Lawrence
INSTITUTE OF TECHNOLOGY
Magazine

Fall/Winter 1979/80

THE SHOVELS ARE POISED: LIT launches capital campaign

Energy conservation and comfort: are they compatible?

Private enterprise and public purpose: a Ford executive calls for 'reindustrializing' America

Alumni features

And more!

The 'real world' campus of LIT: page 20

Fire up

for activities at LIT!

Addresses by the speakers listed below are open to students, alumni and friends of the College without charge. However, because speakers occasionally must be rescheduled, visitors are encouraged to call the Public and Alumni Relations Office to confirm attendance.

January 29 *Architecture and Photography,* Balthazar Korab, nationally recognized architectural photographer. LIT Arch. Aud.; noon.

February 5 *Programming on Art and Architecture at Channel 56,* Jerry Trainor, director of programming, Channel 56, WTVS. LIT Arch. Aud.; noon.

February 12 *Design What You Build and Build What You Design,* Thomas Munsell, asst. professor of architecture. LIT Arch. Aud.; noon.

February 19 *Recycling Detroit's Riverfront,* Harriet Saperstein, principle planner, Recreation Department, City of Detroit. LIT Arch. Aud.; noon.

February 28 & 29 Registration, day baccalaureate programs, third term. Classes begin March 3.

March 11 *The Art of Papermaking,* Ted Ramsay, assoc. professor of art, University of Michigan. LIT Arch. Aud.; noon.

March 18 *Tensile Structures,* Kent Hubbell, instructor, School of Architecture, University of Michigan. LIT Arch. Aud.; noon.

March 25 *Architecture and Imagery,* Robert Benson, asst. professor of architecture. LIT Arch. Aud.; noon.

April 1 *Works in Progress,* Fredric Bertram, principle designer and project supervisor, Rossetti & Assoc. LIT Arch. Aud.; noon.

April 15 *Current Works,* Harold VanDine, head designer of Straub, VanDine, Dziurman/Architects, lecturer in architecture. LIT Arch. Aud.; noon.

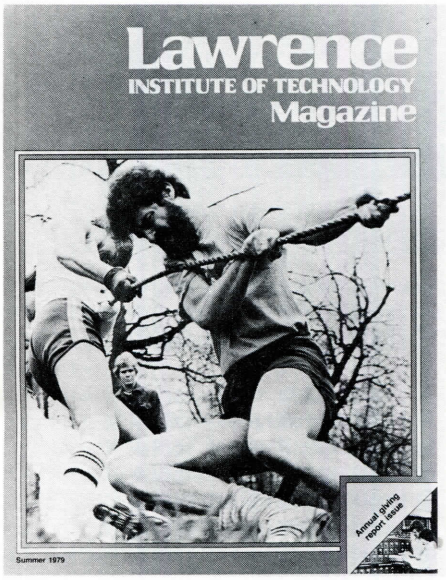
April 18 Groundbreaking ceremonies, LIT Business and Industrial Management/Library/ Dining Room/Student Service Complex. 11 a.m. College Quadrangle.

April 19 Annual Alumni Dinner-Dance. Time to be announced. College Dining Room.

April 19, 20 All-College Campus Open House; noon to 5 p.m.

Commentary

"Commentary" encourages letters from alumni, students, parents, and other friends of the College. Occasionally, and with the writer's permission, we will publish letters on subjects of general interest directed to other campus constituencies. When necessary, lengthy letters will be edited to fit available space.



Writing it right

Dear Professor Daugherty:
The summer issue of the LIT Magazine *(Vol. 3, no. 2) pushed me into doing something I had promised myself I was going to do since I graduated as an electrical engineering major in 1963. That something is to thank you for the excellent background in technical and report writing which you gave to those of us who attended your classes.*

Those of us with experience in the engineering field know how important it is to be able to "sell" our projects. No matter how good the projects might be from an engineering standpoint, they must be sold to the people with the purse strings.

The saddest thing I have seen in my 16 years in the engineering field has been the inability of so many engineers to communicate an idea in writing.

If I were to spend one minute in front of your technical and report writing classes, I would admonish them to treat the classes as an integral part of their curriculum and not just "side" courses. The written communications courses could very well be the most important classes they take in college.

Continued success to you and congratulations on your well deserved Faculty Excellence Award!

Maurice Hartenberger, P.E., EE'63
Manager - Plant Facilities
Amerock Corporation

Wherefore art thou?

Dear Editor:
Friends of mine who are LIT grads receive the Magazine, *but I don't. How come...?*
ME'47

Dear Editor:
My Magazine *comes to my parents house... (W)hy don't you send it to me directly?*
Ar'72

Dear Editor:
...I haven't heard from the College for years.
IM'68

These letters illustrate a frequently heard lament from alumni—wrong or changed addresses. Updating your LIT address record is easy. If it's wrong, or if you're moving, just drop the Public and Alumni Relations Office a note or call us and we'll process the change.

LIT alumni are a fast moving bunch. Each year, an amazing 25 to 30 percent of LIT's nearly 10,000 graduates change addresses. Some alumni, unfortunately, don't let us know. Alumni secretary Debbie Faes must then resort to the expensive and time-consuming process of obtaining updated addresses from the post office (for a fee) or by writing or telephoning graduates' relatives or last known addresses.

In many ways, what's happening now on campus can affect the "value" of previously earned LIT degrees. We feel that anyone who has spent thousands of dollars for an LIT diploma deserves our diligence in keeping them informed. Conversely, we're proud of our alumni and want to know of their success.

We can use each reader's help in locating "lost" alumni!

On page 34 of this issue, there's a list of all LIT graduates with whom we've lost contact since 1932. If you recognize a name and know his or her address, please let us know. We think your fellow grad will appreciate it too.

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Vol. 3, no. 2 and 3

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(313) 356-0200

About the cover: *The earthmovers aren't quite here yet, but sustained progress toward the goal of LIT's Capital Campaign can hasten their arrival. Read the full story beginning on page 2. Cover photo by Bizon.*

By-lined articles express the views of the authors and not necessarily either the opinions or policies of the College. Persons wishing to comment are encouraged to share their thoughts. Please address correspondence in care of the Editor, LIT Magazine, *at the address above.*

Editor: Bruce J. Annett, Jr., director of public and alumni relations

Associate Editor: Anne M. Cattermole, assistant director of public and alumni relations

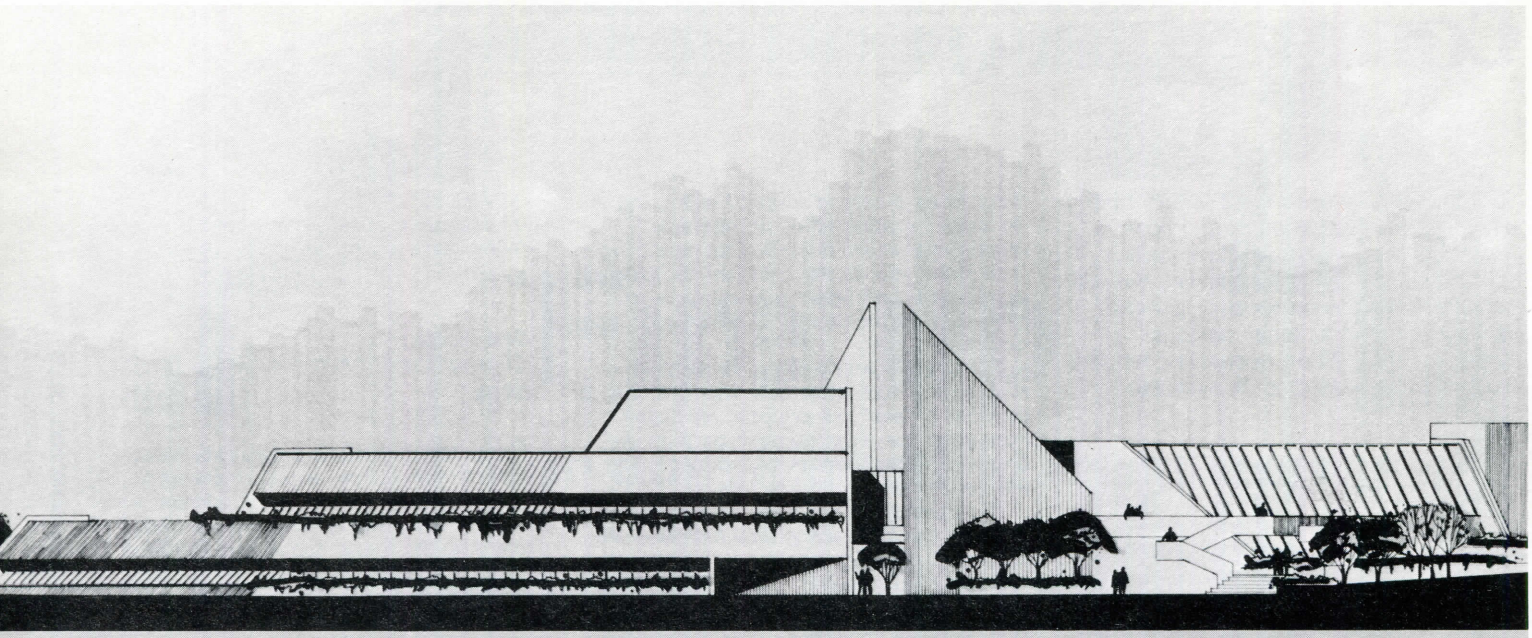
Public and Alumni Relations Secretary: Deborah A. Faes

College Photographer: Walter G. Bizon, BAr'77; additional photos by Bruce Annett, Anne Cattermole, and others.

Notice of non-discriminatory policy as to students

Lawrence Institute of Technology admits students of any race, color, handicap, national and ethnic origin to all the rights, privileges, programs, and activities generally accorded to or made available to students at the College. LIT does not discriminate on the basis of race, sex, color, handicap or national or ethnic origin in administration of its educational policies, admissions policies, scholarship and loan programs and athletic and other College-administered programs.

The statement above is included in this publication to conform to Federal guidelines: it represents no change in the policy of LIT.



VIEW FROM CAMPUS

This architect's preliminary rendering of LIT's Business and Industrial Management Building illustrates how the structure would appear as viewed from the Administration/Engineering Building. Although incorporating a minimum amount of outside glass, an interior atrium assures natural lighting on each floor, including the library which is below grade. Also planned for the building is a new campus dining room and offices of admissions, registrar, and student services.

Major gifts launch building campaign

To solve overcrowding and fulfill educational needs, LIT has embarked on an ambitious $12.5 million capital campaign. Nearly 40 percent of the goal is committed.

A major campaign to complete Lawrence Institute of Technology's campus has been announced by the College's board of trustees. The $12.5 million program is scheduled to conclude in 1984, and coincides with the fiftieth anniversary of the College in 1982.

Named the "Sharing in Excellence" Campaign, it is the College's first major support effort in its 47-year history. At a special announcement dinner December 7 at Dearborn's Hyatt Regency Hotel, College officials announced that 40 percent of the goal has already been committed. Substantial commitments have been made by Ford, General Motors, Bendix, the McGregor Fund, and other corporate and foundation leaders.

National chairman of LIT's capital effort is Lewis C. Veraldi, Ford Motor Company vice president of advanced vehicles development, and a 1968 mechanical engineering graduate of the College.

The campaign will fund the construction of two new buildings and the alteration of two older campus structures. New construction includes a 100,000 square foot Business and Industrial Management Building, which will include classrooms and offices for LIT's nearly 1,000 management students as well as library, dining, and student service facilities for the entire campus. The second building, a Campus Affairs and Activities Center, will provide space for student and alumni activities as well as expanded community and professional service functions.

In addition, portions of the College's Administration/Engineering Building, built in 1955, and its Architecture Building,built in 1962, will be altered to provide additional classroom and laboratory space for LIT's Schools of Engineering, Architecture, and Associate Studies. It is expected that the College's existing Library Building on Civic Center Drive, acquired in 1975, will be sold with the proceeds going to the campaign.

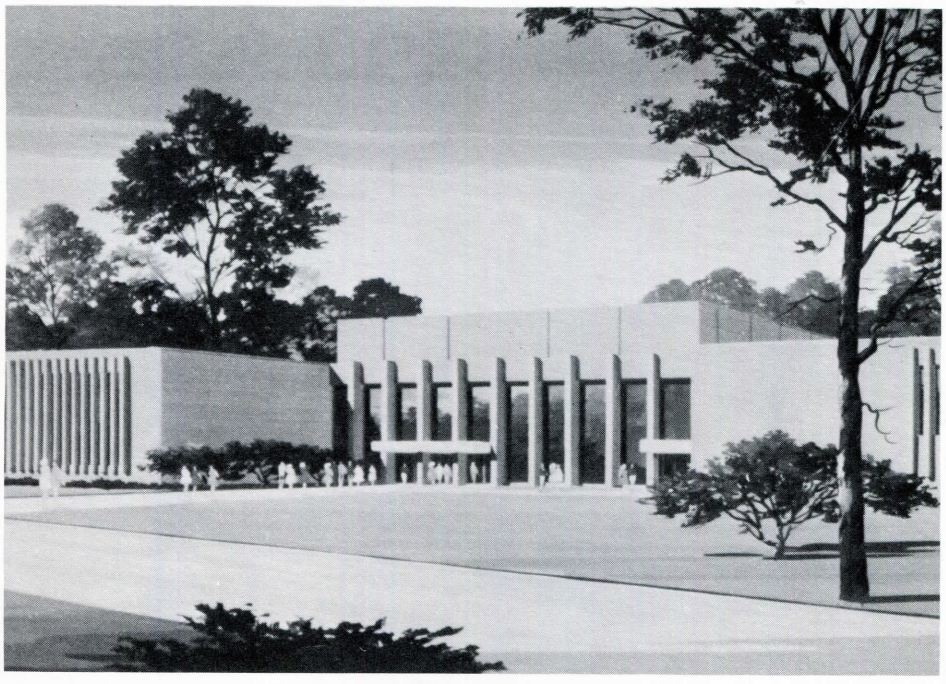
"With these new and altered facilities, we are recognizing present needs and predicting our future requirements," says Dr. Wayne H. Buell, the College's chairman of the board, a 1936 LIT chemical engineering graduate, and LIT's president from 1964-77. "Although we anticipate limiting future enrollment to 5,500, we need these facilities now to accommodate our current student body and to continue and expand extensive service activities," he added.

Enrollment has grown steadily at LIT, reaching a record 4,991 this fall. The number of women entering the College has jumped more than 1,000 percent in the past five years. Minority enrollment has increased more than 450 percent during the same period. Although more than 40 nations and most states are represented in the student body, the majority of students are from southeastern Michigan. The College has about 10,000 alumni.

Near 'round-the-clock operation has also helped attract students and allowed LIT to maintain significant operating efficiencies. Day and evening baccalaureate programs are offered in engineering, architecture, management, arts and science, and evening associate programs are offered in engineering and science technologies, making full use of all classrooms more than 16 hours daily. Yet, the annual tuition, at $1,425 this year for baccalaureate programs, is among the nation's lowest for private colleges.

Major gifts received as of December 7 by the College include the Ford Motor Company Fund ($1,225,000); General Motors Corp./General Motors Foundation ($588,000); LIT members of the corporation and board of trustees ($265,000); The Bendix Corp. ($250,000); McGregor Fund ($150,000); National Bank of Detroit ($75,000); The Cross Co. ($60,000); The Detroit Edison Co. ($50,000); Federal-Mogul Corp. ($50,000); F. Joseph Lamb Co. ($50,000); Knight Foundation ($25,000); Chrysler Corp. ($25,000 gift received for Campus Affairs and Activities Center in 1975); Harlan Electric Co. ($20,000); and Jervis B. Webb Co. ($15,000). In addition, the College has $1,723,910 in its Campus Affairs and Activities Center Building Fund and unrestricted gifts received between January 1 and October 31, 1979. □ *Related stories follow.*

LIT's Campus Affairs and Activities Center, shown in an architect's preliminary rendering (below), will include meeting and seminar facilities, offices for student organizations and alumni, a gymnasium, pool, and other recreational facilities.



"Sharing in Excellence" is the name of LIT's Capital Campaign—symbolizing the perpetuation by investors of the College's excellence in educational, community, and professional service.

About the campaign chairman

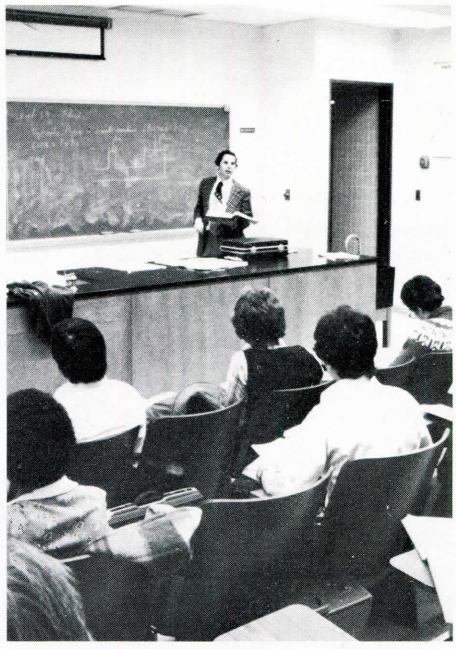
Lewis C. Veraldi, national chairman of the Lawrence Institute of Technology Capital Campaign, is vice president for advanced vehicles development at Ford Motor Company and a 1968 mechanical engineering graduate of the College.

Veraldi joined Ford Motor in 1949 as an engineering file clerk. He progressed through several positions of increasing responsibility, being named chief assembly engineer of the automotive assembly division in 1972 and vice president of product development for Ford of Europe in 1976. While at the European subsidiary, Veraldi was in charge of the successful Fiesta car development. He was appointed to his present position in July 1976.

A 1968 graduate of LIT where he received a B.S. degree in mechanical engineering, Veraldi is also a member of the Society of Automotive Engineers and the Engineering Society of Detroit. In addition, he serves on the LIT board of trustees.

A native of Detroit, Veraldi now lives with his wife and six children in Birmingham. □

Campaign goal: two new buildings and alterations



LIT's campus is overcrowded. Even with classrooms in use 16 to 17 hours each day, present facilities cannot adequately accommodate the current or projected student body. The construction of a new Business and Industrial Management Building and Campus Affairs and Activities Center, as well as alterations to two existing buildings, will allow the College to continue a tradition of educational excellence and service to students, the community, and the professions.

Two new buildings and the alteration of two others will result from the successful completion of the College's $12.5 million Sharing in Excellence Campaign. The new buildings are a Business and Industrial Management Building, including a new campus library, dining room, and student service offices, and a Campus Affairs and Activities Center.

dining facilities, a new bookstore, offices of admissions, the registrar, and student services. The structure will also house the College library, providing a central location for serving students, faculty, and staff. As these facilities open in this new building, space vacated in existing buildings will be allocated to the Schools of Architecture, Engineering, and Associate Studies.

Business and Industrial Management Building

The Business and Industrial Management Building will relieve space shortages practically everywhere on campus.

The School of Business and Industrial Management, currently housed in the Architecture Building, needs a home of its own with space to grow. The size of the School is significant — nearly 1,000 students are enrolled in day and evening programs.

The School provides qualified personnel to a variety of managerial, financial, and corporate fields. Further, it fills a need engineering and technical students have for industrial management education. For example, required courses in this School may be electives for architecture, engineering, and science students.

The 100,000 square foot Business and Industrial Management Building will also house the College's expanded

Campus Affairs and Activities Center

The proposed Campus Affairs and Activities Center has a prominent position within the principle of *"education for a purpose"* that has guided the development of the College.

There is a growing annual program of interaction among students, faculty, and business, community, and professional leaders through discussions, seminars and symposia.

The Campus Affairs and Activities Center will contain, on its various levels, offices, work and storage areas for alumni and student organizations. Also planned for the building are meeting and seminar facilities, and recreational facilities such as an auditorium/gymnasium, pool, and courts for use by the entire College community, including alumni.

Alteration of existing facilities

Funds for alteration of existing space is a third requirement of the LIT Capital Campaign.

Construction of the new buldings will vacate space in existing buildings which house the Schools of Engineering, Architecture, and Associate Studies. Planned alterations such as conversion of the present dining and kitchen space to facilities for the School of Engineering will help Lawrence Institute of Technology continue to meet the increasing need for well-educated technical and engineering personnel.

The School of Architecture has a critical need for additional studios, classrooms, and work areas — space occupied now by the School of Business and Industrial Management.

Other spaces to be vacated and altered include the offices of the registrar, admissions, student services and student organizations. The bookstore has already moved to a temporary building because of the need for laboratory space in its former location.

Space will also be allocated to the School for Associate Studies where a critical shortage of laboratory space exists. Programs and courses in this School have been expanding and developing to meet the career plans of a growing number of students. □

Lewis C. Veraldi

A special appeal to alumni and friends . . .

All of us who have been on campus have doubtless been impressed by the special vitality and commitment to excellence which has distinguished our College since its founding in 1932.

Our graduates have always been "doers" — leaders in their professions. Today, as LIT students prepare for careers extending into the 21st Century, we can proudly anticipate even greater things to come.

Education at LIT today is truly an exciting experience, but our campus is overcrowded and lacks many of the amenities found at comparable institutions.

Together, we can continue the momentum towards institutional greatness which will mark the future of Lawrence Institute of Technology. Now is the time to complete the campus for which students, alumni, faculty, staff, and friends have striven for nearly 50 years.

Your past generosity has brought us within sight of our goal. Your renewed generosity will help us achieve it.

Please join me in sharing in excellence for LIT.

Sincerely,

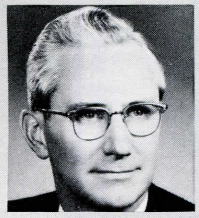
Lewis C. Veraldi, ME'68

Vice President, Ford Motor Company;
National Chairman, LIT Sharing
in Excellence Campaign

Campaign leadership—volunteer efforts are vital

Hundreds of LIT alumni and friends will help assure the success of the College's Capital Campaign by volunteering time and effort for the solicitation of contributions.

National campaign chairman Lewis C. Veraldi, ME'68, has named 12 individuals to serve as vice chairmen and lead the volunteer efforts. Each has responsibility for coordinating the fund-raising activities within a particular segment of the College family.

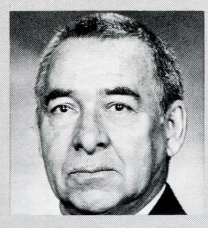


Bregi

Ben F. Bregi is vice chairman of the Foundations Division in the Capital Campaign. He is responsible for coordination of grant requests.

Bregi, of St. Clair Shores, is a management consultant, having retired from top positions in several area companies. He was formerly president of National Broach and Machine, and National Twist Drill and Tool Division, and was group vice president at Lear Siegler Inc.

Bregi received his B.S.M.E. degree and an honorary doctorate in engineering from Lawrence Institute of Technology and serves on the LIT board of trustees. He was awarded the LIT alumni achievement award in 1952 and the Society of Mechanical Engineers Gold Medal Award in 1963, and is a member of the LIT Presidents Club. A fellow in the Engineering Society of Detroit, Bregi holds 51 patents in the U.S. and foreign countries.

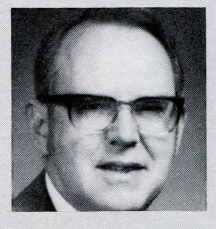


Bunt

Floyd W. Bunt is the vice chairman of the Staff and Administration Division of the Capital Campaign. This Division coordinates the fund-raising activities of the non-teaching staff at LIT.

Director of high school relations at the College and a resident of Orchard Lake, Bunt has been an important figure in local education for many years. While teaching at Cranbrook School for Boys in Bloomfield Hills, he was cited as one of the nation's five outstanding teachers in secondary education by Yale University. During his 25 years at Cranbrook, he taught chemistry and engineering physics and served as head of the Science Department from 1964-69. Upon retiring from the school, Bunt became headmaster at Kingsbury School in Oxford before joining LIT in 1971 as a member of the chemistry faculty.

A professor and civic leader, Bunt was commissioned by the Fund for Peaceful Atomic Development to meet with Japanese educators and scientists and served as a consultant to the Cranbrook Institute of Science for its physics exhibits. He is a former judge for the Michigan Science Fair and is also a member of the Birmingham Volunteer Fire Department, the Rotary Club, ESD, the Detroit Chapter of the English Speaking Union, and the LIT Presidents Club.

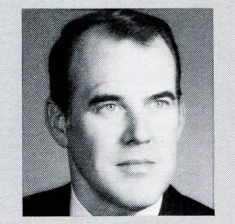


Cummings

Richard H. Cummings, vice chairman of the Friends Division in the Lawrence Institute of Technology Capital Campaign, is responsible for coordinating fund-raising from the College's many friends.

Cummings, a resident of West Bloomfield, is vice chairman of the National Bank of Detroit. He has been employed with NBD since 1948.

He holds a B.A. from Amherst College and an M.B.A. from Harvard University and serves on the LIT board of trustees. Cummings also serves as a director at Braun Engineering Company, Handleman Company, Hoover Universal, Inc., and Howell Industries, Inc.



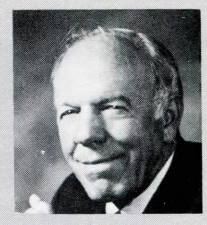
Fitch

Roger H. Fitch, vice chairman of the Service Corporations Division in the Lawrence Institute of Technology Capital Campaign, is responsible for coordinating the fund-raising activities of all non-manufacturing corporations.

Fitch, a vice president of the Detroit Bank & Trust Company since 1970, is in the bank's Personal Trust Division. He received a B.A. in economics from the University of Virginia and has also attended the Detroit College of Law, the National Trust School, and Northwestern University.

A member of the Greater Detroit Chamber of Commerce, the Dad's Committee of Boy Scout Troop No. 156 in Grosse Pointe, and the Y.M.C.A. Indian Guides Tribe, Fitch is also on the board of trustees for the Children's Home of Detroit, and LIT. He is the treasurer and a board member of the Grosse Pointe War Memorial Association and, in addition, is an active member of the Christ Episcopal Church of Grosse Pointe.

Fitch is a resident of Grosse Pointe.



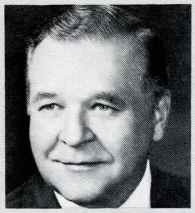
Gresham

Dr. **Perry E. Gresham** is the vice chairman of the Members and Trustees Division in the Lawrence Institute of Technology Capital Campaign. He is coordinating the fund-raising activities of the LIT Members of the Corporation and Board of Trustees.

Gresham is the president emeritus and distinguished professor of humanities at Bethany College in Bethany, WV. He previously served as a professor of philosophy and minister of the campus church at Texas Christian University, the University of Washington, and the University of Michigan, Detroit Branch.

Gresham is chairman of the board of Gresham Associates, consultants, and is on the board of directors of the Chesapeake and Potomac Telephone Company in Charleston, South Carolina; Cooper Tire and Rubber Company in Findlay, Ohio; Westbanco in Wheeling, West Virginia; and the John A. Hartford Foundation in New York City. He is also a member of the board of trustees at LIT, Bethany College, the Memorial Medical Foundation in Cleveland, OH, and the West Virginia Foundation of Independent Colleges, and is a member of the LIT Presidents Club.

A versatile and distinguished man of letters, Gresham has received honorary doctorates from 15 North American universities and colleges, has been awarded four Freedom Foundation Awards, has lead seminars on Plato in Greece, and was an interpretive correspondent in the Middle East for the *Detroit Free Press.*



Johnson

Elmer B. Johnson is the vice chairman of the Southfield Division in the Lawrence Institute of Technology Capital Campaign. He will coordinate fund-raising activities with the Southfield community.

Johnson is director of public relations for Giffels Associates, Inc. architects, engineers, and planners, and is a resident of Redford Township. He was recently appointed chairman of the City of Southfield public relations advisory board, is a vice president of communications for the Southfield Chamber of Commerce, and is serving on communication committees for the Engineering Society of Detroit and the Consulting Engineers Council of Michigan.

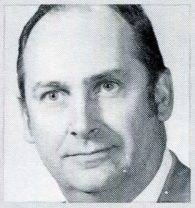
Johnson is a member of the Public Relations Society of America and the Detroit Press Club, and is active in the Boy Scouts of America, the American Cancer Society, and the Science and Engineering Fair of Metropolitan Detroit.

Maier

Ernie Maier is the vice chairman of the Faculty Division of the Capital Campaign. He is coordinating the fund-raising activities of the teaching staff at the College.

An associate professor of management at LIT and resident of Union Lake, Maier was previously at Wayne State University and IBM, where he served as a marketing representative from 1967-72. He received a B.S. in marketing and an M.B.A. from the University of Detroit and has also attended the University of Illinois.

A marketing consultant, Maier is also president of Aqua-Weed Control of Oakland Co., Inc. and Lake Lawns, Inc. He is president of the White Lake Republican Club, a member of the LIT Presidents Club, and is the co-author of a new book on marketing for McGraw-Hill entitled *Cases in Selling*.



Polkinghorne

Bruce R. Polkinghorne of Farmington Hills is the vice chairman of the Presidents Club Division in the Lawrence Institute of Technology Capital Campaign. He is coordinating the fund-raising activities of the members of a select group of LIT supporters.

A registered professional engineer, Polkinghorne is currently a staff engineer at Detroit Diesel Allison Division of General Motors Corporation. He is a 1950 graduate of LIT where he received a B.S. in mechanical engineering and is on the board of directors of the College's Presidents Club. He is also a member of the Society of Automotive Engineers and the Farmington Concert Band.

Stuckman

Cynthia A. Stuckman of Pontiac is the vice chairman of the Student Division in the Lawrence Institute of Technology Capital Campaign. She has responsibilities for coordinating campaign fund-raising activities of the LIT student body. A mechanical engineering student at LIT, Ms. Stuckman is currently on educational leave from Chevrolet Machine Engineering Division in Warren. She is a member of the Engineering Society of Detroit and the LIT student chapters of SAE and ASME. She is also serving as the College's Open House chairman for the 1979-80 academic year.

Tech

Kurt O. Tech, vice chairman of the Alumni Division in the Capital Campaign, is coordinating the fund-raising activities of LIT's more than 10,000 alumni.

President of the Cross Company and a resident of Grosse Pointe Shores, Tech is a 1948 LIT graduate and received a B.S. degree in mechanical engineering. He has been employed by the Cross Company, a multi-national builder of automated machine tools for more than 35 years, serving in a number of engineering and management positions before being named president in 1979.

In 1958, he was awarded the LIT alumni achievement award for his pioneering in the fields of automation and automatic production lines. He is a past president and life member of the LIT Alumni Association, a past president of the Russell Lawrence Foundation, a member of the LIT Presidents Club and is currently serving as secretary of the members of the LIT corporation.

Tech is also a member of ESD, SAE, IEEE, the Lochmoor Club, and the Grosse Pointe Congregational Church.

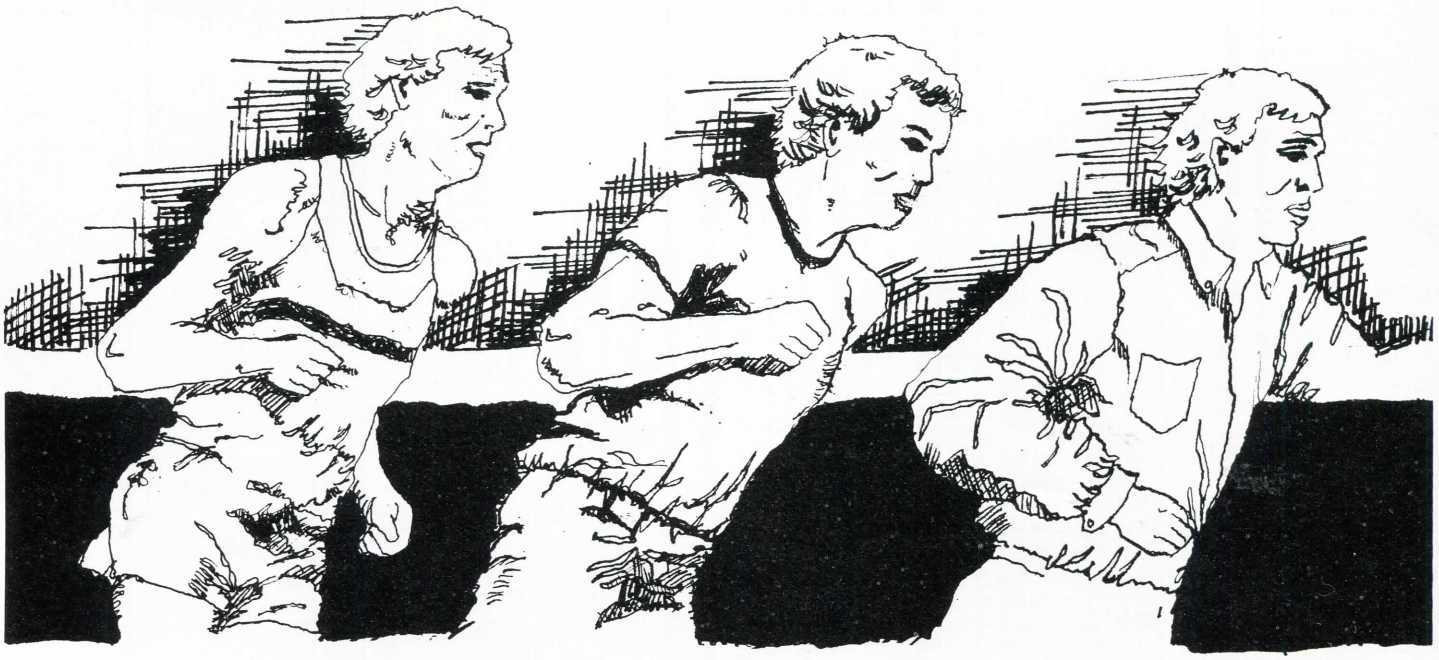
Tischler

Reinhold M. Tischler is the vice chairman of the Manufacturing Corporations Division in the Lawrence Institute of Technology Capital Campaign. He is coordinating fund-raising from area manufacturers.

Tischler is vice president and general manager of the Mechanical Devices Division for the Automotive Operations of Rockwell International in Troy. Formerly employed by Burroughs Corporation and the Cadillac Motor Division of General Motors Corporation, Tischler was named "Outstanding Young Engineer" in 1970 by the Engineering Society of Detroit.

A graduate of General Motors Institute, where he received his B.S. in mechanical engineering, Tischler also earned an M.B.A. from the University of Detroit. He is on the advisory board for Wayne State University's School of Engineering, Engineering Technology Division, serves on the board of directors of ESD, and is a member of the Tau Beta Pi national engineering honor society. He is a resident of Warren.

A divisional vice chairman for the Professionals Division had not been appointed at presstime. □



Energy conservation and comfort— are they compatible?

Feeling comfortable indoors this winter isn't as simple as slipping on a sweater. An LIT professor explains why temperature affects us the way it does, and what we can do about comfort at home.

By Joseph B. Olivieri, P.E., associate professor of architecture

Excerpted from **ASHRAE Transactions 1979**, *vol. 85, part 2. Reprinted with permission of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.*

By now we are all aware of the energy shortage. Even those who do not believe that there is a shortage are painfully aware of the rising costs.

From all sides we are told that Americans can no longer enjoy the luxury of being comfortable. Turn your thermostat to 68°, turn it to 66°; it's better for your health to be cold and on and on. Must we sacrifice comfort to conserve energy? No!

Technology is available right now which will conserve energy. Not only can we save energy and still be comfortable, but in many cases we can save money!

Let's look at this thing called comfort. Is it so simple that just adding a sweater will keep us comfortable at 66°? No, it is not simple — comfort is complex with many variables.

Let's start by defining comfort. "Comfort is that condition of mind which expresses satisfaction with the thermal environment." It is influenced by:

1. Amount of clothing worn.
2. Activity level.
3. Air temperature and relative humidity.
4. Surface temperatures.
5. Air velocity.

Clothing is rated for its insulating value in units called the CLO. A person wearing a bikini is wearing 0.05 CLO. The same person wearing long underwear, tops and bottoms; warm slacks, warm shirt or blouse and a blazer would be wearing 2 CLO.

What does this mean? Well, for a person at rest every 0.1 CLO is equivalent to a 1.44F degree change in temperature. This means that the person in a bikini needs a temperature about 29° warmer than the person in the parka.

Next, let's look at physical activity. Our bodies are marvelous machines that combine the carbon in food with oxygen in a low-temperature process that provides the fuel necessary for our machine. Like all machines, some of this fuel is rejected as heat.

When we are seated at rest, our bodies reject 400 Btu/h to the environment. As our physical activity increases, the amount of energy rejected increases. Here's the heat output for various physical activities:

Activity	Btu/h
Sleeping	280
Seated at rest	400
Standing relaxed	480
Shopping	560 to 720
Housework	640 to 1360
Office work	480 to 560
Light factory work	800 to 960
Heavy factory work	1400 to 1800
Dancing	960 to 1760

For most people a change in temperature of 3°F is required for every 100 Btu change in physical activity, assuming no change in clothing.

Let's now look at clothing, temperatures, and activity combinations.

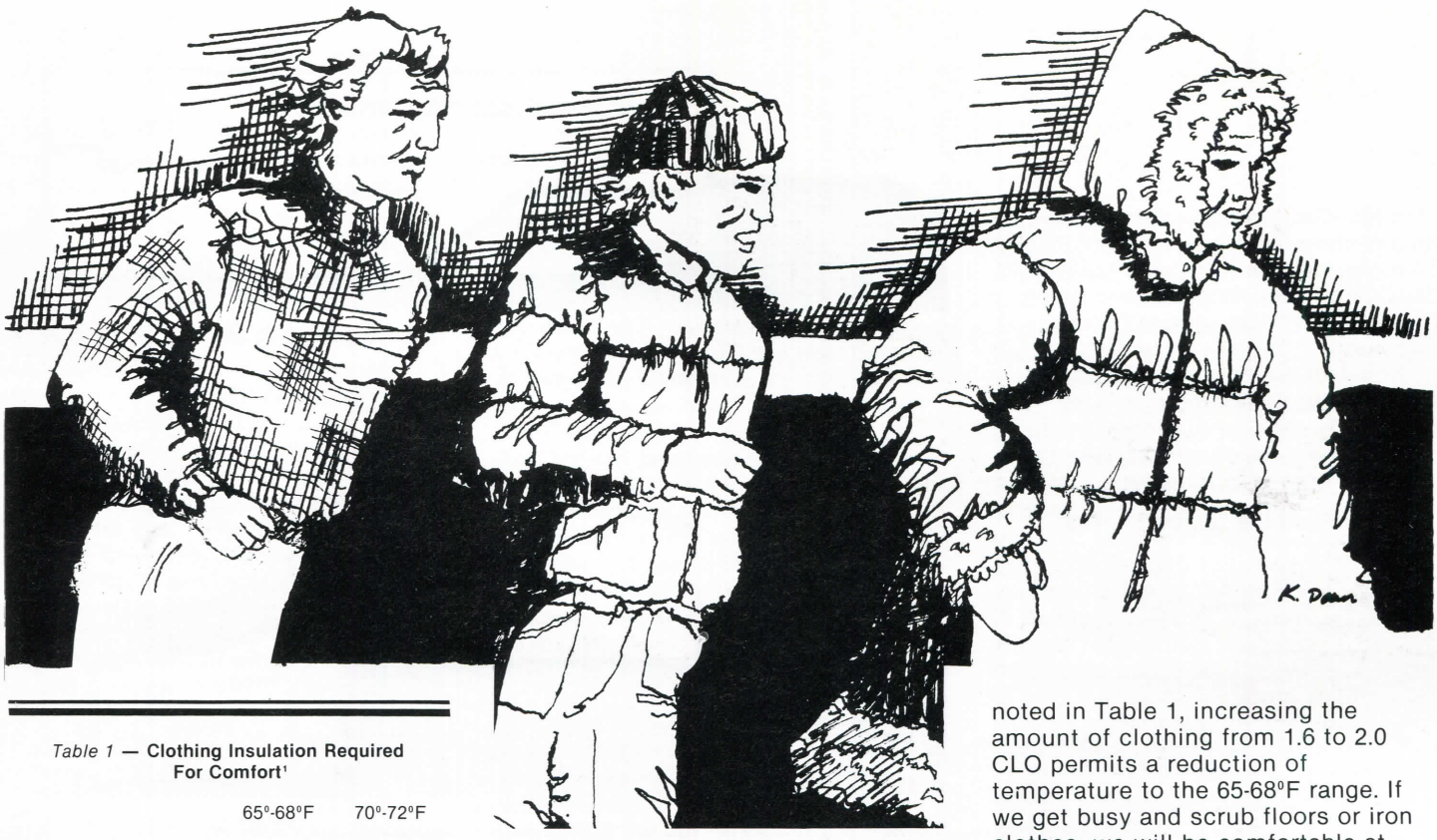


Table 1 — **Clothing Insulation Required For Comfort**[1]

	65°-68°F	70°-72°F
Seated, reading with light mental activity	1.6-2.0 CLO	1.2-1.4 CLO
Standing, relaxed Seated, typing Drafting Misc. office work	1.2-1.5 CLO	0.9-1.1 CLO
Cooking Washing dishes Shaving Teacher in school	0.8-1.0 CLO	0.5-0.7 CLO
House cleaning Walking 3 mph Washing, ironing	0.5-0.7 CLO	0.3-0.5 CLO

Let's assume that 1.6-2.0 CLO will keep a person warm at 68°. What does one have to wear if one is sitting and reading? A person will have to wear long woolen underwear, a warm shirt, warm slacks and a blazer. Either that or keep working. So, if we wear enough clothes or keep working, we can be comfortable at 68° as long as our shelter doesn't have too much glass.

Air velocity influences comfort as we all know. Every 30 ft/min increase in air velocity over 45 ft/min is the same as dropping the air temperature 1°F.

Surface temperatures are very important to comfort. Our body surface temperature is 90°F, and we will reject heat to any surface at a lower temperature. The distance we are from these colder temperatures is also a factor in how much heat our body rejects.

The scientist fellows have put this all together in something they call *mean radiant temperature* (MRT). Mean radiant temperature takes into consideration the temperature of the surfaces around us and our distance from these surfaces.

For ideal comfort, the mean radiant temperature must equal the ideal space temperature. For every degree drop in mean radiant temperature, the space temperature must be raised a degree.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) has put together a comfort chart which considers all these variables. ASHRAE has spent close to $1,000,000 studying comfort and the research is continuing. The studies indicate that 80% of the adult population is most comfortable when seated at rest if:

- The space temperature equals 78°F.
- The relative humidity is between 20% - 60%.
- The subject is wearing 0.6 CLO.
- The air velocity is less that 45 ft/min.
- The mean radiant temperature is 70°F.

What ensembles give 0.6 CLO? For women a warm knee length dress or slacks and a long sleeve blouse. For men, long sleeve shirt and trousers.

As mentioned earlier, we can reduce the temperature and still be comfortable if we wear more clothes or increase our physical activity. As noted in Table 1, increasing the amount of clothing from 1.6 to 2.0 CLO permits a reduction of temperature to the 65-68°F range. If we get busy and scrub floors or iron clothes, we will be comfortable at 65-68°F with from 0.5 to 0.7 CLO of clothing.

However, we must keep in mind that this is true as long as there are no drafts and as long as the mean radiant temperature equals the space temperature. Low MRT are always a problem but seem to be an increased problem as space temperatures are lowered.

My own experience in my home showed that the use of warmer clothing permitted a reduction of space temperature in the fall. However, as outdoor temperatures dropped, it was necessary to raise space temperatures to reach the same level of comfort because of dropping MRT.

As you can see, reducing temperature may save energy but comfort may be elusive. Recently I was retained to check out a new large office building. The building has essentially floor to ceiling glass which runs wall to wall. Most complaints came from first floor offices where the glass was 14 feet high.

Following President Carter's recommendation, they kept the offices at 65°F during the day and 55°F at night. The personnel were told to wear warm clothes. As mentioned earlier, they would have needed long underwear. warm slacks, warm shirt and a blazer because the glass reduced the MRT to about 50°F.

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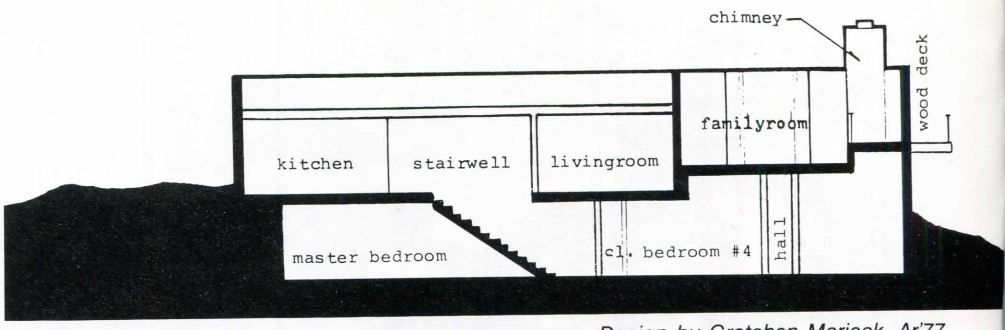


Figure 1 *Design by Gretchen Maricak, Ar'77*

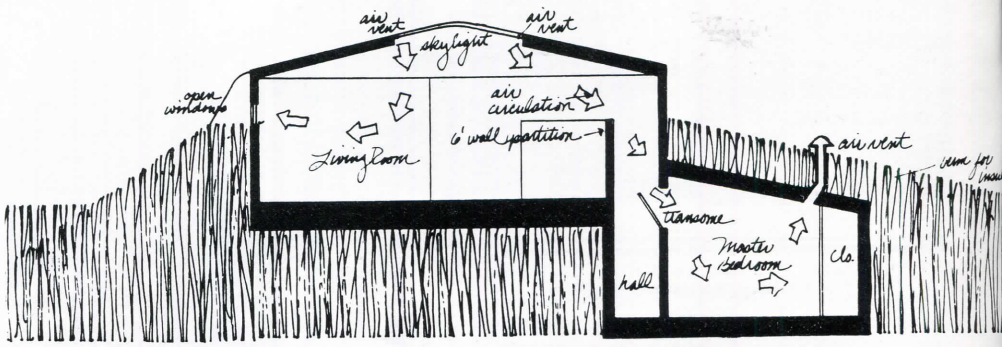


Figure 2 *Design by Clarence Lee, Ar'77*

This reduced the equivalent space temperature to approximately 57°F. To make matters worse, on really cold days (20°F) they didn't recover from the night set back until 4:00 in the afternoon.

Now that we have a better idea of what constitutes comfort and its complexity, let's look at energy conservation. Steps we can take to conserve energy in housing are to:

- Reduce the temperature to 68°F.
- Insulate.
- Reclaim waste heat.
- Look at new architectural concepts.
- Consider new heating systems.

Lowering the temperature to 68°F in the average 1,500 square foot home will save 390 therms of gas at a dollar savings of $117. (A therm is 100,000 Btu; gas was assumed to cost $.30 per therm.) Let's see how much we can save if we take other steps which will permit us to maintain a comfortable environment.

First of all, let's take a home that was built prior to the Arab boycott. Its perimeter probably was one third glass and its walls uninsulated except for insulating sheathing. The attic insulation was probably 2 inches.

As stated earlier, this home will save 390 therms if the temperature is kept at 68°F instead of 75°. If we insulate the house with 3.5 inches of insulation in the walls and increase the attic insulation to 6 inches, we will also save 390 therms and the temperature can be kept at 75°F. The cost of this insulation is only $1,000 and will save $117 each year.

Next, let's look at a new house which will have only 15 percent glass and is built with 2 by 6 inch studs which enable us to use 5.5 inches of insulation. In addition, we will use 1 inch of "Styrofoam" for sheathing. The attic will have 12 inches of insulation. This house will use 730 therms less than the poorly insulated house and will still have 75° space temperature. Will this cost more? Probably not, the increased cost of 6 inch studs, and the additional insulation will be offset by reduced costs for heating and air conditioning systems.

Further savings can come by changes in architectural design. Do all parts of a house need to be above ground? We don't need large windows when we are asleep, so why not put the bedrooms below ground leaving the living areas above ground. This will reduce gas consumption by 480 therms. Some imaginative designs are illustrated in Figures 1 and 2.

The use of earth berms or heavy masonry will keep a home cooler in summer. Because of the mass of the wall, the sun's heat never penetrates the interior. By the time the wall's temperature is high enough to add heat to the interior, the sun has set and the outdoor temperature drops. Now the wall rejects heat to the outdoors.

If we combine wall mass with shaded glass and forced ventilation of attics, the interior temperature should be less than 80°F even on a day when the outdoor temperature reaches 95°F. But there is a problem.

In humid areas, such as Michigan, we may find that we are uncomfortable because of high humidities. It is advisable in homes like these to add dehumidifiers which will certainly use less energy than air conditioners.

Our everyday activities create moisture which must be removed in order to maintain a comfortable relative humidity. For example, cooking for a family of four will add 4.86 pounds of moisture per day to the home. Washing dishes will add another 3.6 pounds. If each family member takes a show, another 2 pounds enters the home. Just these three activities add 10.46 pounds of water each day.

If the home were to start with a temperature of 70° in the morning and 50 percent relative humidity, the house would, by late afternoon, have a relative humidity of close to 100 percent. We have two alternatives to prevent this. We can open windows which will then also admit heat or we can use a dehumidifier. A dehumidifier is the best bet, and it uses much less power than an air conditioner. Actually, these homes have such a small cooling load that a combination air conditioner-dehumidifier could be used. However, it will take more than the appliance type dehumidifier.

Let's look at windows for a moment. These are the greatest source of heat loss and heat gain in a building. In a well-insulated home with a perimeter that is 15 percent glass, the windows lost twice as much heat as the walls. In other words, 15 percent of the perimeter has twice the heat loss of the remaining 85 percent. Logically, we should attack these windows to see what can be done to reduce heat loss and heat gain through them. Figures 3 and 4 are some thoughts that come to mind. Figure 3 is a motor-operated, Styrofoam-filled garage door that can be lowered from the attic to insulate the windows any time the homeowner wishes (nighttime, rainy days, when the home is empty, etc.). Figure 4 shows insulated bifold doors that can be manually drawn when desired. All these devices are nothing more than an update of the traditional

shutter.

Now let's look at heating systems. First of all, let's look at gas heating systems. When gas is burned, it gives at best 80 percent efficiency. This means that for every therm (100,000 Btu) we purchase we get 80,000 Btu in usable heat. If, instead of burning this gas, we use it to run a heat pump, we will get a minimum of 150,000 Btu. How do we do this? In the past this has been tried with converted automotive engines. The problem here was one of short life. An engine operating for one year is the equivalent of 200,000 miles of operation. A better solution is to use a gas turbine. Gas turbines have an efficiency equal to a gas engine but much longer life.

Heat pumps have been known to engineers ever since the days of Sadi Carnat, the father of refrigeration. A heat pump is a refrigeration machine. Refrigeration machines transport heat from one place to another. When used for cooling, as in a window unit, heat is absorbed from the house and discarded outside. If we want to heat a house, we could just reverse the process and cool the outdoors and reject the heat to the house. This works exceptionally well at 40°F outdoor temperature and above and with less efficiency at temperatures less than 40°F. Table 2 gives the energy input and output for a typical air source heat pump. Notice the column titled *coefficient of performance*. C.O.P. is the ratio of heat output for heat input. So at 0°F we get 2.3 KW of heat (7820 Btu) for every KW of energy input.

Table 2

Outdoor Temperature	KW/h 1000 Btu	Coefficient of Performance
0	0.15	1.9
20	0.115	2.6
40	0.083	3.5
50	0.073	4.0

This is certainly a lot better than resistance heating where we get 1 KW of heat for every KW of energy purchased. Notice how much higher the C.O.P. is at 40°F than 0°F. This leads us to search for 40°F or higher heat sources. If we are near a lake, flowing stream or a well, we could use these as energy sources. If we had a 50°F source, we would use only one fourth the energy we would with resistance heating.

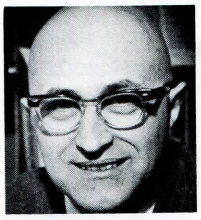
Another way to utilize a heat pump is to make ice. Every time we make a pound of ice we must extract 144 Btu. The C.O.P. with this system would be 3. This ice can be stored and used in the summer for cooling. If we use this system in our super-insulated 1500 square foot house, we would make 5787 cubic feet of ice (181 tons). This would fill a storage cell 24' x 24' x 10' deep. In Michigan this is three times as much ice as we can use in the summer. A better solution is to use solar heating to melt the ice and, therefore, store less ice. This means that we can reduce our storage to 199 cubic feet or a 10' x 10' x 10' pit. If additional ice is needed in summer, ice can be made at night for use during the day. In fact, if the power company has an off peak rate, ice can be made in the winter at night and the hot water stored for daytime use.

Another combination of heat pump and solar heating utilizes a eutectic salt which freezes at 80°F. Just as you mix rock salt with ice to depress the freezing or rather the melting point of ice to yet colder temperatures, we can use certain salts to raise the freezing point. With this system we have a C.O.P. of 4 and require a larger storage pit (15' x 10' x 10').

Every day we literally throw heat down the sewer in our homes. Bath water, dishwater, and laundry wastes can be at temperatures from 100° to 140°F. Every gallon of hot water used means that a gallon of cold water at temperatures of 50° to 70° must be heated to 140°F. Why not heat this water with the waste water? Launderettes that I designed years ago discharged laundry wastes to a pit. The pit contained a lint screen and a bundle of pipes. the cold makeup water circulated through these pipes to be preheated by the waste water. In new homes, the discharge from sanitary facilities such as toilets could be kept separate from the hot wastes. The hot wastes could then be taken to a pit or heat exchanger to preheat the cold water. Vacuum breakers and check valves would be needed to prevent the contamination of the drinking water. In existing homes the same fin tube we use for heating could be fabricated into a heat recovery coil to fit into a laundry tub. Cold water would be preheated by the discharge from the automatic washer.

Energy conservation and comfort can be compatible. Look about you and save energy and money. □

'...(S)avings can come by changes in architectural design. Do all parts of a house need to be above ground?'



About Joseph B. Olivieri

Joseph B. Olivieri, P.E., is an associate professor of architecture at LIT, and is also board chairman of OEM Associates, architects and engineers. A consultant in energy and a popular speaker for ASHRAE and other professional organizations, Olivieri is also frequently called upon by the media to share his expertise.

[1]How To Be Comfortable at 65 to 68 Degrees, Nevins, McNall and Stolwijh ASHRAE Journal April 1974 page 42

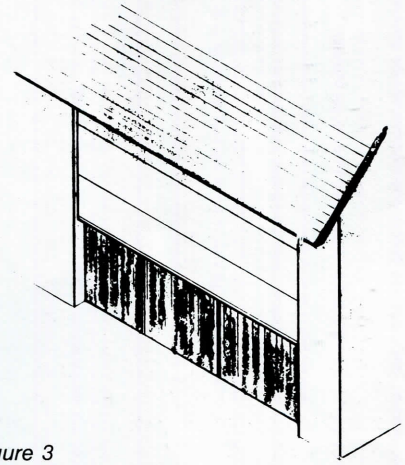


Figure 3

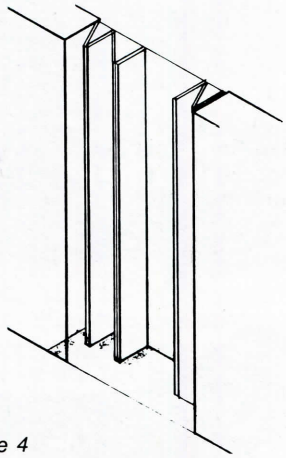
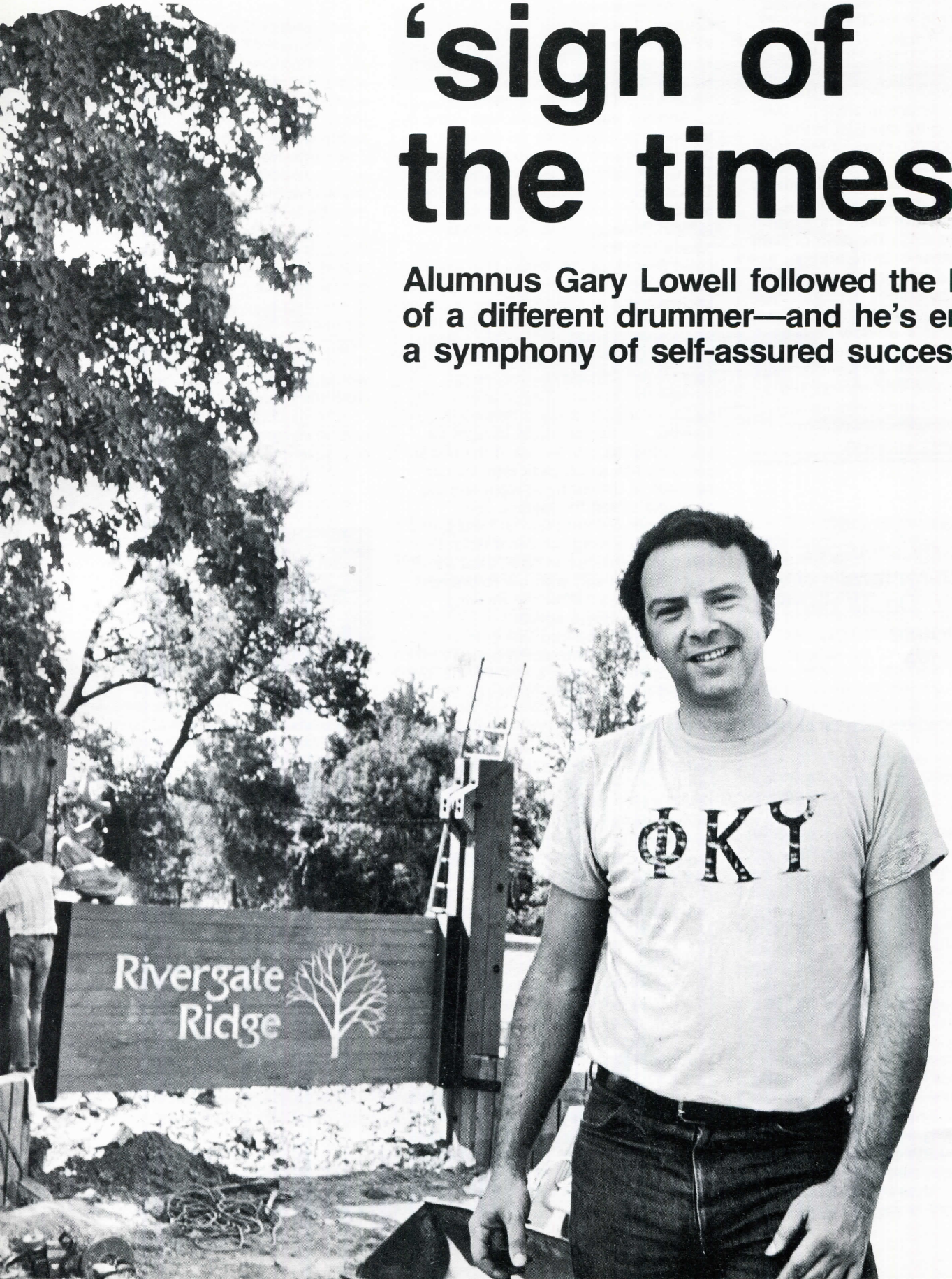


Figure 4

He's a 'sign of the times'

Alumnus Gary Lowell followed the beat of a different drummer—and he's enjoying a symphony of self-assured success



Being a graduate mechanical engineer who would rather design signs than machines presents no problems for Gary Lowell, ME'69. In fact, his unique career choice is quite in keeping with his own belief in man's unlimited adaptability.

"Emerson believed that each of us represents the sum of all civilization," he notes, "and that each of us can attain no more and should attain no less than the sum of all of those who have gone before us. That's my philosophy too—if people have done it, I can do it too. That lets me get into a lot of new areas."

Gary, owner of Worthington Wood Works, Ltd., a company which attempts to bring aesthetics into signage, seems to throw himself into everything he does, be it a hobby or a whole new career. "New fields" have almost become a way of life, as Gary has undergone several changes of attitude and life-style in the past several years. Many of these changes have involved risk and the challenge of following his own mind rather than accepted norms.

Attending LIT, in itself, was a challenge as Gary had put little effort into his high school classes and his resulting low grades made success at college seem unlikely.

"I was the 'Fonzie' type in high school, a real rebel against authority," he remembers. "All I liked to do was work on cars."

"Although I wasn't sure what area I wanted to go into," he continues, "I remembered that I had enjoyed physics in high school because it represented reality. There were specific laws of order and all things seem to act in a set and specified manner. I liked that exactness and I also liked to find out how things work, so I decided to try mechanical engineering."

Gary entered LIT in 1962 and moved slowly toward what had once seemed an impossible goal. He learned a great deal about engineering, chemistry, and mathematics but, even more importantly for Gary, he learned a great deal about himself. Gary credits his gain of self-knowledge to the Phi Kappa Upsilon fraternity.

"Joining 'Phi Kapp' was one of the turning points in my life," he remembers. "It opened 'mental doors' for me and helped me to understand people better. Students don't realize that they can get so much more education out of college if they just join in some group activities.

Gary Lowell

'I know when I'm good. I know when I'm just OK, and I know when I'm bad—that's the only guideline I need.'

"Unlike most math laws, the sum of two parts working together in human relation situations, is far greater than the total of the two parts working alone," he maintains. "There is so much more to be accomplished by working together instead of living by the 'me-first' theory of life all the time."

Gary believes that Phi Kappa Upsilon helped to channel the rebellion of his earlier years, but the "march to a different drummer" attitude still seemed much in evidence even after his graduation in 1969.

"I left LIT just like any other graduate," he recalls, "believing that I was going to change the world. I put myself into the mold of a quiet family man, sitting at a drawing board eight hours a day, but I just didn't fit. I found that engineering wasn't for me and instead of staying in a job that wasn't right, I decided to start looking around for something else."

At that time, the "something else" turned out to be an interest in business and an M.B.A. from James Madison University in Virginia. Gary hoped that the degree would lead to areas which might interest him more.

As he was studying for the M.B.A., though, his success in engineering continued to reflect Gary's determination to succeed at everything he is involved in. He was named chief design engineer at Rubbermaid Commercial Products, Inc. in 1970, even though his interests were now turning into other areas.

"I believe that no matter what anyone attempts, they have the power to do it well," Gary comments. "If I had wanted to remain an engineer, I would have made a darned good one. It just happened that my interests began to expand into other areas."

Gary's acceptance of his own changes in interest and attitude are probably best explained by his over-all theory of life.

"Life is dynamic, not static," he explains. "Experience teaches processes and strategies which we then adapt and use to deal with future situations. The only way we can prepare ourselves for the future is to get our strategies down pat, because we never know where we might need them."

Living up to that theory, Gary pulled together his strategies in 1976 to accommodate his growing interest in owning his own business. He had already moved back to Michigan from Virginia and it wasn't long before "Worthington Wood Works, Ltd.," was born.

Gary joined with old fraternity brothers Tom Panian, IM'71, and Phil Fenton in starting the business and all three had an opportunity to find out what it was like to make the rules rather than follow them. Phil and Tom have since left but Gary, thriving on the chance to be his own boss, has continued on. He discovered he had a talent for design and was also able to gain first-hand experience with the world of business. Gary finds that his sometimes unique style often confuses his prospective customers.

"I just love to understate when I'm selling," Gary smiles. "When I go into a new customer wearing a flannel shirt, jeans, and 'tennies,' they sort of snicker and say, 'Oh, here's the sign man.' What they don't know is that the 'sign man' has a degree in mechanical engineering and in business administration. When I flip on my slide presentation and start talking, they don't know what to think. I draw upon psychology, philosophy, and plenty of marketing techniques to get across my product. I

Continued on next page

don't think that I leave any office without leaving a real impact."

Today, the "sign man" employs four people and is training one of them to help manage the business. Rob Boggs is an LIT architecture student and Phi Kappa Upsilon brother. Rob also enjoys the freedom of working on his own and expects to stay with Gary even though he is studying for a much different career field.

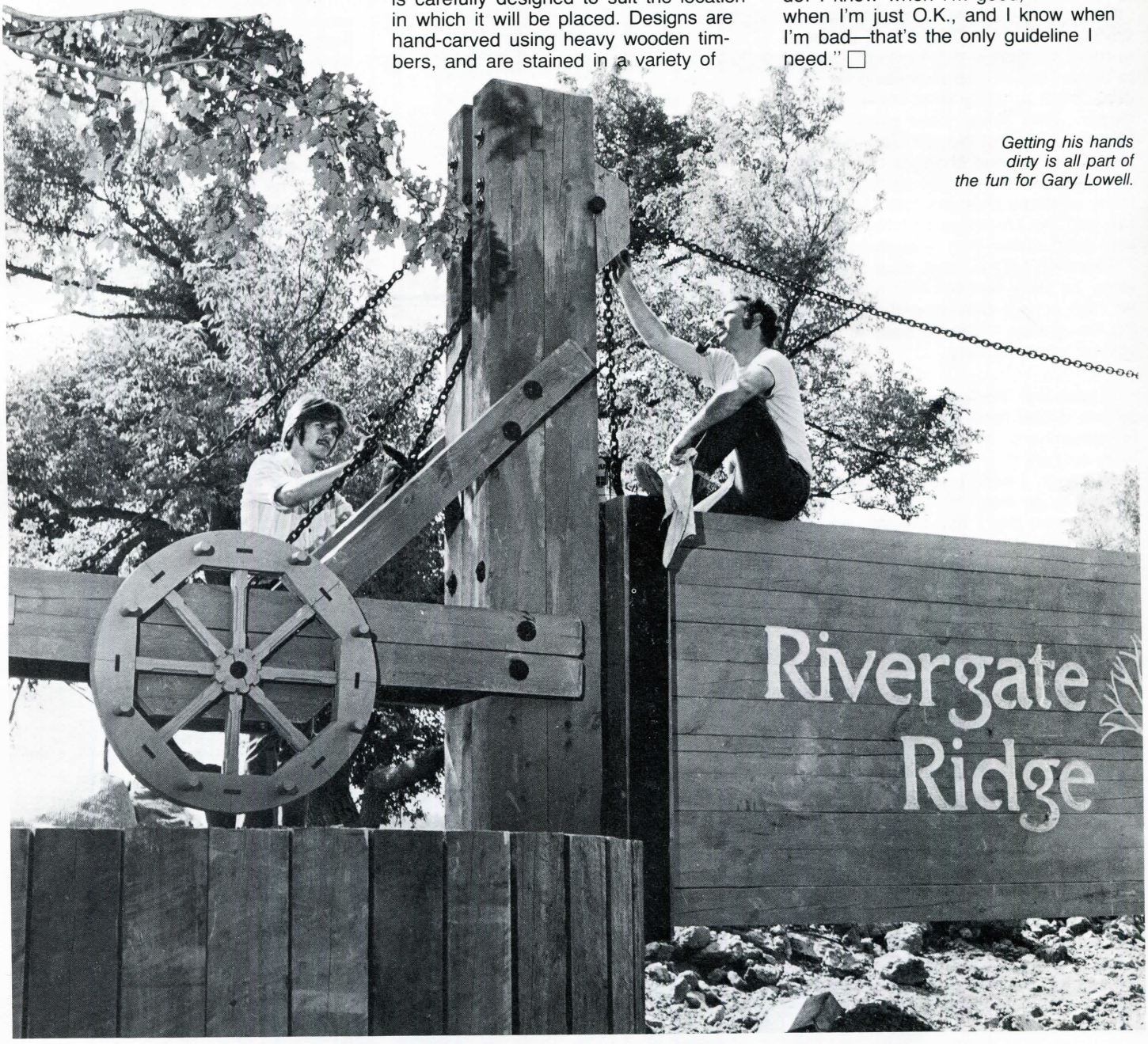
The fraternity which brought both men together is extremely important to both of them. Gary remains active as an alumni member and believes that few LIT students really take advantage of the chance to expand themselves outside the classroom.

To help further college ties and school spirit himself, Gary occasionally employs fraternity brothers in his company, believing that the team effort helps the business. And—the idea seems to be working.

Worthington Wood Works, Ltd. products are appearing more and more throughout the area as people become aware of what is an "aesthetic environment." According to Gary, each project is carefully designed to suit the location in which it will be placed. Designs are hand-carved using heavy wooden timbers, and are stained in a variety of colors. Each nut or bolt is placed utilizing Gary's engineering training to insure the sign's stability and strength.

The quiet, honest, and straightforward result is almost revolutionary in a world filled with plastic neon and flashing lights but, after a few moments with Gary, one believes that he wouldn't have it any other way.

"As a young boy, I watched my father work very hard to pass the state architectural license exam," he remembers. "I object to the idea that anyone should set up rules or guidelines to tell me whether or not I'm good at what I do. I know when I'm good, I know when I'm just O.K., and I know when I'm bad—that's the only guideline I need." □



Getting his hands dirty is all part of the fun for Gary Lowell.

Harold A. Poling

Private enterprise and public purpose

A Ford executive cautions that attempting to meet all social goals at once may threaten America's economic survival

Remarks by Harold A. Poling, executive vice president—corporate staff, Ford Motor Company, on the occasion of LIT's annual Business and Industrial Management Lecture, October 4, 1979

I am pleased to have this opportunity to become better acquainted with Lawrence Institute of Technology. No matter where you work at Ford Motor Company, you're bound to run into a graduate of LIT. I understand that more than 1,100 alumni of LIT—10 percent of all its graduates—now work for Ford, and that includes two vice presidents I know very well. In fact, LIT is our fifth largest supplier of technical personnel. So I'm very happy to become better acquainted with the source of all that talent.

Obviously, LIT and Ford Motor Company have a very large mutual interest in each other. And I can tell you that there has never been a greater need for managerial and technical talent, not only in our industry but throughout all of American business.

There has never been a greater need because there has never been a greater challenge than the one American business must confront during the coming decade.

That challenge is nothing less than reindustrialization of our society.

And only business organizations—the productive private sector of our society—can do the job.

The hard truth—which few Americans recognize—is that the economic base of our society has been slowly but steadily eroding. The once mighty American economy, following years of abuse and neglect, is aging and tired.

Let me give you the sad particulars—the sorry litany of America's economic decline. And I should add that these are structural problems that go far beyond the current downturn in the business cycle.

Throughout the 1970's, the productivity growth of American industry has been at a virtual standstill, innovation has been stagnating, and the capital investment that fuels both has been at historically low levels. Inflation is at double-digit rates, the purchasing power of American families is declining, and capital accumulation is inadequate for the industrial growth we need to create jobs and to satisfy the rising expectations of the American people.

What is worse, one economic weakness feeds the other. Inflation weakens productivity growth. Weak productivity growth contributes to inflation. Inflation heightens uncertainty and risk and leads to lowered long-term capital investment which, in turn, is needed to improve productivity.

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'In our quest for the good society, business has somehow come to be regarded as almost incidental, a necessary evil of little use in widening the mainstream of social progress'

Since 1973, for example, the slow growth rate of capital investment has led to a decline of more than 30 percent in the average rate at which new plants and equipment is being installed. Consequently, our industrial plant has tended to age, and labor has had to work with capital equipment that is increasingly less efficient than that of our major foreign competitors. The result has been a drop in the rate of productivity growth from an average of 2.7 percent a year between 1947 and 1973 to one percent a year in the period 1973-1978. And in 1979, there has been an actual decline in output per man hour. Ominously, the United States is now eighth in productivity growth among the industrial nations of the world, about on a par with the ailing economy of Great Britain.

Inflation further retards capital investment by reducing the true rate of return on invested capital. Not only do higher interest rates increase borrowing costs, but depreciation allowances come nowhere near matching the inflated costs of replacements. Consequently, corporations appear to be earning far more than they really are and the taxes they pay on those phantom earnings are equally out of line with reality.

According to *Business Week,* fully one-third of the earnings that companies reported for 1978 were purely paper gains created by inflation and out-of-date accounting methods. Although companies set aside $69 billion in retained earnings, measured in current dollars—which would be more than enough to finance a satisfactory level of future growth—the real amount shrinks to only $27 billion when adjusted for inflation and underappreciation—no better than the retained earnings of the mid-1960's.

During this same period of economic decline—and at this point, I'll just say coincidently—we have witnessed a growing government involvement in business affairs, much of it negative and restrictive, and all of it proclaimed to be "in the public interest." And the cost of this involvement has been considerable. According to economist Murray Weidenbaum, director of the Center for the Study of American Business at Washington University, the Federal government itself will spend $6 billion in fiscal 1980 to fund the 56 separate agencies that regulate American business. And business will spend at least $120 billion next year to comply with all the rules these agencies administer. That compares with total after-tax earnings in 1978 of $118 billion, which incidentially, were a record—on paper, at least.

Needless to say, if government has to repeatedly restrain business "in the public interest," it follows that business must have somehow been acting against the public interest. That has been the substance of the government's message to the public, with the implication that it is compelled to take action against business for the common good, regardless of the economic costs.

Indeed, when it comes to economic costs, the American people have been in the grip of a disastrous illusion. There has been an unspoken consensus in America in recent years—a concensus that has been reflected in government policies toward business—that we can afford anything and everything, without damage to the industrial engine or the standard of living it provides. The assumption seems to be that American business is so big, and so strong, and so dominant in the world, that its profits are sufficient to underwrite all manner of social goals. Unfortunately for all of us, that assumption is wrong.

Productivity, innovation and capital investment—the driving forces of our industrial engine—are not self-sustaining phenomena. Nor is our competitive position in world markets by any means secure. Both depend on the profits our policymakers have drained off for non-economic purposes, with little or no consideration of the vital relationship between costs and benefits.

Instead of planning to create more wealth to fund greater social gains, the government has opted to overextend our economic resources, without planning to replenish them, either for social or economic needs.

In our quest for the good society, business has somehow come to be regarded as almost incidental, a necessary evil of little use in widening the mainstream of social progress. But this largely unquestioned assumption overlooks one very important element in the makeup of our society, and that is its economic foundation—which only the enterprise and productivity of American industry can provide.

This is the fundamental function of business in our society—its public purpose—and the continuing failure to recognize and credit its importance has profound implications for our social as

well as our economic well being.

It bears noting that, until about the middle of this century, America's primary public purpose had been to increase our material well being through industrialization and the economic growth it produced. We concentrated first on the development of industrial capacity and then the use of this capacity to provide the goods and services that characterize our affluent lifestyle. And we succeeded beyond our dreams. But, in the late 1950's, this central purpose of American society began to change.

Many, if not most, of the reasons for the change were positive, and long overdue. Our heightened sense of social justice called for the reallocation of resources to meet the economic needs of the underprivileged and minorities. We became more acutely aware of the need for greater investment in social services and the public sector. Next, along came the quality-of-life movement with its emphasis on personal fulfillment, and a radically different perspective on the role of work and the virtue of saving and self-discipline. Finally, there were the costly demands for a healthier, safer, and almost risk-free environment.

All of these wide-ranging claims on the nation's wealth are understandable and desirable. Nevertheless, the inescapable fact remains that our high levels of private and public consumption exceed what our industrial machine can provide. To pay for them we are being forced to eat into our capital base—jeopardizing a century's worth of hard-earned savings and capital accumulation—and to defer replacement and maintenance of our industrial machine. And this confronts us with a fundamental choice: either to rebuild our industrial foundation, or settle for a lower standard of living.

We simply cannot afford to both rebuild and to simultaneously provide a quality-of-life society to the extent we are now attempting to do. There must be a compromise.

Taken individually, virtually every one of our social goals is worth pursuing. It is only by attempting to achieve them all at once that the costs have come to pose a threat to our economic future.

We can have the good society we all want, and we can have it in this century, perhaps by the end of the next decade. But what is needed now is a single-minded national commitment to the rebuilding of our industrial engine. And I believe that, given a clear choice and a clear understanding of what is at stake, the American people will make that commitment. They need only to be shown that, with an improved economic base we can, in time, greatly improve the quality of our lives, without jeopardizing our economic well being.

That impending choice, plus the erosion of our nation's economic assets that necessitates it, confronts today's business management with a double-barrelled challenge. First, to succeed in fulfilling the public purpose of their companies despite the extreme pressures of regulation and other adverse economic policies, and secondly, to campaign vigorously for more enlightened, more realistic government policies.

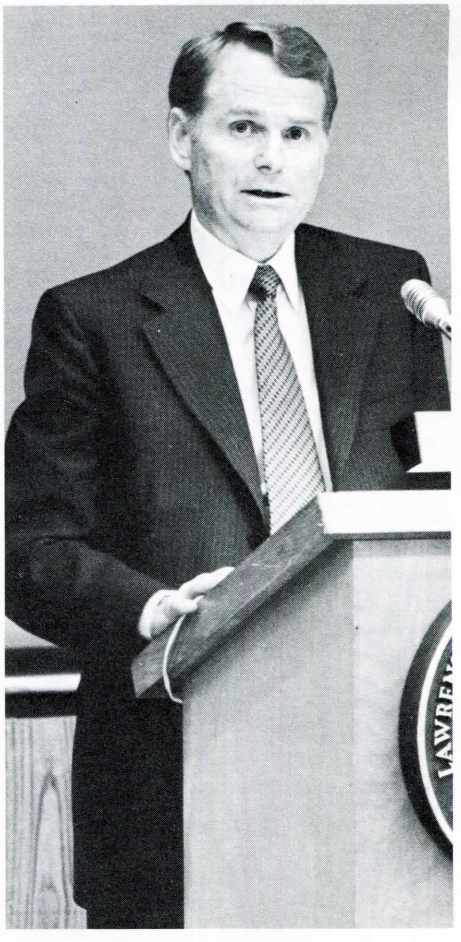
Let's take the automotive industry as a case in point. Primarily as a result of U.S. government regulations and the policies that shaped them, the industry is at the threshold of the most dramatic—and most demanding—transformation in its history. During the coming decade, enormous technological, financial, manufacturing and managerial resources will be committed to a complete retooling of our product lines, primarily to meet Federal regulatory requirements, the most significant of which, at this time, is fuel economy. And to give you some insight into the magnitude of that challenge, let's look at how Ford has approached the problems involved.

Our prime operations objective in the United States is to provide a range of fuel-efficient vehicles that will provide reliable, affordable transportation for the American public. But that is not the whole of it. In doing so, we have to meet that wide range of individual choice the American consumer demands. And, last but not least, we must also be able to produce and sell these vehicles on a profitable basis.

To accomplish this—and to meet the U.S. government's 27.5 miles-per-gallon car standard in 1985, plus yet-to-be-defined standards for post-1981 trucks—will result in all our products being redesigned and almost all of our facilities being retooled.

Needless to say, such changes take money—huge amounts of it—and our ability to meet the capital requirements for this massive retooling will depend in large measure on the strength of the U.S. economy. It has been estimated that the U.S. auto industry will spend over $80 billion on new products in the

'Instead of planning to create more wealth to fund greater social gains, the government has opted to overextend our economic resources, without planning to replenish them...'



1978-1985 period—an amount roughly equivalent to the $88 billion President Carter proposes to spend for alternative sources of energy. Indeed, the approximately $20 billion that Ford is planning to spend is greater than the sum of the company's profits for the first 75 years of operation. (And, if I were participating in one of our company commercials, I would say at this point: "Ford, that's incredible!")

We plan to invest this money in:

— 22 major new product programs between 1978 and 1985. That compares with six new programs in the prior eight years.

— The introduction of an average of one new engine per year from 1980 to 1984, compared with one every 2.4 years from 1968 to 1979. During the same period we will be averaging one new transmission a year, compared with one every four years for the prior decade and a half.

— Finally, we will be adding 11 million square feet of manufacturing space to our plants by 1982 to contain the new product and powertrain programs.

We are, in effect, virtually rebuilding the company, and in that rebuilding we have the potential to get two or three major gains for the price of one. Not only can we modernize our facilities and improve our manufacturing efficiency; if successful, we can also become more competitive with foreign manufacturers. In addition, there is the potential to achieve investment efficiencies through interchangeable powertrain and vehicle components.

It could be a beautiful synthesis—but the time constraints imposed by the government are formidable, and the full potential may not be realized. There are so many complementary elements involved, that if one part of the program lags behind because of unforeseen problems, others may be seriously affected. That is what I meant when I used the word "demanding" in describing the transformation that is taking place in the industry.

Forcing technology and product redesign compresses development and testing, increases the capital investment needed, and strains the company's technical and human resources. Consequently, the risks are magnified by the time pressures.

But that is not the only risk we face. Consumers may not be satisfied with downsized products and smaller engines at substantially higher prices and may delay purchases, thereby reducing auto sales and employment. For the 1980-1985 period, regulations are projected to increase consumer costs by more than $1,000 per unit compared with an estimated cumulative cost of over $700 per unit for all regulations through 1979. So the price is getting progressively higher.

Another major uncertainty is the ability of the domestic auto manufacturers to generate the capital necessary to meet all the regulatory and market requirements. The current economic slowdown and problems of energy availability have severely curtailed automotive sales and drastically skewed the sales mix toward small cars, where the imports are strongest. The well-publicized plight of Chrysler is testimony to the impact of a business slowdown in a climate of non-deferrable spending. At Ford, we also are feeling the effect, but so far we have been able to fund most of our spending requirements for U.S. cars from truck and oversees profits—short-term expedients that are not practical in the longer term.

The problems, I think you will agree, are certainly formidable. But I am optimistic, and that optimism is based soundly on the progress we have made already. In the short space of five years from 1974 to 1979, for example, the average fuel economy of new U.S. cars has increased by about 50 percent. In other words, we are almost halfway to the government-mandated goal of a 113 percent improvement over 1974 models by 1985. In addition, we have contributed significantly to air quality improvements: automotive emissions have been reduced no less than 90 percent from the uncontrolled levels of 1967.

Moreover, Ford's 1980 products show what can be done to achieve major fuel economy improvements without sacrificing the luxury and comfort our market research says the majority of Americans still want. The new Lincoln Continental and Mark VI models represent about a 42 percent improvement in fuel economy—12 mpg to 17 mpg in city driving—and the new Thunderbird and Cougar XR-7 models offer a 29 percent improvement over the 1979 models they replace—from 14 mpg to 18 mpg. It also bears noting that our much maligned American cars compare favorably in fuel economy with our foreign competitors in six out of seven weight classifications for gasoline-powered cars. The imports have no overall technical advantages compared to domestic producers. They simply have the "advantage" of smaller fleets—which their home markets, unlike the United States, have always demanded.

Unfortunately, the battle to preserve America's economic foundation and enhance its economic strength cannot be won through the efforts of industry alone. The odds against American industry are mounting steadily in the marketplaces of the world. Foreign companies, with a strong assist from their governments, are becoming stronger while the financial and productive resources of American industry are being diverted from the marketplace to meet government goals.

Our tax policies, our export policies, our capital investment and depreciation policies—few of them provide the support business needs, and none of them are comparable to those of our leading foreign competitors in promoting research and development, innovation, and new plants and equipment.

Ironically and understandably, the more we succeed in meeting both the foreign competition and the government mandates, the more likely government policymakers will assume that their policies are workable, and the drain on our economic resources will continue.

That is why it is so urgent to carry our message directly to those responsible for those policies, and I ask those of you in the academic community to join us in this cause. Our legislators in Washington are reasonable men and women, and they will listen. There is no need for angry confrontation or adversarial outrage. As *Fortune* magazine has pointed out: "One of the most encouraging portents of the 1980's is the extent of support in the Congress for the idea of strengthening the economy with measures favoring increased saving and investment and improved productivity." The Joint Economic Committee of the Congress, it continued, "has united behind the proposition that 'expanding the capacity of the economy to produce goods and services efficiently' is the best way out of our economic woes."

So there is reason for optimism as well as for action. The tide of informed opinion may, in fact, already be turning toward a greater awareness of our economic responsibilities.

America's economic strength is unmistakably waning. But it can be regained.

Business and academic leaders together must not only take our cause direct to the government officials responsible for economic policies, but we must also exercise leadership in alerting the American people to the very real dangers of these policies. They are the final arbiters in our society, and their commitment to a renewed sense of economic purpose will become the public policies of tomorrow. □

Authorship is a 'family affair'

Photograph and excerpts from a story appearing in the Southfield Eccentric. *Reprinted with permission.*

By Teri Banas

Robert Chute, left, associate professor of electrical engineering, and his father, George Chute, examine the Spanish translation of their book. Southfield Eccentric photo by Gary Caskey.

The book reads: "Without electronics, there might be no radio, television, sound pictures, fluorescent lighting, public address systems" and so forth.

But without George Chute of Plymouth, there would be no "Electronics in Industry," a technical manual that has withstood five separate revisions taking it into classrooms and specialized libraries in the United States and eight foreign countries.

Last month, the manual's fifth edition was published. In addition to Chute's name, there was the name of co-author Robert Chute, 50, youngest son of the Plymouth resident.

Robert Chute of Southfield is an electrical engineer who has worked at Burroughs Corp., General Electric and presently teaches at Lawrence Institute of Technology. The way he puts it, the book's work has become a family affair. An interest and later career in electronics originated by "osmosis," according to the Chutes.

"I always had stuff to tinker around with and it just led me on to more and better things," Robert Chute says.

A 1950 graduate of Plymouth High, he recalls those early formative years when his father would leave the dinner table and bury himself in his writing.

Beginning at 6 p.m. and not emerging until midnight was a daily practice for George. He now admits the work would not have progressed as smoothly if not for the understanding of his wife, Josephine.

"Her biggest contribution was being patient," George says. "I needed that patience to develop time to write."

His first book was published in 1943 —"Electronic Control of Resistance Welding." It resulted from a group effort commissioned by General Electric Co., where he was employed until 1952. Also, in that year he became a professor at the University of Detroit.

In 1946, the first edition of "Electronics in Industry" appeared with subsequent revisions in 1956, 1965, 1971 and 1979.

The 561-page book has been rewritten in Spanish, Italian, French, Hungarian and Japanese.

By the time "Electronics in Industry" was in its fourth edition, Robert's name was listed as co-author. He had graduated from the University of Michigan and became an established engineer in his own right.

About the unusual frequency of revisions, both men say it has been done to keep pace with continual changes in their field.

Since the first edition, such inventions as micro processors, transistors and integrated circuits have made the scene. More than 50 percent of the original has been re-written. George says he relies on his son for current information.

Both men agree that the best part of writing a technical manual is "being done."

"The main thing is you don't just sit down and write a book," Robert says. "You have to have written other things to pull from."

Robert adds it's not unusual to spend three or four days gathering information, verifying it and re-checking it, only to contribute one full page to the book.

"It does not flow out easily," he says.

Revisions take several years to compile. George calculates that work on number six is just down the road. However, he does not expect to be in on it. Rather, he says, it's time Robert takes over full-time. And then, there's another Chute—Robert's son, Larry.

"I'd like to continue the book—keep on publishing," Robert says. "Particularly, to keep it up to date on a very fast industry."

He estimates the book will be outdated within six years.

According to father and son, the book's royalties have been good to the family. In Robert's words, it's been the source of great family vacations during his youth. Also, subsequent editions have paid for his college career, along with his brother's education. Most recently, it's supported Robert's own son's and daughter's education. His daughter is seeking a master's degree in urban planning and his son is a construction engineer.

And today, George says his hands are full with working around his Plymouth home. Robert in Southfield is active in Northbrook Presbyterian Church as an elder and choir member. □

The 'real world' campus of Lawrence Institute of Technology

Editor's Note— *The following story appeared in the inaugural issue of* ***The Detroiter,*** *(vol. 1, no. 1, May, 1979), the new business magazine of the Detroit Chamber of Commerce. Because many casual observers of the college scene and even some of our own alumni often express surprise at LIT's current scope of activity, we're publishing the overview here.*

The Detroiter *introduced the article by saying it "exposes this private college born in the Depression for what it is: one of the best-run institutions of higher learning in the Detroit area, and one whose graduates are snatched up fast by Detroit employers for some very good reasons."*

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"...All the worthwhile and precious things in life are only obtained through continuous and exacting effort, and their worth is in direct proportion to the effort put forth for their attainment."

— Russell E. Lawrence 1889-1934 Founder, Lawrence Institute of Technology

At 11:30 p.m. on a recent Wednesday, a night custodian peered impatiently into a college classroom through an open hallway door. Inside, a class was ending, and shortly the professor and students filed out, allowing the custodian to continue his rounds of cleaning rooms for the next wave of students that would begin a new day of classes only 7½ hours later.

Five days a week, 16½ hours a day, nearly every weekday of the year, classes are "in session" at Lawrence Institute of Technology. A record enrollment of 4,991 students are pursuing college degrees in business and industrial management, engineering, architecture, arts and science and technology this year.

LIT has acquired a reputation for meeting the needs of students and their future employers, and for being one of the most efficiently run private colleges in the nation.

And, it passes the benefits of efficient operation on to students. Tuition, for example, is only $40 a credit hour, as opposed to a national private college average of about $80.

Cost savings apparently don't result in a "second-class" education, either. An average class has only about 28 students. Close student interaction with faculty is the norm. As another gauge of collegiate success, LIT graduates are traditionally in high demand—most seniors are placed in their career areas well before Commencement.

"The quality of education increases when the College is operating efficiently," says Dr. Wayne H. Buell, LIT's chairman of the board and chief executive officer. Dr. Buell, 66, probably knows LIT better than any other person. A member of the College's first

freshman class in 1932, the 1936 chemical engineering graduate was later a professor and successful industry executive before returning to serve his alma mater as president from 1964 to 1977.

"We do not operate this college as a business," he says, "we operate it in a businesslike manner. Efficient planning takes into account the fact that there is an optimum number of students in each of our five Schools, in each department and in each class."

As an educator, Dr. Buell sees no reason why an academician cannot also be a practical businessman, and he harbors little patience for theories that run contrary to the realities of the "real world."

This businesslike methodology seems to be an attraction for incoming students, as well as the fact that LIT programs are perceptively career-oriented, and that graduates are known for their marketable skills.

Students also cite another attribute—LIT's convenient Southfield location. The College is near the geographic center of southeastern Michigan's population and within a 15-mile radius of some of the nation's leading business enterprises. Indeed, the academic catalog describes the campus as being "in the center of the world of real work, real problems to be solved and real possibilities for a full professional and cultural life."

Near 'round-the-clock scheduling of classes means maximum convenience for both working and non-working students and unusually efficient economy of operation. LIT, in essence, has three separate student bodies sharing a common campus.

A Day College enrolls approximately 2,500 students in bachelor of science degree programs, normally taking four years to complete. A bachelor of architecture degree is a fifth-year professional program.

About 1,850 students are enrolled in Evening College bachelor of science programs—identical to Day College offerings, with the exception that they are offered entirely in the evening on Monday, Wednesday and Friday. Because classes don't meet as frequently as in the Day College, a degree normally takes six years to attain.

Approximately 650 students are enrolled in evening associate degree programs offered on Tuesday and Thursday. These are normally completed in three and one-half years.

'If the teaching is different, it's because our faculty have the experience and capability for relating theory to practice—they've practiced what they're preaching.'

"The two evening programs are as completely structured as our day programs," Dr. Richard E. Marburger, LIT president emphasizes. "Courses are available on a regularly scheduled basis, not 'catch as catch can,' as in so many evening programs."

Dr. Marburger, 51, was formerly a senior research physicist at GM before joining the College's full-time faculty in 1969, advancing through the administrative ranks to his present position in 1977.

Scheduling to meet student needs is one matter—yet another is offering students an education that meets their career needs and those of the professions.

"Our motto here is 'theory and practice,'" Dr. Buell relates. "That is fulfilled, in great part, by choosing faculty members who are academically qualified and, in addition, have experience in business and industry. Theory as taught here is no different than the theory at any other college. If the teaching is different, it's because our faculty have the experience and capability for relating theory to practice—they've practiced what they're preaching."

A competent, progressive and dedicated faculty has been a primary consideration in the development of LIT's educational objectives. LIT has about 220 full- or part-time faculty.

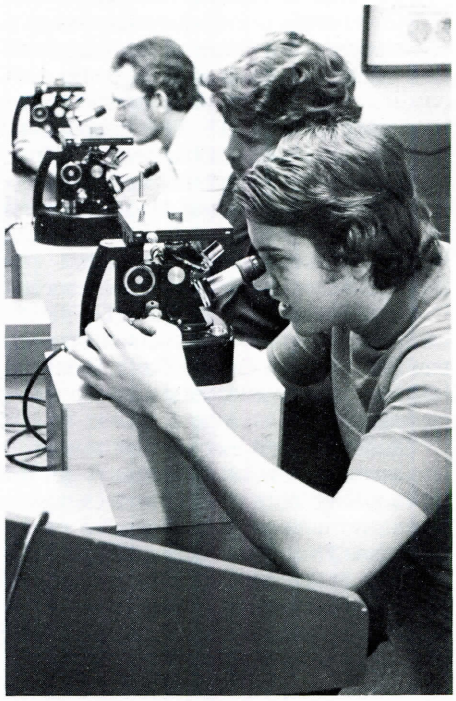
It isn't unusual for students in appropriate disciplines to take classes taught by successful corporate executives, practicing accountants, managers, entrepreneurs, engineers, architects, attorneys and scientists, as well as LIT's full-time faculty. Exposure to adjunct faculty is deliberate on the part of the College, and seeks to help students develop an awareness of "real world" applications to their academic studies.

William Ervasty, a 1973 management graduate and a personnel officer with responsibility for salary administration at Manufacturers National Bank, says professors who came from "real work" situations were one of the things he found most beneficial at LIT.

"The educational programs are well rounded," he adds. "To enter the master's program at Wayne (State University), I didn't have to take any prerequisites for entrance, unlike some other students in the graduate school. One course I took in computers at LIT seemed completely unnecessary to me at the time, but it has proven very beneficial to me in my current work."

The "real world" comes to campus in a number of other ways, too. Student involvement in professional organizations is strongly encouraged. There are nearly 20 chapters of professional societies on campus. The College pioneered in developing close rapport with business and industry leaders, bringing them to campus on a frequent basis for interaction with students and faculty. Recently, the College hosted its third College/Industry Dialogue, featuring Herbert Markley, chairman of the National Association of Manufacturers and president of the Timken Company, Russel Swaney, president of the Economic Club of Detroit, as well as other leading corporate figures.

Of immediate benefit to industry, LIT has been quick to react to industry's requests for graduates qualified with skills employers can use. A recent



example is the realignment of degree options within the School of Business and Industrial Management. The School offers program options in accounting, finance, business and computer systems, human resources/personnel, marketing/distribution or manufacturing and industrial operations.

In 1973, a whole new department, construction engineering, was added at the request, and with the support, of the construction industry, and then became the nation's first to be accredited by the Engineers Council for Professional Development. (The College is fully accredited by the North Central Association and several programs have additional professional accreditations.)

In March of this year, the College was asked by the Ford Motor Company to add a manufacturing engineering option to its mechanical engineering program, and has received a grant from Ford to develop this program.

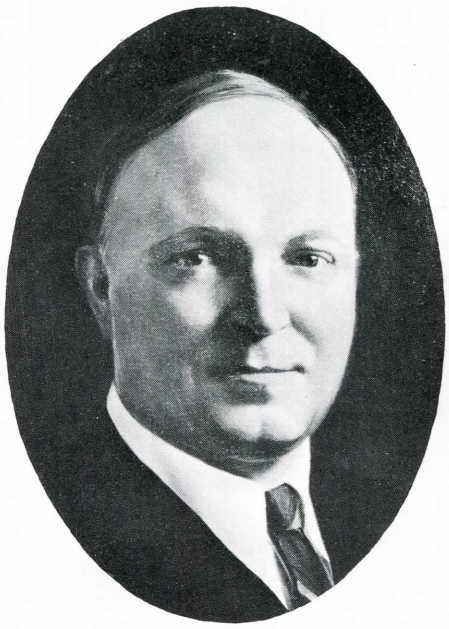
LIT isn't waiting around for others to take the initiative, either. Two years ago, the College founded an innovative high school program called TAB (Technical and Business) Clubs. The purpose was to increase the number of minority students seeking careers in business, industry, engineering and science.

Oliver Coleman, LIT special project administrator and founder of the program, reasoned that students have to be reached before college to prepare for careers in these areas. The Clubs, now in most Detroit high schools, provide "hands on" experience and a knowledge of the work world through field trips, guest speakers, a co-op program and a summer career institute held each year at LIT. TAB supporters have included Allied Chemical, BASF Wyandotte, Borg-Warner, Burroughs, Chrysler, Eaton, Federal-Mogul, General Motors, Michigan Consolidated Gas, Michigan-Wisconsin Pipeline, New Detroit, Inc. and Rockwell International.

Alice Simpson, a student in LIT's electrical engineering curriculum, credits the TAB Club at Detroit Cass Technical High School for introducing her to the profession.

"Students need this kind of help," she says, "because if they don't get it, we're still going to have overcrowded fields and college graduates who can't find jobs. That shouldn't be happening."

About 25 percent of LIT's students are transfers from four-year colleges, and about 16 percent are transfers from



Russell E. Lawrence, president 1932-34

Dr. E. George Lawrence, president 1934-64

"Do it!", Dr. E. George Lawrence wrote on the back of an envelope in 1934, after he promised his dying brother that he would continue the then-fledgling College. Thrust into the presidency at age 26, Dr. Lawrence led the College through the Depression, countered declining enroll-

community colleges. While most students come from southeastern Michigan, nearly every state is represented, as well as more than 40 countries. In 1977, the College began to shed its "commuter only" image by opening a 142-apartment, $4-million College Housing Center.

Nearly 10,000 alumni have graduated from LIT since the College was opened. College officials estimate about 40,000 more have attended classes over the years. Graduate records indicate the majority have remained in southeastern Michigan.

At LIT, "optimum size" is 5,000 students, a carefully planned for student body that the College appears close to attaining. Bucking national trends where college enrollments are flat or declining, LIT enrollment has grown about 5 percent each of the past three years, and projections are for it to stabilize at the 5,000-student level.

"We feel the declining number of graduating high school students will have little effect on our enrollment here," says Dr. Marburger. "Nearly half of our students work full-time—many of our students are older—the average age is 24, as opposed to a national average of 21," he adds. "In addition, over the past five years, the number of women students at LIT has increased

Enrollment of women has jumped 1,000 percent in the past 5 years. They now comprise 15.2 percent of LIT's total student body.

Dr. Wayne H. Buell, president 1964-77, chairman of the board 1964-present

Dr. Richard E. Marburger, president 1977-present

ments of World War II, and engineered the move to LIT's Southfield campus. Each succeeding president has faced challenges with similar fortitude and commitment. LIT is today Michigan's largest private undergraduate college.

more than 1,000 percent, and minority enrollment has increased more than 450 percent. As these groups of students continue to discover the excellent opportunities in business, engineering and scientific fields, we expect even greater percentage growth."

No doom and gloom about the future here, LIT's institutional optimism is solidly based on a tradition of pluck and overcoming of adversity.

Lawrence Institute of Technology was founded in 1932, during the midst of the Depression. Its first home was a building in Highland Park, which had been built as an orphanage and later housed the Ford Motor Trade School.

Prospects were slim that a private college with few resources could survive. Its founder, Russell E. Lawrence, formerly dean of engineering at the University of Detroit, wanted to offer a first-rate technical education on a work/study basis.

"Throughout the period of undergraduate study, every effort shall be made to develop the character, ideas, breadth of view, general culture and physical well-being of the student," Mr. Lawrence wrote. "To this end, the literary, historical, economic and general scientific subjects shall be taught by... (faculty) of mature judgment and broad experience."

The fledgling college opened with about 300 students and a handful of faculty.

Two years later, in 1934, Russell Lawrence died of cancer, and his brother, E. George Lawrence, only 26, was thrust into the presidency—a post he held until 1964. During that period, Dr. George Lawrence added three schools to LIT's original School of Engineering: Business and Industrial Management, Associate Studies and Architecture. (The fifth, Arts and Science, was added during Dr. Buell's presidency.)

Shrewd management of meager resources, and prudent development of sound educational policies kept the College growing. A 93-acre plot in Southfield, purchased in 1949 for a new campus, attracted the interest of the J. L. Hudson Company who bought it for development of its Northland Center.

With that sale's profit, LIT bought a farm, sold off 80 acres, and with the combined profits built the first building of what is today a five-building, 85-acre campus, conservatively worth $25 million.

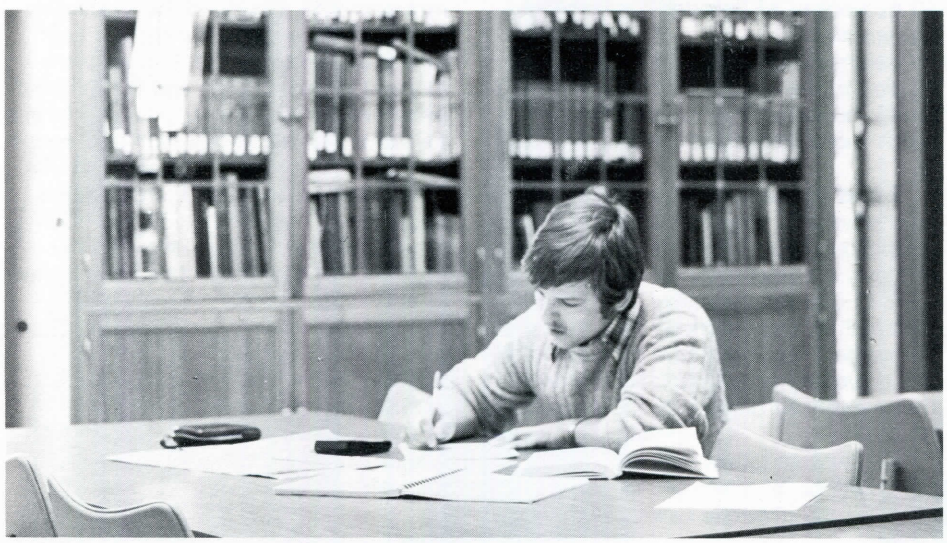
The College has done this without any great endowments and relatively few gifts—never buying what it couldn't pay for.

What about the future of LIT?

"It is our intention to complete the building of the campus within five years," says Dr. Buell. "We plan to add a new building for our School of Business and Industrial Management. This will relieve crowded conditions in several of our programs.

"We also plan a new building for community services and student activities," he continues. "The final phase will be alteration of space to provide additional classrooms, laboratory and office space for our Schools of Architecture, Engineering and Associate Studies. These improvements are essential.

"Although changes in the marketplace in the years ahead may mean modification of certain programs, the phasing in of new ones and the phasing out of others, we don't anticipate any basic changes in our educational philosophy. There will always be a need for quality business and industrial managers, engineers, architects, scientists and technicians," Dr. Buell says, adding "We have here the disciplines that adapt to the needs of students, institutions and society." □



LIT programs are perceptively career oriented. Graduates are known for their marketable skills.

An 'individual sort of thing'

Alumnae Gretchen Minnhaar advances her goals to accommodate her success—and what ambitious goals she has!

What is the biggest problem for a woman who has attained success as an architect, author, artist, and lecturer? According to Gretchen Minnhaar, ArE'59, it just might be an identity crisis.

"If you ask me what I consider myself, I really have a problem because I have been debating the answer for many years," she laughs, looking around at her paintings in a recent one-woman show at the Michigan Society of Architects in Detroit.

"Even as a little girl, I wanted to be a famous artist, but I love people too much to shut myself away in a studio and just paint. And, I love art too much to always compromise my ideas for the client's as an architect, so I guess it's important for me to be doing many things at one time. I know I enjoy all the 'sides of Gretchen' but which is 'me?' I guess I'll be debating that for the rest of my life."

Born in Rosario, Argentina, Gretchen still displays a warmth and a delight in life which continually shows her South American heritage. It almost seems as though the little girl who had dreams of becoming another Rembrandt or Picasso has never really given up her fantasies, her homeland, or her youthful joy in everyday living.

"I don't understand those who are depressed about life. There is much to be happy about each day and one must be open to everything to find it. My father was of German heritage and my mother, Italian, and I guess I inherited more of the Latin flamboyance than the Saxon coolness," she declares.

Gretchen's mother might have given her her optimism but it was her father who was greatly responsible for her success as an architect.

"My father told me that if I were going to keep on with my painting, I ought to pick a career which turned my art into something 'saleable,'" she notes. "After all, selling paintings is a risky business, so he advised me to take up architecture. That was a natural choice because 50 percent of all architects in Argentina are women."

Gretchen began her architectural studies at the local university. She soon found, however, that architecture was much more disciplined than art.

"I had to learn to draw straight lines after spending years painting with no restrictions," Gretchen smiles. "Still, all of life is a compromise and I'm glad I learned that lesson early."

Gretchen was married to an Argentinian student doctor soon after starting at the university and it was this marriage that eventually brought her to America and LIT.

"My husband, Luis Tomatis, was accepted as an intern at Henry Ford Hospital, so naturally I came with him when he began his work," she remembers. "I was dreadfully homesick and nothing was the way I expected it to be—because we thought that the United States was the United States of Doris Day movies. Instead, I found that our life was hard and that the wife of an intern had to cope with little money and a lot of loneliness."

This loneliness was somewhat abated by her classes at LIT. Her husband drove her to evening classes and she worked during the day for a local architectural office, learning first-hand what it was like to be an architect. Still, she wasn't sure that she would go on to complete her degree.

"Even up to the last minute, I wasn't sure that I had completed all my requirements. I enjoyed the practicality of the courses at Lawrence so I kept taking classes. In Argentina we were more involved with art and the 'off-beat' artist dream so it was a pleasure for me to see some real application of theories instead of just concepts," she remarks.

Gretchen received her architectural engineering degree in 1959 and soon returned home to Argentina with her husband. The opportunities were limited in her native country, though, and several years later, the couple returned to America. Gretchen now has a successful architectural consulting firm in Grand Rapids and, having never really forgotten her dream, has continued to paint and exhibit her paintings throughout the world.

She still feels close ties with her homeland and coyly admits that she will always be "quite Argentinian." Fluent in

English, Spanish, Italian, and German, Gretchen occasionally has a feeling of not belonging anywhere but, in her usual style, dismisses it as a part of life.

"I guess you could say I'm a foreigner wherever I go. I'm no longer like my parents or the others in my own country, having become Americanized, but then I'm not really American because I'm still so Argentinian," she smiles. "But—people are really the same everywhere so I don't let the problem bother me."

"Foreigner" or not, Gretchen has achieved a remarkable measure of personal and career success. Since her LIT days she has earned a master's in architectural design from the Universidad del Litoral in Argentina, has completed one year of a doctorate in city planning from the Universidad de Buenos Aires, and is currently studying for her M.B.A. through a special program of the American Institute of Architects. Why a master's in business? Gretchen explains,

"I realized that having a background in architecture was not enough. There is always something more you must do. A good architect must also be a good

Below and preceding page: An enthusiastic crowd reviewed Gretchen Minnhaar's paintings at a recent one woman show at the Michigan Society of Architects in Detroit.

accountant, manager, and a business person, so I decided the best way to learn these things was by getting a business degree."

In addition, Gretchen is often called upon for seminars throughout the world and she is a guest lecturer at many universities and colleges in the United States and Canada. Her own greatest thrill, however, was being called upon to participate in a conference on "Successful Women in Sciences, an Analysis of Determinants," sponsored by the New York Academy of Sciences.

"Those were the three most fascinating days of my life," she notes. "The conference was designed to find out what determines success for women—if there is something similar in backgrounds or some other factor that was the same in each case. I never thought my life was much different from everyone elses, but it was so exciting to hear about other women and their experiences. Some came from poor backgrounds; some were children of immigrants, but each seemed to be totally different from the other. The conference finally determined that there really are no common demoninators. Success is an individual sort of thing."

Gretchen has since become one of the case studies in a book based on the conference, "Woman and Success," but she still finds it hard to believe that she is any more successful than anyone else.

"I am so flattered that others are interested in what I do," she states. "I don't consider myself a fantastic success but if I have anything to offer anyone else, I'm always glad to share it."

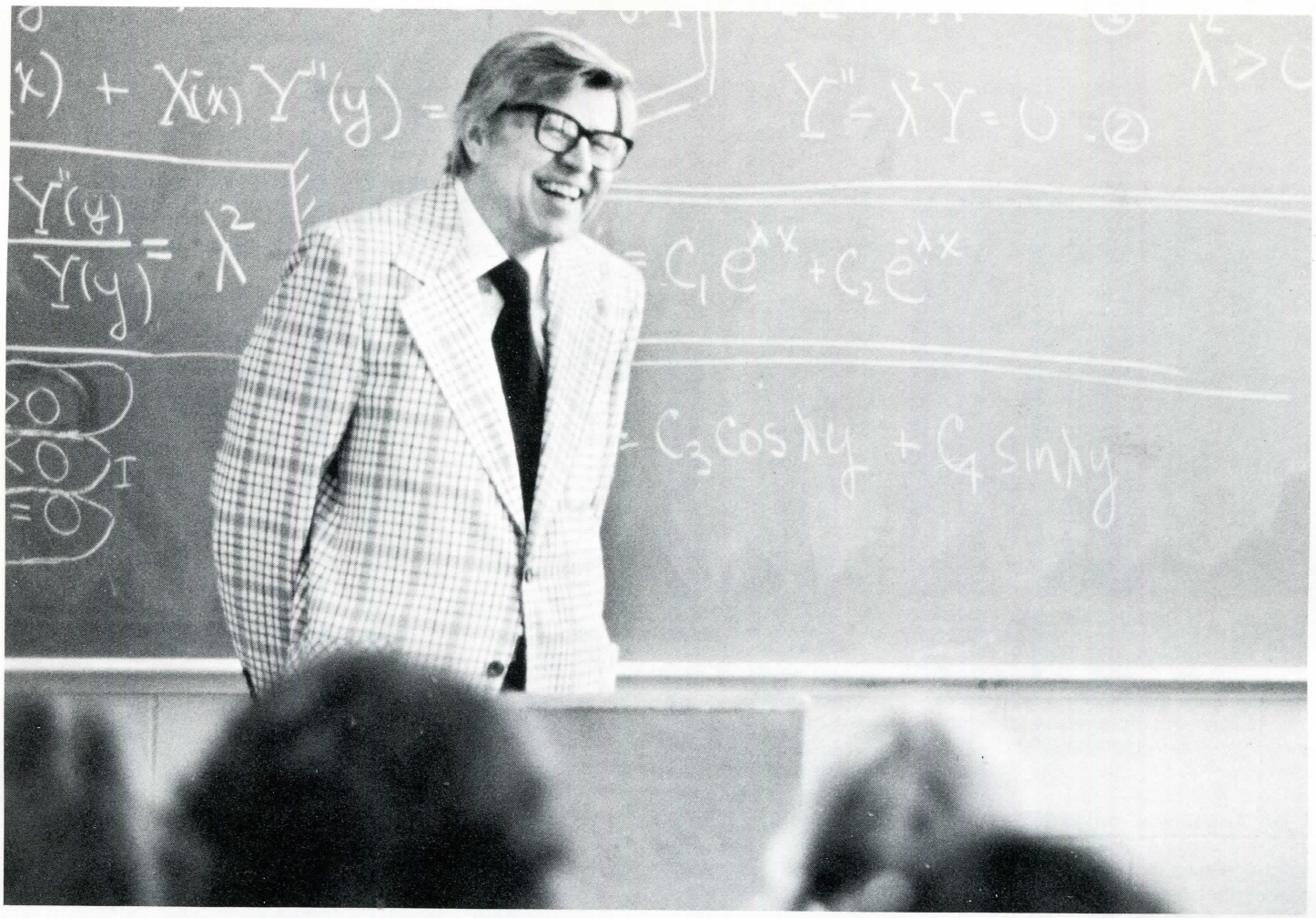
'I had to learn to draw straight lines after spending years painting with no restrictions. Still, all of life is a compromise...'

Gretchen shares more than she realizes because those who meet her also share, at least for a moment, her exuberance for life and what it has to offer. Described as "charming," "exciting," and "fascinating," by guests attending the opening of her Detroit show, Gretchen manages to maintain her light-hearted sense of humor and unassuming manner throughout. She merely smiles at questions about her "goals" and the attainment of them.

"I think I just move goals to accommodate my success," she laughs. "It's not a matter of waking up one day, looking in the mirror and saying 'that's it, I am what I always wanted to be.' I would be happy if I should stay like this and go no further. I'm pleased with what I've done and that's what's important and if you say that I'm successful, then that's wonderful too."

Then, she adds with a twinkle, "You know, they say that fame is just success with recognition. Maybe if I get the recognition and keep working on success, I can still be a famous artist someday."

Somehow, those who know Gretchen can't help but believe that she will. □



Dr. Victor Angelescu, chairman of LIT's department of humanities, leads programs in English, psychology, economics, government, sociology, history, religion, archaeology, and German. How does he keep smiling?

Chaucer's chic at LIT

Humanities chairman Victor Angelescu believes that course variety will spice student lives

First in a series on department chairpersons

Where can you find a prospective engineer reciting poetry, a future architect probing the inner reaches of the human mind, or a business major digging for ancient relics? In the LIT humanities department of course—and the students' enthusiasm for these unlikely fields of study delights department chairman Dr. Victor Angelescu.

"We're offering all kinds of courses that we never offered before," he notes. "Students are more excited about humanities classes and that, in turn, makes it easier for professors to try out new topics and explore new areas of study that several years ago might have been laughed at at LIT."

The humanities department, part of the College's School of Arts and Science, covers English language and literature, psychology, economics, government, sociology, history, religion, archaeology, philosophy, and German. The courses involve a wide range of topics, dealing more and more with advanced and specialized study. And, the department continues to grow and change.

"When I first came to LIT, we only had a limited number of courses in the discipline," remembers Dr. Angelescu. "Now we have many more. The classes had to be very rigid, designed strictly to fill the requirements for graduation and often we found that we were discouraging students who had an interest in such areas as mythology, poetry, Afro-American history, or modern social problems. In response, we began to expand our offerings and,

Continued on next page

slowly, we found that many students were taking more and more of an active interest in what we were teaching and were beginning to sign up in record numbers for classes covering such things as epic poetry and archeology."

Dr. Angelescu joined LIT in 1969 as the chairman of the department of language and literature. In 1972 that department merged with the department of social sciences to form a new humanities discipline. That same year, Dr. Angelescu took over the new department, which in 1975 began offering humanities degree programs.

A graduate of Wayne State University, where he received his B.S., M.A., and Ph.D., Dr. Angelescu spent many years prior to attending college as a musical instrument repairman. It wasn't until some time after his graduation from Cass Technical High School that he decided to go back to school.

"I was 30 when I first went to college," he recalls, "a little older than most of my classmates. I never really anticipated getting a literary degree. I was only interested in a two year degree which would allow me to teach in rural areas."

Literature piqued his interest, however, and a few years later he began his college teaching career as an associate professor at Wayne State University. It was shortly after that that he joined LIT.

Dr. Angelescu remembers his early years at LIT as a time when the humanities department was under pressure from other areas of the College because the subjects did not involve hard, "technical" facts.

"Instructors in other departments would ask, 'Why do my students need poetry,'" he remembers. "We spent a great deal of time defending our courses, but that really is changing. People are beginning to see the value of a 'liberal' education and the need to 'explain' ourselves is diminishing."

To Dr. Angelescu, this change in attitude signifies an even greater change in the overall attitude of American society to the essential values of life.

"Many of our students are finding, because of their own backgrounds, that they have difficulty understanding the great works of literature, the major philosophies, or sociological ideas that we come into contact with in the normal course of our lives," he remarks. "Engineers can no longer just be engineers, they must know about many more areas in order to get along in society. Many of our students are trying to expand their knowledge as far as possible into new horizons by enrolling in classes beyond the normal composition courses required in most colleges and universities."

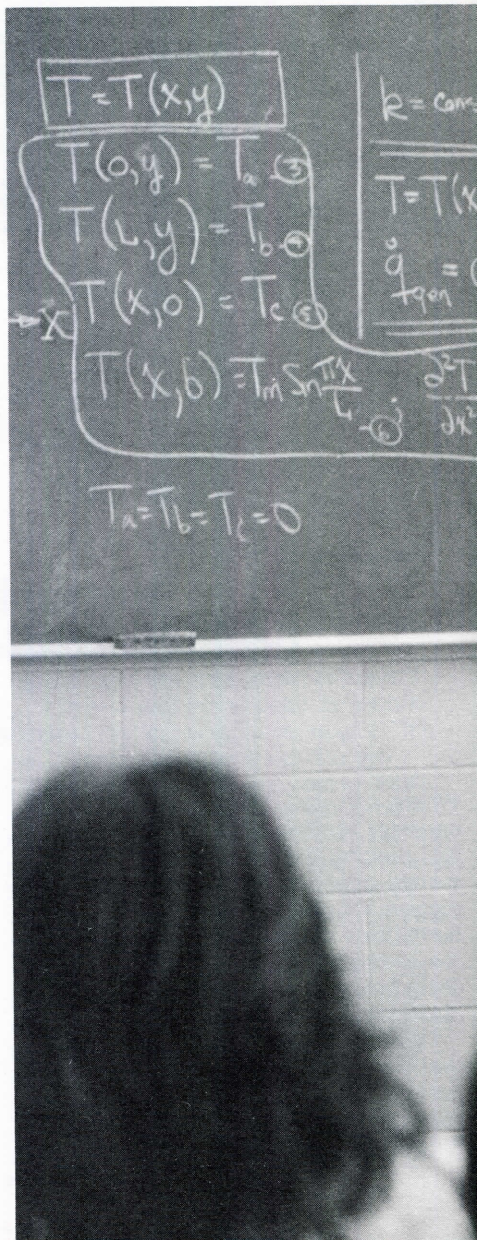
Literature, Dr. Angelescu's own area of expertise, seems to him to be especially important in gaining a good understanding of life and society.

"Literature gives you a chance to associate with new people and new ideas without ever leaving your chair," he states. "You can find out what and how people think and see the implications of certain actions, expanding your own experiences far beyond what one could normally expect in a single lifetime.

"We are all faced with answering the question, 'Who are we and what is life all about.' I really believe that you can find a partial answer in literature."

But, the world of great literature is not Dr. Angelescu's only interest these days because, as with any faculty

'Engineers can no longer just be engineers. They must know about many more areas in order to get along in society.'



member in a smaller department, he has to be adaptable enough to teach in many humanities' disciplines.

"**We value professors** who are versatile enough to teach in several areas," he notes. "One of the most enjoyable problems I have is making myself knowledgeable in such disciplines as anthropology and psychology so that I can take over courses in these areas."

New courses and new areas of study are not the only changes occurring in the department, however. In 1977, Dr. Angelescu saw the first LIT humanities students graduate from the College. This year, eight students received the bachelor of science degree in humanities. In addition, one of the graduates, Paula Stofer, Hu'79, founded LIT's literary and art magazine, *PRISM,* which incorporates the original work of LIT staff and students.

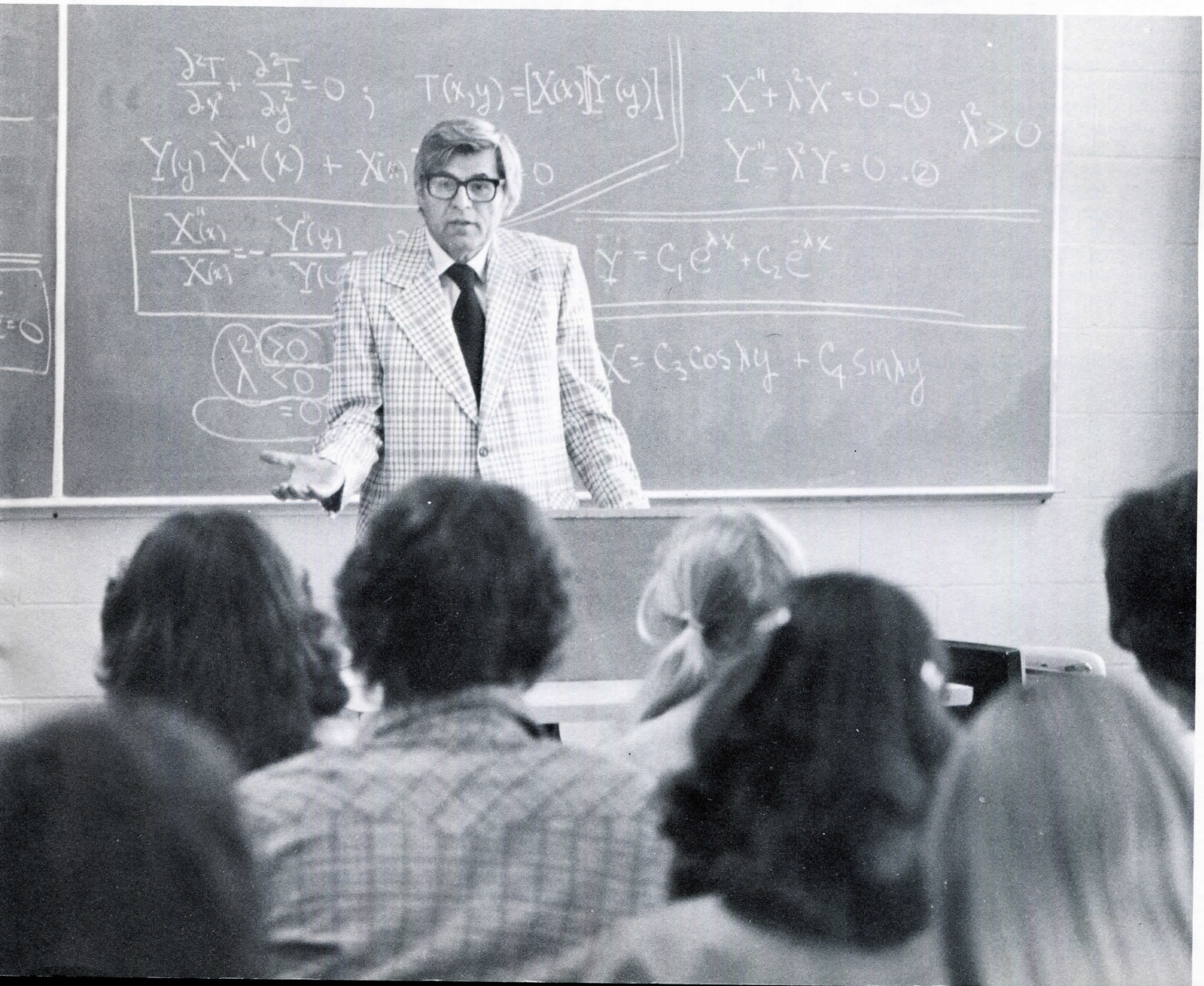
Dr. Angelescu hopes to interest more students in the LIT humanities degree program, especially homemakers and older students who wish to come back to school and study the courses that were of interest to them in high school.

"I think that there is a large population of prospective students that we must reach out to," he remarks. "Many older people have made their career choices and now have the time to explore entirely new subjects like great works of literature, anthropology, or psychology. I'd like to see many more of these types of students signing up for classes here."

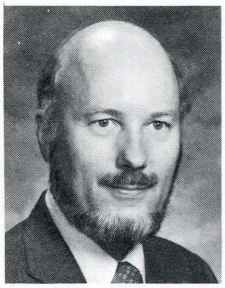
But why study humanities at a college traditionally known for technological programs? Dr. Angelescu has the answer.

"We can offer them more individualized attention than they could receive at a larger institution," he remarks, "and, the possibility of exploring areas which are of interest especially to them is greater because the faculty can devote more time to each student's needs."

The study of humanities, whether as a degree, required courses, or simply an area of elective interest, indeed seems to be growing at LIT, lending much credence to Dr. Angelescu's belief that the era of Mozart, Chaucer, and Goethe may not be as far in the past as we tend to think. □



On-campus



Brewer

Brewer named corporate member

Edward E. Brewer, president and chairman of the Cooper Tire and Rubber Company, Findlay, OH, has been named a member of the Lawrence Institute of Technology corporation. Members of the corporation elect the College's board of trustees, and carry ultimate responsibility for the welfare of the institution.

Brewer has held a variety of progressively responsible positions at Cooper since he became associated with the firm as a high school student in 1940. In 1964, he was named president of Cooper Industrial Products, Inc. In 1970, he was named executive vice president of Cooper Tire and Rubber, and in 1977 he was named to his present post.

Brewer received his B.S. in mechanical engineering from Purdue University in 1949, following service in the U.S. Army during World War II. In 1968, he participated in Harvard University's advanced management program. Purdue cited him as a distinguished engineering alumnus in 1976.

Involved in a number of civic, educational, and professional organizations, Brewer's activities include serving as a director of First National Bank in Findlay and director of the American Synthetic Rubber Corp. He is president of the Findlay College board of trustees, serves on the Findlay YMCA World Service Committee, is a past president of the Findlay Civic Music Association and a past director of the Lima Symphony Orchestra. A member of Pi Tau Sigma and Tau Beta Pi honor societies, he is also a former deacon, elder, and trustee of the College Church of God in Findlay.

Brewer and his wife, Joyce, have five children. □

Dr. Louis Petro, left, new dean of business and industrial management, receives congratulations from outgoing dean Leland Lahr. Lahr will continue at the College as a professor of management.

Petro named dean of management

Dr. Louis W. Petro has been appointed dean of LIT's School of Business and Industrial Management, Dr. Richard E. Marburger, president, has announced.

Petro succeeds Leland A. Lahr, who resigned the position for health reasons. Lahr continues at LIT as a professor. Petro assumed his duties as dean of the nearly 1000-student school and as a professor of industrial management on August 27.

According to Dr. Wayne H. Buell, chairman of the board, Petro brings a wealth of experience to his new position.

"We are particularly pleased that Dr. Petro's distinguished engineering background coupled with his accounting expertise provides us with the ability to enhance the important industrial management aspect of the LIT program," he said. "It is the strong influence of industrial management that has historically distinguished our School of Business and Industrial Management from the usual business administration programs offered at other colleges."

Petro, a certified public accountant and a registered professional engineer, graduated from the General Motors Institute, where he received a bachelor's degree in mechanical engineering. He also holds an M.B.A. and a Ph.D. in information systems from the University of Michigan.

Petro resigned his position as a senior management consultant at Alexander Grant & Company of Chicago, a national public accounting firm, to join LIT. A former assistant professor of accounting and information systems at the University of Detroit, he has worked for General Motors in various engineering positions. Petro has also taught for LIT as a part-time faculty member.

As dean, Petro will administer the six degree options and the 35 full or part-time faculty of the School. LIT offers programs in accounting and finance, business systems, human resources, marketing, manufacturing and industrial studies leading to bachelor of science degrees in business administration or industrial management. □

Faculty and staff notes

A publication written and designed by **Bruce J. Annett, Jr.,** director of public and alumni relations, has won an award of merit (second place award) from the National School Public Relations Association.

Annett's publication for the 1979 alumni dinner-dance competed with 1,300 entries from 502 colleges or schools from across the nation in NSPRA's 1979 annual school and college publications contest. It is the third publications award he has received in national competition since 1974.

Anne M. Cattermole has been promoted to assistant director of public and alumni relations.

Cattermole previously held the position of associate in information services at LIT. According to Bruce Annett, LIT director of public and alumni relations, the promotion reflects the additional responsibilities which she has assumed.

Greg Cheek, assistant professor of management, presented a speech entitled *Are You in the Doghouse?* at the 43rd annual conference of the Industrial Management Society in Arlington Heights, IL.

Prof. Cheek has also been elected to the board of directors of the American Production and Inventory Control Society. He will serve as the vice president of education and research. He delivered a speech to the Society at its recent 22nd annual conference in St. Louis entitled *Intrinsic and Extrinsic Forecasting: The Two Types of Crystal Balls.*

Gary Cocozzoli, periodical and interloan librarian, has been elected to two different offices. He is just starting his third term on the board of trustees of the Junior Members Round Table Caucus of the Michigan Library Association, which prepares workshops and other events for newcomers into the library profession. In addition, he is now vice-president/president-elect of the Wayne State University Library Science Alumni Association. In this position, he will supervise program arrangements and edit the organization's newsletter.

Jerry Dutkewych, lecturer in management, addressed the problem of *Effective Interpersonal Communications* at two conferences recently. On October 5th he spoke to the Michigan Health Sciences Library Association at their annual conference in Ann Arbor and on October 8 at the annual conference of the National Society for Histotechnology in Dearborn.

John D. Hromi, associate professor of mechanical engineering, has been elected vice president for section affairs of the American Society for Quality Control.

A 'bookstore to go'
A burgeoning enrollment has forced the LIT bookstore to temporary quarters in four trailers. The structures will be sold once the bookstore can move to its new home in the planned Management Building.

Hromi was elected during the recent 33rd annual ASQC Technical Conference in Houston. A nationally recognized expert and lecturer in the field of quality control, Hromi has served on the ASQC Education and Training Board, the Curriculum Accreditation Board, and the Publication Management Board. He is also past chairman of the ASQC Chemical Division and the Greater Detroit and Pittsburgh sections and has served two terms as national ASQC treasurer.

Edward Mielock has been appointed an assistant to the dean for associate studies.

Mielock will aid in the administration of programs of LIT's School for Associate Studies, which prepares students for technical positions in industry and business. The School enrolls 600 students.

A graduate of the University of Detroit where he received a bachelor's degree in civil engineering, Mielock also attended Wayne State University, receiving an M.A. in education. He was previously employed by the Wayne County Road Commission as a project engineer.

Mielock has been a faculty member in LIT's School for Associate Studies since 1955.

Dean **Louis W. Petro** of the School of Business and Industrial Management has submitted a chapter entitled "Material Costs" for publication in the 3rd Edition of the *Accountants Cost Handbook.* The book will be published by John Wiley & Sons.

Dean Petro also attended, along with **Cleophas Buck,** associate professor of management, the Alexander Grant & Company's annual client conference at the Fairlane Center, Dearborn.

Dr. **Gundu Sastry,** lecturer in chemistry, is the president-elect of the Detroit Society for Coatings Technology.

James O. Trew, director of student services and vice president of the Michigan State Air Force Association (AFA), recently participated in the 15th annual AFA State Presidents' Orientation in Washington, DC.

Tau Beta tops

The LIT student chapter of the Tau Beta Pi engineering honor society won two national awards recently at the annual convention in Lincoln, NB.

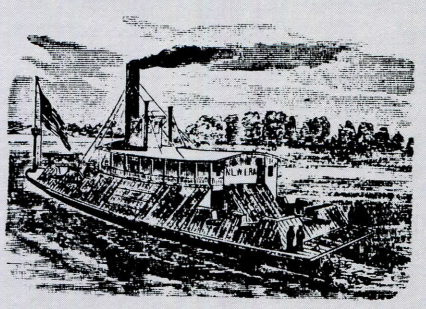
The organization was awarded the "Outstanding Chapter Projects Award" for its 1978-79 programs. These included tutoring services, campus tours, open house activities, and presentations at area high schools. The members also received an honorable mention in the "R.C. Matthews Outstanding Chapter Award" competition.

To be eligible for membership in the Tau Beta Pi, a student must be enrolled in an engineering program, display outstanding academic achievement, and meet the approval of a screening committee, the College's faculty, and the national Tau Beta Pi office. There are over 180 student chapters throughout the United States. □

Anchors aweigh for Math Club

Can computers control huge navy fleets? They can at Lawrence Institute of Technology when the Detroit Metropolitan High School Mathematics Club computer battleship competition holds its monthly meetings.

High school students from throughout the metropolitan area are involved in the math club and the computer competition, learning more about mathematics, computers, and math careers through their activities. The math club meets once a month on Thursday evenings. The competition meets on Sunday afternoons and all students actively involved in the club are



eligible to "do battle." Scores are tallied monthly for the teams and the finals to find the champion "fleet captains" are held each April.

Currently there are over 75 members in the math club and about 60 of those compete in the battleship competitions. Students interested in joining the fun should contact Dean Zaven Margosian in the School of Arts and Science at LIT for current meeting dates. □

Interior architecture program begins

LIT's School of Architecture has launched a new degree program in the growing field of interior architecture.

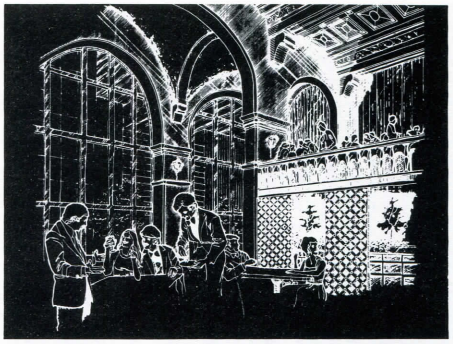
The new four-year program is designed to meet an increasing need for professionals skilled in the design of interior space and offers a distinctive combination of studies in architecture and interior design. Students successfully completing the program will be awarded a bachelor of science degree in interior architecture.

Interior architecture goes beyond decorating—it is a comprehensive analysis of the total interior environment including systems such as heating, air conditioning, acoustics, lighting, and partition and wall placement. In short, interior architects concern themselves with everything between a structure's outside walls, be it new construction, historic preservation, or adaptive rehabilitation.

According to Karl Greimel, dean of architecture, students will first be involved in basic architectural classes to provide a strong creative and technical base for advanced study. They will then receive specialized instruction in dealing with a total interior environment as well as with furnishings, finishes, and graphics.

Coordinating the program is Leonard Else, assistant professor of architecture and a principal in his own interior design firm in Birmingham. A former director of interior design for the Detroit architectural and engineering firm of Smith, Hinchman & Grylls Associates Inc., Else notes that the program will provide the necessary professional education for many types of interior design careers. Among these are space and facility planners, interior designers, hospital planners, store designers, furniture and equipment designers, and other specialists concerned with the planning of interior environments.

According to Else, the growing market for interior architects is brought about, in part, by factors which are forcing the remodeling of existing buildings and historic preservation rather



William Moustakeas, Ar'79

than the previous trend to abandon or build anew—the energy shortage, the high cost of new construction and land, and the "no growth" arguments of environmental groups.

"In addition," Else notes, "designers of interior spaces are faced with increasingly complicated design problems as society moves toward advanced methods of communication, merchandising, heating and cooling efficiency, and functional interior layouts. This has, in turn, created a need for more specialized training to provide professionals who can help solve these problems while creating pleasing environments in which people can work, live, and play."

The program is designed to attract new students and practicing professionals who wish to add another area of expertise to their credentials. A combined program whereby a student can simultaneously earn a B.S. degree in both interior architecture and architecture is also possible.

Students should apply for admission well in advance of registration. For further information about the program or admissions procedures, contact the LIT admissions office at (313) 356-0200. □

College sets enrollment record

Total LIT enrollment reached 4,991 students in September—the highest enrollment in the College's history. The new record included 2,574 day baccalaureate students, 1,739 evening baccalaureate students, and 678 evening associate students.

The number of women students increased 24 percent over last year, and now stands at a record 758, or 15.2 percent of LIT's total student body. A record high minority enrollment was also recorded. There were 713 minority students at LIT as of September, representing 14.3 percent of the total student body.

"We're particularly pleased that enrollment has grown again, especially in the face of increased competition from other colleges and universities and a decreasing pool of high school graduates," said Dr. Richard E. Marburger, LIT president. "In addition, we have again tightened admission standards.

"The service record of our graduates, the employer demand for students educated in the disciplines offered by the College, our location, fine faculty, and reasonable tuition are all important factors affecting LIT's sustained growth," he added. □

Sami Abi-Sleman, left, registers as LIT's 50,000 student with Beulah Buck, right, registrar, and Julie LeZotte, center, registrar's secretary.

LIT's 50,000th student

Sami Abi-Sleman, 22, traveled over 5,000 miles to become LIT's 50,000th registered student since the College opened in 1932. In truth, Sami didn't know that he would have this distinction —he merely made the journey from his home country of Lebanon to study business administration. Little did he know that he would soon go down in the LIT record books.

Sami hopes to complete his degree this year, having already taken some classes at the Beirut Business College. He will then return to Lebanon to become a part of his family's catering business. □

Dr. Stephen R. Davis, dean of engineering, left, and Richard C. Kowalske, ME'61, chairman of LIT's Ford alumni campaign for computer-aided design, cut the ribbon officially opening the facility at a reception for investors in October.

Ford alumni shatter goal

Alumni at Ford Motor Company have exceeded their goal of contributing $40,000 to the College for the purpose of purchasing computer-aided design equipment. With some gifts still coming in at press time, Richard C. Kowalske, ME'61, the "in-house" project's chairman, reports that nearly $45,000 has been raised, including Ford Motor Company matching funds that matched alumni contributions dollar for dollar.

Nearly thirty percent of the graduates employed at Ford contributed to the effort, which allowed LIT's School of Engineering to purchase three Teletronic "Intelligent" 4051 Computers, a hard copier, additional storage capacity and a disc drive unit for expanding the storage capacity of LIT's main computer.

"The long hours of effort by many alumni volunteers is greatly appreciated by LIT students and faculty," said Dr. Stephen R. Davis, dean of engineering. "In order to remain in the forefront of engineering education, it is vital that the College keep pace with new developments and provide students exposure to various applications with hands-on experience. The generosity of Ford alumni has greatly aided us in that task."

Many contributors returned to campus for a dedication of the new equipment October 18. Ford is the largest employer of LIT alumni, employing 1,114 LIT graduates, more than 10 percent of the College's total alumni.

Division coordinators for the computer-aided design campaign were: Joseph E. Mucciolo, EE'46; Dudley F. Fiscus, EE'50; James C. Graham, ME'60; Thomas S. Brisbey, ME'65; Henry C. Jones, IE'52; George F. Stirrat, ME'52; Richard J. Kinsey, ME'61; Charles F. Maddox, ME'61; and Fred L. Drotar, ME'61. Others were John J. Scapelliti, EE'69; Edward O. Cascardo, ME'60; Alvin W. Alexandrowicz, IE'60; William E. Makuch, IE'50; Nick Baracos, ME'52; Frank B. Gessler, IE'53; and John W. Grindrod, IE'55. They led a task force of more than 50 alumni volunteer solicitors.

Alumni in-house campaigns are also underway at the Chrysler Corporation and the Michigan Bell Telephone Company. □

After 5 years, still a special relationship

A special dinner November 17 at Southfield's Michigan Inn welcomed 54 new members into the LIT Presidents Club. This is the largest group to join the organization since it was chartered in 1974.

The purpose of the Presidents Club is to recognize the substantial support of LIT's many contributing alumni and friends and thank them for their efforts. Currently there are 293 members who have invested over $900,000 to help continue LIT's tradition of excellence.

Presidents Club President Art Kelley, ME'47, inducted the following individuals into the Club at the dinner: Roy E. Allen, Sr.; Timothy G. Agajeenian, IM'73; Al and Millie Andrzejak, ME'57; Mr. and Mrs. Darrel S. Ashby, BT'69; James E. Baltazar, IT'58; James T., CE'78, and Nancy A., IM'76, Battle; Mr. and Mrs. Walter L. Bone, ME'48; Roy E. Bonnett, ME'60; David G. Booth, ME'50; Jerome J. Cislo, ME'55; E. T. Clifford, IE'51; Dr. Jerry L. Crist; Ralph E. Cross; Richard H. Cummings; Mr. and Mrs. Robert F. Dedoe, ME'48; William F. S. Dowlding, ChE'38; Mr. and Mrs. Alfred E. Entenman, Jr.; David E. Fillion, EE'76; Mr. and Mrs. Roger H. Fitch; Gilbert and Dorothy Gatchell, ME'52; Mr. and Mrs. Richard I. Grady, EE'59; John S. Grden, EE'77; Donald L. Harshman, ME'48; Roy Martin Hoenle, RAC'58, IM'76; Melvin L. Janney; and Joe and Beverly Kado, EE'75. Others are Neil R. Karl, EE'64; Mr. and Mrs. Wayne J. Kippola, ME'62; Lee K. Kirkpartrick, IM'73; Elmer E. and Phyllis A. Koenig, EE'56; Thomas S. Kopcha, ME'76; Henry Kovalsky, ME'62; Roy G. LaGrant, ME'42; Coleen Lee; Raymond J. Levulis, IE'55; Kathryn Mary Marburger, BA'78; Etienne F. Masalskis; Mary Jane and Calvin McClellan, ME'50; F. Hal McDavid; Ray and Edie Moy, ChE'43; Edward P. Nagel; Jeff Ottenhoff; Gerald G. Peck, ME'58; Lloyd and Maurcine Reuss; Manuel Spinner; James A. Stone, IM'74; Mr. and Mrs. Henry J. Tamagne, ME'51; LaVerne A. Tratechaud, ME'66; Irene and Lewis Veraldi, ME'68; Herbert Weinstein; Mr. and Mrs. Richard M. Williams, Jr., EE'64; Mr. and Mrs. Ronald A. Wonboy, BA'75; Peter J. Zerga, IM'76; and Robert Zokas. □

Alumni Association News

Sometimes it's tough to keep up with fast-moving LIT alumni. Do you know the whereabouts of anyone listed here? If so, please inform your alumni office.

The case of the missing alumni

OK, all you closet-Sherlock Holmes'! How about it, all you underground Detective Columbo's! Have we got some sleuthing for you...

Keeping up with nearly 10,000 alumni is a tough task. Since 1932, some graduates have moved, transferred jobs, or otherwise disappeared without a trace. That means when executive search agencies contact us for an alumnus' current address, we can't help. Lost graduates also can't receive information on alumni activities and reunions, education updates, or even the *LIT Magazine.*

Yes, yes, they *might* get an occasional gentle letter for a bit of financial support now and then but really, don't the advantages far outweigh a tear soaked letter once in a while?

Kindly adjust your magnifying glasses and peruse the following "lost" alumni names. If you know someone's whereabouts, please send us a current address. The "detective" who supplies us with the most extensive list of "found" addresses will receive an appropriate reward.

We sincerely appreciate your help.

William C. Abbe, Ar'68
Donald L. Abend, EE'51
Thomas A. Abend, EE'62
Daniel E. Adams, ET'70
John H. Adams, Cert'35
William Adams, ArE'49
Albert M. Aittama, IE'60
Richard J. Alberts, ET'55
Theodore Anderson, ChE'49
Manuel C. Anzola, IM'71
Max Apodaca, EE'50
Joseph A. Ashton, IM'70
John C. Augustine, ArE'60
Casimer Baczynski, IM'52
Anthony T. Baer, IM'70
Richard E. Baker, IE'50
Robert L. Baldock, ME'35
Keith Ball, IT'53
Anthony L. Ban, Ar'72
John Bappert, IE'61
Tadeusz L. Baran, CivE'51
Wilmer T. Barber, MT'61
Raymond L. Bartkowiak, ME'41
Richard J. Bauer, ME'54
Paul G. Bawol, IM'71
Donald B. Beach, RAC'58
Joel M. Beckman Jr., EE'51
Donald Belville, IM'62
John L. Berbiglia, ET'76
David Bergman, ET'62
Jules Berke, IE'57
Thomas R. Berry, ME'50
Lidio Bertoia, Hon. Key'37
Wendell C. Bestrom, ME'57
Walter C. Beyer, Cert'35
Waldemar G. Bielicki, IM'54
Robert L. Binkley, MT'60
Marshall A. Blank, CivE'49
Mark S. Blodgett, EE'76
Marvin G. Blomquist, ME'61
Wayne D. Blosh, EE'73
John R. Blough, IM'65
Leonard Boger, EE'74
Lorenzo Borbolla Jr., ChE'54
Richard D. Bosworth, ME'60
Jerry R. Boughton, IM'73
Norman M. Boutin, ArE'53
Robert W. Bowser, EE'49
Asterio J. Bravo, EE'72
Franz H. Breidenich, EE'68
Robert L. Breslin, IM'66
Earl M. Bright, Ar'66
Jack A. Brookhouse, RAC'56
Christopher Brown, Ar'75
John B. Brown, IM'73
Robert E. Brown, ME'55
Robert O. Brown, MT'60
Ian A. Browlie, Ar'67
Frank E. Brunyanski, ET'57
Ralph W. Buckett, EE'52
John Budrys, MT'67
Gerald S. Buerge, ME'50
James J. Bulchak, IE'67
Bruce R. Bunch, MT'61
Ezell Burgess, IT'61
Thomas J. Butler, ME'61
Arden Butterworth, MT'61
George F. Butzier, ChE'36
Larry E. Cameron, EE'75
Michael A. Cammarate, MT'59
James D. Campbell, MT'60
Frederick P. Campeau, ME'54
Joseph P. Cappello, CivE'52
Kim R. Carless, IM'69
Iver W. Carlson, EE'41
Charles D. Carney, IT'59
Falconio Carrier, ME'37
Dennis J. Caruso, IM'71
Dennis R. Casmer, Phy'72
Donald F. Chalmers, IM'76
Ronald C. Chapie, IM'61
George N. Charchaflieh, Phy'71
Henry Chiodini, ChE'40
Bernard Chmura, ET'60
John W. Chung, ChE'41
Dennis D. Claramunt, IM'72
Dorsey M. Clark, IM'70
James H. Clark Jr., AuE'40
Kenneth P. Comstock, ME'45
Mounir K. Consul, Ar'75
Aloysius Conway, CivE'51
Alton L. Cooley, Cert'34
Frank J. Crossland, ArE'35
Lyman R. Crowl, RAC'54
Ronald R. Cuff, IM'72
Charles C. Curtis, MT'63
Frederick Dadson, CivE'34
David H. Dage, EE'63
Robert E. Davidson, ME'49
Charles W. Davis, ME'49
David A. Davis, ET'73
Robert E. Dawkins, RAC'59
Douglas C. Dean Jr., ME'50
John R. Dean, EE'53
Ronald J. Dean, Ar'71
Dennis G. DeClerk, IM'58
James DeDobbeleer, IM'69
Henry DeLoche, MT'57
Julian De Los Reyes, ME'33
Michael E. Dennis, IM'71
Henry W. Devantier, Cert'35
Richard E. Dewitt, IM'74
Richard Dickinson, EE'51
Irving L. Diton, EE'51
Adolph J. Dober, ME'50
Raymond Donovan, EE'46
Edward L. Doyle, IT'59
Thomas E. Draplin, ArE'63
Frederick Drilling, AeE'50
Kenneth H. Driver, ME'56
Charles J. Dsizmansky, AeE'36
Thomas H. Dulz, IM'68
John S. Duncan, RAC'58
Donald L. Duston, EE'50
Floyd W. Eaton, Cert'33
Irwin Eckert, ME'64
Robert Edgar, EE'35
Carl G. Eisen, EE'36
Wesley E. Emmons, IT'71
John C. English, RAC'58
Lanny M. Englund, ME'68
Wilfried O. Epstein, IM'65
John D. Esselink, IM'71
Robert Evancho, IM'56
Mark D. Evans, ME'77
Shahrokh Firoozi, CE'78
Jack Evzovich, EE'43
Edward Fabian, RAC'57
Sohail Fahmian, ME'77
Dennis D. Faist, EE'76
Charles J. Falcey Jr., ET'54
Paul Feckowsky, IE'52
Frank F. Feher Jr., MT'61
Bertil H. Feldt, ME'50
Edward J. Ferguson, CivE'51
Michael A. Fernandez, EE'38
Frank E. Field, EE'51
Bernard Finkleman, EE'43
James T. Fitzgerald, Cert'34
Elmer E. Fleck, EE'52
Clifford L. Flora, AeE'43
James K. Ford, EE'65
George C. Frank, EE'43
Brinton E. Freeman, IE'53
John S. Freismuth, ME'57
Charles V. Frizzell, IT'53
Edgar R. Frost, EE'54
William G. Fuller, EE'54
William R. Gaddes Jr., MT'76
Kantilal V. Gala, EE'70
David G. Gale, ET'66
Walter R. Garrett, MT'62
Thomas M. Garrity, CE'76
Eugene A. Gaska, BA'50
Reginald G. Gates, Cert'33
Michael T. George, ME'46
Herbert Gerhard, MT'54
Leonard H. Gerin, ME'49
Richard C. Getoor, ME'60
James A. Getson, RAC'59
Arthur Gieraltowski, ME'51
Harold Ginzler, ME'37
Jacob Gitlin, ChE'52
Richard G. Glowacki, EE'59
Robert A. Goga, ME'71
Henry D. Goggans, EE'54
Yehuda Golanny, EE'51
Abraham Gontovnik, EE'74
Joseph M. Gooch, EE'51
Richard W. Gora, IM'59
Julien Gorge, ArE'56
Julio Grabiel, Ar'68
William Graetz, ME'37
Ford Grant, AeE'35
Rollin Gray, AeE'53
Michael T. Grego, Cert'35
John A. Griffin, IE'55
Robert E. Griffin, ArE'54
James R. Grigsby, Ar'70
Donald E. Gritzinger, ChE'50
Joseph Gross, EE'34
Thomas H. Grzanka, MT'67
Jack C. Gunther Jr., IM'60
William Hagen, IE'52
Willoughby N. Hammond, AeE'38
Norman V. Hankins, IE'49
Lynn F. Hannert, MT'60
Carl Hanzie, ME'52
Gerald R. Happ, ME'49
William C. Haps, IM'62
Albert A. Hartinian, IM'57
John H. Hartley, ET'54
Charles H. Havill Jr., ME'47
Curtis E. Hay, ME'60
Edward Hecht, EE'34
David R. Heilbrun, MT'63
Robert V. Hendricks, AeE'48
Donald R. Herby, IM'55
Robert J. Hess, Cert'35
Donald E. Hicks, IM'66
Donald M. Hill, ET'61
Paul E. Hinkein, ET'58
Edgar W. Hippert, IndE'38
James Hoffman, EE'57

The LIT Alumni Association sponsored its annual Tiger baseball safari in August. Among those enjoying the action were (L to R) Dennis O'Connell, IM'70; Nick Sarzynski, IM'64; and Roger Shtogrin, IM'61.

John T. Holowicki, Ar'75
Daniel R. Horkavson, BA'51
Gerald A. Hott, EE'59
Frank Houghton, ME'66
Neal J. House, ME'48, IE'51
Burt Howard, RAC'54
Vincent C. Howard, EE'62
Frank S. Howell, Cert'34
Fred H. Hoyer, ChE'48
Charles E. Huckins, EE'52
George A. Hudson, ME'43
Robert E. Huggett, ME'50
Howard C. Huhn, ME'70
Douglas Hunter, ME'63
Chester E. Hurn, BT'58
Cynthia A. Hurt, ME'64
Seid Omer Ibrahim, ME'63
Stephan Implon, ChE'36
Larry Jablin, Ar'75
Thomas Jablonski, IM'73
Donald E. Jack Jr., MT'65
William S. Jack, ET'58
Donald S. Jacobsak, ME'57
Anthony Jakimovich, EE'51
Robert J. Jakubowski, IE'51
George W. Jamgochian, IE'52
Paul V. Jeffrey, ME'53
Marvin C. Julbert, ME'33
Paul M. Jocham, IE'54
Donald H. Johnson, IM'59
Donald S. Johnson, ME'56
Emmett Johnson, IM'59
William A. Johnson, IM'73
Murray A. Johnston, ME'41
Thomas J. Johnston, ET'71
Jorman B. Jones, EE'71
Lester L. Jones, Ar'68
Robert P. Jones, ME'73
Ron A. Jones, IM'75
James R. Judge, IM'59
Koji Kayahara, ArE'51
Paul M. Kaye, ChE'38
Richard Kayser, ME'49
George Keiller, ME'49
Michael D. Keller, ET'58
Warren Kellogg, ChE'38
Carl Kelly, ChE'42
Thomas F. Kelly, ET'66
Robert L. Kennedy, ArE'49
Thomas W. Kerwin, IM'68
Loren E. King, EE'35
Robert W. King, IE'52
Edward Klem, ME'50
Bruce Kline, IM'55
Frederic J. Kluska, IM'68
John A. Kmiecik, Cert'34
Charles O. Kniffen, ET'70
John W. Kono, ChE'52
Yoshio Kono, ME'45
James M. Korby, ME'68
Mahendrakumar Kothari, EE'71
Louis J. Kozik, MT'54
Jack M. Kramer, ME'55
Bud Kuczma, ChE'49
Edwundo Kuri, ArE'51
Kerry M. Lafer, Ar'76
Robert E. Lamu, ME'44
Gus Landa, AeE'37
Edsel Roy Landahl, MT'57
Joseph D. Lansing, ArE'57
Lawrence Lapenckas, BT'69
Harold K. Lauer, ChE'53
Blair W. Lawson, IM'65
David I. Leach, ArE'58
Alfred Lecoca, EE'66
Herbert Leedy, AeE'37
Sydney E. Leese, EE'35
Armand C. Leisberg, MT'57
Robert H. Lemond, ET'57
Wayne A. Lesmeister, ET'68
William Lewis, ME'44
Wilbert G. Lidtke, ChE'49
George V. Lietzau, IE'52
Donald M. Lijana, IM'75
Chavalit Limtrakul, Ar'77
Carl G. Lindstorm, Cert'33
Joseph M. Liske, IM'59
John R. Lloyd, IE'49
Kenneth A. Logan, IE'58
Robert M. Logan, CE'55
Gust C. Loizos, IM'55
Herbert Lorenz, Cert'33
John L. Luttig, Ar'72
Richard D. Lytwyn, ET'56
Sidney D. Lyons, ArE'44
Danny L. McBride, Ar'71
Roy McCarter, ME'44
William J. McDougal, ME'49
Gilbert N. McIntyre, ME'55
Stewart H. McMillan, EE'50
Neil A. MacDonald, CivE'58
Bruce MacKenzie, ET'55
Clarence F. MacLean, Cert'33
William C. MacNeill, MT'61
Gerald Madigan, ChE'51
Anthony Majauskas, BA'75
Joseph N. Malouf, BT'55
Theodore D. Malpass, IE'50
Deane E. Mann, EE'44
Harold Mansfield, Cert'34
George A. Mansur, ME'48
Melvin S. Marchlones, ET'72
Kenneth L. Marsh, EE'61
Max E. Marshman, ME'55
James E. Marzolf, RAC'59
Michael F. Mathews, IM'61
George W. Mattinson, MT'58
Patrick N. Mattox, ET'71
David A. Mattson, MT'66
Thomas Mayernick, ET'61
James H. Melvin, MT'58
Harold D. Michel, ME'50
Ralph W. Michelson, EE'48
John C. Midle, Ar'74
John Mihon, ET'75
Robert Milhem, ET'54
Ralph C. Millard, ME'64
John M. Miller, IE'53
Wayne L. Miller, Ar'70
Steven F. Mills, IM'69
Charles R. Mimms, ET'53
Walter J. Misks, IE'52
Charles L. Mitchell, EE'72
John R. Mitchell, IM'69
Oakley B. Mitchell, IT'69
Richard G. Mitchell, IE'55
Ralph C. Mobley, EE'43
George J. Moderacki, BA'50
Jack Mohr, CivE'51
Max Moiseev, ME'39
Howard L. Moll, ET'61
Lawrence Monticello, EE'56
Fred Montgomery, MT'60
Charles Moore, ET'71
David A. Moore, EE'64
Ellsworth A. Moore, ME'49
Edward A. Moran, IE'53
William More, ME'60
Frederick Morgan, ME'58
John P. Morin, EE'58
Robert M. Morkin, ME'49
Robert F. Morley, ME'34
Arnold Morris, ET'54
James G. Morrissey, IM'60
Roger G. Mosier, IM'70
Edward M. Mouranie, ME'38
Muhsen Munem, ME'73
Richard A. Munerance, ME'63
Gerald Mycek, ET'59
Richard Nash Jr., IT'66
Marc A. Neitzel, EE'78
Jose L. Jimenez Nema, ArE'64
Bert Nett, ME'38
Merritt L. Nevland, EE'58
Gilbert Noble, ET'56
Gabriel J. Noory ET'58
Doris E. Nordstrom, ArE'57
Ronald Nosek, IM'66
Paul T. Novak, CE'72
Michael W. Nowak, ET'72
Taro Obata, MA'76
Theodore L. Odell, IE'51
Charles E. Odette, Ar'71
Owen G. O'Donoghue, EE'53
Matthew O'Farrell, Cert'35
Leo D. Oliwek, Ch'76
John K. Olson, ME'50
J. Earl Orcutt, Cert'34
John D. O'Rourke, ME'57
Thomas R. Ostin, IM'76
Charles N. Otto, IM'60
Jerry Oyebade, Ar'76
Gil A. Parada, IM'71
Kenneth Parker, IE'51
Raymond T. Parr, IE'48
Joseph Parus, MT'53
David Paterson, ME'51
Richard E. Patten, EE'51
Virgil T. Pattman, ET'69
Frederic C. Paulsen, ME'73
Ralph M. Pavlak, ET'60
Raymond J. Pensak, CivE'50
John Peraino, ME'49
Juan E. Perez Jr., ArE'52
Efraim Perl, EE'73
Allen Perry, ME'38
James R. Peters, ME'59
Donald C. Petersen, CivE'51
John H. Peterson, EE'70
Vache Petrosian, EE'74
George M. Peychick, ME'56
Edward Pietrzak, ME'71
William J. Pikulski, IT'60
Joseph F. Pine, IM'53
Frederick Pollock, ET'75
William M. Poma, ET'61
James P. Pomaranski, CE'74
Robert Pontiatowski, MT'66
Borah G. Popovich, EE'34
James E. Porter, CivE'61
Gary A. Potter, IM'73
Franklin A. Prasatek, MT'64
Wilfred Predhomme, Cert'33
Stanley J. Prescott, IM'64
Alfred J. Prosser, IM'62
John Z. Prusac, IT'69
William H. Putnam, AeE'41
Roy Radakovich, IM'72
Jalmar S. Raisanen, BT'53
James S. Rang, ME'69
Edward C. Rasmussen, IM'67
Ahmad Razzaghinejad, EE'78
Leonard V. Reaume, ME'53
George H. Reckling, EE'60
Andrew Reese, ChE'51
Norman A. Reid, ME'40
George J. Rekowski, EE'68
Jerome K. Renye, ET'67
Robert A. Rew, IM'68
James E. Rex, IM'52
Robert F. Richards, MT'71
James C. Riggs, ET'72
Robert M. Riley, EE'41
Earl S. Ritenour, EE'57
Christine Robbins, EE'79
Gerald R. Robbins, EE'79
Robert H. Robertson, ME'53
Robert O. Robinson, BA'49
Saul Rock, IE'50
Harry M. Roediger, MT'59
Alan Roehrig, IM'69
McClennon Rogers, EE'63
Donald Roller, ME'51
Dean Rooks, Ar'76
Albert Rosenthal, ChE'44
Winthrop F. Roser, ChE'37
Herman W. Roth, ChE'37
Leobardo V. Rubio, BT'60
Donald J. Runnells, IT'67
John L. Rupinski, BA'51
Kenneth R. Ruse, IM'73
Benjamin Russau, MT'53
Ronald L. Ruth, MT'62
Joseph J. Rydel Jr., IM'69
Bruno Saccaro, ME'44
Mehdi Safabakhsh, Ar'77
Roman Sailer, MS'33
Charles W. St. John, IM'70
Paulino O. Salazar, ArE'51
Rufino Salinas, EE'50
Samuel G. Sam, AeE'49
James Saunders, IE'52
Bruce A. Sawyer, EE'43
Nicola E. Sbrocca, Ar'70
Frank R. Scarlett, CivE'53
Karl R. Schmid, ME'61
Carleton C. Schmidt, EE'51
Laverne D. Schnur, BA'51
Arthur J. Schock, Cert'35
Fred Schrafft Jr., IT'69
Clayton J. Schultz, ME'49
Norbert W. Schultz, MT'62
Paul T. Schulze, EE'63
Alex H. Schutzky, ME'52, IE'53
Fred D. Schwartz, ArE'40
Vincent Schweiger, MT'58
Donald R. Scott, EE'62
Robert J. E. Scriver, EE'62
Antonio Serra, BT'66
Charles R. Sexton, Ar'70
Abdolhossein Shaban, Ar'73
Mahmood Shafi-Nia, EE'75
Melvin L. Shapiro, ET'74
W. Franklin Shiflet, ME'43
Douglas R. Shoemaker, Ar'73
Joe Shugart, CivE'49
John Sidell, MT'55
Douglas J. Siehda, ET'72
Eldon J. Simmons, IE'59
Gerald I. Sinclair, MT'64
Edgar A. Sitter, Cert'34
Charles R. Smalley, ME'71
Douglas E. Smith, Ar'72
Stanley Smith, AeE'37
Vernie T. Smith, EE'70
Wilfried H. Smolenski, ChE'50
Raymond H. Snooks, CivE'49
Joseph Sokolowski, EE'50
Douglas W. Southerst, EE'52
Robert E. Spence, IM'61
Thomas E. Spettel, ME'68
Roy R. Starke, ME'54
Anatole Stechishin, ArE'56
S. Gregory Stephen, EE'61
Thomas G. Stephenson, ET'61
William R. Stetler, ChE'50
Norbert J. Stevens, ChE'43
Harold A. Stevenson, EE'52
Jack D. Stevenson, ChE'47
Ian E. Stewart, EE'42
Melville E. Stewart, Cert'33
Richard B. Stewart, ME'58
Steven C. Still, EE'76
Herbert Strasler, IM'54
Howard E. Stuart, ChE'38
Paul H. Sturman, ChE'52
Melvin H. Sullivan, MT'61
Robert G. Summers, ET'59
Freeman W. Sussex, Cert'34
Floyd Sussman, Hon. Key'35
Edward P. Suvada, MT'57
Stanley R. Sylvester, IM'57
Chester A. Symes, EE'63
Michael G. Szajkowski, IM'64
Robert J. Szkotnicki, ME'68
Richard E. Tate. ME'48
Robert S. Tattersfield, IM'70
Dennis E. Taylor, Phy'74
Paul C. Taylor, IM'73
Timothy P. Teefey, Ar'70
Walter G. Theriault, EE'35
Harry Thomas, ME'39
James M. Thompson, EE'70
Earl A. Thornwall, ME'50
Joseph R. Timlik, IM'55
Charles M. Tobias, AeE'51
Robert Tomaszewski, EE'50
Stanley F. Tomczyk, RAC'56
Terril O. Tompkins, Ar'69
James A. Townson, MT'57
Richard Traczk, ArE'51
Gerald Truscott, Hon. Key'35
Donald J. Turczyn, IM'61
William Tymms, IM'62
Russell Van Zanten, EE'59
Frank M. Varlamos, ET'62
Richard D. Vartanian, ME'50
Charles Vaughn Jr., RAC'58
Gilbert Veighey, ME'56
Gerald F. Veil, IM'74
Lawrence Vincent, EE'50
William B. Wagner, IM'52
Charles R. Walberg, ET'62
Arthur J. Walsh, MT'58
Michael J. Walsh, ArE'61
Vaun O. Walton, MT'62
William Walton, CivE'48
Ronald N. Waronoff, BT'61
George J. Watson, MT'59
Burt J. Wells, ME'52
Marion E. Wheatley, CT'71
Robert L. Wheeler, IM'59
William R. Wheeler, EE'43
Bryan C. White, IM'69
Clayton H. White, ME'53
Edward Wiecha, ME'53
Richard A. Wilds, ET'62
Albert F. Williams Jr., IT'60
Owen Williams, IE'51
Robbie W. Williams, CivE'50
Larry A. Williamson, ET'60
Donald E. Willoughby, ET'59
Charles E. Wilson, Ch'74
Clyde C. Wilson, Ar'77
Raymond B. Wilson, EE'52, IE'53
Milton E. Winyall, ChE'50
Martin L. Witkop, ME'70
James D. Witkowski, IM'75
Carl Witt, EE'51
Edmund J. Wejciechowski, ME'50
Richard G. Wood, ArE'50
Gerald E. Woodruff, EE'49
Kenneth Wright, MT'61
Leroy J. Yesh, IM'61
William Yurgel, ChE'33
Antonio G. Zabala, ME'72
Jerome Zabawski, EE'61
Moussa M. Zahrawi, CE'79
Arthur A. Zakens, ME'50
Harold W. Zang, EE'43
Craig R. Zaremberg, IM'68
Joseph S. Zawila, PTDT'54
Michael J. Zechmeister, EE'74
Edward R. Ziolkowski, ME'62
Frank J. Zurick, ET'62
William F. Zuzelski, RAC'55

Alumni Notes

News for Alumni Notes

Use the space below to send us news about you or your LIT friends. Tell us about honors, promotions, marriages, appointments and activities. Moving? Please send us your new address.

Name_____ Major_____ Class Year _____

Street _____

City_____ State_____ Zip Code _____

☐ Check here if this is a new address

News notes:

Send to: Director of Public and Alumni Relations, Lawrence Institute of Technology, 21000 West Ten Mile Road, Southfield, Michigan 48075.

1933-49

Robert W. Militzer, ME'42, participated in the Michigan Metalworking Trade Mission to the People's Republic of China in October. Bob is vice president and general manager of the Micromatic Division of Ex-Cell-O Corp. He is a member of the Presidents Club and lives in Holland, MI.

1950-59

Dennis E. Naken, ME'57, has been promoted to plant manager of the Oxford, OH, plant of Square D Company. Since 1976, he has served as sales manager at the plant. He will now be responsible for all plant operations. Square D is an international manufacturer of electrical equipment.

Dennis joined Square D in 1956 as a sales application engineer at its Detroit plant.

Ronald L. Zitta, ArE'59, has been named senior project engineering specialist in Dow Corning Corp.'s project administration department. Ron was formerly senior project engineer. He resides in Sanford.

1960-69

David C. Travis, IE'60, has been appointed general manager of Ford Motor Co.'s plastics, paint, and vinyl division. He has been with Ford since 1957, advancing through a number of supervisory positions. Since 1977, he had served as manufacturing operations manager of Ford Tractor Operations.

David earned his M.B.A. at Michigan State University. Saline is his home.

Henry J. Langlois, ME'61, has been named manager of product engineering and quality assurance for American Standard's Industrial Products Division. Henry lives in Detroit.

Donald M. Halberda, ME'62, has been named director of engineering for AlloyTek, Inc. of Grandville. Don and his family reside in Grand Rapids.

Chrysler Corporation has announced the appointment of **Melvyn G. Hewins,** IM'62, as Atlanta zone manager. He had served as Washington zone manager since 1977.

Melvyn joined Chrysler in 1965 and has progressed through several management positions for the corporation. The Hewins have three children.

Bethlehem Steel Corp. has named **Roy H. Reiterman,** ArE'62, as a sales engineer in the general sales office, Bethlehem, PA. He will be responsible for promotional activities of the use of steel in the construction, automotive, and consumer durable industries.

Roy is a registered civil engineer in Michigan, Kansas, and Texas. He and his family are relocating to the Bethlehem area from Houston, TX.

Michael W. Burley, IM'65, has been elected to the board of trustees at Schoolcraft (Community) College. Michael lives in Canton and is the curriculum coordinator for the Northville Public Schools. An educator since 1965, he earlier taught in Garden City and Livonia.

A dramatic increase in sales and a major material handling group contract has earned **Patrick J. Surma,** MT'65, IM'75, ACCO Industries' "Knight Award." Pat was recently promoted to district sales manager for ACCO Industries' Chain Conveyor Division in Moline, IL. He resides in Genesco, IL.

Cornell Candea, ME'67, was a candidate for the Clawson School board recently. He is a development engineer for Chrysler Corp.

John C. Krause, ET'67, has been promoted to supervisor—network segment technical/financial planning for American Telephone and Telegraph. John started with Michigan Bell in 1955. His new home is in Ringoes, NJ.

James P. Stewart, IM'67, has been named director of administration—purchasing for Volkswagen of America.

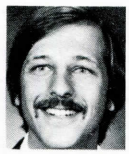
He has been administrative manager in the purchasing department since he joined Volkswagen in 1977. In his new position, Jim is responsible for the management and direction of administrative purchasing, service parts purchasing and CKD purchasing control and coordination activities.


Weir '69


Lorenz '71


Herkimer '78,'79


Overholt '79


Schlenke '79


Stassen '79


Stofer '79

He came to Volkswagen from the GMC Truck and Coach Division of General Motors where he was administrative manager in the purchasing department. Jim, and his wife, Mary and two children live in Troy.

Kenneth J. Knott, IM'69, has accepted the position of vice president of the National Association of Corporate Directors—one of the American Management Associations. Ken, who is a C.P.A., was with the Internal Revenue Service for nine years in Detroit and Washington before accepting his new position. He resides in Washington, DC.

Tom Weir, IM'69, has been awarded the C.L.U. (certified life underwriter) diploma and professional designation by the American College's 52nd annual conferment exercises held in October in New Orleans.

The C.L.U. is the professional designation of the life insurance industry, and is awarded after several years of study and fulfillment of experiential and ethical requirements.

Tom and his family live in the Cincinnati, OH, area where he is regional agency manager for the Equitable of Iowa.

1970-79

Charles W. Davis, EE'70, has been promoted to senior research engineer for Ford Motor Company's vehicle development technology group. Chuck has been with Ford since 1966 and has held a variety of supervisory and engineering positions. His field of expertise is in sound and vibration analysis. He will investigate the application of laser and other optical methods to sound and vibration problems.

Harlan Lorenz, IM'71, has joined LOF Plastics Inc., as manager of purchases for the company's Woodall Division—a producer of molded plastic and fiber products for the automotive, furniture, and other markets.

He was formerly purchasing manager of packaging, contract packaging, and purchased products for Parke, Davis and Co. Harlan resides in Farmington.

Thomas G. Farris, IM'74, is assistant leasing manager for the Pullman Trailmobile Co. He and his family have moved to Glenshaw, PA.

Dennis J. Cantwell, IT'75, IM'78, has been appointed national account manager in marketing for the American Telephone and Telegraph Co. located in East Moline, IL.

Dennis was formerly a market manager for AT & T, headquartered in Bedminister, NJ. He now resides in Sherrard, IL.

John M. Germany, Ar'75, is developing a package of international technological services for the Warren-based architectural/engineering firm of O. Germany Inc. His firm is promoting American systems and controls in the Middle East. John lives in Dearborn.

Peter A. Mello, Ma'75, and Marcia Shurtleff were married August 3. Peter is a computer programmer at Ford Motor's automotive assembly division. He and his wife reside in Royal Oak.

Dennis P. Vollman, Ma & Ch'75, received his Doctor of Osteopathy degree from Michigan State University in June, 1979.

Michael C. Meldrum, Ar'76, is instructing an evening course in residential construction for Macomb County Community College. Michael is an architectural coordinator for the Taubman Co., a national developer of regional shopping centers, and is presently working on new malls in Fairfax, VA, and Stamford, CT. He resides in Romeo, MI, with his wife and two sons.

Stephan R. Salo, Ma'76, has been selected as one of twenty-nine General Motors Corp. employees to receive the GM Fellowship award. Steve is employed by the Chevrolet Information Systems and was one of three employees selected from Chevrolet. He is attending Michigan State University, studying for an M.B.A. degree. His fellowship will provide both tuition and supplemental income while Steve pursues his degree on a full-time basis.

Paul F. Singer, Ma & Ph'76, who received a Hughes Fellowship in 1976 to pursue his master's degree at U.S.C., has been awarded a Hughes Doctoral Fellowship to continue his studies for a Ph.D. Paul received his M.S. at the end of the fall, 1978 term from U.S.C. and began his Ph.D. classes as a doctoral fellow at the same institution in February. Paul continues to work for the Hughes Aircraft Company in work related to his Ph.D. studies.

We're sure the sport of bowling will be much improved since **Gary A. Daniels,** ME'77, has joined the Brunswick Corp. as a plastics development engineer. Previously, he was a project engineer for Rockwell International's plastic division in Ashtabula, OH. Gary now lives in Muskegon.

Stephen W. Naida, Jr., ME'77, has joined the No-Sag Spring Division of Lear Siegler as a process engineer. Steve was formerly a product development engineer for Chrysler Corporation. He resides in Detroit.

Jaguar Rover Triumph, Inc. has named **William P. Russo,** EE & ME'77, to the newly created position of director, product development, of the firm's Detroit liaison office in Southfield. William had been with Ford as a manufacturing engineering supervisor.

Stanley Vemco division of the Stanley Works has promoted **Ronald W. Smith,** BA'77, to manager, sales administration. Ron has been with Stanley for ten years and has experience in manufacturing, production scheduling, ordering, and product marketing management. He lives in Sterling Heights.

David L. Spala, Ar'77, is working for the architectural firm of Graheck, Bell, Kline and Brown in Traverse City. He received a M.Ar. from the University of Michigan in May, concentrating in medical design. He's a member of the Traverse City Soccer League.

Louya Embenga (Michel Louya), CE'79, is living in Kinshasa, Zaine, Africa. Through Frank de Hesselle, LIT director of international student affairs, he reports that the cost of living is high and says hello to all his friends.

Four members of the class of '79 have received Hughes Fellowships—a work/study program. They were **Donald J. Herkimer,** EE'78, Ma'79; **Kevin R. Martin,** Ma & EE'79; **James L. Overholt,** Ph'79, and **Mark A. Stassen,** Ph'79. Kevin, James, and Mark will be pursuing their master's degrees at U.C.L.A., while Don will be studying for his master's at U.S.C. All four will receive a salary from the Hughes Aircraft Co. for their employment as well as all expenses for their studies.

Michael B. Schlenke, CE'79, married Janet Pauline on August 25 in Farmington.

Paula Stofer, Hu'79, has been named administrative coordinator for the Oakland County Pioneer and Historical Society, headquartered in Pontiac. She's also pursuing a master's degree in history at Oakland University, teaching part-time here at LIT, serving as faculty advisor for *PRISM,* the College's art and literary magazine, and building a new home in Farmington with husband **Ronald,** CE'76.

In Memoriam

Curtis G. Cogswell, TI Cert. '35, of Farmington. Survived by his wife.

Benjamin P. Shiller, ME'36, of Southfield, May 4, 1979. Ben was an alumni achievement award winner in 1952 and a consultant in energy, engineering, and the chemical industries. He is survived by his wife, Ruth.

William R. Slattery, ME'38, of Northville, June 24, 1979. Retired director of manufacturing and planning in Europe, and manager of plant engineering for the automotive assembly division of Ford Motor Company. He was a member of the LIT Presidents Club, a board member of the American Association of Watch and Clock Makers, a member of the Northville Planning Commission, former director and secretary of Meadowbrook Country Club, and past president of the Northville State Civic Association. Bill received an alumni achievement award in 1953. He is survived by his wife, Phyllis, two sons and a daughter.

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Ridler Hall of Fame bid can be aided by alumni letters

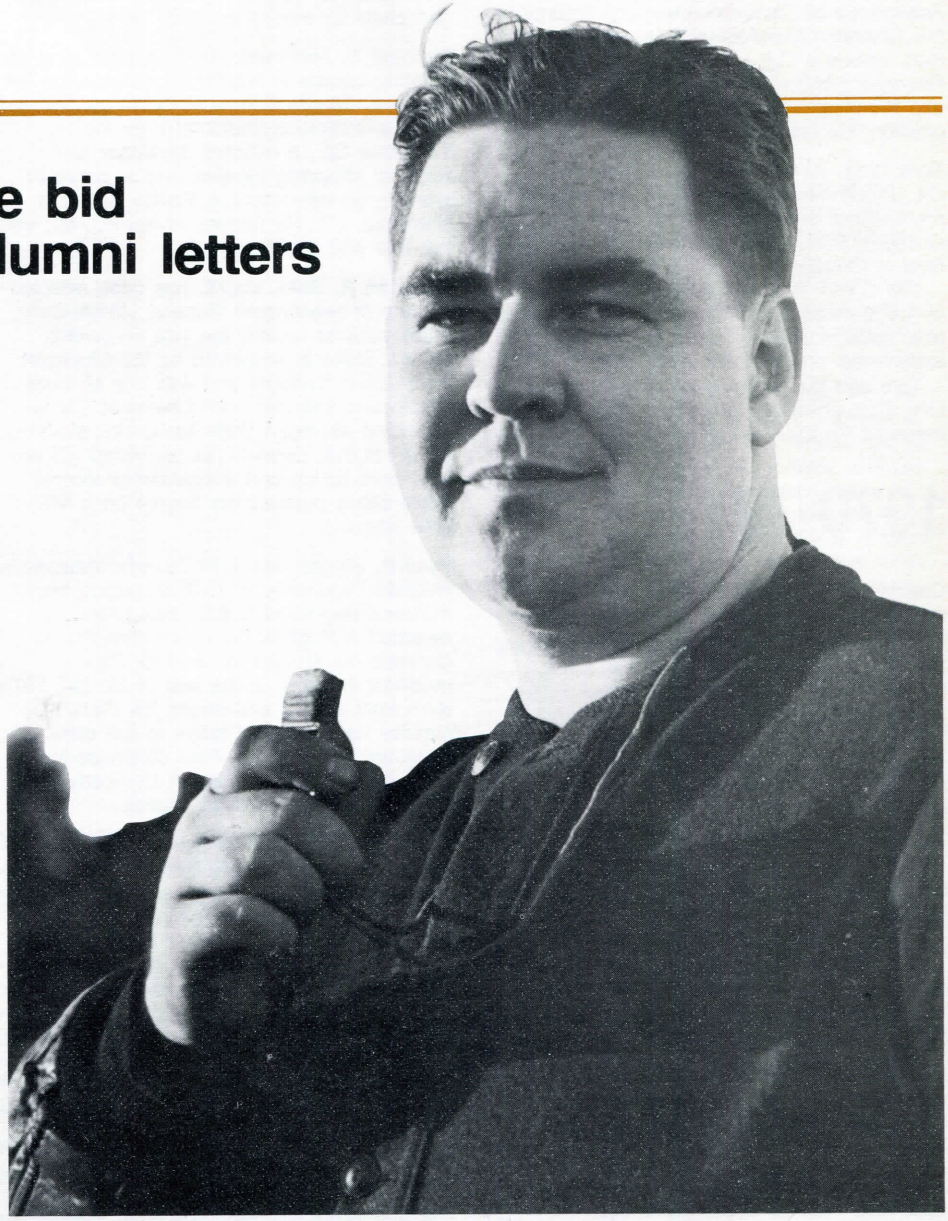
The late Don Ridler, LIT's premier coach and athletic director through the late 1930's, 1940's, 1950's, and early 1960's, has been nominated for membership to the Michigan Sports Hall of Fame.

Alumni, former players, and those who enjoyed watching Don and his teams in action, can help secure Don's posthumous placement by writing a letter of endorsement to: The State of Michigan Sports Hall of Fame, 1010 Joanne Court, Bloomfield Hills, MI 48013. Letters must be received by the Hall of Fame no later than February 7.

Walter Bazylewicz, BA'49, director of health, physical education, and athletics for the Archdiocese of Detroit, is spearheading the nomination effort. Alumni are asked to send a *copy* of their Hall of Fame letter to the "Committee for Don Ridler," who will make additional copies for the Hall of Fame selection committee and board of officers. The copy, either a photostat or carbon, should be sent to the Committee for Don Ridler, Archdiocese of Detroit, Department of Health, Physical Education, and Athletics, 305 Michigan Avenue, Detroit, MI 48226.

Don Ridler is regarded as one of Michigan's all-time great athletic promoters, mentors, participants, and sportsmen. A champion high school and college athlete himself, he came to LIT in 1938 at the request of then-President E. George Lawrence. Between 1938 and 1942, LIT football teams won the Michigan-Ontario Football Crown twice. His LIT basketball teams represented Michigan at the National Association of Inter-Collegiate Basketball Tournaments in Kansas City in 1942, '43, '47, '48, '49, '52, and '54. In 1951, Don's basketball team played in the N.I.T. national invitational at New York's Madison Square Garden. LIT is the smallest college (in enrollment) to have played in the N.I.T.

Don died in 1963 at age 54.□



Alumni can aid Don Ridler's election to the Michigan Sports Hall of Fame by supporting his nomination with a letter.