 hour shifts, six days a week and was used as a repair and maintenance mechanic. In early December, he was working one evening in hip boots, cleaning out the valves in the basement. He was standing knee deep in water with a thin film of ice on it when a supervisor asked, "How do you like the paper business, Manns?"

Ralph's reply was quick and certain, "I don't."

That very night, Ralph answered an ad in the Ice and Refrigeration Magazine for a sales engineer for the Brunswick-Kroeschell Company in New Brunswick, New Jersey. Says he, "I quit U.S. Gypsum with no regrets and reported to Brunswick Kroeschell."

Again, not given a glamorous job, Ralph found himself working to develop a small portable milk cooling unit for farms and small dairies. One of the first weekends Ralph was in New Jersey, he went over to Staten Island to attend a basketball game and dance with a friend who had also transferred east from Port Clinton. At the dance, they bumped into another Port Clinton engineer dancing with the "boss's daughter," Gene Hann. "That evening," says Ralph, "Gene had the full attention of three engineers, not just one. I, in particular, was pretty smitten."

It wasn't long after this meeting that Ralph was offered an opportunity to learn the "CO2 business" in Chicago so that he could go to Australia to install air conditioning systems in theatres. Originally, he had been asked to go to Australia for three months, but it looked like things would develop and he might end up in Australia for a long stint. The big question in Ralph's mind was "Would Gene wait?" He didn't wait to find out!

Explains Ralph, "Gene wouldn't give me a firm 'yes' so the only solution was to take her along."

The Manns were married and set off via train and boat for a honeymoon that turned into a three year stay in Australia. The couple, now with a daughter, returned to the U.S. during the depression year, 1933.

General Electric Contribution Supports Laboratory Work

Equipment donated by GE included several variacs, DC motors and DC generators. The variacs are being used in the Heat Transfer Laboratory to control electrical energy to electrical heating elements in flow loops. The 3-phase motorized variac is being used in a similar fashion in the Wind Tunnel Laboratory on the “hot gas” loop. One motor and one generator are part of a flutter generating mechanism in the Shock Tube Laboratory. The other motors and generators will be used in the ME 311 Vibrations and Controls Laboratory.
Ralph was fortunate enough to find a job with his original employer, the John Morrell Company, now in Topeka, Kansas. He worked for them for the next eight years in Topeka and Sioux Falls, S.D. But, he remembered that there were climates that offered much more comfortable weather than the cold winters of South Dakota. He decided to take his growing family and move to California.

There he worked for Gay Engineering and finally went into business for himself. The Ralph E. Mans Company supplied refrigeration for tuna boats until the war broke out. He was then responsible for refrigerating liberty ships. After the war, his company refrigerated food storage warehouses and air conditioned auditoriums. He sold the company in 1980.

Today, Ralph and Gene Manns live in Leisure World in Laguna Hills, California. They have nine grandchildren and four great-grandchildren and many memories of active and fulfilling lives.

1971, 3,687 men and three women had successfully completed the curricula prescribed for the baccalaureate degree. This seemed to be an appropriate time to compile a history of the department that was responsible for the education of these young men and women.

Much of the source material for this history is available in official reports of the college administration in the Parks Library at Iowa State University and in “The History of Iowa State College” by Earle D. Ross, published in 1942. In addition, a considerable file of letters and reports starting in the late 1880s and continuing to the 1940s has been carefully reviewed; many of the documents in this file have revealed opinions, personalities and forgotten events that add spice to the series of names, dates and numbers in the official documents. The author, who was head of the Mechanical Engineering Department from 1946 to 1972 hopes that the graduates in mechanical engineering for whom it is written will find it of interest.

The Experimental Farm and The Iowa Agricultural College

Many of the earliest settlers, who were from areas distant from Iowa, were confronted with a soil and climate different from their earlier experience. Some, who had been members of organizations for crop or animal improvement, began to organize similar groups, to promote county and regional fairs, and eventually to obtain legislation and funding to purchase land, buildings and equipment for what became The Iowa Experimental Farm in 1858. The residence for the farm manager (and a postal and stage station as well) has been preserved on the ISU campus at the farmhouse. Experiments with farm crops, fruits, vegetables and animals were begun on and near the present campus. The outbreak of the Civil War restricted but did not terminate the operations of the farm.

In 1862, the Congress passed the Morrill Land Grant Act which was signed into law by President Abraham Lincoln. By this act, federally owned land was granted to states for the purpose of establishing colleges to teach “agriculture and the mechanic arts” to the young men and women whose interest and ability warranted more advanced education but whose means did not permit their attendance at the existing colleges. The emphasis was to be directed at the “practical” arts, rather than, but not excluding, the “liberal” arts.

Iowa claims to be the first of the states to accept the federal land grants in
September 1862. Discussion and debate over the location of the college became intense. The young University of Iowa at Iowa City presented a strong case for integration of the new college with its supporting endowment of land. Eventually, the strong agricultural element in the legislature prevailed, and in March 1864, the existing experimental farm and its land, facilities and farm manager were integrated into The Iowa Agricultural College. Mechanic Arts, a discipline that admitted of many definitions, some of which included engineering, did not gain recognition in the title of the college until 1892.

Preliminary planning for the selection of faculty, design of facilities and construction of buildings took place, with a scheduled date of opening to be March 17, 1869. Operation of the experimental farm was to continue under direction of the farm manager who was to be responsible to the college president and to cooperate with the professor of agriculture.

Adoniah Welch, who held a degree from the University of Michigan, whose health had led him to become a farmer and later a fruit grower in Florida, was selected to be the first president, responsible to a board of trustees appointed by the legislature. A manager, who was to lease or sell the hundreds of farm resulting from the land grants and manage the income, was appointed. He was also to be responsible to the trustees.

Welch was serving as U.S. Senator from Florida and could not participate in the planning; he did not arrive until a few days before the opening. Named as acting president until the arrival of Welch was George W. Jones, a young graduate of Yale University, who had been appointed professor of mathematics. He had been principal of an institute for young men and women in New York State, and most of the planning and decisions prior to the arrival of Welch were made by Jones.

It is perhaps both good and bad that Jones had great responsibility for the details of the founding. He was an experienced administrator with a successful background in an educational institute whose programs were similar to those contemplated for the new college. As a responsible director of the preliminary period, he undoubtedly had strong convictions about the path to be followed by the new institution. His concepts and attitudes were at variance with those of some members of the board of trustees, and his contract was not renewed for 1874. He went to Cornell University and had a long and very successful career in mathematics. He maintained contact with the college through three graduates of Cornell who later became members of the faculty of Iowa State. They were Bissell, Marston and Meeker.

The Students

While the one-room school within the reach of every child was a reality that was to establish Iowa as the leading state in literacy since its founding, secondary education that would provide the basis for college level instruction was limited and lacked "quality control" by today's standards. Some communities had only two- or three-year academies. There were a few four-year high schools.

The obvious solution, undoubtedly proposed by Jones, was an entrance examination to be administered to all applicants. From an array of the performance scores, a first class would be selected to commence the four-year collegiate programs. From those applicants whose performance did not warrant admission to college, a one-year academic program was made available, with admission based in part upon factors other than scholastic performance.

In 1888, this academic year was reduced to one semester. The first list of accredited high schools was published in 1889. Reports of the administration frequently commented that preparation of applicants was "poor" in algebra and English, and efforts to require better standards on the part of the high schools commenced very early in the history of the college. These efforts have continued into the 1960s and beyond.

It had been planned that each of the 99 state representatives could select one student each for the new college. The plan was not a practical one. Apparently, over 200 candidates sat for the first examination. Seventy-seven men and 16 women were passed into the first class. The 93 were from only 58 counties. Story County furnished 29. Boone was next. Polk County provided only four. Fifty-nine men and 21 women were retained in the academic year.

The names of those students and of all of the graduates for 20 years were predominantly Anglo-Saxon. Prior to 1892, only one name of Scandinavian origin and two of German origin appeared.

The entrance examinations were realistically compiled with the limited secondary school backgrounds in mind. The 1869 examination covered arithmetic, grammar, spelling, reading, and geography. Algebra was added during the 1870s and history and physiology in the 1880s.

Curricula

Two programs had been decreed in 1869. One was to lead to the degree Bachelor of Science in Agriculture, the other to Bachelor of Science in Mechanic Arts. The first three semesters were identical for all students, regardless of their curriculum. The first three years were identical for all in the mechanic arts curriculum, which had been designed to educate students in one of four areas: mechanical, civil or mining engineering, or architecture. The latter two did not evolve into separate curricula until much later.

Five men received the degree Bachelor of Science in Mechanic Arts, including mechanical engineering: two in 1872, one in 1875, and two in 1877. Thereafter until 1910, the degree was Bachelor of Mechanical Engineering. The degree in 1910 until the present has been Bachelor of Science in Mechanical Engineering.

Iowa State was the seventeenth college in the nation to establish a degree program in mechanical engineering. Prior to 1860 there were perhaps only a half dozen programs, most of them at the older universities in New England. The Land Grant Act created a number of engineering programs; many of them established only a year or two prior to the one at Iowa State.

Mechanic arts was far from being a precise description for the objective of a curriculum. Concepts ranged from the mechanical trades, machine design, construction and operation to the application of scientific principles to useful ends.
The profession of mechanical engineering had not yet been created, and another ten or more years would pass before the two schools of thought would grudgingly compromise their differences and begin to agree on much of the content of a proper curriculum. It was 1935 before the profession established standards for the accreditation of a program.

With very little to guide them, then, two men, one a professor of mathematics, the other a medical doctor who taught chemistry, established the first curriculum in 1869. The next year a professor of physics and mechanics and a retired army general who had been educated in Great Britain contributed some additional background and experience which added some strength.

Three curricula are outlined here to show the development during the 20-year period. The first one was in effect for five years and the degree was Bachelor of Science in Mechanic Arts, including mechanical engineering. In 1877, with a graduate in engineering in charge, the curriculum began to include some of the areas that have survived to the present. Beginning in 1888 and thereafter, the department heads had been educated in the two schools of mechanical engineering that were to become outstanding for that period: Stevens and Cornell.

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<tr>
<th>Year</th>
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<tbody>
<tr>
<td>1869</td>
<td>Math: Algebra thru Calculus (1 semester)</td>
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<td></td>
<td>Chemistry - one year</td>
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<td></td>
<td>Physics - junior year</td>
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<td>Drawing, Descriptive Geometry (8 semesters)</td>
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<td>English</td>
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<td></td>
<td>Bookkeeping</td>
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<td></td>
<td>Mechanics - sophomore and junior years</td>
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<td></td>
<td>Surveying, Carpentry, Masonry, Architecture, Civil Engineering</td>
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<tr>
<td></td>
<td>Physiology, Hygiene, Geography, Psychology, Political Economics, Law, Botany</td>
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<th>Year</th>
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<tr>
<td>1878</td>
<td>Spherical Trigonometry</td>
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<td></td>
<td>Qualitative and Organic Chemistry</td>
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<tr>
<td></td>
<td>Physics - covered classical field with heat and electricity in junior year</td>
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<tr>
<td></td>
<td>English - included a course in speaking</td>
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<td></td>
<td>Analytical Mechanics was expanded</td>
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<td></td>
<td>Prime Movers and Thesis Preparation were introduced into the new curricula</td>
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<th>Year</th>
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<tr>
<td>1892</td>
<td>Calculus was still only one semester</td>
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<tr>
<td></td>
<td>A course in Materials of Engineering added</td>
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<tr>
<td></td>
<td>Drawing in some form all four years</td>
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<td></td>
<td>Economics replaced Bookkeeping</td>
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<td></td>
<td>Hydraulics added to senior year</td>
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<td></td>
<td>Thermodynamics was added to last semester of senior year</td>
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<td></td>
<td>ME Lab. Practice - last three years</td>
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<td></td>
<td>Design in all of senior year</td>
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<td></td>
<td>Steam Engineering, Electrical Theory</td>
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<tr>
<td></td>
<td>Special Problems and Thesis Preparation were senior courses</td>
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<td></td>
<td>History, Library and Military Science were required</td>
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**Fellinger to Retire**

Professor Robert C. Fellinger has announced that he will take early retirement and end his long and distinguished teaching career on December 31, 1984. The full realization of this announcement has yet to hit the ME faculty who must soon fill some very big shoes.

A native of Burlington, Iowa, Professor Fellinger attended Burlington Junior College and University of Minnesota before military assignment to the Manhattan Project in Chicago and Cambridge, Massachusetts. He completed his undergraduate studies at the University of Iowa in 1947. He began his teaching career that year as an instructor in mechanical engineering at Iowa State College. Completing his MS in ME in 1948, he moved rapidly through the ranks and was named professor of mechanical engineering in 1960. Since 1972, he has been division leader of thermodynamics and energy utilization; during 1979-80, he was acting chairman of the department.

Only a few of Professor Fellinger’s many recognitions can be listed here: ALCOA Professor of Engineering (1966-68), Faculty Citation (1968), Fellow-ASME (1972), and Outstanding Teacher Award of the University (1974). The latter award still pleases him most, as he has dedicated his academic career to excellence in teaching. Always striving for thorough coverage and clarity of exposition, he has developed and supervised courses in thermodynamics, combustion, gas dynamics, and power plants. His published class notes have served as standards for years. He has collaborated with Professor W.J. Cook on Introduction to Engineering Thermodynamics, which will appear as a textbook this fall.

In addition to his contributions to teaching, Professor Fellinger has an extraordinary record of committee and advisory service to the university, to
ASME, and to the community. His major ISU committee work includes nine years on the Athletic Council, including three years as chairman. He served ASME at sectional, regional, and national levels, including seven years in the area of National Agenda and Nominations. In the community, he was a director of the Ames School District for four years, a YMCA director for three years, and a member of the Recreation Facilities Committee for two years.

A search has begun for a new faculty member in the thermal area. Professor Bernard emphasizes, however, that "Bob Fellinger cannot be replaced. At best, we can hope to cover his classes and carry on his tradition of concern for quality instruction."

Professor Fellinger and his charming wife, Lee, will stay in Ames for a while, although they are looking for a warmer climate that will permit an increase in the time they can play golf.

Professor Fellinger's contributions will be remembered through a new undergraduate award in his name. The Robert C. Fellinger Award for Excellence in Thermal Science will be funded by contributions to the ISU Achievement Foundation. On December 15, 1984, two days after he gave his last thermodynamics lecture, a testimonial banquet will be held in his honor. Information on the banquet can be obtained by calling the ME Office (515) 294-1423.

The Black—Hilstrom Fund

Over the last three years more than 500 ME alumni have given gifts or pledges that range from $10 to $30,000, and Raymond A. Engel '29 made a special $200,000 gift to the department. This support, now close to $400,000, is an endowment for the department which is helping to maintain our quality and to enhance the department's development for the future.

Because the response to notes and appeals from Henry Black '29 and Hollis "Pete" Hilstrom '34 have been so impressive and because the department, like all areas of Iowa State, depends in great measure on support from alumni and friends, it is hoped that many of you will continue to give to the Black-Hilstrom Fund, an endowment for mechanical engineering at Iowa State.

Over the last year, Allen Morrow Acheson, '50, president of Black & Veatch International, has been working to direct the course of the Black-Hilstrom Fund and to bring the fund's principal up to $1 million. Although an official campaign which will include personal contact with each of our alumni is several months away, Allen is most eager to have fellow alumni step forward and contribute generously to the fund.

Says he, "When Jim Bernard and Henry Black came to talk to me about the Black-Hilstrom Fund, I was intrigued by the suggestion of how this endeavor could benefit the department, the very part of Iowa State that got me started in engineering. Henry talked about the need the department has to make Iowa State an attractive place for faculty. Faculty members are at a premium these days. Henry explained that money is needed to provide travel grants to take ISU's MEs to major professional meetings and to help pay for new equipment for young faculty to use in beginning their research careers. That kind of support makes our university look good to young MEs who want careers in academe. "Jim Bernard pointed out that in the current rapidly changing technical environment, exceptional demands are placed on the resources of engineering departments. 'Only with the help of our alumni,' Jim explained, 'will we be able to afford to purchase and maintain the kind of equipment that supports a top notch program.'"

In order to recognize those who contribute substantially to the Black-Hilstrom Fund, a Black-Hilstrom Club has been formed. All those who pledge or give $1,000 to the Black-Hilstrom Fund will be named EXPERIENCE of the club. All those who pledge or give $10,000 or more will be named FELLOWS of the club. Both groups will have their names engraved on a plaque in the new ME Building.

Gifts can be made in the form of cash or securities and may be paid at once or over a period of years. Most companies will honor employee or their retiree's gifts and match them even though these gifts are directed to a specific part of the university.

All gifts to the Black-Hilstrom Fund are tax-deductible and all those giving to the department receive university recognition. Donors of $10,000 or more are also named members of the university's Order of the Knoll.

Finally, please note the pledge card form printed in this newsletter. By using it and making a pledge or gift to the department, you can have an important impact on your very own part of Iowa State.

The Black—Hilstrom Club

The following have pledged or given $1,000 or more to the Black-Hilstrom Fund.

Donations include matching gifts.

Fellows - $10,000 or More

Hollis R. "Pete" Hilstrom '34
Allen M. Acheson '50
William P. Binger '49
Henry M. Black '29
Raymond A. Engel '29
Robert P. Jensen '47
James A. Peterson '58
Ralph E. Manns '27

Members - $1,000 - $9,999

James Bernard
Eugene R. Boedecker '52
George M. Booth '30
James H. Boyd '38
David N. Callahan '59
Robert G. Chamberlain '49
J. Howard Dunn '31
Owen L. Garretson '37
Wayne C. Kemper '54
Jordan L. Larson, Jr. '47
Harold M. Matheson '55
Howard Peterson '18
Frederick H. '44 and Patricia Rixe
Charles D. Statton '50
Peter W. Tenpas '77
Robert E. Thune '50
James A. Yungclas '16
Moritz B. Zeiner '26

November 1984
ME Alumni, Robert Lehman ’57, David Callahan ’59, Wayne Kempter ’54 and Wallace Anderson ’66 visit at a Dallas, Texas ME Alumni Luncheon hosted by the department in July 1984. Other luncheons have been held in Houston, Washington, D.C., and Minneapolis.

Distinguished Professor George Serov recently assumed chairmanship of the Gas Turbine Division of the American Society of Mechanical Engineers for 1984-85.

Rees Fulmer completed his masters and Ph.D. in mechanical engineering at the University of Utah in his hometown, Salt Lake City. Rees is currently seeking funding for research in adaptive estimation. He will be working on an adaptive compensator for control systems and a dual fuel diesel engine controller.

S.B. Vijayaraghavan, a third year Ph.D. student, working with Pat Kavanagh and David Stampfl, a second year master’s degree student, working with George Serov examine a cascade test rig designed by Vijayaraghavan. The men use the machine to test the effects of turbulence on turbine blades.

Second year graduate student, Jeff Hansen, poses with a two stage axial flow compressor which he uses to test interaction effects of upstream rotor wakes. Jeff is working on his master’s degree.

John Van Gerpen, a native of Cedar Falls, Iowa, joined the ME faculty this fall. He received both a B.S. in mechanical engineering and a B.A. in philosophy from Iowa State in 1978. After completing his master’s at ISU in 1980, he moved to the University of Wisconsin where he completed his Ph.D. in 1984.

ME students work in the department’s library/study room.

Professor Jordan L. Larson, Jr. advises senior John LaRoi.

Assistant Professor Donald Flugrad, Jr. teaches a class in Introduction to Mechanical Engineering to a group of sophomore MEs.
Donors
Black-Hilstrom Fund 1982 - 1984

Clark F. Adams '58
Douglas C. Ager '57
Ronald R. Akers '61
Margaret J. Albert '47
Mark M. Alleman '66
Ada & Richard H. Allen '60
Dorothy A. '66 & Wallace Anderson '66
Frank A. Anderson '50
Gerald D. Anderson '56
John R. Anderson '35
Lehman E. Anderson '48
Reynold M. Anderson '42
William W. Anderson '66
John A. Arduser '52
Bruce C. Arnold '50
David H. Arnold '69
Robert R. Austin '47
John S. Baker '49
James R. Baker '68
Thomas S. Baker '65
Jeffrey B. Balckn '71
Bernard T. Ballard '27
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