

# FROM THE COLLEGE OF ENGINEERING UNIVERSITY OF MICHIGAN

Summer 1983

## A SPECIAL REPORT ON DEVELOPMENT



### DOW BUILDING DEDICATION

In a ceremony kept simple at the request of the benefactors, the Herbert H. Dow Building was dedicated on Friday, 15 April. As noted by Dean Duderstadt in the letter concluding this News issue, the building represents a milestone in more ways than one.

The combined gifts from the two foundations that made the building possible (the Herbert H. & Grace A. Dow Foundation and the Harry A. and Margaret D. Towsley Foundation) were the largest ever given to the College, and one of the largest foundation gifts in U-M history. The balance of the funding came from construction and undesignated gifts to the College's Capital Campaign, which ended in November 1978. The building was designed by Alden B. Dow Associates, Inc., the distinguished architectural firm that was responsible for other U-M buildings

including the Institute for Social Research and the Fleming Administration Building.

At the dedication ceremony, U-M President Harold T. Shapiro presiding, Dow Foundation President Herbert H. Dow noted that the building "marks the culmination of a long relation with the University," and cited the Foundation's support of other U-M projects including the Law School expansion, the Gerald Ford Library, and various projects connected with the U-M Medical Center. Towsley Foundation President Harry A. Towsley noted its dual emphases on education and health, "the most important elements of a healthy society," and remarked on the vital role played by David V. Ragone, Dean of the Engineering College during the Capital Campaign.

## DOW: THE MAN AND THE CORPORATION

The dedication of the Herbert H. Dow Building formally linked the name of one of the all-time greats in American chemical industry with an engineering college of international stature. The linkage is a fitting one, since the relationship between the Dow Chemical Company and the U-M College of Engineering has been long and close. Both achieved prominence at roughly the same time, and both have enjoyed mutually beneficial interchange over the years.

Born in 1866, Herbert H. Dow spent his early years in Connecticut and Ohio. While still a student at the Case School of Applied Science in Cleveland, he took interest in finding some economic way to "mine" the subterranean stores of brine in Ohio and Michigan. It was after a move to Midland, Michigan, that he achieved the first factory production of bromine from brine by means of electrolysis. Subsequent achievements that helped to strengthen the corporate base in Midland were the manufacture of chlorine and synthetic indigo.

Throughout his career Dow emphasized the importance of research and stressed the role of laboratory work in technical education. By the time he was awarded an honorary Doctorate of Engineering by the U-M in 1929, this emphasis had brought impressive results. The Dow Chemical Company had grown into a major aggregate of plants turning out some 150 products ranging widely in synthetic dyes, fabrics, foodstuffs, medicines, and plastics.

Another recipient of an honorary Engineering Doctorate in 1929 was, significantly, Mortimer E. Cooley, the pioneering Dean of the U-M College of Engineering. Both he and Dow were visionaries



who presided over the growth of a relatively simple, regional institution into one of international stature. The citation for Dow's degree ended with words that summarize a lifetime of extraordinary achievement:

Finding an opportunity where others saw none, he shaped it to his will with energy and conspicuous success.



ABOVE On a private tour of the Dow Building held just before the dedication, Dr. Harry A. Towsley (President of the Towsley Foundation) points out a feature of interest to his wife Margaret Dow Towsley (left) and Mrs. Ted Doan (right). BELOW Listening to President Shapiro's address are his wife Vivian, Mrs. Herbert H. Dow, Mrs. Doan, Mrs. Towsley, John Reicker, and his wife "Ranie" Towsley Reicker.





ABOVE The main speaker at the dedication ceremonies, held in the auditorium of the Chrysler Center, was U-M President Harold Shapiro. BELOW The other speakers included (left to right) Dean Duderstadt; Herbert H. Dow, President of the Dow Foundation; Dr. Towsley; and Jody Van De Polder, President of the Engineering Council. After the ceremony there were public tours and a reception in the Dow Building.



## WHAT THE CHAIRMEN HAD TO SAY

Until 1969, the two departments housed in the Dow Building were one: the Department of Chemical & Metallurgical Engineering. Even as separate administrative entities, they still retain close disciplinary ties, which is why the Dow Building was designed to house them both. On behalf of their respective departments, the two Chairmen had this to say about the new building and what it means both physically and symbolically:

"Just as a new home creates an excitement within one's family, so do new and modern facilities for business, industries, and particularly academic institutions. Too many colleges and universities across the nation are struggling with the inconvenience of old buildings, cramped office spaces, and outmoded laboratory equipment. We are grateful that our struggle is over. The move to the Dow Building has created a new esprit de corps within the Department. Communication is easier, the exchange of research ideas greatly facilitated. We are striving for the same goals with much greater enthusiasm and optimism. We are particularly encouraged, since our Department is conducting a vigorous campaign to attract new and outstanding faculty members and graduate students, that the up-to-date laboratories have eased this search to a considerable degree."

H. Scott Fogler  
Acting Chairman, Chemical Engineering

"The move to North Campus and into this fine building has been an exciting and stimulating experience — one recognized as rare even when viewed over an entire professional career. The morale of our faculty and staff and the interest of our students are markedly improved, and the new surroundings are like a breath of fresh air. The Herbert H. Dow Building is a most fitting memorial. It is a special facility devoted to those areas of engineering which are chemical-based and it also shows excellence in design and functionality. The building comes to the University at a most propitious point in time. A technology thrust for Michigan is required in a difficult financial period. This structure has assisted our College in strengthening its programs and consolidating itself on the North Campus. It represents a unique and special contribution to the University."

Robert D. Pehlke  
Chairman, Materials & Metallurgical Engineering

# RECENT DEVELOPMENT NEWS

## SCHULTZ NAMED TO VENNEMA CHAIR

Dr. Albert B. Schultz has been named the first Catherine & Ame Vennema Professor in the College's Department of Mechanical Engineering & Applied Mechanics. A leading world authority in biomechanics (the mechanics of the human spine in particular), Schultz comes to Ann Arbor from the University of Illinois/Chicago Circle.

Dean Duderstadt notes that "Prof. Schultz represents an important interdisciplinary trend in engineering, in which engineers are moving out of their traditional areas to interact more closely with other fields. Beyond this, Prof. Schultz is a warm and gracious scholar who will provide strong intellectual leadership to his colleagues."

Schultz holds degrees from the University of Rochester and Yale University, and has been Professor of Mechanical Engineering at Illinois since 1971. He holds a Visiting Professorship in Orthopedic Surgery at Rush Medical University. He has made outstanding professional contributions in the mechanical behavior of materials, environmental effects on the dynamic behavior of metals, the dynamic properties of composite materials, and a variety of applications of mechanics to biological and medical problems. Along with researchers in the College's Applied Mechanics Program, Bioengineering Program, and Center for Ergonomics, Schultz's appointment is of special significance to researchers in the U-M Department of Orthopedics.

The Vennema Chair was made possible through the generosity of Ame and Catherine Vennema, who have also given unstintingly of their talent, time, and energies — to the arts as well as to engineering and education in general. The Vennemas live in Houston, with periods of residence in New York City and Menominee, Mich., their childhood home. A 1932 graduate of the College, Vennema retired in 1974 from Schlumberger, Ltd., where his final post was that of Chairman of the Executive Committee. The endowment associated with the Vennema Chair will yield discretionary income for academic and research-related purposes.

## A MAJOR MAJOR GIFT

The largest gift ever to come from an Engineering alumnus was announced publicly in April. It represented half of a bequest in which Dwight F. Benton, Class of 1923e, divided \$7 million between the College and the U-M Graduate School of Business Administration. Benton was former Executive Vice-President of the Standard Oil Company of Indiana, and in retirement was living in Arizona.

In his will, Benton specified that each of the two U-M units receive \$1.5 million to establish a named professorship, along with \$2 million for named scholarships. He specified that the Engineering professorship emphasize "the teaching of students in the fields of

Chemical Engineering or Advanced Technology," and that the scholarships include repayment provisions "so that they can be granted on a continuing basis for the foreseeable future."

In the initial scholarship awards, the College's Executive Committee has asked each Department to name as Benton Fellow one first-year graduate student enrolled in a PhD program. Each fellowship will consist of a stipend of \$10,000 plus full tuition for up to 2½ terms; it is hoped that the Fellows can be provided with subsequent support in the form of research assistantships. In future years, similar awards will be made with the idea that this is an invaluable means of fulfilling a key College objective — helping new or junior faculty members to attract PhD candidates of the highest caliber.

As noted by James F. Brinkerhoff (U-M Vice-President & Chief Financial Officer) in an official acknowledgement, the Benton bequest is in a long line of private gifts that have helped to make the University a distinguished institution: "Considering the financial dilemma of higher education, private gifts will be even more critical to the maintenance and enhancement of the University's excellence."

## 1931e SCHOLARSHIP AWARDS

Shown here are ten of the eleven recipients of the 1931e Scholarship Awards, given for the first time during the 1982-83 academic year. [The eleventh recipient, Gordon Lehtola, wasn't around when the photo was taken; his lovely stand-in was an LS&A



student with strong '31e family ties.] They are (top row, l-r) Bryan Kokx (Chem); David DePaoli (Chem); Dino DePaolis (ECE); Jeffery Nieman (Chem); Jon Moretta (Chem); and Greg Mehall (Aero). On the bottom row, they are (l-r) Frances Poy (Chem); Phyllis Lutostanski (ECE); Garrett Kokx (Chem); Jeanette Soong (MEAM); and Jill Antonides (LS&A).

The tireless motivator behind this extraordinary effort has been Paul Bigby, Class President and long-term Ann Arbor resident. In a letter congratulating the scholarship recipients late last sum-

# THE RETURNS ON GENEROSITY

You can plan to give a gift to the Engineering College that will be actualized either *during* your lifetime or *after*. Both plans yield significant returns personally. When tax advantages are a key concern, many donors are surprised to learn that — more often than not — they can realize greater advantages through gifts that are actualized *during* their lifetime. Depending on the particular mode of giving that suits you best, here are a few of the possible advantages:

- An income-tax deduction
- More spendable income
- A potentially larger estate for your survivors
- Diversification without capital-gains tax
- Professional investment management
- Regular quarterly income from a diversified holding
- The satisfaction of providing immediate commitment to the College
- Full marital and charitable deductions for 

{	the life income to
	your surviving spouse
	your gift to the College

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## ➔ THE MANY MODES OF GIVING

### ➔ CHARITABLE REMAINDER TRUSTS

In any of these three modes, you irrevocably give a gift in trust to the U-M and designated for the College, while retaining the right to income during your own life and (if desired) the life of some designated recipient. The gift may consist of stock, bonds, real estate (under some circumstances), or cash. Except as indicated under “Closely Held Stock,” the securities must be held for more than a year and must be publicly traded.

#### The U-M Donor Pooled Income Fund

In this mode, the gifts — in cash or marketable securities — are in initial amounts of \$5000 and subsequent amounts of \$1000 minimum. Gifts from many individual donors are comingled in a pool of stocks, bonds, and cash, and the income is distributed according to the number of income units in each case.

## Unitrusts

### **Straight Unitrust**

This pays to you or a designated recipient quarterly income as determined by multiplying the fair market value of the trust assets each year by a percentage that has been written into the trust on the basis of mutual agreement between you and the U-M.

### **Net Income Unitrust**

This pays you ordinary income (dividends and interest), with *no* payments made from principal. Any deficiency in the annual pay-out may be carried over and made up to you subsequently, whenever the ordinary income has exceeded the payout requirement.

## **Annuity Trust**

This allows you to set the pay-out amount on the day of the gift. Although you can always establish additional trusts, you cannot add gifts to the original trust.

### **CHARITABLE INCOME TRUST**

This gives you income now rather than later, and allows you to select any pay-out amount. Subsequently, the trust assets can go either back to you or on to your family. In certain cases, this mode can offer substantial reductions in gift tax or estate tax.

### **GIFT OF A RESIDENCE OR FARM**

This allows you to get a current income-tax deduction (on the basis of fair market value) while reserving to you the right to use the property during your lifetime.

### **GIFT OF OTHER REAL ESTATE**

Although this requires you to give up all rights in the property, you can continue to enjoy income benefits either directly or (if the U-M sells the real estate and re-invests the proceeds) indirectly. You also gain possible benefits in the form of tax deductions.

### **GIFT OF LIFE INSURANCE**

This allows you to provide for a substantial deferred gift at modest annual cost, while gaining for you possible benefits in the form of tax deductions.

## **OUTRIGHT GIFTS**

### **Stocks & Bonds**

**Appreciated Marketable Securities** (held for more than one year) Without incurring capital-gains tax liability, this provides you with an income-tax deduction for the fair market value of the securities on the gift date.

**Closely Held Stock** Subject to certain major conditions, this provides you with the liability/deduction benefits as above, so that you can enjoy a charitable tax deduction while determining the value of the shares.

**Stock in Corporations Being Acquired or Liquidated** This provides you with the liability/deduction benefits as above, so long as your gift is made before the takeover or liquidation becomes final.

**“Bargain Sale” Gift** This allows you to offer to sell appreciated long-term capital-gain securities or real property to the U-M at less than fair market value. Then your investment is recovered in cash, and provides you with a charitable tax deduction. [There may also be an income-tax liability.]

### **Tangible Personal Property & Real Estate**

If a gift in the category of objets d’ art, book, furnishings, etc., is related to the College’s or the University’s exempt function, you can deduct the fair market value of up to 30% of your adjusted gross income. If it is not so related, you must reduce the value of the deduction by 40% of any capital-gain element of the gift. Although an outright gift of real estate requires you to give up all rights in the property, you gain possible benefits in the form of tax deductions.

### **Bequests**

Many alumni have elected to assist the College through a bequest. These deferred gifts provide a donor the option to plan a legacy that in many cases can be much larger than a major lifetime gift. Donors who have already notified the College that they have included Engineering in their wills represent a present-day deferred total of some \$4,000,000.

The College is willing to arrange discussions with you or your financial advisor to match your interests with gift opportunities in an array of academic and research areas.

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## **DONOR OPTIONS: THREE CASE STUDIES**

### **Unitrust**

A substantial discretionary-fund capability was added to College funds in 1977 as the result of an irrevocable trust created by an alumnus six years earlier. An Indiana resident, the alumnus had a substantial block of appreciated securities (about 6000 shares of a pharmaceutical company) that were yielding less than

\$7000 annually on a market value in excess of \$300,000. Complicating the meager income situation was a tax burden of 0.25% in the form of a State intangibles tax on the market value of the securities, as well as a substantial Federal income-tax liability due to other forms of income that did not generate deductibles.

By placing these securities in an irrevocable trust (in this case, with the University as trustee), the intangibles tax was eliminated, the income from the trust was increased to 6% annually, and a \$30,000 gift credit applicable to Federal tax obligations over a 5-year period was created for the donor. The trust had reached a total value to the College of about \$640,000 when it was terminated by the death of the donor's widow.

The power of this arrangement is in the provision made for a lifetime income for the trustor (at a mutually determined level) and for the trustor's designated survivors, plus the gift-tax advantages that can ordinarily be realized for the donor — plus the remainderman status eventually enjoyed by the College. The income from the trust described here will be dedicated to Engineering graduate-student support beginning in the Fall of 1983.

### **Bequest**

The decision to bequeath a large sum of money is the culmination of a lifetime of pride in one's College and concern for its continued eminence. The fulfillment of this commitment is, in turn, a source of great pride not only for the bequestor but for the spouse, family members, and friends who have shared in the career dedication that makes such a gift possible. In 1982 a generous

gift totalling over \$1.2 million was made via stock transfers. This bequest had been pledged during the College's Capital Campaign; it resulted from the efforts of the alumnus and his wife to provide for a suitable memorial while maintaining full control and benefit of the funds during the donor's lifetime.

Through consultation with the College's Development Staff, the decision was made to establish a professorial chair, the highest honor the College can bestow on outstanding faculty members. On the one hand, this perpetual memorial — made possible through the income yielded by the bequest — will pay lasting tribute to a lifetime of achievement. On the other, it will serve as a living legacy to the recipients of the chair who benefit from the generosity and vision of a fellow professional.

### **Cash Gift**

For the past two years, a Michigan resident has given \$10,000 annually to establish a student-aid account. In such cases, the donor not only gains State and Federal tax advantages but is also invited to get acquainted with the students who benefit directly from his/her generosity. In this particular instance, the donor had previously been a member of the U-M Presidents Club and is now on the way to joining the Benefactors Club, although the latter status may be achieved finally through a bequest.

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## **HOW TO MAKE PRELIMINARY INQUIRIES**

At both the College and University levels, qualified personnel will be pleased to answer any inquiries you or your financial advisor may have. They will answer general questions as well as those specifically related to a gift of securities (delivery by mail, delivery by broker, date of gift, split certificates, etc.), and to tax considerations (applying the charitable income-tax deduction, carrying deductions beyond the gift year, giving ordinary income property, etc.). When substantial gifts are involved, it is University policy to urge donors to consult their own advisors on tax considerations and conformity to their individual circumstances.

For assistance with these types of inquiries, please contact:

Carol Kent  
Office of the Dean  
College of Engineering  
The University of Michigan  
Ann Arbor, MI 48109  
Phone (313) 763-2160



# MATCHING GIFT COMPANIES

Any company included in this list will match gifts from its employees to the College on a one-to-one basis. Those indicated by an asterisk (\*) will go even farther, tripling or even quadrupling the

value of a gift. Because of regular additions, the list is continually being updated; a potential donor should check with the personnel or contributions officer in his/her company.

## A

AMF, Inc.  
ARA Services Inc.  
Abbott Laboratories  
\*A. S. Abell Co. Foundation, Inc.  
Abex Corp.  
Acme-Cleveland Corp.  
Adams, Fox, Marcus, Adelstein & Gerding  
Adria Labs, Inc.  
Aeroglide Corp.  
Aerogjet-General Corp.  
\*The Aerospace Corp.  
Aetna Insurance Co.  
\*Aetna Life & Casualty  
Aid Assn. for Lutherans  
Air Products & Chemicals, Inc.  
Airco, Inc.  
Air Reduction Co.  
Ajax Magnethermic Corp.  
AKTion Associates, Inc.  
Akzona, Inc.  
\*Albany International Corp.  
Alco Standard Corp.  
Alexander & Alexander  
Alexander & Baldwin, Inc.  
Allegheny International, Inc.  
Allegheny Ludlum Steel Corp.  
Allen Aircraft Products  
Allen Group, Inc.  
Allied Corp.  
\*Allis-Chalmers Corp.  
Alloytek, Inc.  
Allstate Insurance  
\*Aluminum Co. of America  
\*AMAX, Inc.  
Amerada Hess Corp.  
American Airlines, Inc.  
American Bank & Trust Co. of Pa.  
American Brands, Inc.  
American Broadcasting Co., Inc.  
\*American Can Co.  
American Credit Corp.  
American Cyanamid Co.  
American Electric Power Co., Inc.  
\*American Express Co.  
American General Corp.  
American Hoechst Corp.  
American Home Products Corp.  
American Hospital Supply Corp.  
American Medical International, Inc.  
American Motors Corp.  
American Mutual Insurance Cos.  
American National Bank  
American National Bank & Trust Co. of Chicago  
American Natural Resources System  
American Optical Corp.  
American Standard, Inc.  
American States Insurance  
American Sterilizer Company  
American Stock Exchange  
American Telephone & Telegraph Co.  
American United Life Insurance Co.  
Ameritrust Co.  
Amfac, Inc.  
Amstar Corp.  
Amtel, Inc.  
Analog Devices, Inc.  
Anchor National Life Insurance Co.  
Aqua-Chem  
Arthur Andersen & Co.  
The Andersons

Anheuser-Busch Companies, Inc.  
Appleton Papers, Inc.  
Arkwright-Boston Manufacturers Mutual Insurance Co.  
\*Armco, Inc.  
Arco/Polymer, Inc.  
Armstrong World Industries  
Arrow-Hart, Inc.  
\*ASARCO, Inc.  
\*Ashland Oil, Inc.  
Associated Dry Goods Corp.  
Athos Steel & Aluminum, Inc.  
Atlantic City Electric Company  
\*Atlantic Richfield Co.  
Austin Company  
Automatic Data Processing (ADP)  
AVCO Corp.  
Avon Products, Inc.  
Avtex Fibers, Inc.

## B

BASF Wyandotte Corp.  
The Badger Co., Inc.  
Badische Corp.  
Baird and Warner, Inc.  
The J. E. Baker Co.  
Ball Corp.  
Bancroft-Whitney Co.  
Bank of America  
Bank of California  
Bank of Maine  
The Bank of New York  
Bank of the Southwest  
Bank of Tokyo Trust Co.  
The Bankers Life Co.  
Bankers Trust New York Corp.  
Banner Gelatin Products Corp.  
C. R. Bard, Inc.  
BarclaysAmerican Corp.  
Barnes & Roche, Inc.  
Barnes Group, Inc.  
Barry Wright Corp.  
The Barton-Gillet Co.  
Baxter Travenol Laboratories, Inc.  
\*Beatrice Foods Corp.  
Bechtel Power Corp.  
\*A. G. Becker, Inc.  
Becktold Co.  
Becton, Dickinson & Co.  
Beech Aircraft Corp.  
Bell Federal Savings & Loan Assn.  
Bell & Howell  
Bell of Pennsylvania  
Bell Telephone Laboratories  
\*Bemis Co., Inc.  
The Bendix Corp.  
The Bergen Evening Record Corp.  
Loren M. Berry Fdn.  
Best Products Co.  
Bethlehem Steel Corp.  
BFC Chemicals  
James G. Biddle Co.  
Bird Cos.  
Bituminous Casualty Corporation  
Blandin Companies  
Blount, Inc.  
Blue Bell, Inc.  
The Boeing Co.  
Boise Cascade Corp.  
Borden, Inc.

\*Borg-Warner Corp.  
Boston Edison  
Bowater, Inc.  
The Bowery Savings Bank  
Brakeley, John Price Jones, Inc.  
Bernd Brecher & Assoc., Inc.  
Bristol-Myers Co.  
Brookway Glass Co., Inc.  
Brookwood Studio, Inc.  
Brown-Forman Distillers Corp.  
\*Brunswick Corp.  
Buckbee Mears Co.  
Buckeye International, Inc.  
Bucyrus-Erie Co.  
Buell Industries, Inc.  
Buffalo Color Corp.  
Buffalo Evening News  
Buffalo Savings Bank  
Bundy Foundation Educational Aid Program  
Bunge Corp.  
\*Bunker Ramo  
Burlington Industries, Inc.  
Burlington Northern  
Burrhoughs Wellcome Co.  
Business Men's Assurance Co. of America  
Butler Manufacturing Co.

## C

CBS, Inc.  
CNA Financial Corp.  
\*CPC International  
\*Cabot Corp.  
Cadillac Gage Company  
Calex Mfg. Co., Inc.  
The Callanan Road Improvement Co.  
Campbell Soup Co.  
Canadian General Electric Co., Ltd.  
Carborundum Co.  
Carolina Power & Light Co.  
Carolina Telephone & Telegraph Co.  
Carpenter Technology Corp.  
Carter Hawley Hale Stores, Inc.  
Carter-Wallace, Inc.  
Cassell Systems, Inc.  
Castle & Cooke, Inc.  
Caterpillar Tractor Co.  
Catalytic, Inc.  
\*Celanese Corp.  
Centel Corp.  
Central & South West Corp.  
Central Life Assurance  
Central Telephone & Utilities  
Century Banks, Inc.  
\*Certain-Teed Products Corp.  
Chamberlain Manufacturing Corp.  
Champion International Corp.  
Champion Spark Plug Co.  
The Charter Company  
\*The Chase Manhattan Bank, N.A.  
Chatham Super Markets, Inc.  
Chemed Corporation  
Chemplex Company  
Chemtech Industries, Inc.  
Chesapeake & Potomac Telephone Co.  
Chesapeake Corp. of Va.  
Chesebrough-Pond's, Inc.  
Chessie System

Chevron  
Chicago Pneumatic Tool Company  
Chicago Title & Trust  
Chrysler Corp.  
Chubb & Son, Inc.  
Chubb LifeAmerica  
Church Mutual Insurance Co.  
CIBA-GEIGY Corp.  
Cincinnati Bell, Inc.  
Citicorp & Citibank, N.A.  
\*Cities Service, Inc.  
The Citizens and Southern Corp.  
Citizens & Southern Georgia Corp.  
Citizens Fidelity Bank & Trust Co.  
Clark Equipment Co.  
\*The Cleveland-Cliffs Iron Co.  
Cleveland Electric Illuminating Co.  
Cleveland Trust Co.  
Clinton Mills, Inc.  
The Clorox Co.  
Clow Corp.  
Coats & Clark, Inc.  
The Coca-Cola Co.  
The Coleman Co., Inc.  
Colgate-Palmolive Co.  
Collins & Aikman Corp.  
Colonial Bancorp, Inc.  
Colonial Parking, Inc.  
Colonial Penn Group, Inc.  
Columbia Gas System, Inc.  
The Columbus Mutual Life Ins. Co.  
Combustion Engineering, Inc.  
Commerical Credit Co.  
Commonwealth Energy Systems, Inc.  
Communications Satellite Corp.  
Con Edison  
Connecticut Bank & Trust Co.  
\*Connecticut General Corp.  
Connecticut Mutual Life Insurance Co.  
Connecticut Natural Gas Corp.  
Connecticut Power & Light Co.  
Connecticut Savings Bank  
\*CONOCO, Inc.  
Consolidated Civic Fdn.  
\*Consolidated Foods Corp.  
Consolidated Grain & Barge Co.  
Consolidated Natural Gas Co.  
Consolidated Papers, Inc.  
\*Consolidation Coal Company  
Container Corp. of America  
The Continental Corp.  
The Continental Group, Inc.  
Continental Illinois National Bank and Trust Co.  
R. A. Cooch Company  
Frederic W. Cook & Company, Inc.  
\*Cooper Industries, Inc.  
Cooper Tire & Rubber Co.  
Coopers & Lybrand  
The Copley Press, Inc.  
Copolymer Rubber & Chemical Corp.  
Cordis Dow Corp.  
\*Corning Glass Works  
Covington & Burling  
Crane Company  
Criton Corp.  
Crocker National Bank  
Crompton Co., Inc.  
Crompton and Knowles Corp.  
Crown Central Petroleum Corp.  
Crown Zellerbach Corp.  
Crum & Forster  
\*Cummins & Engine Co.  
\*Customized Computer System, Inc.

Cutler Hammer Fdn.  
Cyclops Corporation  
Cygn Consulting Engineers  
Cyprus Mines Corp.

## D

DLJ Foundation  
Dadaou Law Firm  
Dain, Kalman & Quail, Inc.  
Dana Corp.  
\*Daniel International Corp.  
Dart & Kraft  
Dart Industries, Inc.  
Davis Polk & Wardell  
Davy, Inc.  
Dayton Malleable, Inc.  
Deere & Co.  
DEKALB AgResearch  
Deleuw, Cather & Company  
Del Monte Corp.  
Deloitte Haskins & Sells  
\*DeLuxe Check Printers, Inc.  
Deposit Guaranty National Bank  
Detroit Edison Company  
\*The Dexter Corp.  
Diamondback State Telephone  
Diamond Crystal Salt Co.  
Diamond International Corp.  
\*Diamond Shamrock Corp.  
A. B. Dick Co.  
Dickinson, Wright, McKean, Cudlip & Moon  
Dickson Electronics Corp.  
Difco Laboratories  
Digital Equipment Corp.  
Dillingham Corp.  
Donaldson Co., Inc.  
Donaldson, Lufkin & Jenrette  
\*R. R. Donnelley & Sons Co.  
Donovan Leisure Newton & Irvine Fdn.  
Dove-Knight and Associates, Pa. Architects  
The Dow Chemical Co.  
Dow Corning Corp.  
Dow Jones & Co., Inc.  
Dravo Corp.  
\*Dresser Industries, Inc.  
Wilbur B. Driver Co.  
Duke Power Co.  
\*Dun & Bradstreet Co., Inc.  
Dundee Cement Company  
Dyson Kissner Corporation

## E

EG&G  
Eastern Gas and Fuel Associates  
\*Eaton Corp.  
Jack Eckerd Corp.  
Economic Research Consultants  
Educators Mutual Life Insurance  
Efficient Engineering Co.  
Egan Machinery Co.  
Elis Olsson-Cheasapeake Fdn.  
The EL PASO Company  
Emerald Marine Corporation  
Emerson Electric Co.  
Emhart Corp.  
Ensign-Bickford Foundation  
Envirotech Corp.  
Equimark Corp.  
\*Equitable Life Assurance Society of the United States  
Equitable of Iowa  
Erie Savings Bank  
Ernst & Whinney  
Ervin Industries, Inc.  
Esmark, Inc.  
Esterline Corporation  
\*Ethicon, Inc.  
Ethyl Corp.  
\*Ex-Cell-O Corp.  
\*Exxon Corp.

## F

FMC Corp.  
Factory Mutual Engineering  
Research/Service Bureau

Faegre & Benson  
Fairchild Industries, Inc.  
\*The Family Line Rail System  
Farm Credit Banks of Springfield  
Federal-Mogul Corp.  
Federal National Mortgage Association  
Federal Signal Corporation  
Federated Department Stores, Inc.  
Ferro Corp.  
The Fidelity Bank  
Fiduciary Trust Co. (Boston)  
\*Field Enterprises, Inc.  
\*Fireman's Fund Insurance Co.  
The Firestone Tire & Rubber Co.  
First & Merchants National Bank  
First Bancorp, Inc.  
First Bank System, Inc.  
First Boston Corp.

Forty-Eight Insulations, Inc.  
Foster Wheeler Corp.  
\*The Foxboro Company  
Franklin Mint Corp.  
\*Freeport-McMoRan Inc.  
Fryer & Co., Inc.  
Fruehauf Corporation  
H. B. Fuller Co.  
Funderburke & Associates

## G

E & J Gallo Winery  
Gannett Foundation  
Gardner Denver Co.  
Garris, Garris & Garris

GenRad, Inc.  
Georgia Pacific Corporation  
Getty Oil Co.  
Gibbs & Hill, Inc.  
Giddings & Lewis, Inc.  
Gilford Instrument Laboratories, Inc.  
The Gillette Co.  
Gilman Paper Co.  
Girard Trust Bank  
Glosten Associates, Inc.  
Goldman, Sachs & Co.  
B. F. Goodrich Co.  
Goodyear Tire & Rubber Co.  
Gould, Inc.  
Government Employees Insurance Co.  
Grace Foundation, Inc.  
Graco Foundation  
Grand Rapids Steel & Supply  
Alexander Grant & Co.  
W. T. Grant Co.  
The Graphic Printing Co., Inc.  
Graybar Electric Company  
Great Lakes Carbon Corp.  
Great Lakes Gas Transmission  
Great Northern Nekoosa Corp.  
Greenwood Mills, Inc.  
Gregory Poole Equipment Co.  
Grinnell Mutual Reinsurance Co.  
Grumman Corporation  
Gulf & Western Fdn.  
\*Gulf & Western Industries, Inc.  
\*Gulf Oil Corp.  
Gulf States Utilities Co.  
The Gurin Group, Inc.

## H

Hackney & Sons, Inc.  
Hale and Dorr  
\*Halliburton Co.  
Hallmark Cards, Inc.  
Hamilton Bank  
Hammermill Fdn.  
Hammermill Paper Co.  
Hanes Corp.  
The Hanna Mining Co.  
Harco Graphic Products  
Harper & Row Publishers, Inc.  
Harris Corp.  
Harris Trust & Saving Bank  
Hart, Schaffner & Marx  
The Hartford Insurance Group  
Hartford National Bank and Trust Co.  
The Hartford Steam Boiler Inspection & Ins. Co.  
\*Hawaiian Telephone Co.  
\*H. J. Heinz Co.  
\*HERCO  
Hercules, Inc.  
\*Hershey Foods  
\*Heublein Inc.  
Hewitt Associates  
Hewlett-Packard  
Hobart Corp.  
Hoffmann LaRoche, Inc.  
Holmes & Narver, Inc.  
Homestake Mining Co.  
\*Honeywell, Inc.  
The Hoover Co.  
Hoover Universal, Inc.  
Geo. A. Hormel & Co.  
Hospital Affiliates International  
Houdaille Industries, Inc.  
Houghton Mifflin Co.  
Houston Natural Gas Corp.  
\*Houston Oil & Minerals Corp.  
Howmet Turbine Components Corp.  
Hoyem-Basso Associates, Inc.  
Hubbard Milling Co.  
J. M. Huber Corp.  
Huck Manufacturing Co.  
Hulsey-Nicolalides Associates, Inc.  
Hughes Aircraft Co.  
Hughes Tool Co.  
E. F. Hutton  
Huyck Corp.

# Recent Major Grants from Companies

Recent major gifts from industry for CAD/CAM, integrated manufacturing, and other computer-aided engineering activities include:

Calma Corporation	\$500,000
Harris Corporation	350,000
Eaton Corporation	250,000
Hewlett-Packard Corporation	200,000
IBM Corporation	150,000
Apollo Computer Company	60,000

In addition, about 25 companies average \$15,000 per year for membership in various Industrial Affiliates Programs. These funds, directed toward the support of research and instruction, were obtained partially in the form of equipment.

First Chicago Corp.  
First Hawaiian Bank  
First Interstate Bank of California  
First Interstate Bank of Oregon  
First National Bank in Bartlesville  
First National Bank in St. Louis  
The First National Bank of Atlanta  
\*First National Bank of Minneapolis  
First National Bank of Pennsylvania  
The First National Bank of St. Paul  
First National Boston Corporation  
First Valley Bank  
First Virginia Banks, Inc.  
Fischbach Corporation  
Florida Gas Co.  
\*Fluor Corp.  
Foley, Hoag & Eliot  
Foot Mineral Company  
Ford Motor Corp.  
Ford Motor Co. of Canada, Ltd.  
Foremost-McKesson, Inc.

Gary Energy Corp./Samuel Gary Oil Producer/The Piton Foundation  
Gast Manufacturing Corp.  
Gates Foundation  
The Gates Rubber Co.  
Gatx Corporation  
General Accident Insurance Company of America  
General Color Co.  
General Dynamics Corp.  
General Electric Co.  
\*General Foods Corp.  
General Foods, Ltd.  
\*General Mills, Inc.  
General Ohio S & L Corp.  
General Public Utilities Service Corp.  
General Reinsurance Corp.  
General Signal  
\*General Telephone & Electronic Corp.  
The General Tire & Rubber Co.  
Genesee and Wyoming Industries

## I

IBEC Inc.  
IC Industries, Inc.  
ICI Americas Inc.  
\*INA Corp.  
IU International Corp.

\*Illinois Bell Telephone Co.  
 \*Illinois Tool Works, Inc.  
 Inco United States, Inc.  
 Incom International Inc.  
 Index Systems, Inc.  
 Indiana Bell Telephone Co.  
 Indiana National Corp.  
 Industrial Fuel & Asphalt Corp.  
 Industrial Indemnity Co.  
 Industrial National Bank of R.I.  
 \*Industrial Risk Insurers  
 Ingersoll-Rand Co.  
 Inmont Corp.  
 Integon Corp.  
 Intel Corp.  
 Interlake, Inc.  
 \*International Business Machines Corp.  
 International Flavors & Fragrances, Inc.  
 International Harvester Co.  
 International Minerals & Chemical Corp.  
 \*International Multifoods Corp.  
 \*International Paper Co.  
 International Telephone & Telegraph Corp.  
 \*InterNorth, Inc.  
 Interpace Corp.  
 Inter-Regional Financial Group, Inc.  
 Investors Diversified Services, Inc.  
 Itek Corp.

## J

JSJ Corp.  
 Jaju, Inc.  
 Jamesbury Corp.  
 The Jefferson Mills, Inc.  
 Jefferson-Pilot Broadcasting Co.  
 Jefferson-Pilot Corp.  
 Jersey Central Power and Light Co.  
 \*Jewel Cos., Inc.  
 John Hancock Mutual Life Ins. Co.  
 Johnson Controls Co.  
 \*Johnson & Higgins  
 \*Johnson & Johnson  
 S. C. Johnson & Son, Inc.  
 Jones & Laughlin Steel Corp.  
 Josten's Inc.

## K

Kaiser Steel Corp.  
 Kansas City Southern Industries, Inc.  
 Karmazin Products Corp.  
 Katten, Muchin, Gitles, Zabin, Pearl & Galler  
 Kearney-National Inc.  
 Keck Mahin & Cate  
 Keebler Co.  
 M. W. Kellogg Co.  
 Kellogg Co.  
 The Kendall Co.  
 Kennametal, Inc.  
 Kennecott Corp.  
 The Kerite Co.  
 Kerr-McGee Corp.  
 Kersting, Brown & Co., Inc.  
 Walter Kidde & Co.  
 Kidder, Peabody  
 Kimberly-Clark Corp.  
 Kingsbury-Machine Tool Corp.  
 The Kiplinger Washington Editors, Inc.  
 Kirkland & Ellis  
 Kirsch Company  
 Kobacker Stores, Inc.  
 Koehring Co.  
 H. Kohnstamm Co., Inc.  
 \*Koppers Co., Inc.  
 Ralph Korte, Inc.

## L

The Lamson & Sessions Co.  
 Lanier Business Products, Inc.  
 The Law Company, Inc.  
 Lawler, Felix & Hall  
 Lear Siegler, Inc.  
 Leeds & Northrup

Leesona Corp.  
 \*Lehigh Portland Cement Co.  
 F. R. Lepage Bakery  
 Lever Brothers Co.  
 \*Levi Strauss & Co.  
 The Liberty Corp.  
 \*Liggett Group, Inc.  
 Eli Lilly and Co.  
 Lincoln National Corp.  
 Linkabit Corporation  
 Thomas J. Lipton Co.  
 Little, Brown & Co.  
 Loeb & Loeb, Inc.  
 Loews Corp.  
 Lone Star Industries, Inc.  
 Louisiana Power and Light Co.  
 \*Lubrizol Corp.  
 Ludlow Corp.  
 Lukens Steel Co.  
 Lummus Co.  
 Lutheran Brotherhood  
 Lutheran Mutual Life Ins. Co.  
 Lydall, Inc.

## M

MCA Inc.  
 MSI Insurance  
 M&T Chemicals, Inc.  
 MTS Systems Corp.  
 Mack Trucks, Inc.  
 MacLean-Fogg Co.  
 Maguire Oil Co.  
 Mallinckrodt, Inc.  
 Manistique Paper Charities, Inc.  
 Manville Corp.  
 Manufacturers Hanover Trust Co.  
 Manufacturers Life Ins. Co.  
 \*Marathon Oil Co.  
 Maremont Corp.  
 The Marine Corp.  
 Maritz, Inc.  
 Mark Controls Corp.  
 The Marley Co.  
 Marsh & McLennan Cos., Inc.  
 \*Martin Marietta Corp.  
 Massachusetts Mutual Life Ins. Co.  
 Mattel, Inc.  
 The Maytag Co.  
 McCormick & Co., Inc.  
 McDonald's Corp.  
 McDonnell Douglass Corp.  
 \*McGraw-Hill, Inc.  
 McQuay-Perfex Inc.  
 The Mead Corp.  
 \*Meadville Corp.  
 Mechanics Bank  
 Medtronic, Inc.  
 \*Medusa Corp.  
 Mellon National Corp.  
 Merck & Co., Inc.  
 Meredith Corp.  
 Merrill Lynch & Co.  
 Mesa Petroleum Co.  
 Metropolitan Life Ins. Co.  
 Mettler Instrument Corp.  
 Michigan Bell Telephone Co.  
 Michigan General Corp.  
 Midcon Corp.  
 Middle South Services, Inc.  
 Middlesex Mutual Assurance Co.  
 Midland Federal Savings  
 Midland Mutual Life Insurance Co.  
 Midland-Ross Corp.  
 Midatlantic Banks, Inc.  
 Miehle-Goss Dexter, Inc.  
 \*Milton Bradley Co.  
 Minneapolis Star & Tribune Co.  
 Minnesota Mining & Manufacturing  
 The Minnesota Mutual Life Ins. Co.  
 MITE Corp.  
 The MITRE Corp.  
 \*Mobil Oil Corp.  
 Mohasco Corp.  
 Monarch Capital Corp.  
 Monroe Auto Equipment Co.  
 Monsanto Company  
 \*Montgomery Ward & Co.  
 Monumental Corp.  
 Moog, Inc.  
 Moore McCormack Resources, Inc.  
 Morgan Construction Co.  
 Morgan Guaranty Trust Co. of N.Y.  
 Morrison & Foerster  
 Morrison-Knudson Co. Inc.  
 Morton-Norwich Products, Inc.  
 Motorola, Inc.

Mountain Bell  
 Mountain States Mineral Enterprises  
 Munsingwear, Inc.  
 \*Murphy Oil Corp.  
 Mutual Benefit Life  
 Mutual Trust Life Ins. Co.  
 The Mutual Life Ins. Co. of N.Y.  
 Mutual of Omaha

## N

N.C.R. Corp.  
 NL Industries, Inc.  
 NLT Corp.  
 NRC, Inc.  
 Nabisco, Inc.  
 \*Naico Chemical Co.  
 National Bank of Detroit  
 National Bank of North America  
 \*National Can Corp.  
 National City Bank  
 National Detroit Corp. (NBD)  
 \*National Distillers & Chemical Corp.  
 National Gypsum Co.  
 National Life Insurance Co.  
 National Medical Enterprises, Inc.  
 National Steel Corp.  
 Nationwide Mutual Insurance Co.  
 \*Natomas Co.  
 Nepera Chemical Co., Inc.  
 New England Electric System Cos.  
 New England Merchants National Bank  
 New England Mutual Life Insurance Co.  
 New England Petroleum Corp.  
 New England Telephone  
 New Jersey Bell Telephone Co.  
 New Orleans Public Service Inc.  
 New Prospect Fdn.  
 \*New York Telephone Co.  
 The New York Times Co.  
 The New Yorker Magazine, Inc.  
 Newsweek, Inc.  
 Nordson Corp.  
 Normano Ltd.  
 North American Phillips Corp.  
 Northeast Utilities  
 Northeast Illinois Gas Co.  
 Northern Machine Tool Co.  
 Northern Trust Co.  
 Northwest Airlines  
 Northwestern Bank Southwest  
 \*Northwestern Bell Telephone Co.  
 Northwestern Financial Corp.  
 The Northwestern Mutual Life Ins. Co.  
 Northwestern National Bank of Minneapolis  
 \*Northwestern National Bank of St. Paul  
 Northwestern National Bank Southwest  
 \*Northwestern National Life Insurance Co.  
 \*Norton Co.  
 W. W. Norton & Co. Inc.  
 John Nuveen & Co. Inc.  
 Nylube Products Co.

## O

Oakite Products, Inc.  
 Oglebay Norton  
 Ohio Bell Telephone Co.  
 Ohio National Life Insurance Co.  
 Oklahoma Gas and Electric Co.  
 Old National Bancorporation  
 Old Stone Bank  
 Olin Corp.  
 Olinkraft, Inc.  
 Oneida Ltd.  
 Ontario Charitable Fdn.  
 \*Ortho Pharmaceutical Corp.  
 Oxford Industries Inc.  
 Owens-Corning Fiberglas Corp.  
 Owens-Illinois, Inc.

## P

PHH Group  
 PG Industries, Inc.  
 \*PQ Corp.

PACCAR Foundation  
 PACCAR Inc.  
 Pacific Mutual Life Ins. Co.  
 Pacific Resources, Inc.  
 Louis Padnos Iron & Metal Co.  
 Pan American Life Insurance Co.  
 \*Panhandle Eastern Corp.  
 \*Parker-Hannifin Corp.  
 Ralph M. Parsons Co.  
 Paul Revere Life Insurance Co.  
 Peabody International Corporation  
 Peat, Marwick, Mitchell & Co.  
 Peavey Company  
 Pechiney Ugine Kuhlmann Corp.  
 J. C. Penney Co.  
 \*Pennsylvania Power & Light Co.  
 \*Pennzoil Co.  
 Peoples Energy Corp.  
 PepsiCo., Inc.  
 PET Inc.  
 Petro-Tex Chemical Corp.  
 Pfizer, Inc.  
 \*Phelps Dodge Corp.  
 Philadelphia Manufacturers Mutual Insurance Co.  
 \*Philadelphia National Bank  
 \*Phillip Morris Inc.  
 \*Phillips Petroleum Co.  
 Phoenix Mutual Life Insurance  
 Piedmont Aviation, Inc.  
 \*The Pillsbury Co.  
 The Pioneer Group, Inc.  
 \*Pioneer Hi-Bred International  
 Pitney Bowes Inc.  
 Pittsburgh National Corp.  
 Pittway Corp.  
 Plainfield Cytology Laboratory, Inc.  
 Plante & Moran, CPA's  
 Playboy Enterprises, Inc.  
 \*Polaroid Corp.  
 Pope Ballard Shepard & Fowle  
 Potlatch Corp.  
 Preferred Risk Mutual Insurance Co.  
 Preformed Line Products Co.  
 Prentice-Hall, Inc.  
 T. Rowe Price Associates, Inc.  
 Price Brothers Co.  
 Price Waterhouse  
 Prince Corporation  
 Procter & Gamble  
 Provident Life & Accident Ins. Co.  
 Provident Mutual Life Insurance Co. of Philadelphia  
 Provident National Bank  
 \*The Prudential Insurance Co. of America  
 Public Service Electric & Gas Co.  
 Purity Supreme, Inc.

## Q

\*Quaker Chemical Corp.  
 \*The Quaker Oats Co.  
 Quaker State Oil Refining Corp.

## R

Ranier Bancorporation  
 Ralston Purina Co.  
 Arthur D. Raybin Assoc., Inc.  
 Raytheon Co.  
 Reader's Digest Foundation  
 Refrigeration Research, Inc.  
 \*Reliance Electric Co.  
 Reliance Insurance Co.  
 Republic National Bank of New York  
 Republic Steel Corp.  
 Research-Cottrell  
 The Research Institute of America, Inc.  
 Revlon  
 \*Rexham Corp.  
 Rexnord, Inc.  
 \*R. J. Reynolds Industries, Inc.  
 Reynolds Metals Co.  
 Richardson, Gordon & Associates  
 Richardson-Vicks, Inc.  
 C. A. Rickey, Inc.  
 \*Riegel Textile Corp.  
 The Rockefeller Brothers Fund, Inc.  
 Rockefeller Center, Inc.  
 Rockefeller Family & Associates  
 The Martha Baird Rockefeller Fund for Music, Inc.

Rockwell International Corp.  
 Rohm & Haas Co.  
 ROLM Corp.  
 Rorer Group, Inc.  
 Rosenman, Colin, Freund, Lewis & Cohen  
 Ross, Johnston and Kersting, Inc.  
 Rospatch Corp.  
 Royal Insurance  
 Rust Engineering Co.  
 RYCO Inc.

State Mutual Life Assurance Co. of America  
 \*State Street Boston Corp.  
 Stauffer Chemical Co.  
 Steel Heddle Mfg. Co.  
 Steelcase Foundation  
 \*Sterling Drug, Inc.  
 J. P. Stevens & Co., Inc.  
 Stone & Webster, Inc.  
 Student Loan Marketing Association  
 \*Suburban Propane Gas Corp.  
 Sullivan & Cromwell  
 Summit Hill Laboratories  
 \*Sun Co., Inc.  
 Sun Life Assurance Co. of Canada  
 Superior Oil  
 Swaine & Moore  
 SWANK, Inc.  
 Swiss American Securities, Inc.  
 \*Sybron Corp.  
 Syntex Corp.

Ticor  
 Tiger Leasing Group  
 \*Time, Inc.  
 The Times Mirror Co.  
 Times Publishing Co. & Congressional Quarterly  
 Toms River Chemical Corp.  
 \*The Toro Co.  
 The Torrington Co.  
 Total Petroleum (North America), Ltd.  
 Towers, Perrin, Forster & Crosby, Inc.  
 Townsend & Bottum, Inc.  
 Toyota Motor Sales  
 Tracor, Inc.  
 Trane Company  
 Transamerica Corp.  
 Transco Companies, Inc.  
 The Travelers Insurance Co.  
 Treadway Co., Inc.  
 Trust Co. of Georgia  
 Turner Construction Co.

United States Gypsum Co.  
 \*United States Leasing International Inc.  
 United States Steel Corp.  
 United States Steel Foundation  
 United States Tobacco Co.  
 United States Trust Co. of N.Y.  
 \*United Technologies Corp.  
 United Telecommunications, Inc.  
 United Telephone Company of Indiana  
 United Virginia Bankshares Inc.  
 The Upjohn Co.  
 \*Urban Investment and Development  
 Utah International Inc.  
 Utica National Insurance Group

## S

\*SCM Corp.  
 SKF Industries  
 SPS Technologies, Inc.  
 STP Corp.  
 \*SAFECO Insurance Cos.  
 Saga Corp.  
 St. Joe Minerals Corp.  
 St. Paul Cos., Inc.  
 St. Petersburg Times  
 \*St. Regis Paper Co.  
 Salomon Brothers  
 Sanders Associates, Inc.  
 Sandoz, Inc.  
 \*Santa Fe Industries, Inc.  
 Santa Fe International Corp.  
 Santa Fe Railway Fdn.  
 Schering-Plough Corp.  
 Schindler Haughton Elevator Corp.  
 The Schlegel Corp.  
 Charles Schwab & Co., Inc.  
 Scientific Brake & Equipment Co.  
 Scott Foresman & Co.  
 Scott Paper Co.  
 Seaboard Coastline Industries  
 Seafirst Corp.  
 \*Joseph E. Seagram & Sons, Inc.  
 Sealed Air Corporation  
 Sealright Co., Inc.  
 G. D. Searle & Co.  
 Seattle Trust & Savings Bank  
 Security Benefit Life Insurance Co.  
 Security Pacific Corp.  
 Security Van Lines, Inc.  
 Seton Co.  
 \*SHAKLEE Corp.  
 \*Shell Oil Company  
 Shenandoah Life Ins. Co.  
 The Sherwin-Williams Co.  
 Sidley & Austin  
 Siemens-Allis, Inc.  
 Sifco Industries  
 The Signal Cos., Inc.  
 Signode Corp.  
 Silver Burdett Co.  
 Simmons Co.  
 The Singer Co.  
 Skakken, Arps, Slate, Meagher & Flom  
 Skinner Corp.  
 Smith, Hinchman & Grylls Associates, Inc.  
 SmithKline Foundation  
 \*Sonat, Inc.  
 Sony Corp. of America  
 Soo Line Railroad Company  
 South Carolina National Bank  
 Southeast Bank, N.A.  
 Southern Bell Telephone Co.  
 \*Southern New England Telephone Co.  
 The Southland Corp.  
 Southwest Forest Industries  
 Southwestern Bell Telephone Co.  
 Southwestern Life Insurance Co.  
 Sperry Corp.  
 \*Sperry & Hutchinson Co.  
 \*Springs Industries, Inc.  
 The Square D Co.  
 \*Squibb Corp.  
 The Stackpole Corp.  
 Stanadyne, Inc.  
 \*Standard Brands, Inc.  
 Standard Insurance Co.  
 \*Standard Oil Co. (California) Chevron USA, Inc.  
 \*Standard Oil Co. (Indiana)  
 \*The Standard Oil Co. (Ohio)  
 \*Standard Products Co.  
 Standex International Corp.  
 Stanley Home Products, Inc.  
 \*The Stanley Works

# Gifts from Your Portfolio

At press time,  
 the Dow Jones Industrial Average  
 stood at

## 1209.46

Michigan Engineers have always been good investors, and gifts of appreciated stock are often the best option for both the investor and the College. Please consider the tax benefits of a planned gift from your portfolio and the many options for transferring these assets into working capital for the College. We'll both benefit.

## T

TRW Inc.  
 Tandy Corporation  
 Tech/Ops, Inc.  
 \*Tesoro Petroleum Corp.  
 Tektronix, Inc.  
 \*Teledyne, Inc.  
 \*Tennant Co.  
 C. Tennant Sons & Co. of N.Y.  
 Tenneco, Inc.  
 \*Texaco, Inc.  
 Texas Commerce Bank  
 \*Texas Eastern Corp.  
 Texas Gas Transmission Corp.  
 Texas Instrument Fdn.  
 Texas Instruments Inc.  
 Texasgulf, Inc.  
 Textron Inc.  
 The Thomas & Betts Corp.  
 \*J. Walter Thompson Co.  
 J. T. Thorpe Co.

## U

UGI Corp.  
 UOP Foundation  
 US Air  
 William Underwood Co.  
 Union Camp Corp.  
 Union Carbide Corp.  
 Union Commerce Bank  
 Union Electric Co.  
 Union Mutual Life Insurance Co.  
 \*Union Oil Co. of California  
 \*Union Pacific Corp.  
 Uniroyal  
 United Airlines, Inc.  
 United Bank of Denver, N.A.  
 United Brands Co.  
 United California Bank  
 United Energy Resources, Inc.  
 United Engineers & Constructors, Inc.  
 United Mutual Savings Bank  
 United Parcel Service

## V

Valley National Bank of Arizona  
 \*Varian Associates  
 Victaulic Co. of America  
 Vulcan, Inc.  
 \*Vulcan Materials Co.

## W

WCCO AM-FM TV  
 The Wachovia Corporation  
 Walker International Importers, Exporters  
 \*Wallace Murray Corp.  
 The Wallingford Steel Co.  
 Warner Communications, Inc.  
 Warner-Lambert Co.  
 Warner & Swasey Co.  
 Washington National Insurance Co.  
 \*Washington Post Co.  
 Watkins-Johnson Co.  
 Wausau Insurance Cos.  
 C. J. Webb, Inc.  
 Weber Valentine Co.  
 Welch Foods, Inc.  
 Wells Fargo Bank  
 West Point-Pepperell  
 Western Administrative Services  
 Western Asset Management Co.  
 Western Bancorporation  
 Western Electric Company  
 Western Publishing Co., Inc.  
 Westinghouse Electric Corp.  
 Westlawn Corp.  
 Westvaco Corp.  
 Whirlpool Corp.  
 Whittaker Corp.  
 Wickes Cos., Inc.  
 \*John Wiley & Sons, Inc.  
 Willamette Industries, Inc.  
 Williams & Company  
 The Williams Co.  
 Winn-Dixie Stores, Inc.  
 Winston-Salem Dental Care Plan, Inc.  
 The Wiremold Co.  
 Wisconsin Electric Power Co.  
 Wisconsin Telephone Co.  
 Wolverine World Wide, Inc.  
 Woollen Associates Architects  
 World Book-Childcraft International Inc.  
 Wyman Gordon

## X

\*Xerox Corp.

## Y

Yankelovich, Skelly and White, Inc.  
 Yarway Corp.  
 Arthur Young and Co.  
 Young & Rubicam, Inc.

## Z

\*Zapata Corp.

mer, he gave an interesting sketch of the class and how they banded together on behalf of the College to make such an impressive difference in endowment funding:

It was 55 years ago, in 1927, when 347 freshmen started their education at our fine Engineering College. The economy was booming all around the world, but in 1929 the stock market crashed and by 1931 the country was in the "great depression." As a result, only 248 classmates were able to continue their education and graduate. Many of those who did graduate were helped by scholarships similar to the one you have just been awarded.

Our class wanted to show their appreciation for the excellent education they received, so at our 47th reunion we decided to

try to raise funds for scholarships. Our goal was to raise \$50,000 for the fifty years since we graduated, and we named our project the "Fifty for Fifty Club" in the hope that other classes would follow in our footsteps. We worked hard and more than doubled our goal by our Fiftieth reunion.

Members of the 1931e Class have been very successful engineers and some have been very outstanding. We have corporate executives, aeronautical engineering executives, sales executives, two ministers, a Navy Commander, a patent lawyer, and seven University professors. Two of our classmates were on the U-M faculty, and one became head of the Chemical Engineering Department. I mention this to give you some idea of the wide range of activities that a Michigan graduate from the Engineering College can anticipate.

# SUPPORT PROGRAMS IN THE COLLEGE

## I / THE ANNUAL FUND PROGRAM

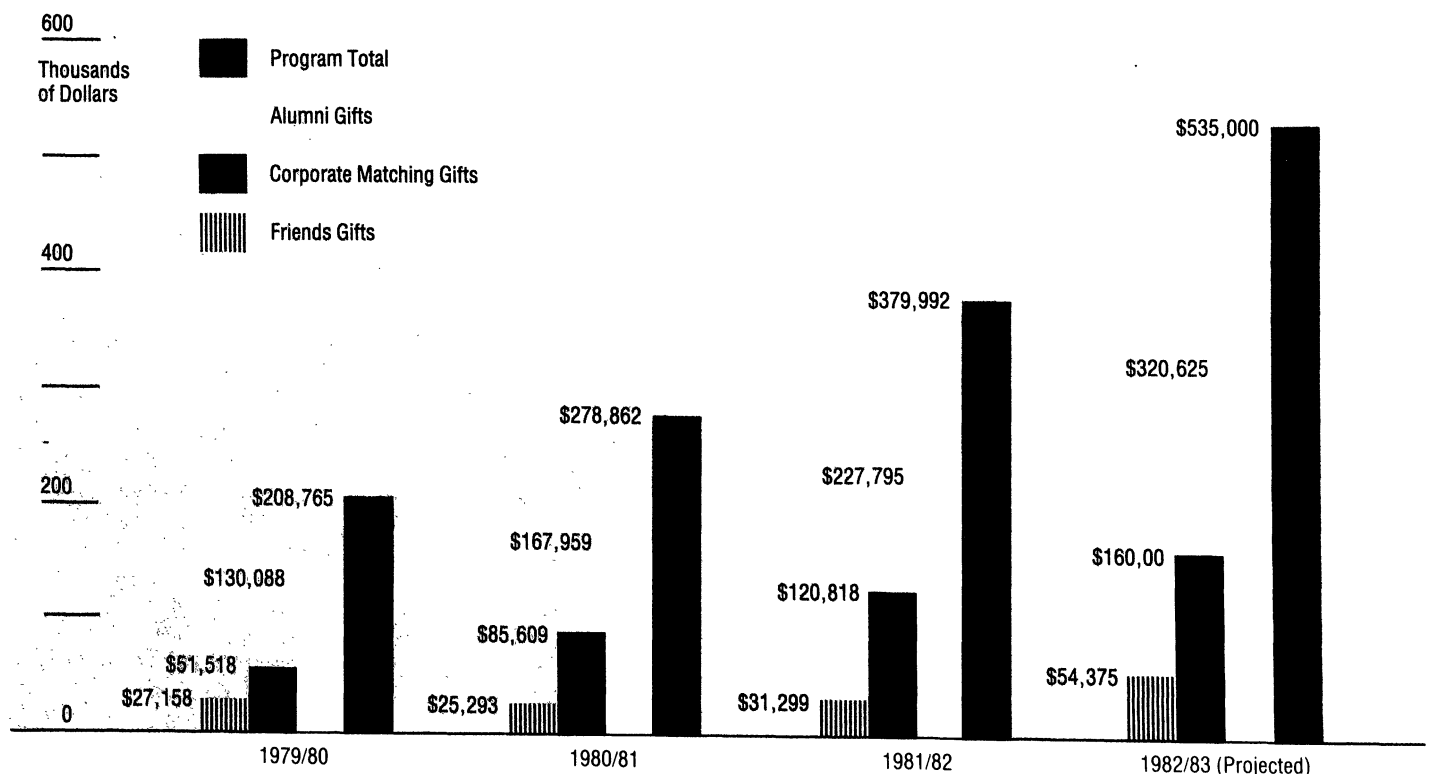
This is made up of the yearly gifts from alumni and friends, as well as matching gifts from the companies with which the individual donors are connected — usually as employees.

As shown here, in recent years there has been a steady increase in all categories: total annual fund gifts (up 34% in 1980/81 and 36% in 1981/82); average alumni gift (from \$74.63 in 1979/80 to

\$87.38 in 1981/82); number of donors (up 23% in 1980/81 and 21.5% in 1981/82); and number of gifts from friends (up 24% in 1981/82). During the first half of the current academic year, gifts came in from 732 new donors.

In 1980/81, corporate matching gifts increased by a heartening 66%, and in 1981/82 they increased by another 41% — which

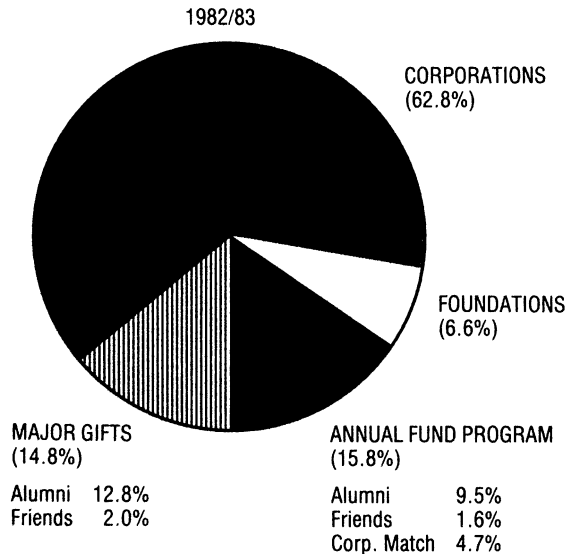
Figure 1 Annual Fund Program



represents within two short years more than a doubling in the dollar amount matched by employers. No doubt this impressive trend will continue as more and more alumni and friends become aware that their companies stand ready to match their gifts to the College.

The Annual Fund Program makes up a significant portion of the voluntary support received by the College. These mostly discre-

Figure 2 College of Engineering Voluntary Support Where Does It Come From?



tionary dollars give the College badly needed leverage to respond to new opportunities or to strengthen ongoing programs.

In 1981/82 the Annual Fund Program supplied 14% of all gifts to the College (excluding bequests). It is projected that in 1982/83 almost 16% and in 1983/84 almost 17% of the College's gifts will come from this program. By 1984/85 the program will have to supply 17.5% of all gifts, exclusive of bequests, in order to reach the College's \$1 million annual fund goal established for 1985/86. In addition, it is our goal to double the *number* of donors by 1985/86. This will require a 32% increase in 1983/84 and a 24% increase in 1984/85. In those two years, consequently, we are aiming at projected increases of 33.3% and 25% in *alumni* gifts alone. And as individual gifts increase, so should corporate matching gifts; increases of 28% and 22% in the latter are projected for 1983/84 and 1984/85 respectively.

The outstanding rates of growth experienced by the College since 1979/80 give us good cause to believe that its donors will not only meet these ambitious goals but far exceed them. It is the proven support of alumni and friends that helps to ensure the continuation of high-quality engineering education at Michigan.

## II / THE MAJOR-GIFTS PROGRAM

Gifts in the major gifts category provide a substantial portion of the voluntary support received by the College.

Although major gifts have shown steady growth since 1979/80, the critical role they play in the development of new programs requires that ever-higher goals be set for them. In order to reach the goal of \$5 million in gift income (excluding bequests) set for 1984/85, we are depending on major gifts from alumni and friends

## Endowment

The College of Engineering benefits from a \$14 million endowment made possible largely through the generosity of alumni and friends. Although this endowment has built up gradually over the history of the College, major additions were realized during the recent Capital Campaign and in its aftermath. At present, the endowment breaks down into three broad categories:

Professorial Chairs	\$4,007,379
Fellowships/Scholarships	7,310,139
Research/Discretionary	2,764,110

Of the \$14,081,628 total, \$3.24 million in endowment was added as a direct result of the Capital Campaign, while an additional \$1.2 million came through the realization of deferred gifts. As noted elsewhere in this News, the recent Dwight F. Benton bequest accounted for a major addition of

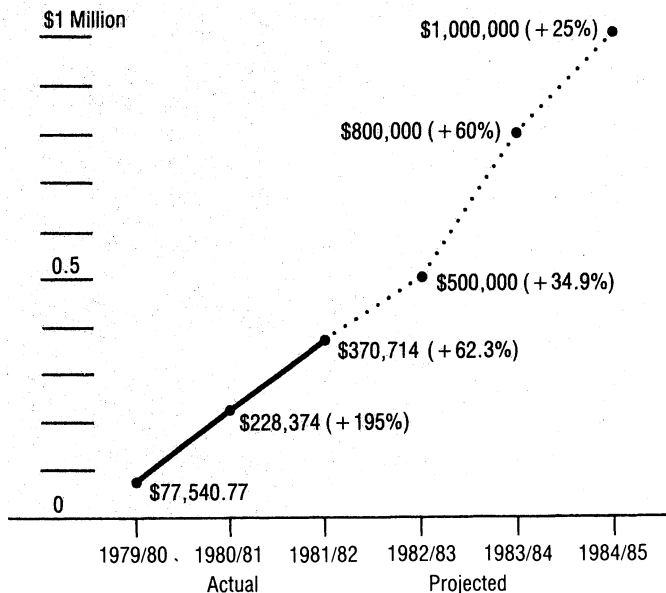
\$3.5 million. In the past eight years, therefore, a total of \$7.98 million (representing 56.6% of our total endowment) has been realized.

This demonstration of faith in the College on the part of our alumni and friends is encouraging, for only through endowment can the College sustain and enhance its diverse programs. It is endowment that provides the long-term financial base fundamental to the maintenance of a premier academic institution. By the end of this decade that base must be tripled if the College is to advance its ability to respond to the opportunities and new developments in engineering and technology. The importance of endowment cannot be over-emphasized, since it is the income yielded annually by these special funds that continues to *guarantee* eminence throughout the entire life of the College.

to supply 20% of all gifts to the College. [They accounted for only 14% in 1981/82.] This will require commitments from almost double the donors now participating in this program. If the im-

pressive growth rates of the past two years can be sustained, the College's alumni and friends may well reach this \$1 million major gifts goal ahead of schedule.

Figure 3 Major Gifts from Alumni and Friends



### III / THE MATCHING-GIFT PROGRAM

This program represents a very special partnership with three-way benefits. It gives *you* a chance to increase the value of your gift to the College. It gives *your company* a chance to show appreciation for the kind of education you received here. And it gives *the College* a precious "extra margin" of private support.

Basically, the matching-gift program means that if your company is a member, it will double the value of your gift to the College. And some companies include retirees, board members, and the spouses of employees in their pool of eligible participants.

If you find your company's name on the list (see page 9), all you have to do is obtain a matching-gift form from your personnel or contributions officer, fill it out, and send it along with your gift. If you do not find the name, check with that same officer anyway. More companies are joining the program every day; moreover, the list may fail to include separately named affiliates, divisions, or subsidiaries of larger companies. If your company is one that restricts its matching-gift contributions to private institutions, of course it cannot be included in the U-M list.

## FROM THE DEAN

With the dedication of the Herbert H. Dow Building, the College of Engineering passed an important milestone. For this building, more than any other visible symbol, signals that the completion of the College's long-awaited move to the North Campus is in sight. The Dow Building gave the College a sword to cut the Gordian knot, to overcome the impasse within the University and the State that had bound the College to the Central Campus for over 30 years.

But the Dow Building symbolizes far more than simply a physical move. This building was funded entirely through private gifts. Therefore, it demonstrates the importance of generous and enlightened private support in determining the College's future capacity to respond to the needs of the State and this nation and to provide educational opportunities to the thousands of students seeking engineering careers.

Hence, this extraordinary facility represents yet another milestone: a watershed between public and private support. Never again will the College benefit from the unusual degree of public support which built this University. In the future, the quality of its programs, its capacity to respond to the needs of Michigan and

the nation, will depend primarily on the generosity of its alumni and friends.

From this perspective we believed it appropriate to focus this newsletter on the importance of private support to the College. We have attempted to furnish you with an overview of the manner in which many of your classmates and colleagues have chosen to respond to the needs and objectives of the College — to provide through their gifts a legacy for others.

This newsletter has demonstrated the many ways through which private support is provided. Despite their diversity, however, all such means — from modest annual contributions to major gifts for facilities or endowment, ranging from hundreds to millions of dollars — have had a major impact on the College. They, more than any other single factor, have sustained the quality of our programs and provided the students of today with the same opportunities that most of you enjoyed in the past.

To be sure, few of our alumni and friends fail to recognize today the growing dependence of the College on private support. (My frank report on College finances last fall removed any lingering

doubt concerning the College's transition to private support.) Most recognize their responsibility to provide such support so that others might benefit from the same educational opportunities as themselves.

But many of our alumni and friends are not aware of the breadth of opportunities available for making a meaningful commitment and contribution. For example, comparatively few alumni who live in Michigan take advantage of the State tax laws in contributing to the College. (State tax credits plus federal deductions allow Michigan residents to give \$400 to the College annually for an effective cost of roughly \$100-\$200.)

Furthermore, few of our alumni seem to be aware of the varied opportunities for bequests and deferred gifts. In designing gifts to take advantage of tax laws, very large contributions to the College are often possible. Deferred gifts for endowments (e.g.,

named professorial chairs, scholarships, or fellowships) provide an exceptional opportunity to leave a memorial that will become a permanent legacy to sustain the College's tradition of excellence. We ask you to consider the many options available to make a lasting commitment and provide a major impact on the future of the College.

We hope this newsletter will provide you with a useful perspective and source concerning the critical importance of private support for the future of the College of Engineering. Together with thousands of students who benefit from our programs each year, we remain indebted to those of you who have chosen to respond with generous support. We hope that you, and those who have not yet made such a sustained commitment, can recognize the enormous difference your support has made. For this, as well as for your interest and encouragement, we shall always remain grateful. James J. Duderstadt / Dean, College of Engineering

## Capital Campaign Figures

In addition to the gains made in endowment during the 1970's Capital Campaign, the College made substantial gains with regard to facilities. The Dow Building as well as the new facilities for Naval Architecture & Marine Engineering stand as the most visible results. Here are the final figures covering the entire Campaign:

Construction	\$8,679,850.63
Undesignated	2,624,533.83
Designated Programs	
Auto Transportation	150,000.00
Human Performance	160,000.00
Manufacturing Systems	587,100.00
Mechanical Engineering Center	10,000.00
Naval Architecture & Marine Eng	871,162.00
Power Systems	75,000.00
Process Metals	35,000.00
Vehicular Lab	250,000.00
Instructional Media Center	600.00
36e Memorial	134,752.00
Equipment (Gifts-in-Kind)	467,635.00
Professorships	1,527,633.00
Student Aid	1,711,934.00
Deferred Gifts	3,125,519.00
<b>TOTAL</b>	<b>\$20,410,719.46</b>

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