UNIVERSITY OF MINNESOTA

U·P·D·A·T·E

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ROB LEVINE

Greg Nelson had heard rumors about it taking three years for students to be able to find their way around the Twin Cities campus. He didn't really believe the rumors, but was still surprised to discover that "by my second day here, I seemed to know where everything was."

The freshman has even found his spot: you can usually find Nelson around the wrestling locker room, either working out or studying. "It's the quietest place on this whole campus," he says. He found it by chance. The former All-American high school gymnast and all-conference wrestler knew he couldn't handle two sports and keep his A average. He flipped a coin and it came up wrestling.

There are a lot of spots, a lot of niches, at the University of Minnesota.

There is no one way to go to school at the University. It's hard to talk about *typical* students. The advantage of the University's system is that it allows almost as much diversity in experiencing it as there are individual students. The disadvantage is that there are so many choices that some students never find their place.

After a decade of record enrollments, each class bigger than the last, the numbers of students are beginning to decline. The post-baby-boom generation is seeing a buyers' market for higher education. Colleges across the country will be competing for students.

The University has never been forced to compete for students. Too few students is one problem it has never had. Now that enrollment should be decreasing over the next ten years, the demands on human and physical resources should relent a little, creating a prime opportunity to make some changes for the benefit of the students. Students and faculty from all five campuses have lately come together in a 24-member task force on improving the undergraduate experience at the University.

What they're finding is that, as Greg Nelson has already discovered, a good experience can depend on ...

Finding a Place at the University

When you arrive on a campus with 46,000 other students, where do you start? It's like being confronted with a menu containing hundreds of entrees: your first inclination may be to stick with what's safe and familiar—in effect, to order the hamburger and fries to go.

"It's so much easier at the U to go to the library and study than to go out and meet people," said Twin Cities campus freshman Jeanne Levinson. "But I'm sure it's not as much fun." Levinson was worried that her decision to live at home in St. Louis Park would hamper her ability to meet new friends; that she'd fall into the routine of commuting to campus, spending a few hours in class and at the library, and heading home again. She decided to join the Freshman Council, an organization that plans social activities for freshmen.

"If you're confident and assertive, have a good idea of what you want to pursue, and can break out of the mold of hanging around with your high school friends, you can get a great education at the Twin Cities campus," said Gary McGrath, director of the liberal arts career development office.

Levinson is beginning to feel at home on campus. She may even have met one too many friends. Last October, while she was sitting in Coffman Union with six companions, a young man approached her, introduced himself, and proceeded to shed his clothes until he sported nothing but his bikini briefs. With a little help from her friends, Levinson had become the surprised recipient of a birthday "Apeel-A-Gram."

The task force on the student experience is considering various ways to make it easier for students to learn to meet people in extracurricular activities. One suggestion is that evening express buses might be scheduled to encourage commuter students and staff to stay on campus after the usual late-afternoon exodus. Or students might be awarded an "activities transcript" to recognize what they learn outside the classroom.

True, some restraint might be in order when joining campus activities. When Collin Csuy arrived from Antigo, Wisconsin, in the fall he took the advice of his orthodontist and pledged Kappa Sigma. Living in the fraternity house on the edge of campus, he declared two majors, acquired a 15-hour-a-week job at the campus McDonald's, and dove, literally, into two campus organizations: the skydiving and skindiving clubs. Although he holds faint aspirations to join the campus Monty Python and sailing clubs, he's recognizing his time limitations. After nodding off in class a few times, he set a 2 a.m. bedtime for himself and began recording on a bedside chart the number of hours he sleeps per night.

Csuy and Levinson had at least one advantage that they claim eased their entry into the world of the University. Last August, they joined 70 other recent high school graduates for a weekend at freshman camp. At Camp St. Croix, two miles east of Hudson, Wisconsin, the group participated in dances, relay races, a sing-along

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Jeanne Levinson joined the Freshman Council to get involved with campus life despite being a commuter student.

Customizing the Campus Experience

There's a popular impression today that a university education is a means to an end—and that's as far as it goes. The end is a chosen career; the means is a process of accumulating enough credits to be awarded a diploma.

Scott Dacko and Diana Watters are two students who don't buy that. Call them starry-eyed idealists, but they both seem to believe that making the most of the present is the best way to take care of the future. Funny thing, too, they're both enjoying their life on campus.

Scott Dacko was amazed when he arrived on the Twin Cities campus his freshman year. "I looked at people and they did not look back," he recalled. "It appeared that a smile was a rare commodity and saying hi to someone you didn't know was even rarer. Apparently, everybody was preoccupied with their studies."

He remembers watching the high school friends he'd ride to campus with to check their reaction. They seemed to take it all in stride and soon immersed themselves in preparing for the next week's test. He couldn't help feeling they were missing something.

Starting with the proposition that there's more to school than homework, Dacko began to get involved in what he calls "a few extracurricular activities." He liked to write so he joined the staff of *Minnesota Technolog*, the Institute of Technology's student magazine. He was interested in government so he joined the IT Student Board.

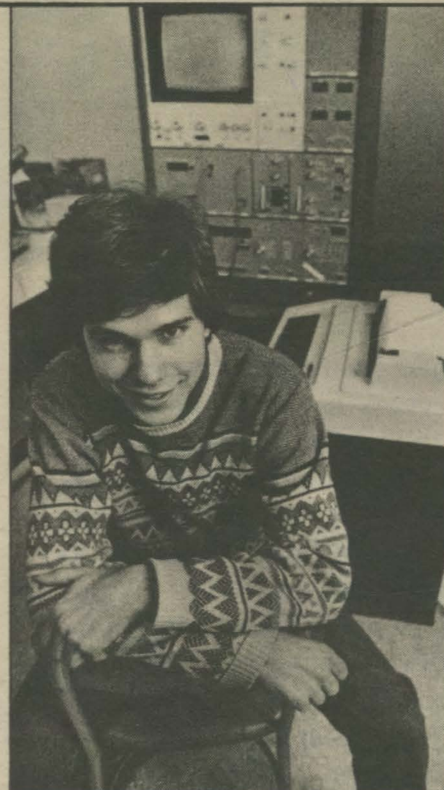
"I began to enjoy myself. At the same time, I was developing skills in writing, speaking, and learning how people work together as a group. I ended up starting a new publication in IT, a biweekly newsletter for students and faculty called *IT Connection*." He edited it for the next two years, even after he became president of the IT Student Board his junior year.

As a senior this year, Dacko started a new organization called the Association for Creative Engineering. Each spring it will sponsor an Innovation Fair where IT students can compete to create marketable inventions. Dacko hopes it will give some budding entrepreneurs a chance to get started.

Budgeting time for extracurriculars and his job has called for some sacrifices. Sometimes it's grades. Dacko admits he doesn't have the consistently top grades required for many research positions in mechanical engineering. But that's not the kind of job he's after. He questions how much he'd enjoy working for a company that wants a person who is a mechanical engineer and nothing else.

Around the IT side of campus, Dacko doesn't fit the stereotype of students who are recognized mainly as ID numbers attached to grade point averages. He has more campus phone numbers than most faculty members. They know him at the *Technolog* office, at the student government office, at the mechanical engineering department, and at the Particle Technology Laboratory where he works as a research assistant: "Scott Dacko? Sure, I think he's around here."

"There's no doubt the U is a big place," Dacko said. "But I don't mind because I've made it small."



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Scott Dacko has made a home for himself around the IT side of campus. Most afternoons find him working as a research assistant in mechanical engineering's Particle Technology Laboratory.

"There's no doubt the U is a big place. But I don't mind because I've made it small."

Diana Watters might be perceived by some people as having *extra* curricular activities. The Twin Cities campus pre-med student is a biology major with minors in French and studio arts. Now in her fourth year at the University, she expects to be here two more years to take all the courses she wants and complete her bachelor's degree. She still hasn't decided on a career.

"A lot of people I know cut out certain things in their lives once they get to college so they can be singleminded about one thing—usually their major," she said. "I guess I'm doing the opposite—I've tried not to eliminate any interest.

"School is a very interesting and special time, so you might as well

around a bonfire, and informal meetings about campus life.

Donald Zander, associate vice president for student affairs, organized the University's first freshman camp in the mid-1950s. Every year since then, incoming freshmen have had the chance to go to camp, where upperclassmen acting as volunteer counselors encourage them to meet new friends, learn about the University's academic and social opportunities, and have fun.

"The key question is: how do we help students choose what's right for them?"

"The key question is: how do we help students choose what's right for them?" Zander said in an interview. Choosing the right campus, the right academic program, and the right activities requires better communication, Zander said. "Students may know that somewhere there are services to help them plan a major and a vocation, but they don't know specifically where to go."

One communication strategy being considered by the task force involves reducing the amount of information students receive on the theory that too much information is as bad as not enough. A campus information center, a telephone hot-line information service, and a center specifically for new students needing orientation are some other possibilities for improving communication.

Communication and fostering a sense of community aren't particular problems at the Morris, Waseca, Crookston, and Duluth campuses. Just the liberal arts college at the Twin Cities is bigger than three of those campuses combined. While students at Morris have plenty of chances to meet one another in small groups, what Morris may need is a student union to serve as a center for a number of groups. Twin Citians like the Duluth campus so much they compose half the student population. The special problem Duluth has is student housing.

Each of the campuses provides a unique place for students. The trick is enhancing the strengths of each campus and matching students with the campus that suits them best. The coordinate campuses have always emphasized undergraduate education. The biggest changes are needed on the biggest campus.

For the Twin Cities campus to emphasize what it does best means "to concentrate on the kind of undergraduate education that a research faculty does best," said John Wallace, the assistant vice president for academic affairs who is directing the task force. "What is that? It's not so much that the faculty are masters of the current state of knowledge, but that they know how to find out things. They're using approaches to finding out things that will make the facts that are known ten years from now quite different from the facts that are known today."

Somehow, ways must be found to involve more Twin Cities undergraduates in the process of research. That will mean more individual contact between undergraduates and faculty members. The psychology department, for example, has the largest number of undergraduates involved in research projects, in part because every psychology student is provided with a list of the faculty's research interests.

Because it has the resource of faculty who are advancing knowledge by research, the University has a special place for the brightest students. Yet the University is now attracting as freshmen only about 20 percent of the Minnesota high school students in the top 25 percent of their class.

"We're starting to worry about getting the high-ability students that really ought to be coming here."

In 1982, University freshmen had a median high school rank at the 68th percentile. That compares to a rank of the 80th percentile at the University of Wisconsin and the 91st percentile at the University of Michigan.

"We're starting to worry about getting the high-ability students that really ought to be coming here," Zander said.

Doing a better job of telling students about advanced placement exams could help, Zander said. In 1982 only 131 University students tested out of basic courses. In contrast, 1,477 took such exams at Michigan.

The exams, which have been available for many years, provide the chance for students to "move right into the smaller courses, the courses in which the research faculty provide the kind of educational experience that we're the best place to provide," Wallace said.

More honors courses, honors convocations, and dean's lists at all the colleges are other methods the task force is considering to help top students find their place at the University.

Academic reputation is the feature that students value most about the University. A poll of entering freshmen in 1983 found that 77 percent rated the academic reputation of the University as very good or excellent. That is a strength the new emphasis on undergraduate education aims to maintain and improve. □

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really experience it," Watters said. "I'm just having fun being here now."

Despite ranging among interests in three different fields, Watters has found a home base in the College of Liberal Arts honors office. The office advises some of the brightest students at the University. It sponsors honors sections of some of the popular undergraduate courses and arranges honors seminars where students can work in a small group with some of the best professors on campus.

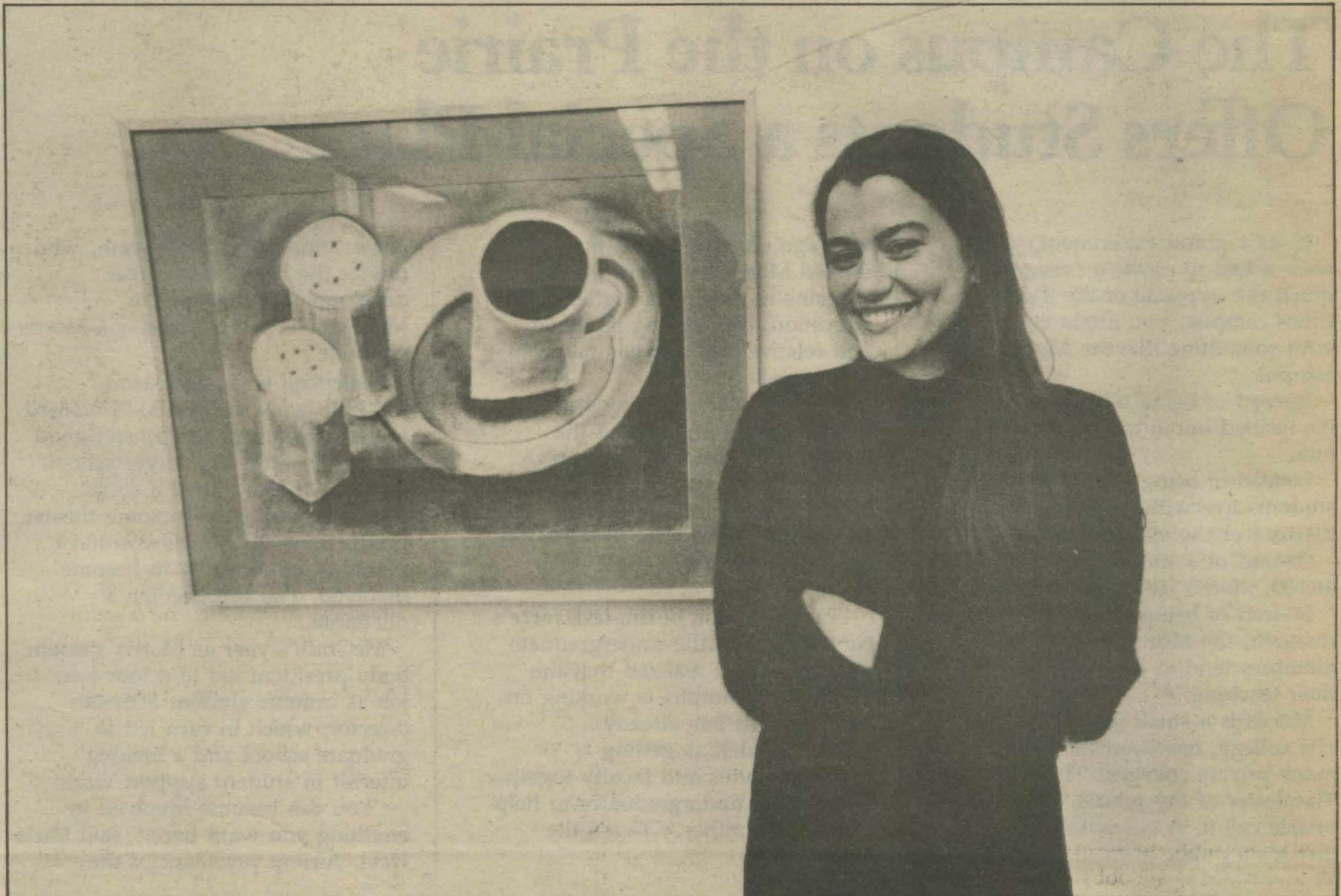
"Just having friendly, concerned people in the honors office helps," Watters said. "I know I can always go there if I have a problem."

It was in the Honors Gallery that Watters recently had a one-person painting exhibition—a group of pastels of dinnerware, tables, and chairs she titled *Ombragés*. The opening drew 60 people who came to see the paintings of a pre-med student.

"I looked all over the country at schools, and almost went to Hamline, but I came here because the U is so big I knew I could do anything I wanted to do," she said.

Six years of tuition might seem like a high price to pay for catering to a variety of interests. Although Watters gets some financial help from her parents, she pays the bulk of her education expenses through grants and jobs. She has worked as a lifeguard and swimming teacher, a graphic artist for an international student organization, a pottery teacher, and a bookstore clerk. "I've worked because I've needed the money, but also because I've wanted to work," Watters said. "I like variation in my life."

Painting is a "nice change" after studying biology, she said, but her lack of a single career goal is puzzling to many of her acquaintances—"they all think it's very curious"—and at times it's a bit worrisome to her parents as well. "My mom is always saying things like, 'You know, computer science is a very good field right now,' " Watters said laughingly. "But I've always thought I should enjoy what I'm doing right now instead of deferring all my interests until I get out of school. I just can't operate any other way." □



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(Right)

Diana Watters at her show called *Ombragés*. The biology/pre-med/French/studio arts student recently had a one-person show of her pastels in the Honors Gallery.

You're Going To Make It After All

Kristine Paulson doesn't have time for many extracurricular activities. She doesn't have time for much of a social life. Working 35 hours a week, she doesn't have as much time as she'd like for her studies.

"I like college," Paulson said. "I've never been happier in my life."

Campus life for the College of Home Economics senior is continuing proof of her independence. She knows she's going to make it.

Paulson, a housing design major, carries a full load of 12 to 15 credits while working in the deli at Byerly's grocery in Edina. She's carried that kind of schedule throughout college, except for the freshman year she spent at Concordia College in Moorhead.

Financing her education through an assortment of loans, grants, and jobs, Paulson has maintained financial independence since she was 18, receiving no assistance from her parents.

"When I started college, all four of us kids were in college," Paulson said. "My brothers and sister didn't get any help from my parents, so I wasn't about to ask for any either. I'm the baby of the family and they never thought I could make it on my own, so I've tried really hard to be independent."

She got a crash course in independence when she transferred to the University from Concordia.

"At Concordia they practically take you by the hand and lead you through school," she said. "Here it's the opposite—you have to be very aggressive to get help or counseling." Ten minutes late for her first advising appointment at the University because she got lost on campus, Paulson arrived to meet an irate counselor who informed her that since she had wasted ten minutes, she had just five minutes left. The brief meeting wasn't enough to accomplish anything.

Paulson decided she'd just do without the counseling. Following her own lights, she's decided to spend another three years at the University pursuing a graduate degree in architecture. Both her father and older brother are architects.

"Architecture and design are part of my background," she said. "I grew up with it. We'd be out driving and my dad would just stop the car in the middle of the street and say, 'That's really a hideous house,' or he'd wonder what material a building was made of and run over to look at it. I never realized how much design I had picked up at home until I began classes here at the University.

"I've always wanted to be an architect, but I wasn't sure I could handle the courses. After helping my brother with his thesis last spring, I'm not afraid of it anymore." □

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Kristine Paulson's ability to design a mean potato salad has financed her college education. She's found the independence to study for her ideal career, designing buildings as an architect.

The Campus on the Prairie Offers Students a Special Place

If, as a grand experiment, you were asked to create a college very much the opposite of the Twin Cities campus, you might come up with something like the Morris campus.

Instead of being in a large city, it's nestled into a town of 5,300 folk.

Instead of being commuters, most students live within walking distance of the classrooms.

Instead of a student body of 46,000, Morris has 1,600 students.

Instead of being known for their research, the Morris faculty members tend to be recognized for their teaching.

Morris is a small four-year liberal arts college, based on the model of many private colleges. "The Macalester of the prairie," some people call it. A big difference is that it's a public institution. Not long ago *Changing Times* magazine ranked Morris as one of the 50 best bargains in American higher education, considering its quality and relative low cost compared to private colleges.

When University President C. Peter Magrath announced the formation of the task force on enhancing the student experience, he made the speech in Morris. Morris may have a lot to teach its big sister campus in the Twin Cities.

"I went to one of the task force's conferences on the undergraduate experience and realized that the Twin Cities campus is working on issues Morris has already resolved—such as getting undergraduates and faculty together, and getting undergraduates to help teach one another." That's the observation of Gary McGrath, who directs the liberal arts career development office on the Minneapolis campus and is a Morris graduate.

Basketball was one reason McGrath went to Morris. "I wanted to play basketball and wasn't good enough to do it at a larger school," he said. "I also joined a social fraternity and acted in some theater productions. At Morris you have plenty of opportunity to become involved. You can become a dilettante."

McGrath's year as Morris student body president led to a four-year job as campus student activities director, which in turn led to graduate school and a lifelong interest in student support work.

"You can become involved in anything you want here," said Carla Heyl, current president of the Morris student association. "You don't have to be the best."

Getting involved in campus activities—or even shopping for groceries in Morris, for that matter—means students are going to meet faculty members. An actor in a school play can expect to be seen by a good share of the faculty and staff. In Morris, it's hard *not* to get to know people.

"It's more personalized here," Heyl said. "You can really get to know professors. If you have questions or problems, you have no fear about talking with them."

Even Provost John Imholte is well known by the students and is greeted around campus as Jack. "The administrators here really listen," Heyl said. "I feel that I have some voice. If we object to something, faculty and administrators will rethink their position. They really do care about

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The Subject Students Can't Afford to Fail:

By Paul Dienhart

The idea that lack of money should be no barrier to a college education is no longer a dream.
—President Jimmy Carter, 1978

Sorry, Jimmy, that's no longer true. Today's student can't afford to be caught dreaming. An essential for financing a college education is clear-eyed planning.

Since 1978 tuitions have steadily increased, while financial aid has become harder to get. Four out of five middle-income families worry that they soon won't be able to afford the cost of their sons' and daughters' college education, according to a recent poll. Nearly 70 percent feel they could afford college tuition only with the help of grants or low-interest loans.

The average yearly cost for an undergraduate at a public college is $4,700—including books, tuition, transportation, and room and board. The private college average is $8,440. At the University's Twin Cities campus the average cost is $6,600, while schools like MIT cost more than $15,000 a year. Tuition went up an average of 10 percent at the nation's colleges this year, on top of 11 percent average increases the two previous years, according to the College Board.

The tuition increases are largely a delayed response to the inflation of the 1970s. Many colleges held back

The only thing certain about financial aid is that no one is going to get it who doesn't ask for it.

on tuition increases then, hoping that the economy would settle down. In the process the colleges tended to postpone expenses like building maintenance to balance their books. Now those expenses can no longer be delayed—buildings could start to fall down. In the scramble to get tuitions back on track, increases have been running higher than the current inflation rate. Meanwhile, federal financial aid has leveled off, and many experts expect it to be decreased when the program comes up for reauthorization in a few years.

"Previously, most of the complaints we heard were about the process of getting the aid," said Bob Misenko, director of student financial aid on the Twin Cities campus. "This year some students are saying, 'Fine, I got the grant, but it's not enough. Now what do I do?' It's not uncommon, after analyzing the situation, to find there's nothing to do."

Finances can color a student's college experience. Nationally, two thirds of all seniors work during the school year, compared to less than half ten years ago. Typically, college students meet more than half their school expenses with savings, loans, and jobs. Some observers fear that a college education may become less rewarding as students pass up extracurricular activities, struggle to keep up their grade average, and hurry to accumulate just enough credits to graduate. And upon graduation they might have to weigh the choice of careers with the knowledge that they have a big education loan to repay.

A concern for fairness

It may seem unfair that aid isn't increasing along with tuition, but the leveling off of aid is partially a response to a concern for fairness. Back in 1978, eligibility for aid was broadened considerably. The cost to the nation was tremendous. Some well-off families took advantage of the situation by securing low-interest education loans and investing them for high dividends. Some genuinely needy students saw their aid going to children from families that could well afford to pay for college education.

What happened was a reaffirmation of the philosophy that has prevailed during the 25-year existence of college financial aid: parents have always been considered the primary source of support for college students, and the students themselves are expected to contribute whatever resources—earnings, savings—they have. Financial aid is a secondary source of support. It is for the support of students with need.

There's still a lot of aid money and a lot of students who can qualify, to some degree, as needy. University of Minnesota students borrow $45 million a year in low-interest loans; they get $8 million a year in free federal grants and $3 million a year in salary subsidies for campus jobs. "But we still run out of money before we can serve all the students who qualify as having a financial need," Misenko said.

The vast majority of financial aid money comes from the government—federal and state. In some of the aid programs, the government gives colleges money and allows the colleges to decide who gets it. That's called campus-based aid. Then there is the aid that is directly controlled by the government. These programs use college financial aid offices to help process the paperwork, but the government decides who will be awarded aid.

Misenko steadfastly refuses to predict which individuals are likely to get financial aid. "I quit that a couple years ago when I was batting about 50-50," he said. "That's a pretty good average, but the people I was wrong about found that hard to appreciate.

"I can show you a family with an income of $15,000 a year that fails to get financial aid, and a family with $40,000 a year that does get it. Income isn't the only factor. Aid can depend on the number of college-age children, whether a parent has died, total assets, or unusual medical expenses."

Finally, the only way to determine who is eligible for financial aid is for those who feel they need it to fill out the forms and apply for it. The only thing certain about financial aid is that no one is going to get it who doesn't ask for it.

FINANCIAL AID

FREE MONEY.

Grants and scholarships are the most desirable kind of aid because they're free. It's almost unheard of for a student to get a completely free ride on grants. But the more grant money students get, the less they'll have to pay back on loans. Perhaps they'll have the choice to work less during college, too.

The best-known grant program is the federal Pell Grants. The federal government awards this money to undergraduates on the basis of need. The other federal grant program—Supplemental Educational Opportunity Grants (SEOG)—is administered by colleges. A set amount of SEOG money is given to each college and is awarded until the fund is gone.

Minnesota has a state scholarship program and a grant-in-aid program. The first is awarded on the basis of need and academic achievement. The second is strictly based on need. Both result in awards between $100 and $1,400 a year, not to exceed half of the demonstrated financial need. If the student already has a Pell Grant, the Minnesota grants can't bring the aid to more than three quarters of the financial need.

PRIVATE SCHOLARSHIPS.

Good students with a B average or better might find it worthwhile to investigate privately funded scholarships. But academic achievement may not be the only qualification for scholarships. Some of them depend on such varied factors as nationality, career goals, or whether the student delivered newspapers or worked as a caddy. The nationwide average for scholarships is about $900 a year.

The University of Minnesota has some 2,000 different scholarship funds. Contributions from alumni, friends, and businesses to the University of Minnesota Foundation provide more than $2 million in scholarship awards each year. There are a number of scholarships, for example, designed to help mature women who are beginning or continuing their college education. Another requirement is that these women enter fields with good job prospects or that are not traditional for women.

The Public Relations Society of America recently donated money to the University of Minnesota Foundation to establish a scholarship in honor of Willard Thompson, a journalism professor who retired this year. The first scholarship will be awarded in 1984, and the recipient will have to be an outstanding student, involved in civic and community work, who is commited to a career in public relations.

A few years ago, with a $1 million gift from the McKnight Foundation, the University joined the National Merit Scholar program, offering about 40 scholarships each year to National Merit finalists. This past year more than 80 finalists listed the University as their first college choice.

Another source of scholarship money may be the companies that employ parents. Last year corporations awarded at least $17 million to children of their employees.

Search firms that charge a fee to help students find scholarships are not usually worth the money, according to Bob Misenko, financial aid director on the Twin Cities campus. They often produce such obvious sources as Pell Grants and GSLs. Misenko suggests that students investigate scholarships by contacting college aid offices, checking with their parents' employers, and asking their high school counselors about scholarships sponsored by local civic organizations.

The rumor that there are vast numbers of unclaimed scholarships is a myth, Misenko said. "The scholarships that aren't claimed tend to have criteria so complex that it's virtually impossible to find a recipient," he said. "They're the kind that demand a left-handed, second-generation Norwegian from a certain Minnesota county."

Continued next page

Apply and demand

An informed, persistent, and organized applicant has a big advantage in the quest for financial aid.

Students should talk to their high school guidance counselors about financial aid in the fall of their senior year, and, at the same time, contact the colleges they're interested in and ask them to send information. Each school may have different requirements for aid, so it is necessary to get forms from all of them. It's also the time to begin to collect the supporting documents needed for the forms—old tax returns, mortgage information, medical records, bank statements.

As soon after January 1 as possible is the time to send in the forms. Reading the directions and filling out the forms correctly is important: valuable time is lost if forms are bounced back for corrections. Mid-March is about as late as you can send in forms and meet deadlines to qualify for all the different aid packages. The University's Twin Cities campus has a deadline this year of April 27 to qualify for campus-based aid. Federal- and state-administered programs—the popular Pell Grants and Guaranteed Student Loans, for example—are available beyond that date.

Need is a factor that figures in almost all of the aid programs. Some aid can only be obtained after a formal needs analysis conducted by American College Testing (ACT). The key here is a form called the Family Financial Statement, which must reach ACT six to eight weeks before the college's financial aid deadline. It takes that long to

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process the data in a complicated formula that measures financial strength against medical expenses, number of college-age children, retirement income, and other considerations. The end result is need: the difference between a student's and a student's parents' total available resources and the total expenses of attending college.

Take the example of a family of four with a one-salary income of $32,000 and total assets of $40,000 with no unusual expenses. Under the current formula the parents would be expected to contribute about one tenth of their income. The student would be expected to contribute $700 of summer earnings and 35 percent of personal savings.

WORK-STUDY.

Both federal and state governments contribute to a subsidized work-study program. University students work at campus jobs at a starting wage of $5.35 an hour. University departments are motivated to find jobs for students because the major part of the wages comes out of the work-study funds rather than the departmental budget.

SUBSIDIZED LOANS.

In sheer volume of money, the most popular financial aid program is Guaranteed Student Loans (GSL). In fact, many students apply only for a GSL without bothering to determine whether they could qualify for a free money grant, according to Misenko. Students with family incomes under $30,000 a year can qualify for GSLs if they don't already have enough aid to pay their education expenses.

The GSLs are subsidized by the federal government. Students make no payments while they are in school, and pay back at a rate of 8 percent interest after they finish school. Undergraduates can get a maximum loan of $2,500 a year, and can accumulate loans amounting to $12,500. However, the federal government charges a 5 percent service fee off the top, so a loan of $2,000 would actually yield $1,900.

Most students obtain GSLs from banks—with the government paying the difference between 8 percent and the current interest rate. Students can also get GSLs from the state of Minnesota, which has $150 million set aside for the loans.

Students with family incomes over $30,000 a year can also get GSLs if they can demonstrate financial need.

A second federal loan program charges only 5 percent interest, and lends government money. National Direct Student Loans are administered by the campus aid offices. Each college gets a certain amount of loan money from the federal government. The aid office determines who will get the money and lends it until the fund is depleted.

PARENTS.

Like it or not, the government has always assumed that parents will be the primary support for their college-bound children. Although the government loosened this policy in the late '70s, the standard is now being reaffirmed—just at a time when college costs are skyrocketing.

Parents with children still to reach college age may want to start their own scholarship funds. There are a number of good ways to save money for children's college education, and save tax dollars at the same time. IRAs and Keoghs are poor ways to save for college because of withdrawal penalties. Ask a banker or a financial consultant about custodial accounts, Clifford and Crown trusts, and about gifts from parents to child of appreciated securities. □

That might make a total family contribution of, say, $4,200 a year. That $4,200 would hold constant no matter which college the student applied to. Financial need would go up or down depending on the cost of the college.

Until the money runs out...

Simply establishing a degree of need is no guarantee of obtaining grants or scholarships—free money. There's not enough aid money to go around, so funds are distributed by priority.

The University has complicated formulas for determining priority. Some of the priority groups for the Twin Cities campus include minority and disadvantaged students, international students, and students in graduate or professional degree programs. A certain amount of money is set aside for the priority groups. Then other formulas are used to determine the neediest students within those groups. Since each campus in the University's system serves different kinds of students, aid priorities differ among the campuses.

"In general, we try to direct the money to students with the greatest need, until the money runs out," Misenko said.

But how do you figure need for students whose parents refuse to support their education, or students who don't want to ask their parents for help? Many of these students have declared that they're independent, that only their personal income should be considered for computing need.

Abuse is possible when families who can well afford to help their children through college use the independent status to avoid obligation. Their children get publicly financed grants and loans while the parents keep their savings in good investments. That means less aid is available for students whose parents truly can't afford to help pay tuition.

If students live at home for 42 or more days a year, get $750 or more a year from their parents, or are taken as tax deductions by their parents, they are considered dependent by federal standards. For the 1985-86 academic year Minnesota has added to those standards a minimum age of 22 for independent status. Many observers feel the federal government will also tighten the definition when the aid program comes up for reauthorization.

"The government's position has always been that the primary responsibility for financing higher education rests with the family," Misenko said. "The government's going to resist loopholes in that definition."

The family contribution includes money from the students themselves. "Unless students come from affluent backgrounds, it's hard to see how they could make it through college without taking a job," Misenko said. "There simply aren't enough grants or scholarships. Even low-interest loans have limits, and student indebtedness is a real concern. If students are $15,000 in debt by the time they graduate, that's a tremendous influence on purchasing power and the ability to start a family.

"The only alternative is employment," Misenko continued. "The University literally runs an employment service. We recruit positions off campus for students to apply for, then screen the applicants and refer only qualified students. Employers like the service because it saves them time."

It's interesting to note that at the University of Minnesota the retention rate for students who work is better than for students who don't work. It seems that working doesn't necessarily correlate with a bad college experience.

The financial aid office tends to be one of the first places students find when they come to campus. The Twin Cities campus handles more than a million forms a year and has three to four personal contacts with each applicant. As in any bureaucracy, there can be frustrations for the people involved. A *Minnesota Daily* guide to financial aid offered this advice: whatever happens, "do not ever, EVER, use profane language or start to yell."

The aid process should get easier this winter when a new computer system goes into operation. Students won't have to fill out as many forms, and better coordination among the campuses should be possible.

Applicants can only help themselves by being as informed as possible. Each year the government publishes a free guide to federal aid programs. It can be obtained by writing: Student Guide, DEA-84, Pueblo, Colorado 81009. One of the best reference books on financial aid is *Don't Miss Out: The Ambitious Student's Guide to Scholarships and Loans* by Robert Leider, published with yearly updates by Octameron Associates. □

By Rutherford Aris

Editor's note: "Whatever you write," said Rutherford Aris, "don't describe me as someone who knows everything about all subjects. People find that very irritating, and so do I."

There is the terrible temptation to unloose the cliché "Renaissance man" when one encounters Rutherford (Gus) Aris. It is an expression trundled out to express admiration, but has the effect of branding the subject as a freakish, though harmless, aberration. We live in a time when it's thought odd to have broad interests, and so we label such people as throwbacks to another century.

It is true that Aris is a Regents' Professor, a member of the top-rated chemical engineering department in the nation, and a master at describing chemical reactions with mathematical models. It is also true that he does research on paleography (the study of the handwritten script of medieval books) and teaches a classics course on the history of the book before the printing press. He is well read, particularly in the classics, and can speak Latin.

To continue the profile: recent accomplishments include co-editing a book on scientific creativity for the University of Minnesota Press and chairing a liberal arts committee investigating the possibility of starting a center for humanistic studies on the Twin Cities campus.

So the picture is of a person interested in both the sciences and the humanities. Why should that be odd? Somehow we've gotten the idea that science and the humanities don't mix, and the best one can do is pick a specialty and stick to it. C. P. Snow gave formal approval to this division in his essay "The Two Cultures" and left the impression that science is now the dominant culture.

Aris never bought this argument. He once wrote an article on mathematical models in the form of a Socratic dialogue among a mathematician, an engineer, and a natural scientist.

Even within the humanities there is a temptation to specialize, to erect barriers to thought along the lines of departments. That's why Aris's committee recommended the center for humanistic studies as a way of bringing learning together—for both humanists and scientists. It would pose questions with meaning for many disciplines, promoting collaborative research and team-taught courses. A likely start would be to investigate humanistic questions that are posed by professional schools within the University.

As Aris wrote in the committee report: "We are not just a high-technology society whose problems can be met by computerized studies. We are, even more fundamentally, the inheritors of a variety of civilized traditions which have to be understood if we are to develop the sensitivity needed to approach social problems at a human level."

As subjects directly concerned with transmitting values, the humanities have a role in all endeavors. Specialists who take that view may find themselves, in their individual ways, acting a lot like Rutherford Aris.

This is Update*'s first venture with a viewpoints column. Opinion essays by alumni, students, and faculty will appear fairly regularly in the future. We're glad to have Rutherford Aris as our first contributor.*

The Human Component of the Humanities

At a time when the claims of technology are being pressed in all quarters, it is particularly vital to reflect on the importance of the humanities. It is not that the claims of science and technology are false or necessarily overblown—the whole development of the materials fabric of society sustains them and they have their own place in the life of the mind—it is rather that they are not enough. The system of values which we have inherited, within which we live and move, and which, indeed, we may wish to change, has come down to us through a tradition of humanistic studies. They form, so to speak, the secular soul of our culture and, as with the human soul, if we suffer its loss, what profits the gain of the whole world?

It will perhaps be well to lay a popular canard to rest right away. The study of the humanities has no connection with the humanism of so-called "humanistic atheism" or "atheistic humanism." Humanistic disciplines are pursued by folk of all faiths and followers of many credulities. They promote critical thinking and are in no way inimical to reasonable belief, so that Christians and others who attack the humanities as if they were a great evil have armed themselves with the blunderbuss of misunderstanding rather than with the Pauline panoply.

A problem does arise, though, in the definition of the humanities, for almost anything can be taught and learned from a humanistic point of view. It was Terence, the Roman poet, who said, *"Homo sum, humani nil a me alienum puto."* ("I am man, and I reckon nothing human to be foreign to me." The word *homo* is correctly translated as *man* in its primary, inclusive sense of *human being*, without any reference to age or sex.) Mathematics is in many ways an abstract and recondite subject, but it takes its place with music as one of the most beautiful developments of human thought; history can be pursued in a statistical and positivist spirit but it remains one of the primary humane disciplines. Philosophy, language and literature, art and music are clearly humanities, but other disciplines with an ostensibly scientific component are also humanistic: archaeology is not just the technique of digging up and dating ancient artifacts nor anthropology purely a matter of measuring crania. If a definition must be sought then virtually any subject that brings to the fore the question of values should be counted as a humanistic discipline.

Humanities are suffering a certain neglect at the moment because they are not designed to prepare those who study them for a particular job in the same way that a vocational or technical training does. In so far as we need lawyers, doctors, engineers, or morticians, we need people trained in law, medicine, engineering, or mortuary science. Proficiency in subject matter is the first obligation of a teacher. But even more vital is the ability to relate the particular subject to the whole fabric of civilized thought. Only then will some sense of wholeness be brought to the process of teaching and learning.

Until recently a common acquaintance with the classical world of Greece and Rome provided a basis of mutuality for people in the most diverse walks of life. If given the chance it would still do so, for classical studies are alive and well though sadly diminished in the number of their followers. They are still the most accessible, being neither so remote or so primitive that they fail to excite us to questions about ourselves; they are still the most useful, for they provide training in the precise use of language and the ordering of thought; and the most adaptable, being so much a part of the English-speaking ethos yet not excluding other traditions. But, though we may concede classical studies a certain primacy, the same qualities are, or should be, cultivated in all humane disciplines.

In the study of any subject there is a continual interplay of internal and external experience. In the natural sciences a primitive theory is conceived, perhaps speculatively, perhaps in the context of previous experience; it is tested by experiment or calculation whose results are analyzed and interpreted. The theory or model is refined, fitted to the vision that is being built up of the whole field and subject to further tests and developments. In the humanities a similar interaction takes place as when an idea about a poet's work or an historical episode or period arises and is weighed in the balances against text, document, or artifact; its presuppositions are examined and it is modified and adjusted to make sense within the picture that gradually emerges.

That truth and beauty will emerge from careful and critical thinking is the faith of all scholars whatever their discipline. The university is not the only place where this flame is guarded but it is the one place where it must never go out. As Erwin Chargaff, the noted biochemist, has written, "Every human activity worth the name should make him who practices it better, more open, richer in ideas, more luminous." And what are *humanities* but *human activities?* □

TOM FOLEY

Rutherford Aris: A chemical engineer defends the humanities.

"If a definition must be sought then virtually any subject that brings to the fore the question of values should be counted as a humanistic discipline."

A Conversation With Anatoly

By Paul Dienhart

Oscar Wilde put it this way: "Many people can do well, and few people can talk well. Which shows that the second is much more important than the first."

It seems only natural that Wilde is a hero to Anatoly Liberman, who says Wilde was "the great love of my Russian days." Wilde's talk was said to have the sparkle and enchantment of the "play of a sunlit fountain." Liberman would be embarrassed if such a description were applied to his own talk. But it can be safely stated that one of the great raconteurs among the University faculty is a Russian who speaks English with the accent of a BBC announcer.

"The power of language" is one of those stock phrases usually employed in the context of a boring speech. But the words have a very real meaning for Liberman. Language provided him with a prestigious professorship at the Soviet Academy of Sciences, a position almost unheard of for a Jew in the Soviet Union. Language allowed Liberman to rebuild his life in the West.

Liberman was teaching English at a Russian boarding school for delinquent children when his ability with words found him a mentor at the University of Leningrad. With his way to graduate school no longer blocked, he earned the equivalent of a Ph.D. studying the development of the English language.

He was ordered to attend a denunciation meeting where his colleagues and friends told him he was betraying his country and they hoped he would starve in the gutter.

It was then that Nikita Khrushchev toured Scandinavia and was amazed by the wealth of Sweden. How did a socialist country get wealthy? Khrushchev ordered an investigation. A major problem developed: there seemed to be no Soviet scholars who knew Swedish. A call went out for linguists, and Liberman's adviser accepted the leadership of the Scandinavian language team—under the condition that his young Jewish colleague be his assistant, no questions asked.

So Liberman began to learn Swedish and its forerunner languages. He earned another doctorate, this one in Scandinavian philology, and became a senior research fellow of the Academy of Sciences. He was under 40 and had reached the heights of Soviet scholarship. The most lucrative professions in the Soviet Union are scholarly, and Liberman, his wife Sofya, and their young son Mark lived in a comfortable apartment with their own bathroom and kitchen. Anybody who was anybody in Soviet linguistics knew Anatoly Liberman.

If it had not been for the birth of his son, Liberman might have been content to spend the rest of his days in Russia. He was afraid Mark would never be allowed to attend a university. Anti-Semitism was overpowering in the Soviet Union. Even having a father who was a professor would be of no help if the father was Jewish. That is why the Libermans, in 1975, came to be "traded for grain." To appease the West when it needed grain, the Soviet Union opened the door to Jewish emigration. Liberman jumped at the chance.

It wasn't a painless process. He was ordered to attend a "denunciation meeting," where his colleagues and friends told him he was betraying his country and they hoped he would starve in the gutter. He sat through it with his eyes to the floor, trying not to listen. The Libermans left Leningrad with $300 and an exit visa declaring them stateless persons. They were flown to Rome by an international Jewish organization.

From a shabby apartment in Rome, Liberman wrote 150 résumés to send to colleges in the United States. He wrote them by hand because he didn't have the money to have them reproduced. "I was willing to be a university janitor, anything to get one foot in the door," he says. One of these curious documents arrived at the University of Minnesota at a time when there happened to be an opening for a professor of medieval languages in the Twin Cities campus German department.

The most articulate professor at the University may be a Russian emigre who speaks more languages than you can count on two hands.

TOM FOLEY

Talk with Anatoly Liberman one afternoon ranged from the pleasure of translating poetry while walking to an explanation of how studying foreign languages is impractical yet indispensable.

Green streets is the first impression the Libermans had of the Twin Cities. It was a surprise. Soviet propaganda depicts the United States as a land of concrete ghettos, plagued by crime and racial violence.

Without the distraction of janitorial duties, Liberman quickly rose to the rank of full professor. He was awarded a Guggenheim fellowship, and then a National Endowment for the Humanities grant to teach other professors in summer seminars. His third book has just been published by the University of Minnesota Press, an English translation of the poems of the 19th-century Russian author Mikhail Lermontov.

The latest book seemed to be a good excuse to talk with Liberman again.

I'd talked with him before, when I was writing stories about the Norse Vikings, about German fairytales, and about life in modern Russia. By this time I had come to expect that Liberman would have something interesting to say about virtually anything. It wasn't just hearing the sharp perceptions, it was the too-rare pleasure of listening to the spoken word. And I got the uncanny feeling that he could do the same with Old Icelandic, Gothic, German, Swedish, or any of the multitude of other languages he knows.

Ask yourself: when was the last time you actually looked forward to *listening* to someone talk?

Two winters ago I hung around after work at the University to sit in on Liberman's evening course on fairytales. Twice a week he had to talk for two hours to a packed classroom. It was more of a talk than a lecture, and had the quality of a substantial discussion between individuals. Usually once an evening he would tell a tale, and I could sense the class settling back in anticipation of hearing something especially good.

I wondered what it was about Liberman's English that made him special. He studied English for eight years in school, during the postwar poverty of Stalinist Russia. He would have learned nothing of English, he says, if he had not had a private tutor. By the time he was 17 he could speak English fluently, but with many mistakes in grammar.

By age 17 Soviet youth are obsessed with achieving the

supreme privilege of entering a university. College entrance exams are grueling, but can be bypassed if a student wins a medal in secondary school. "I knew by the age of 12 that I had to win a medal or I wouldn't have a dog's chance of getting in," Liberman says. He won a silver medal and applied to the University of Leningrad.

But Stalin had set a policy for weeding out the Jewish medal winners. Liberman was required to pass an interview. He failed every question: even correct answers were judged wrong. Finally, they asked him to name the literary works of Stalin. "I didn't know a single one," Liberman says. "I still remember the look of horror on their faces."

Instead of the university, Liberman entered a teachers' college. He declared a major in Russian literature, but was told that the quota of majors had been filled and he would have to study English. Thinking back on the situation, Liberman likes to recall a Communist Party slogan: "We are deeply grateful to the Party and Government for their constant care."

"It was folly to want to study Russian literature," he says. "In those days Russian was the most prestigious department. I wanted to belong to a prestigious profession, but it would have meant becoming one of many specialists in one nook of Russian literature. Today the English department is all the vogue, but then it ranked in prestige with gymnastics and singing. I had to look forward to a future as a little-respected school teacher."

Despite graduating first in his class, Liberman was turned down for graduate school and sent to teach at the boarding school. It took him three more years to make the connections that finally got him into the University of Leningrad. By that time he was beginning to appreciate his specialty in foreign languages.

Given his background, one would expect Liberman to be a great defender of the foreign language requirement at American colleges. Perhaps he would cite the national report on foreign language study that came out shortly after the hostage crisis in Iran; it called Americans' lack of knowledge of foreign languages scandalous and a threat to national security.

"The idea of learning several languages—unless you have very little to do in your life—seems to me rather impractical," Liberman says.

I asked him how he dared make such a statement practically within earshot of the French and German department offices. His reply was eloquent, and as he finished I glanced at my tape recorder and realized that its batteries were dead. Two days later Liberman answered the question for me again, expressing the same message but using a completely new set of words and images. This is what he said, and this is why I like listening to Anatoly Liberman:

Continued next page

Walking the Line

The only time not to talk with Anatoly Liberman is when he's walking, when conversation means a line of poetry lost.

Among the few groups of people who appreciate Minnesota's record snowfall this winter are snowblower manufacturers, towing services, and poetry translators—at least those who follow Anatoly Liberman's method of translating only while they walk.

A slog through the drifts can prolong Liberman's usual 38-minute walk between office and home to over an hour. "I get more translating done than ever," he reports.

Liberman walks head down, staring at a scrap of paper containing a poem in the original Russian. The images might be of glittering balls presided over by the czarina, or the rugged mountains of the Caucasus. Liberman whispers words to himself trying to find the English line that works. "I'm the laughingstock of the department because I never notice people or say hello, just brush against them, apologize, and move on," he says with a sheepish grin.

He has been walking in this way long enough to have produced a book. His translation of the poetry of Mikhail Lermontov has just been published by the University of Minnesota Press. Together with Alexander Pushkin, Lermontov is credited with starting the great era of 19th-century Russian prose and poetry. He was a poet Liberman loved, whose work had always been badly translated.

The project began almost as a daydream not long after Liberman emigrated from the Soviet Union in 1975 and was hired by the University to teach medieval languages. He was walking to his Twin Cities campus office in Folwell Hall when the poem "The Sail" began to go through his mind. "Like every other Russian, I knew it by heart," Liberman says. For his own amusement, he began to translate the poem into English.

Liberman's translations of Shakespeare had been published in the Soviet Union. Now that he lived in the United States it seemed only logical to translate Russian to English. "It was a great pleasure translating Lermontov's poetry," Liberman says. "It was like an old debt repaid. My childhood and youth were colored to such an extent by Lermontov's influence, I'm glad I was able to do something for him.

"Lermontov is extremely popular in Russia. He's romantic, with passionate outbursts about unrequited love and ruined feelings, so Russians between the ages of 13 and 16 love Lermontov. It's a stage you go through, like being a socialist. At a certain age almost everybody becomes a socialist. I never thought of Lermontov from the point of view of a scholar. Lermontov was a way of life."

Lermontov's personality is another story. "He was extremely rude to those who were inferior to him, not socially inferior but mentally. And, of course, everybody was his inferior," Liberman says. "His death shows he paid dearly for being unpleasant."

Mikhail Lermontov was killed in a duel at age 26. Translations have killed his poetry ever since. Until now.

Lermontov became famous throughout Russia at the age of 23, when he wrote a poem about the death of Pushkin, who was killed in a duel when he was 37. This did not make Lermontov popular with the czarist court, which had helped engineer Pushkin's death. Lermontov, a military officer, was exiled to the Caucasus, where it was presumed that he would soon die in battle. Instead, he was killed by one of his few friends.

"He had been friends with Martinov since they were cadets," Liberman says. "Martinov was pretentious and wore all kinds of idiotic apparel. He dressed like a man of the Caucasus, with a fur cap and daggers hung all over. Lermontov liked to mock Martinov. Once at a reception Lermontov said something to his neighbor about Martinov while there was music being played. But it so happened that the last chord died the second before Lermontov pronounced the last word. And the word *dagger* sounded like a bomb so that everybody heard it. Martinov blushed violently. At the end of the evening Martinov told Lermontov, 'I've asked you many times not to mock me, especially in the presence of the ladies.' Lermontov, who made the great mistake of not taking it seriously, said, 'Are you challenging me?' They spoke French, naturally. Martinov said, 'Yes! Always at your service.' The next day Lermontov was killed.

"It's such a sickening anticlimax. The man was killed when he was 26. He was a great writer and probably would have blossomed into a figure of Dostoyevsky's or even Tolstoy's grandeur if he had been allowed to live longer."

The facts of Lermontov's life are well publicized in the Soviet Union, where he and Pushkin are presented as martyrs of the czarist regime. "Here true genius and propaganda coincide," Liberman says. "So I don't mind—as long as it is Lermontov."

It was irritating, though, to search through Lermontov's Soviet bibliography. "There were 6,827 works in the bibliography," Liberman says. "In this ocean of literature there is almost nothing about Lermontov's technique, about Lermontov as a poet. In general, that's very typical of literary scholarship. Literary scholars will discuss anything but literature."

Liberman found only six useful papers on the poet's style. Like all translators he was faced with the problem of determining what was important enough to save at all costs. Something is always lost in translation—too often the essence of what makes the work great.

"Fortunately, the translator's art allows for the longest analysis in the world," Liberman said. "No literary critic has time to think about each line hundreds of times. A 16-line poem might take me a month to translate."

Lermontov's style was particularly puzzling because he often repeated lines and stole lines from other poets. If Lermontov was so imitative, what made him great while the poets he stole from remain obscure? Liberman began to understand the style as impressionism. "Lermontov had a strange ability to see things as if from a distance," he explains. "As in impressionist painting, when you stand too close you see a daub; when you stand away you see a beautiful picture. Lermontov was absolutely the first to apply this technique to literature."

This realization made the poetry easier to translate. The main concern had to be with total effect. Individual words—many of them borrowed from other poets—weren't as important as the general impression of the whole poem. Liberman was able to avoid exact word-by-word translation. Instead, he was free to pick English words that fit the rhyme, rhythm, and meter of the poems. The ultimate test of the translations was whether the poem as a whole read like a good poem in English.

Now if on East River Road you see a tall man, muttering to himself and glancing occasionally at a scrap of paper, be assured it's Anatoly Liberman hard at work on his latest project, translating the poetry of Tyutchev, another poet of 19th-century Russia.

With enough snow to slow the walking, he might be half finished by spring. □

Anatoly

"No one speaks foreign languages worse than the people of the United States," he begins in his usual rapid fashion. "They don't need it. This is the age of English. To prove that an American engineer cannot get along without knowing German or French is going too far. I think 90 percent of the population can do very well without a foreign language—and that, incidentally, is what they do.

"Reports will always threaten authorities with consequences. If you want funding you must always stress the practical side. There *are* people with a practical need for foreign languages. As Iran proved, diplomats are number one!

"But saying foreign languages are impractical doesn't mean that I'm against them. I'm all for them, but I'd approach it from a different perspective.

"If you want simply to be warm, why bother to buy beautiful clothes? If you want just to be full, why bother with a white tablecloth? If it's only your practical needs that you're interested in there is no better coat than a parka and no better place than McDonald's. If you want just to have marketable skills there is no better thing than a computer.

"When we are hungry we all run across the street and buy a hamburger. But, obviously, that doesn't exhaust our interests. Once our hunger is satisfied in the most *vulgar* sense of the word, then we can think of tablecloths and fine foods and so many things we don't really need. This is an indestructible part of us, our mental curiosity, our aesthetic taste for beautiful things. It can develop the brain, which most people leave undeveloped.

"I'm all for teaching foreign languages as much as possible, but being honest about it and not pretending everybody can put it to practical use.

"Many years ago I taught at a boarding school for underprivileged children in the Soviet Union. The children were thoroughly uncultured, often very ill-behaved, sometimes expelled from other schools. They were required to take a foreign language, and I often wondered what it all was for. They would never go abroad or meet anyone from abroad. They would never read English books—if they read anything—when they grew up. It became very clear to me that practical arguments didn't mean anything under those circumstances. When I'd tell them that English was an international language that was very good to know, these 11-year-olds said, 'Ach, nobody speaks English here.'

"I felt I had to prove something—not to them because they were children and took me for granted as part of their lives four times a week—but I had to prove to myself why I wasn't doing nonsense. And I saw how their horizons broadened when they began to study English grammar. They began to realize there were many ways to express the same idea. For the first time, using those elementary texts, they realized what grammar really is—not a set of dull rules in order to learn how to spell, but the means of organizing thought. They learned how some things can be said in only one language, how prefixes in Russian replace adverbs in English. Unlike Russian, English has articles that can convey an idea in a most subtle way. That was a revolutionary discovery, that people were not all alike.

"Everybody knows that, but only when we begin to speak other languages do we begin to realize how different we all are. So, as a cultural discovery, studying a foreign language can be one of the most important things that happens to a human being.

"If it's only your practical needs that you're interested in there is no better coat than a parka and no better place than McDonald's."

"In general, I think people can be divided into two categories: those who realize the power of language and those who don't.

"We all learn to speak when we are too small to realize what we are doing. It's like eating and breathing and walking. In order to stay fit, in order not to remain at the level of pragmatic communication—there is an aesthetic quality we must learn. Learning to speak a foreign language is, first of all, learning to speak your own language.

"This has been known for centuries. Goethe and others have said we cannot really understand the intricacies of our own language until we learn a foreign language. That's very clear. Why? Because we suddenly notice little differences in language we spoke instinctively. We walk and never think about what we do with bones, muscles, and ligaments. Once we begin to see how language works, we can become more conscious about using it.

"A foreign language activates culture rather than skills. In this century the main emphasis is always on marketable skills. But perfecting our brains, making our minds more subtle—those things don't come if we always play with practical toys. Buying, consuming, putting things in the refrigerator, living with a person of the opposite sex, even bringing up children—these things don't make you wiser, contrary to what people might think. It's experience. As Oscar Wilde said, experience is the name we give to all our mistakes. And that's really as far as it goes. Being a parent doesn't make you a clever parent. It is my belief that everything comes from a conscientious effort.

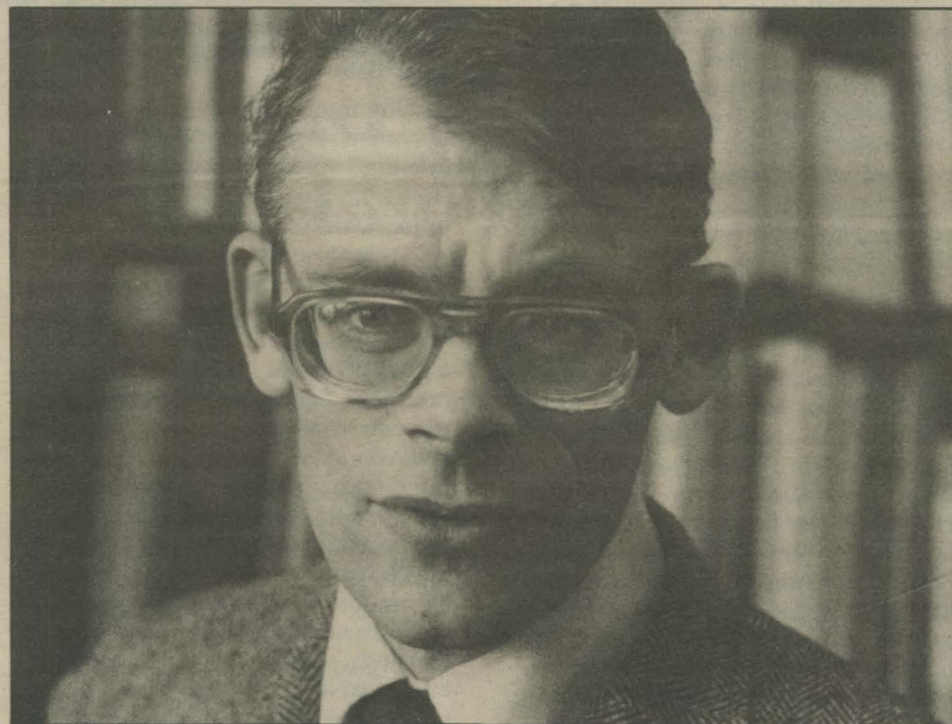
"Study of a foreign language teaches us to look at the most powerful tool we have. Wielding this tool separates us from the rest of the animal kingdom. We can learn to do something that makes us human in the best sense of the word. If we learn to speak clearly, that means we learn to think clearly. In general, we've reached the saturation point of physical comfort. Well, refrigerators might become *even* better, surgery might become *even more* perfect. There are always ways to improve our technical skills, but those skills are already close to perfect. We fly fast, we go anywhere we want, but what about our brains? If we compare ourselves with people who lived 2,000 years ago, we are not really much better. We're probably worse than the Greeks, we probably think less about great problems.

"When we begin to think of language, we begin to possess a more perfect mechanism for dealing with the great problems of the world. We know how to say it! Everybody knows from psychology that there is nothing more important than being able to verbalize your emotions, your feelings, your passions—that is, being aware of what you are doing. That is how we stop being animals. So I think there is no greater power, no greater wisdom, than studying languages. It is the most instinctive thing for us to speak, and the most important."

Liberman says he actually speaks more Russian than English during the day. His wife's parents and his mother now live in Minneapolis (his father was killed on the Russian front in 1941). Russian is the language of the Liberman household. His son, Mark, who was three when the family moved to the United States, is now almost trilingual. His parents have been cultivating his French for years.

"When a foreigner speaks fluent English everybody begins to praise and admire. But that's not what you need," Liberman says. "The main help is not that I've lived here for nine years, but that I've written three thick books in English. Book editors do not allow mistakes.

"In English I think I'm almost at the native stage. My last book had only a few mistakes, so my English was almost 100 percent reliable. I was very pleased." □



TOM FOLEY

The Sail

A sail is gliding in the torrent,
Enveloped in a bluish haze.
What does it seek 'mid breakers foreign?
What did it leave in native bays?

The tempest roars, the sea is riven,
The mast gives in: it bends and creaks.
No, not by joy this sail is driven,
And 'tis not joy it vainly seeks!

Beneath, the stream is deep and quiet;
Above, the clouds are soft as fleece...
Alas! It longs for storms and riot,
As if a storm could bring it peace.
1832

Poem by Lermontov
Translation by Liberman

TOM FOLEY

(Above)

At Molecular Genetics, Inc., Anthony Faras sheds his University lab coat to assume his role as co-founder of the biotechnology firm. The racks contain what he hopes will be ancestors to the hardier, more nutritious corn plants of the future.

Having the Best of Two Worlds

By Mark Canney

All it requires is 12-hour days, a love of basic research, and a belief in the future of biotechnology.

It was a vision of cow warts on the road to Kenyon that led to the conversion of Anthony J. Faras.

Universities have long held the tenet that their professors should conduct basic research, motivated by the desire to answer fundamental questions about how things work. It is the motivation that's the crucial distinction because there is often a thin line between basic research and its applications. The primary motivation of university researchers, unlike industry scientists, is not to create profitable products.

Faras, a cancer researcher and professor of microbiology in the Twin Cities campus Medical School, believes that, but he also sees the excitement of putting basic knowledge to work to create and market a product. So he's doing both.

Faras is a full-time faculty member who teaches courses in the molecular biology of cancer and in genetic engineering. On top of that, he is co-founder and co-chairman of the board of directors of Molecular Genetics, a local bioengineering firm backed by millions of dollars in venture capital.

Biotechnology has a magic sound, with much the same ring as the word *computers* must have had 25 years ago. The technology to manipulate genes didn't arrive until 1973, and now many analysts are predicting that the effect on industry will be as great as or greater than that of computers. After an initial scramble to get on the biotechnology bandwagon, a number of new companies perished before they could turn out their first product. As in any new business field, high potential comes with high risk.

That's a lesson that's well known to anybody from Minnesota's Iron Range. Faras grew up near the mines in Chisholm and worked summers in them. Unlike many of his friends, he passed up the high salaries of full-time mining work after graduating from high school. Instead, he enrolled at the University's Duluth campus, and later went on to earn a doctorate from the University of Colorado medical school.

"It was a temptation to work in the mines after high school," Faras said. "The starting salaries were good, especially for someone with only a high school diploma. Of course, in view of recent hard times on the Range, I believe I made the right decision."

The basics

Faras returned to the University of Minnesota in 1975 and began to do basic research in growing and studying oncogenes—the "cancer genes." Oncogenes are suspected of manufacturing enzymes that may trigger cancers like leukemia. These genes probably play an important role in cell multiplication during periods when rapid development is necessary—the embryo stage, for example. The problem comes when these genes are inadvertently "turned on" again later in life, possibly by environmental influences like cigarette smoke or certain food preservatives. The result could be cancer—an uncontrolled multiplication of cells. Learning more about the cancer-causing enzymes produced by the "turned-on" oncogenes offers hope of developing a drug to block the enzymes.

Faras's first requirement was growing large enough quantities of the gene to study. He used the techniques of genetic engineering, essentially creating a biological factory for replicating the genes. Enzymes were used to cut out the correct gene and splice it into a bacterium. Then he grew billions of the bacteria, each containing a copy of the original spliced-in gene. The result would be a thin bluish-white layer in a test tube: billions of cancer genes.

In the process of the cancer research, a curious virus came to the attention of Faras and his Medical School colleague Franklin Pass, a dermatologist. Papilloma virus causes warts—which are essentially benign tumors—in humans. But Faras found cancer genes in human patients that, on rare occasions, make these warts turn cancerous. The expertise Faras and Pass developed in isolating papilloma virus resulted in the call from Kenyon.

"Frank and I were driving back from one of our trips to Kenyon when the idea of using genetic engineering came up."

The road to Kenyon

In 1978, farmers near the southern Minnesota town of Kenyon were losing cattle to an outbreak of papilloma virus. Newborn calves afflicted with the virus were sprouting huge, grotesque warts on their heads. As ugly as that might be, the real crisis came when the warts migrated to the animals' windpipes. Once in the trachea, the warts were literally choking the calves to death before they were six months old.

Doctors from the University's veterinary school asked Faras and Pass to look at the problem.

"The commercially available vaccine for cow warts wasn't doing the job," Faras said. "We took samples of the warts to make up a more powerful vaccine." With the

Faras

isolation methods they had used for human papilloma virus, they were able to extract a higher concentration of virus from the warts. The resulting vaccine took care of the problem.

"Frank and I were driving back from one of our trips to Kenyon when the idea of using genetic engineering came up," Faras said. True, they had made an effective vaccine, but only because the major outbreak had provided enough warts to extract a good dose of the virus. Ideally, a vaccine should prevent outbreaks from occurring in the first place. But how do you make a vaccine before an outbreak provides the necessary amount of virus? The answer: engineer the virus genetically in the lab.

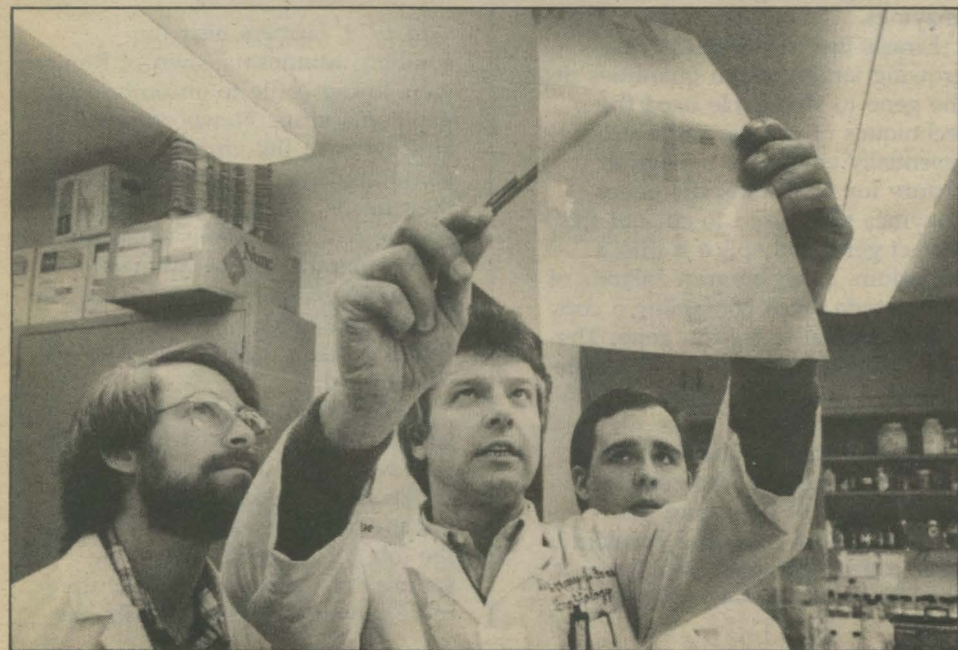
The two scientists in the car began to get pretty excited about this idea. There had to be a lot of animal health problems that would benefit from powerful, low-cost vaccines—available before the disease outbreak. After conferring with veterinarians, they learned that, indeed, 10 to 15 percent of all swine and cattle die of infectious diseases.

Having established that there was a market for vaccines, they turned to local businesses that helped them raise $2 million in venture capital. Millions more were added from companies such as American Cyanimid for contract work. More money was realized from public offerings of stock. Molecular Genetics began to take shape as a company.

Pass decided to resign from the University to work full time as president of the company. Despite his enthusiasm for the company, Faras wasn't sure he was ready to give up his life in academia. Faras took a year's sabbatical to help get the company started, but even then he continued to supervise basic research at his University laboratory.

(Below)

Back in his University lab, Faras confers with microbiology graduate students Bill Phelps and Chris Dunwiddy. They are conducting basic research on tumor viruses. Despite his second career, Faras supervises more graduate students than any other professor in the department.



TOM FOLEY

Genetic factories

Molecular Genetics became one of some 200 new companies in the field of genetic engineering. More than half a billion dollars has been invested in such enterprises, and all but one of the top ten chemical companies are committed to genetic engineering. Techniques including gene splicing may be used to manufacture drugs, food, agricultural products, chemicals, textiles, and energy—all within the next ten years, according to a congressional study.

Genetically engineered versions of insulin and a human growth hormone for treating dwarfism and burns are already available. Gene preparations are being developed for control of sickle cell anemia and hemophilia. Genetic engineering may even challenge the microelectronics industry: attempts are being made to genetically engineer microchips of organic material that could replace the silicon-based chips now in use.

Almost all the new companies were started because of a *belief* in the potential of biotechnology. Few had a product to offer immediately, including Molecular Genetics. Founded in 1979, Molecular Genetics got approval from the U.S. Department of Agriculture to market its first product early this year. During the years of setting up the company and doing the research and development, Molecular Genetics lost nearly $1 million one year, and close to triple that the next.

The proudly offered first product is Genecol 99. The genetically engineered antibody had been in use in Canada since March 1983, and was found to be effective in reducing calf fatalities caused by a bacterial infection called *E. coli* scours. The infection causes diarrhea and dehydration, and is one of the leading causes of calf death. Molecular Genetics announced it expects to sell $5 million worth of the product this year.

More products from the company are expected to come to market this year. "Right now, 80 percent of our work involves research and development of new products," Faras said. "In five years that figure will shrink to about 25 percent, with our main thrust turning to marketing and sales."

The majority of work at Molecular Genetics has been in the field of agriculture. Faras and Pass deliberately set the company on this course because the USDA is much quicker to approve a product for marketing than the protection agency for humans, the Food and Drug Administration. There is also great potential for agricultural products: for animal health, for more productive crops, for plants resistant to pests, disease, and difficult soil or weather conditions. Some observers predict that genetically engineered agricultural products will have a $50 billion to $100 billion market by the year 2000.

Animal health products now being researched at the company include a dozen or so vaccines along with laboratory-produced growth hormones that could result in a 15 percent increase in cow milk production.

This is not to say the company isn't interested in human vaccines. It has obtained promising results for a genetically engineered herpes vaccine, Faras said.

The procedure for manufacturing the herpes vaccine is a spendid example of using recombinant DNA principles. First, the herpes virus—like other viruses, simply a strand of DNA surrounded by a protein coat—is extracted from patients with the disease. The functions of certain of the genes on this strand of DNA are deciphered, and the gene that codes for production of the virus coat is found and isolated.

To make large quantities of this gene, it is injected into a bacterium by removing the ring of DNA—a plasmid—from the bacterium, opening the ring at a specific site, and inserting the herpes gene. Back in the bacterium, the plasmid has the ability to divide and multiply, programming the production of the herpes protein coat each time.

Once enough of the herpes gene has been produced, it can be removed from the bacterium and used as a vaccine. Injected into the bloodstream, the gene triggers the body to set up antibodies against the intruder, even though the intruder is only a hollow ghost, the harmless coat of herpes virus.

Testing of the vaccine has been successful in animals and human testing will begin this year, according to Faras.

A double life

Nestled in a huge office complex near the western suburbs of Minneapolis, Molecular Genetics has just about every piece of hardware a genetic researcher could want. Faras conducted a visitor through chemistry labs, fermentation rooms, animal testing rooms, incubation and cold rooms, and a computer room. One computer is locked into an international network where gene coding is stored and shared. He opened the door of a grow room to reveal rows of halide lights shining like an artificial sun. Beneath the light are corn plants growing eight feet high. It is hoped that the plants, grown from genetically manipulated tissue culture, will be able to better withstand herbicides, increase their growing range, and produce a more digestible kernel.

The company now has 115 employees spread among the headquarters, a production facility in Minnetonka, and a plant breeding station in—where else?—Kenyon.

Faras explains the layout with such enthusiasm a visitor almost doesn't notice his rapid-fire manner of speech—until the visitor finds *himself* speaking twice as fast as usual, that is. Tony Faras has a way of generating energy. It's an essential quality for someone with his schedule.

"It took me 15 years to build up my lab at the University, and I'm not about to dismantle it now."

Faras arrives at the University about six in the morning with a 12-hour day ahead of him. These days he spends about one day a week at Molecular Genetics. Between his two jobs he finds time for his family, his wife and two children.

The obvious question is why try to divide time between the University and the company?

"I love basic research and I very much enjoy working with grad students and postdocs," Faras answered. "It took me 15 years to build up my lab at the University, and I'm not about to dismantle it now. There just isn't that much room for basic research at the company, and I don't want to give it up. I don't think there is any need to give it up."

Dennis Watson, head of the microbiology department at the University, agrees. "I have discussed what Dr. Faras is doing with the dean of the Medical School, and both of us think it is perfectly justifiable. Since taking on the extra work with his company, Dr. Faras still brings in more research funds to the department than anyone else, and manages to supervise the largest number of grad students in the department. He continues to carry his end of the load at the University."

"The alternative is that the University would lose a world renowned researcher," said Victor Bloomfield, director of the University's new biotechnology center. "Faras shows continued prominence in his field of basic research."

"I feel I have the best of two worlds," Faras said. "After working many years in basic research, I find it very exciting to get involved in the direct application of that research. It's something we always knew was possible, and now we're doing it at Molecular Genetics." □

U Aims for the Top Three in Biotechnology Education

Great expectations for the biotechnology industry risk being deflated by a basic research problem: once you make a great little biological product in the test tube, how do you make it in commercial quantities?

It sounds like a very practical question. But the steps of this process—separation, purification, and fermentation—are really more involved with basic science questions.

Answering these kinds of processing questions will be the object of a new biotechnology institute on the Twin Cities campus. Minnesota is the first university in the country to specialize in the process technology side of genetic engineering. The basic research not only could be a great service to industry, it could be the basis for one of the nation's top biotechnology education programs.

The race is on in biotechnology, and the United States is behind. Western Europe and Japan are ahead in producing biological products and patents. The crucial factor for pulling out a win in the home stretch might be process technology.

As *Business Week* put it: "There is no doubt that U.S. scientists have paved the way for the revolution in biotechnology, but the U.S. lead may not be as secure as it seems. The Japanese have an important ace in the hole—superior production technology. Some experts think that if Japan leveraged its expertise in fermentation technology, it could mount the same challenge to the U.S. in biotechnology markets in the '80s that it did in the automotive, steel and microelectronics markets in the 1970s."

The Minnesota High Technology Council, Minnesota Wellspring, and several economic commissions appointed by the governor have concluded that biotechnology is a natural for Minnesota. The state has a sophisticated microelectronics industry and a lot of raw materials—biomass—for biological conversions. It has the University, with 28 faculty members currently engaged in 175 research projects relating to biotechnology. And now it has the Institute for Advanced Studies in Biological Process Technology. The institute is what makes the Minnesota effort unique.

Other biotechnology programs in the country tend to concentrate on medical or agricultural specialties. Minnesota would be the first to specialize in designing the techniques and equipment to translate findings in a test tube to a large scale.

MIT is generally regarded as the leader in biotechnology, and it can't turn out biotechnology graduates fast enough to satisfy the demand from industry and other universities. Minnesota graduates may be in similar demand if the University reaches its goal of being among the top three biotechnology programs in the country. "People who know how to use the laboratory equipment we're installing will be in great demand," said Darlene Joyce, who is coordinating the plans for the new institute. "MIT won't be able to touch us when it comes to lab equipment."

A state-of-the-art laboratory for process technology is being constructed in the basement of Gortner Laboratory in St. Paul. It will have equipment like bioreactors for growing large amounts of bioengineered bacteria or whatever the product might be. The lab is expected to cost $2 million.

The state legislature appropriated $720,000 to support the process technology institute over the next two years. The plan is to raise more money by seeking 15 to 20 industry sponsors who would pay up to $50,000 a year to confer with University scientists and give company scientists a chance to learn to use the equipment. The National Science Foundation has asked the University to apply for federal designation as a University-Industrial Cooperative Research Center, which could result in millions in federal and industrial support over the next five years. The University would be the first such center for life sciences; the other centers in the country are for physical engineering.

The institute has a science advisory board that includes professors from five different fields and industry representatives from Molecular Genetics, Economics Laboratory, 3M, and Butler Research and Engineering.

This spring the institute expects to hire a nationally known scientist to direct its efforts. Five new junior faculty members also will be hired to help bridge the interdisciplinary gaps in the program.

"If it's anything, biotechnology is multidisciplinary," Joyce said. Ten University departments in five different colleges have professors who do biotechnology research—for purposes ranging from diagnosing human disease to engineering pest-resistant farm crops.

The process institute is the first major project of the University's biotechnology center, formed to help bring work in different disciplines together. There's already a proposal for a new master's degree in microbial engineering—a program that would be a bridge between biology and chemical engineering. Working to cut across department lines is essential for reacting to change. "New applications are happening fast," Joyce said. "Timing is of the essence for what we want to build here." □

Students

students and their concerns. At Morris I have some say in my education."

Advising is a high priority at Morris. McGrath remembers arguing for an hour with his adviser about his course selection for his senior year. "He finally said he couldn't be my adviser anymore if I wouldn't take a European history course. I felt I had a lot of personal attention," McGrath said.

Some advisers, like James Van Alstine who won a University-wide award last year for his geology teaching and advising, actually become one-person employment agencies. After taking students through a degree program, Van Alstine makes calls to his network of geology alumni and does his best to find jobs for his students.

Morris seems to excel at helping students who need some coaxing to get involved with campus life. "One girl in particular was so shy freshman year it was unbelievable," said senior Kevin Baker. "Now she's outgoing—just a remarkable change. I think it would have been difficult for someone like her on the Twin Cities campus."

Minority students, even those from cities like Chicago and Cleveland, seem to like Morris. The school has the second highest percentage of minority students of any college in the state. "They get the individual help and attention many of them need to overcome the poor preparation many of them had in high school," said Elizabeth Blake, academic dean at Morris and a member of the student experience task force.

"Our undergraduate teaching is probably more evenly good than at the Twin Cities campus because we put special emphasis on it," Blake said. Classes tend to be small and are taught by professors, not teaching assistants.

Despite the emphasis on teaching, Morris faculty members are still expected to do research. Many of them use their undergraduate students as research collaborators. "Professor Ernest Kemble in psychology has co-authored 29 papers with his students," Blake said. "It's usually these students' first experience of having a paper published under their names."

More than half of Morris's students are employed on campus, and nearly half of this group help with teaching and research. The work-study jobs tend to be good experience. The problem is that there aren't many jobs off campus; the small town doesn't need many additional workers.

Almost everything about Morris—both advantages and disadvantages—tends to be produced by its small size. "I never considered going to the Minneapolis campus because of its size," said Charles Farrell, a junior at Morris. "It takes me all of five minutes to register here. Long lines are an alien concept." In trying to imitate the best of Morris, the Twin Cities campus may have to find ways to give an illusion of smallness to one of the most populous campuses in the United States.

Not that smallness is always an unmitigated blessing. "A small college in a small town is not for everyone," Heyl said. "The big thing this weekend is the campus play." Heyl said she finds herself looking forward to graduating and moving to a bigger city.

Academic departments are small in Morris, too, and students may have a choice of only a couple of professors teaching courses in some majors. "The advantage of the Twin Cities campus is—if you're lucky—you can meet some of the greatest minds in any given field in the world," Farrell said. "We have good teachers, but we don't have Regents' Professors and Nobel prize winners."

"Students have to make the choice between attending a large research university that is exciting, stimulating, and on the cutting edge of research, or attending a school like Morris where they receive more personal attention," Blake said.

Although it's laudable to attempt to improve the undergraduate experience at the Twin Cities campus, perhaps bringing it closer to the Morris example, that effort by itself could be misguided, Blake pointed out. Morris isn't just a country cousin with a few good points worth emulating. It's a living, breathing community of scholars that already exists within the University's system. Maybe the message should be: *You're mainly concerned with personal attention from professors? Try attending Morris.* "Students already have a choice; there is an alternative," Blake said. "But there is no sense of presenting Morris as something special."

Morris is proud about being part of the University of Minnesota, Blake said. Morris students like the advantage of using some of the services and educational opportunities shared with the Twin Cities campus. They like the prestige of graduating from the University of Minnesota. Now the Morris campus would like to be recognized for helping supply the diversity that makes the University of Minnesota a great educational system.

"Morris definitely has its niche," said Van Alstine, "but it's not for everyone." □

Contributing to these articles were: Paul Dienhart, Lynette Lamb, Tim Lyke, and Maureen Smith.

CAMPUS NEWS

New Coach is Holtz

Booing at Gopher football games may turn into shouts of "Lou!" next season. Lou Holtz announced December 22 that he had signed a five-year contract to coach the Gophers.

"We are definitely behind in recruiting," Holtz said at the University's news conference. "I'm not a miracle worker and I can't wave a magic wand. There are a lot of things to be done. The number one question is 'Can we win?' I believe we can."

Holtz replaces Joe Salem, who was asked to resign in October after a five-year 19-35-1 record. The Gophers have had 17 straight Big Ten losses.

Loooooou!

Holtz accepted the Minnesota job four days after resigning as coach of the University of Arkansas Razorbacks. He was 60-21-1 in seven seasons at Arkansas, and his 6-5 record this fall marked the first time Holtz's Razorbacks went without a bowl bid. Holtz has a 106-52-5 career record as a head coach. At William and Mary he took the team to the only bowl game in the school's 41-year football history. At North Carolina State his teams had four straight bowl appearances. He came to Arkansas after a year of coaching the New York Jets in the National Football League.

Holtz seems to excel at turning around losing football programs. At Arkansas he inherited a team that was 5-5-1 the previous season. The first season under Holtz the team went 10-1 and was invited to play in the Orange Bowl against Oklahoma, the team favored to become national champion. When Holtz—who is known for playing by the rules—announced he was benching his starting backfield players for breaking curfew, the odds against Arkansas went up to 13 points. His team proceeded to pound the Sooners 31-6.

Holtz, 46, will earn a base salary of $100,000 in the first year of his contract, the highest base salary in the Big Ten. Funds for the salary will be split 75-25 between the athletic department and the University of Minnesota Foundation. □

Minnesota Accepts Supercomputer Challenge

Any claim the Twin Cities might have had to being the world capital of supercomputers was getting pretty shaky until a most unusual news conference at the end of November. The governor, the mayor of St. Paul, the president of the University, and some local business executives served notice that the world's fastest computers would continue to have a Minnesota connection.

The University is going to start by almost doubling the number of faculty members in the crucial fields of electrical engineering and computer science. Governor Rudy Perpich pledged to seek $3 million to $4 million to start an institute for supercomputing at the University.

The University had plans for both initiatives, but action came rapidly because of a state business crisis. ETA Systems, a supercomputer company that was created last summer as a spin-off of Control Data Corporation, was being wooed by a number of other states. Despite being one of the birthplaces of the computer industry and the home of supercomputer giant Cray Research as well as ETA, Minnesota had reasons to be alarmed.

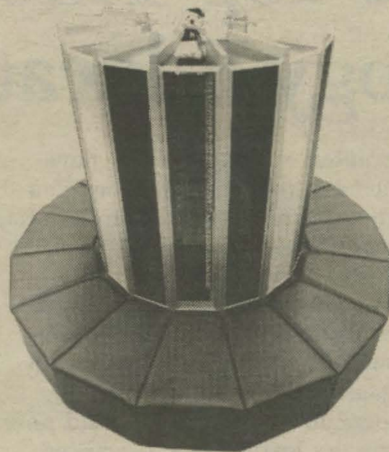
It hadn't been too long since the Twin Cities lost a 57-city contest to attract the prestigious Microelectronics and Computer Technology Corporation, which picked Austin, Texas. The company is a consortium, a national effort to beat the Japanese in building the next generation of supercomputers. Supercomputers are the kind of machines that spur national efforts. The machines now cost $4 million to $15 million, and are used to simulate complex phenomena in fields ranging from oil exploration to cancer research.

In the consortium's rejection of Minnesota, there was considerable talk of the inability of the University to deliver the resources to keep pace with such an effort.

Lloyd Thorndyke, president of ETA, said that his company's decision to stay in the state was heavily influenced by the coming improvements at the University. "We're mostly Minnesotans at ETA and we wanted to stay here," he said. But he added that building supercomputers was a risky business, and it was "mandatory for us to find the best intellectual, scientific, and community environment to help us succeed."

By 1987 ETA expects to deliver a machine that is capable of 10 billion calculations per second, 12 times faster than today's most powerful systems.

University President C. Peter Magrath said the aim is to place Minnesota among the top ten American universities in computer science and electrical engineering. In addition to the supercomputing institute, which will encourage research in supercomputer development, Magrath announced the following:



Minnesota is the only Big Ten university to own the Cray I, the world's most powerful supercomputer.

- A new $56 million building to house electrical engineering and computer science will be the University's top-priority request at the legislature, and the governor has pledged his support.
- The city of St. Paul will give the University an endowed chair in computer science to bring a leader in the field to the faculty. Mayor George Latimer and the St. Paul Chamber of Commerce plan to raise $100,000 a year for the next ten years to fund the chair. St. Paul played a key role in pursuading ETA to stay in Minnesota by providing low-interest building loans and free land.
- The University's Institute for Mathematics and its Applications will have supercomputers for its theme of study next year. The institute will sponsor seminars and bring researchers and visiting faculty to campus to discuss numerical analysis, the theoretical underpinning of developing supercomputers.
- Talks have started with the National Science Foundation and with companies using supercomputers about starting a national consortium with the University as its home base. Both users and manufacturers of supercomputers need software, the specialized programs that make the best use of the machines' incredible calculating speed. The University could be a center for this software consortium, with public and private financing reaching as much as $60 million over the next seven years.

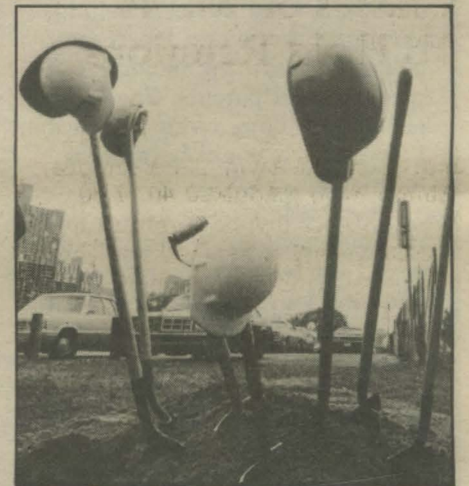
Whether the Texas consortium realizes it or not, there appear to be more entrants in the supercomputer race than simply the United States and Japan. □

An Invitation to Black Alumni

The Minnesota Alumni Association (MAA) is looking for black alumni in an effort to organize a black alumni society.

"Several new constituent societies and special alumni groups have been incorporated into the MAA as a way to involve more alumni in the life of the University," said Steve Roszell, MAA director. "Black alumni working with us to organize this new society hope its formation will highlight the contributions black alumni have made to the University, and they are planning programs that will encourage increased participation." Student scholarships, faculty teaching awards, and continuing education are a few of the areas in which MAA societies are involved.

For more information about the University of Minnesota Black Alumni Society, contact the Minnesota Alumni Association, 100 Morrill Hall, 100 Church Street S.E., University of Minnesota, Minneapolis, MN 55455, telephone (612) 373-2466. □



Watch This Space

The earth is broken and the hard hats hung on the shovels, and in the fall of 1985 there will be two new buildings on the West Bank of the Minneapolis campus.

The Hubert Humphrey Institute of Public Affairs and the School of Management will have a new $18 million home. Humphrey's widow, Muriel Humphrey Brown, helped break the ground for a building that includes an exhibit hall memorializing the former vice president. Visitors will be able to "call up" Humphrey at one of the exhibits and hear recordings of him speaking on different subjects.

A new $16 million music building will unite music faculty and students now spread among 12 locations on campus. The building will be named after Donald N. Ferguson, a 101-year-old retired professor who joined the music faculty in 1913. Ferguson was present at the groundbreaking, did his bit with hard hat and shovel, and received a citation for his years of service to music in Minnesota. □

UPCOMING

Alumnae Meeting on Successful Women

"Successful Women: Making it in the '80s," the Alumnae Society's annual conference, will be held Saturday, April 7. All University alumnae and interested friends are invited to attend a morning seminar and luncheon.

The program features three presentations of prime interest to working women: "Personal Power" by Janet Hagberg of the Hagberg Company, a consulting firm for career management and systems development; "Women in Business" by Carol Pine and Susan Mundale of Pine and Mundale, Inc., a research and writing firm; and "Women and Money in the Marketplace" by May K. Y. Yue of Financial Services Associates, Inc.

The Alumnae Society is a constituent group of the Minnesota Alumni Association open to all women graduates of the University. For more information or reservations for the seminar, call Denise Halbmaier at the association, (612) 373-2466. □

Classes of '34, '44 To Hold Reunions

The Classes of 1934 and 1944 will hold reunion celebrations May 17 and 18 on the Twin Cities campus. Alumni who graduated 40 or 50 years ago are invited to return to the University to renew friendships with classmates and see how the campus has changed. Activities include campus tours, college open houses, an estate planning seminar, a reception at Eastcliff—the University president's home—and a reunion dance. A concert on the mall is planned, and the Alumni Association Student Board will stage its annual tent extravaganza.

Alumni who graduated prior to 1934 are welcome to attend all of the events, and a lunch for them will be held May 19. Members of the Medical School's Class of 1944 will celebrate their 50-year reunion separately on June 1 and 2, in conjunction with graduation ceremonies and the New Horizons in Medicine program.

For more information about the reunions, call the Minnesota Alumni Association at (612) 373-2466. □

Campus Carni

Skits, dancelines, music, games, and prizes are all part of the largest student fundraiser for charity in the nation. Campus Carnival comes to the Minneapolis campus Fieldhouse Thursday through Saturday, April 26-28. The fun starts at 7 p.m. each night.

More than 400 students are involved in organizing Campus Carni. The profits are donated to aid research in cystic fibrosis and to the Twin Cities Society for Autistic Children.

Tickets are $3.50 at the door. □

LETTERS

Class of 1916

How glad I was to receive the fall issue of *Update*. It is only in the last year or so that the University of Minnesota wanted to claim us as part of Minnesota alumni. You see, I'm only a graduate of the School of Agriculture '16, when I took a special course in "rural teaching." I taught during the first world war for two years in rural schools.

You must guess I'm quite old, and I am. I'm 86 years old. And I married a farmer I met at the School of Agriculture in St. Paul. We have four children, 16 grandchildren, and 20 great grandchildren.

Two articles were of special interest, "Where Are Today's Leaders?" and the profile of Gerald Vizenor.

I read the leadership article watching for a concise answer as to what a leader is, but I found none. Many years ago I heard the best definition I ever heard, and remembered it: A leader is someone who knows where he's going so people will follow. Isn't that it?

Thanks for the paper.

Ethel B. Johnson
'16 School of Agriculture
Anoka, Minnesota

Gut-wrenching Experience

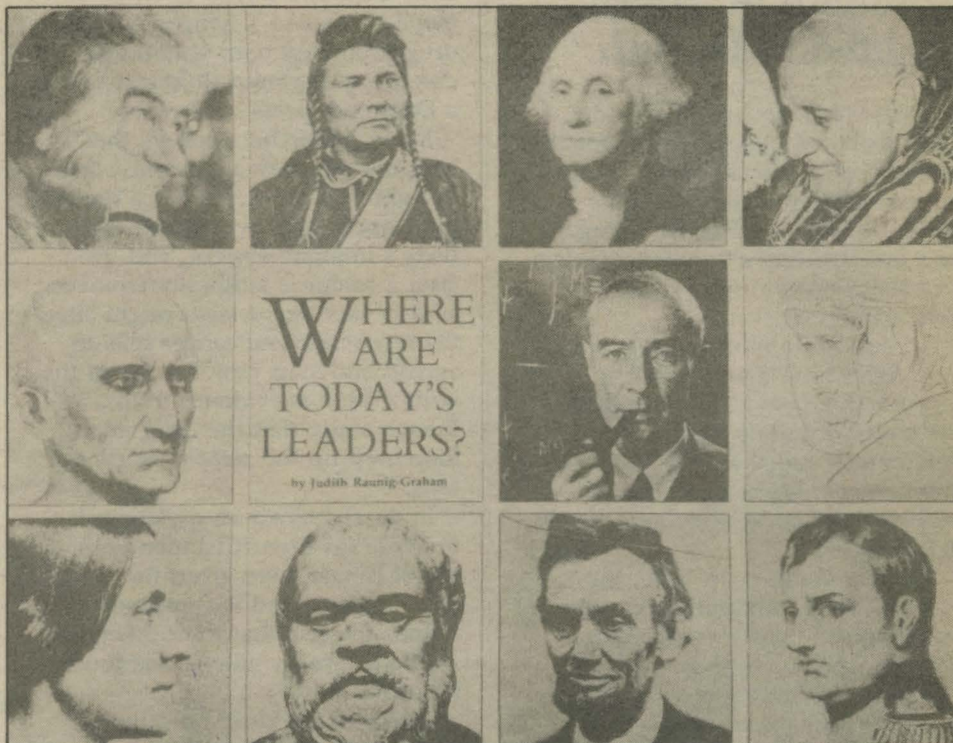
When I read your essay on Gerald Vizenor I told myself I had to write you a fan letter. Your essay is magnificent, for it not only captures Gerry's dilemma but it also frames the experience (a gut-wrenching, nerve-debilitating trauma) of many minority academics. I have written and talked about these experiences, and have even undergone some of them myself. I would not be able to recall how many times over the past 15 years I've had to work at getting out of bed. But your essay is the first time I've seen this phenomenon put in a larger context.

Gerry and you have done us a great service. Most folks don't understand the tremendous pressures that build up, and minorities frequently feel they are unique (and even weak) in their experience.

Arturo Madrid
Professor of Spanish
Minneapolis campus

Deaf Doctor

Editor's note: Readers of the story in the fall issue on Frank Zondlo will be pleased to learn that the deaf doctor has found a job. After he leaves his University of Minnesota medical residency in physical medicine and rehabilitation, he will become a staff member at the University of Oklahoma teaching hospital. Zondlo will be assistant director of the rehabilitation institute and chief of physical medicine and rehabilitation. After the Update *story appeared, Zondlo said he received six phone calls offering him jobs from New Hampshire to Georgia. He found the interest very encouraging.*



Identify Those Leaders

The fall issue of *Update* just arrived, and I want to say how much I have enjoyed the articles on leadership and on Gerald Vizenor.

But would you please identify the leaders whose pictures I've circled on the front page? Hurry, please! I'm curious.

Lars Charles Mazzola
'74 Graduate School
Springwater, New York

Editor's note: We replied to Mr. Mazzola immediately. For those of you who may still be curious, the identities follow. Top row: Golda Meir, Chief Joseph of the Nez Perce, George Washington, and Pope John XXIII. Middle row: Julius Caesar, Manhattan Project director J. Robert Oppenheimer, and Lawrence of Arabia (not Peter O'Toole). Bottom row: Susan B. Anthony, Socrates, Abraham Lincoln, and Napoleon Bonaparte.

Swamp of Mediocrity

This is a response to your fall 1983 article "Where Are Today's Leaders?"

My answer: they are submerged in a growing swamp of mediocrity, cultivated by our educational institutions. I'm afraid that no born leader in any field of endeavor can, as things are now, survive the trials imposed on him by the clique of inferiors that is now in charge of everything. Who gets to be President? Certainly not someone with the intelligence and knowledge to understand the situation!

I don't know what a true leader would do if he managed to struggle out of the mass of mediocrity into which he might be born; but I'm almost convinced that he would not buy the idea that we should be able to kill the other side more times over than they can kill us.

You would like a leader? Set up some basic requirements, including at least a measure of native intelligence, a demonstrated knowledge of world history, and a recognition of the need for informed advice to make decisions.

The last hope is the universities, where there is much perception, but little awareness of the real world.

C. O. Ingamells
'57 Institute of Technology
Denver, Colorado

U·P·D·A·T·E

Winter 1984 Volume 11, Number 1

Paul Dienhart, editor
Lynn Marasco, copy editor
Tom Foley, photographer

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RESEARCH BRIEFS

Fountain of Youth Sighted in Duluth

Some 500 years after Ponce de Leon searched unsuccessfully for the fountain of youth, a Duluth campus researcher may be on the right track. Instead of a Florida spring, he's investigating a synthetic nucleic acid that seems to rejuvenate the body's immune system.

A youthful immune system could help fight disease and possibly cancer. As a person grows older, the body's immune system deteriorates and the body becomes more susceptible to disease. The incidence of cancer also rises dramatically.

In experiments with mice, the breakdown of immunity with age was reversed by the compound polyadenylic-polyuridylic acid complex. The mice were equivalent in age to humans 60 to 80 years old. "We were able to bring their immune systems back to between 80 and 100 percent of what you normally see in young-adult mice," said Arthur Johnson, head of the microbiology department at the Duluth School of Medicine.

The body's immune system fights disease with two weapons, antibodies and a type of white blood cell called T-lymphocytes. The drug promoted both systems of defense in the mice, Johnson said at a December press conference.

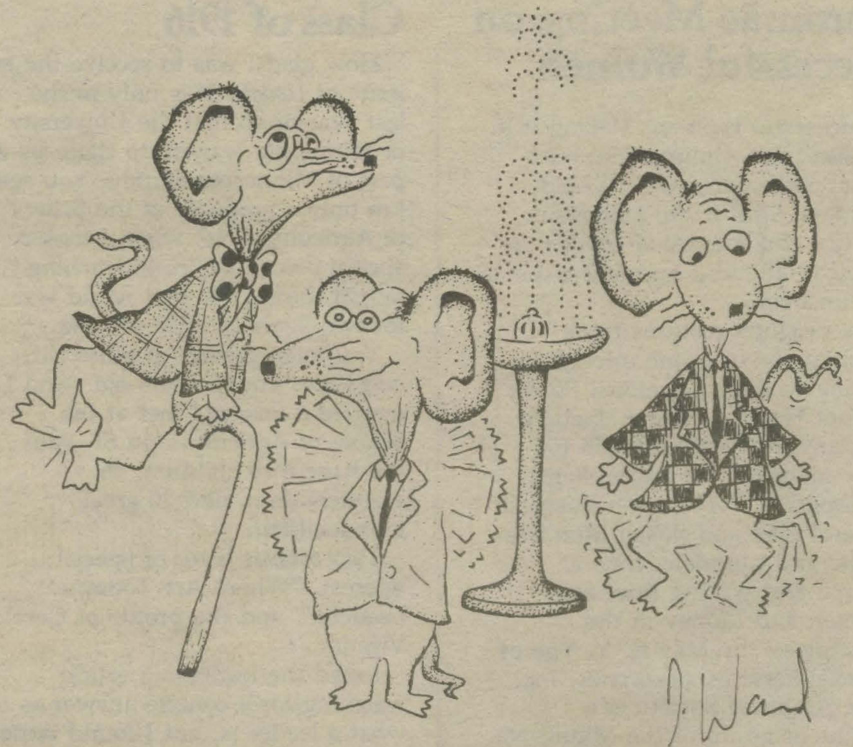
Many researchers believe that T-lymphocytes may also be involved in fighting cancer. There's a theory that cancer cells overwhelm the body's immune system, and even after a tumor is surgically removed a weak immune system might allow the few remaining cancer cells to spread and start new tumors in the body. There is evidence from a French study that the drug might help mop up the remaining cancer cells.

In an eight-year study beginning in 1972, 155 French women with breast cancer were given the drug after surgery, and it appeared to reduce the risk that their cancer would return by almost one fourth, Johnson said.

A trial of the drug on human cancer patients might begin at the U.S. National Cancer Institute this year, Johnson said. The drug would be used in addition to traditional chemotherapy treatment. More studies are needed because cancers have many variables, he said.

Studies also must determine the best dosage. If the immune system is activated too much it might be stimulated to mistakenly attack the kidneys. The women in the French study received extremely low doses of the drug.

"I can name a half dozen things the Food and Drug Administration would want to see dealt with—such as side effects—before this compound became routinely available," Johnson said.



The drug is a synthetic form of a nucleic acid Johnson experimented with in the 1950s. While he was conducting bacterial research at Walter Reed Army Hospital in Washington, D.C., Johnson discovered that under certain conditions this naturally occurring nucleic acid appeared to stimulate the immune system. □

UNIVERSITY OF MINNESOTA

U·P·D·A·T·E

Winter 1984

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INSIDE

Finding a Place at the U

Update's cover story looks at some strategies for helping students find their niche at the University.

Talking with Anatoly

A Russian emigre may well be the most articulate professor at the University.

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A Double Life

The new industry of biotechnology has created a double life for University professor and cancer researcher Anthony Faras.

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UNIVERSITY OF MINNESOTA

U·P·D·A·T·E

Spring 1984 • Volume 11 Number 2

Has the Gopher Overgrown Its Home?

By Pat Kaszuba

TOM FOLEY

Getting a Perspective on University Athletics

On a Friday morning in early December, David M. Lilly quietly became the person responsible for the $873 million University of Minnesota budget. A formal vote by the Board of Regents made Lilly vice president for finance and operations. Lilly said thank you; the regents said congratulations. Two of the major Twin Cities newspapers devoted about three inches each to the appointment.

Less than two weeks later in the same room, a slight man with a Southern manner, a sack full of one-liners, and a winning record took the state by storm just by saying that yes, he'd be glad to coach football in Minnesota. For days nobody talked about anything but Lou Holtz. The lead stories that night on the four Twin Cities television stations were about Holtz. The top third of the front pages of the *Minneapolis Star and Tribune*, the *St. Paul Pioneer Press*, and the *St. Paul Dispatch* were devoted to Holtz. The papers spread the Holtz story over their sports sections. The *New York Times* reported Holtz's new job; so did *USA Today* and countless other publications.

The search for Joe Salem's replacement took just about two months. The hue and cry that filled those two months made it known that at least in the minds of sports reporters, finding somebody to pull the Gopher football team up by its bootstraps was of the utmost importance to the state. Sports columnists and editorialists lambasted the search committee and the University administration for dawdling.

At the same time, three major deanships—at the Institute of Technology, the School of Public Health, and the Medical School—and a vice presidency were (and still are) vacant at the University, but a public outcry wasn't heard.

All the attention being paid Holtz and the football program has led to rumbling inside and outside the University that there's been a shift in priorities; that the administration's desire for a comeback has skewed its vision of why a university exists.

Among faculty, the reaction varies widely from those who think the University has "no reasonable reasons for being in the big-time football business at all" to those who avidly read about the coming of Lou Holtz. That's the assessment of John Howe, a history professor on the Twin Cities campus and chair of the Senate Consultative Committee, the faculty's major link with administrative decision making.

"Lots of faculty have been impressed with the relative quickness with which things have been decided on the football front versus the relative slowness with which many other kinds of decisions are made around here," Howe said.

"With a dramatic new personality and

a great state interest in the football program and the attendant publicity, people say, 'Look at all the shift in attention,' " said President C. Peter Magrath. "I don't think there's been any dramatic shift in University priorities. Whenever anything happens in athletics at the University, it gets an enormous amount of public attention either because that's what the public wants or because that's what the newspapers believe that's what the public wants. I suppose the truth is in between."

All the attention being paid Holtz and the football program has led to rumbling inside and outside the University that there's been a shift in priorities.

Magrath said that, to him, there is no question where the emphasis belongs. "Intercollegiate athletics is important, but as far as I'm concerned, it absolutely has to be seen in context," Magrath said. "There would be no intercollegiate athletics if there were not a college or a university built around students and academic programs. We don't have a University of Minnesota so that we can have athletic students. We have a University of Minnesota because we want to educate students, we want to do research, and, because we're a land-grant university, we want to provide certain kinds of educational services. If there ever had to be a choice between academics and athletics, there would be no choice. To me there is no university without the research, the faculty, and the teaching."

A drain on the budget?

The Big Ten mystique, which once made legends of Bronco Nagurski and Bobby Bell, today translates into dollars—big dollars—for their alma mater, despite years of tarnish on the Golden Gopher.

Even though Minnesota hasn't been to a Rose Bowl in 23 years, every New Year's Day the University is guaranteed a tenth of the Big Ten share of the profits just because Illinois or Michigan or Ohio State shows up to play in Pasadena. And even though the Gophers have never won a national basketball championship, every time Indiana makes it to the NCAA playoffs or the National Invitational Tournament or is on radio or TV, the University of Minnesota profits. In the past five years the income from radio and television and post-season play has quintupled.

Even the most uninitiated among us realize that big-time college sports—the kind played for the benefit of millions of TV viewers every fall and winter—is big business. Last year, men's intercollegiate athletics on the Twin Cities campus netted about $2 million through its association with the Big Ten—35 percent of what it takes to support 400 student-athletes and coaches in 11 sports. Radio and television contracts, a share of profits from the Rose Bowl and any other post-season play by any member of the conference—all direct benefits of membership in the Big Ten—are chief among the reasons men's intercollegiate athletics supports itself. Ticket sales and private donations account for most of the rest of the income. Last year ticket revenue was $4.6 million, and $560,000 was contributed to the Williams Fund.

"If we didn't have the receipts from television, from the Rose Bowl package, from gate receipts, we wouldn't do it. We couldn't do it," Magrath said. "There is certainly no way that I would seek any major increments of state support that would very likely come at the expense of directly academic programs."

The commitment to keep intercollegiate athletics at the University became part of official policy in 1979 when the Board of Regents resolved to ask the legislature for money to keep the men's program afloat if it became necessary, an event that never came to pass. The men's program has gone from its wobbly financial condition—$482,000 in the red in 1978—to being self-sufficient. Before running into trouble in the late 1960s, the program contributed more than $8 million to the University's general fund, paying for the athletic facilities and the land for Coffman Union and supporting the physical education program.

If the U.S. Supreme Court upholds an appeals court ruling in the television antitrust suit against the NCAA, the University—along with others with big-time intercollegiate teams—stands to make even bigger profits. The court is expected to decide this spring who has the authority to sell the broadcast rights to college sports. "We'll probably come out ahead," said Robert Stein, dean of the University Law School and faculty representative to the Big Ten for men's athletics. There is speculation that if the court says that conferences, rather than the NCAA, can sign TV contracts, the Big Ten and the Pacific 10 might join forces and walk away with a big chunk of networks' money, partly because about half the television sets in the United States are in households in the Midwest and the West, Big Ten and Pac 10 turf.

Negotiations are now under way between the University and Midwest Cable and Satellite, an affiliate of WCCO-TV, on a contract that would pay the University $1.5 million over five years for television rights to certain sports and educational programs. A clause that gives Midwest first refusal on the TV rights to football, should the U.S. Supreme Court decide against the NCAA, stalled approval of the contract when the Board of Regents met in February.

Just in it for the money?

The fact that big-time sports pays its own way isn't the sole justification for its existence in higher education. As political science professor Charles Walcott said: "If profit was the only motive, the University could be in the fast-food business. It has to be something that is consistent with what a university stands for."

"If there ever had to be a choice between academics and athletics there would be no choice."

Among the reasons mentioned most often to defend the place of athletics in higher education is the emphasis society puts on college sports, the pride society takes in the teams, and the support that pride inspires. In the mid-1970s, the *Minneapolis Tribune* polled Minnesotans and found that 32 percent of the people surveyed statewide thought the overall quality of the University was affected by how well or how badly the football, hockey, and basketball teams were doing.

"We're all real proud of the liver transplants the University does, but nobody goes to watch them," said Walcott, who is writing a book on the politics of the NCAA and the Asssociation for Intercollegiate Athletics for Women. "But sports are visible to everybody and it's also not so tragic when we lose."

"In the nonmetropolitian area of the state, there are a couple of things the university stands for," said Stanley Kegler, a vice president and chief lobbyist for the University. "The University stands for agriculture. And the University stands for the Golden Gophers in football, less so in basketball because we more frequently have homegrown Minnesota boys who are on the football teams.

"I'm fond of saying to President Magrath that you could go into a small town like Lamberton or Jasper or Ceylon—the really small towns—and you announce that Peter Magrath was going to be at X coffee shop to answer any question and Paul Giel was going to be at Y coffee shop at the same time. I'd lay odds, heavy odds, as to who would get the bigger draw. And the president accepts that.

"The success or failure of the Gophers, especially in football, is very, very important. The Vikings by and large are viewed as a metropolitan team. They don't represent Minnesota, but the Golden Gopher football team—it does represent the kids of Minnesota."

Identifying with the University isn't limited to Minnesota children who wear Goldie Gopher hats and wave pennants; it stretches all the way to the Capitol. "It's not specific. There's a general feeling of goodwill when the Gophers are doing well," Kegler said. And when things aren't going well, either on or off the field, there's an effect. "For example, if we'd brought in an unknown [instead of Holtz], there would

be a cloud, a question mark,'' he said. ''They'd ask, 'How well is he going to do?' As compared with a general feeling of goodwill, it would be a general feeling of a lot of questions.''

What good are fans?

''Many people first become interested in the University through contact with athletic programs,'' said Frank Wilderson, the vice president with the responsibility for intercollegiate athletics. ''From there they may go on to learn more about our academic programs or our service programs. The important thing is that they perceive that the University is open.''

In the late 1970s, a task force of University faculty and administrators cited public relations and public service as major reasons for keeping alive an athletic program that was in fairly serious financial trouble. ''It is through intercollegiate athletics that many people in Minnesota have their only contact with, and thus their only identification with, the University,'' the task force report said. ''The decision by WCCO radio to broadcast all football and basketball games certainly reflects public enthusiasm for the games.''

''We're all real proud of the liver transplants the University does, but nobody goes to watch them.''

It is clear that intercollegiate competition gains visibility for the University among prospective students and their parents. Whether or not students become athletic participants or spectators while they are in school, Gopher sports offers a chance for them to continue to associate with the University after graduation.

Can academics and athletics coexist?

Education—leading to an academic degree—is the most obvious thing a university stands for. Even athletes seem to agree. A recent national survey found that college-bound football players are more concerned about the academic quality of their future school than the prowess of its athletic teams. But at Minnesota, and at many other colleges and universities, the academic side of student athletics could stand improvement. Minnesota's poor showing in graduation rates in recent years led to creation last year of a position devoted to solving the problem.

Since August, Elayne Donahue has been responsible for the academic health of student-athletes at the University as assistant director of athletics for academic counseling. ''Our goal is graduation, not just keeping people eligible to participate,'' Donahue said.

She feels that a key to a successful athletic program is recruiting the right kinds of students. One way she and her staff of four full-time counselors hope to do that is through mandatory study groups for student-athletes whose grade point average threatens to fall below 2.5—the point at which credit is easily transferable. Ten to twelve student-athletes meet with professional educators six hours a week to hone their study skills and receive tutoring. The program also provides specialized tutoring for student-athletes in programs such as premedicine. Mid-quarter monitoring of

Continued next page

Yeah Cougars, Bulldogs, Trojans, and Rams!

By Marcy Sherriff

Some of the most avid University sports fans couldn't care less about the Golden Gophers. But bring on the Cougars, the Bulldogs, the Trojans, or the Rams, and the crowds come to life.

Those crowds follow the teams in Morris, Duluth, Crookston, and Waseca, respectively. With the exception of the Duluth ice hockey team, the University's coordinate campus teams do not have the state or national identification of the Gophers, nor are they subject to as much media scrutiny. In a way, for the University, that's too bad.

Smaller budgets, smaller coaching staffs, and overall smaller numbers of students don't necessarily add up to small successes.

In recent years, the Morris Cougars have won conference titles in basketball and baseball and have gone to national playoffs in football. The Cougar women have won a conference title and two state titles and were 1982-83 NCAA regional champions in basketball. Two Morris wrestlers—twin brothers, in fact—won national championship titles.

The Crookston Trojans claim similar successes; most notably, the hockey team placed third in national competition two years in a row. Duluth's volleyball team has played in national tournaments, and its women's basketball team placed second in the state last year. Waseca has had both men and women athletes in national track competition.

Coordinate campus intercollegiate athletics involve more than 1,100 students each year, offering them an alternative to NCAA-Division I and Big Ten competition. Generating revenues has nothing to do with the existence of these athletic programs.

''Athletics are a bonus for the students,'' said Donald Collins, director of recreational sports and intercollegiate athletics at Waseca, where about a fourth of the student body participates in six men's and six women's intercollegiate sports. ''By all means, they come for academics, to get an education. From our two-year programs, many go right into jobs.''

No athletic scholarships whatsoever are available for Crookston, Morris, or Waseca students, nor for the majority of Duluth athletes. ''Our philosophy is that we will continue to be nonscholarship,'' said Willis Kelly, Morris's director of intercollegiate athletics. ''Sports certainly have a place,'' she said. ''It should be for the students, to enhance their college experience.'' Morris has a no-cut policy and accommodates all comers by fielding junior varsity teams when possible.

In the same way that Gopher sports increase public visibility for the University on a statewide basis, the coordinate campus athletic programs draw local interest and support from people who might not otherwise ever have contact with the University. The Duluth hockey team generates such community pride that this year, when the Bulldogs qualified for the NCAA playoffs, it was the local convention and visitor bureau that arranged and paid for Krazy George—the well-known Minnesota Vikings cheerleader—to beat his drum for UMD.

Of all 28 men's and 21 women's intercollegiate teams on the four campuses, only the UMD hockey team competes in NCAA-Division I play and generates significant revenues. The programs depend on a combination of state funding, general University support, and student fee income.

Marv Bachmeier, athletic director at Crookston, would like to see the athletics budget grow, but not at the expense of academics. ''Ideally, I'd like to see support for both,'' he said. Though the number of participants and, in some cases, the number of teams have grown on all four campuses during the past five years, the operating budgets have not. ''Our greatest problem is lack of staff,'' Bachmeier said.

All the coordinate campuses share that limitation. Some coaches are faculty members who coach part time, others must coach several teams. One of Waseca's trainers also coaches women's basketball, is assistant to the football coach, and lives in one of the campus residence halls.

The double or triple duties have one big advantage: ''Our coaching staff knows that school comes first and sports second,'' said Bruce McLeod, acting director of athletics at Duluth. □

grades is another way Donahue hopes to head off problems before they occur.

"Part of our philosophy is that a student-athlete needs to be motivated to do well in school, and we believe one way that is done is by helping them come to grips with career or lifetime goals," Donahue said. "Once they can figure out where they want to be in

"Our goal is graduation, not just keeping people eligible to participate."

five or ten years, then what their major should be and which college they should enroll in generally become quite easy."

"It's important that we work with the athletes once they're here, but we also feel it's important that we have an input into the recruitment process," she said. "If they were recruited without meeting anyone in the academic world, it would give them a false idea of what the University is like. That would certainly turn off any serious student-athlete, which is exactly the kind of student we want to attract."

"I'm naturally very prejudiced because of what intercollegiate athletics at the University of Minnesota years and years ago meant to me," said Paul Giel, the former star football and baseball player for the Gophers who is now athletic director. "In all due respect to the classes I took at the University and all the wonderful professors I studied under, I don't think there's anything quite like the lessons you learn on the field of play. It may sound corny to talk about sportsmanship, the team above the individual, bouncing back when you've taken a fall, or being able to handle adversity, but they're valuable lessons you can't get from a classroom. Athletic competition, I think, has educational merit.

"To me, the bottom line is the young people involved. I can't tell you the satisfaction I get from the tons of letters I get from student-athletes—whether they were in a visible sport or one of the nonrevenue sports—saying their experience in athletics was a great part of their life at the University." □

Women's Athletics Comes Into its Own

By Marcy Sherriff

The benefit of a Twin Cities campus men's athletic program that supports itself with a several-million-dollar annual budget goes beyond what it does for the University and its male athletes. Title IX of the Higher Education Amendments of 1972 saw to that.

Because it requires equal treatment and equitable expenditures for women, the success of a big-time sports program for men has raised the University's consciousness about equality for men and women.

"The University has made a real commitment to our programs," said Merrily Baker, director of the Department of Women's Intercollegiate Athletics. She came to Minnesota a year and a half ago after 12 years of directing women's athletics at Princeton University. "The commitment is partly because of Title IX," she said, "but also is a combination of increased expectations on the part of women students coming here, and a healthy University interest in keeping up with an important social concern."

"The University's goodwill is unchallenged, but I don't think we would have the women's program we have today without Title IX," said political science professor Charles Walcott, who formerly chaired the Assembly Committee on Athletics, the group of faculty, students, and administrators who oversee athletics at the University. "In 12 years things have changed a lot. In 1971 the entire budget for women's athletics was around $7,000. Now the assistant coaches make more than that."

TOM FOLEY

Merrily Baker: Benefits from History

Women's varsity sports were part of the physical education division until 1975, when a separate women's counterpart to the Department of Men's Intercollegiate Athletics was formed. Today, a combination of state and private funding provides a budget of $2.1 million—a 300 percent increase since 1972—supporting about 225 students in nine intercollegiate sports and one club sport.

Kate Mathison, associate director of the department, sees more than just financial benefit to being associated with a high-profile men's program. "As good football and basketball programs—the high-visibility sports—develop, it becomes easier for us to recruit better women athletes because there's a better school identification."

The reasons for having a women's program are, of themselves, not that different from the rationale for men's sports at the University, according to Baker: they provide different kinds of educational experiences for students and a way for the University to interest and involve a larger, statewide community in its programs.

"It's just that we're a toddler in comparison to the men's programs," Baker said. "Formerly women's athletics were allowed to function pretty much in a vacuum. They were primarily for the participants, their roommates and parents." That is changing. In March, women's athletics made its entrée into live television with a prime-time broadcast basketball game.

Baker is excited about the challenge to develop competitive success and fan support for women's sports. "Basically we are finding a different way [from the men] around the same barn, avoiding the abuses and excesses that have been associated with intercollegiate sports.

"I don't say that standing on any pedestal," she added. "We're lucky to benefit from history and be able to repeat the good parts."

In time, Baker sees women's athletics emerging with an identity and role of its own. "We've committed to becoming, trite though it sounds, the pride of Minnesota," she said. That includes devoting serious attention to the educational and personal development of student athletes, developing new and different marketing strategies to interest people in women's sports, and providing opportunities for Minnesota women to excel as athletes. □

Quieting the Brain's Electrical Storms

Station 49, University Hospitals, takes on the worst cases of epilepsy

By Ralph Heussner

Annette was only a toddler when her first epileptic seizure occurred. "It was a frightening experience for the entire family," her father recalled.

As the problem worsened during the next few years, doctors experimented with various combinations of anticonvulsant drugs before the severe attacks were effectively brought under control.

But when she was 17, for no apparent reason and despite medication, the seizure pattern returned with even greater frequency and intensity. For the next four years, Annette suffered from intractable epilepsy, experiencing frequent "drop attacks"—she would suddenly lose consciousness and fall to the ground—that caused deep lacerations of her forehead, contusions of her skull, and a broken jaw. There were days when she fell 20 or 30 times. As many people with this unusual condition must do, Annette eventually resorted to wearing protective headgear, resembling a hockey helmet, to prevent further injury.

After another round of experimental medicines failed to control seizures doctors advised Annette and her parents that a surgical procedure—performed at only a few hospitals in the United States—offered the last hope of curing the baffling illness.

In late 1983 Annette, now age 21, underwent the special surgery, called the corpus callostomy, at University of Minnesota Hospitals in Minneapolis. The four-hour operation involved cutting the corpus callosum, a band of connective fibers located deep inside the brain between its two hemispheres. The aim was to confine future seizure activity to one side of the brain, thus lessening its impact.

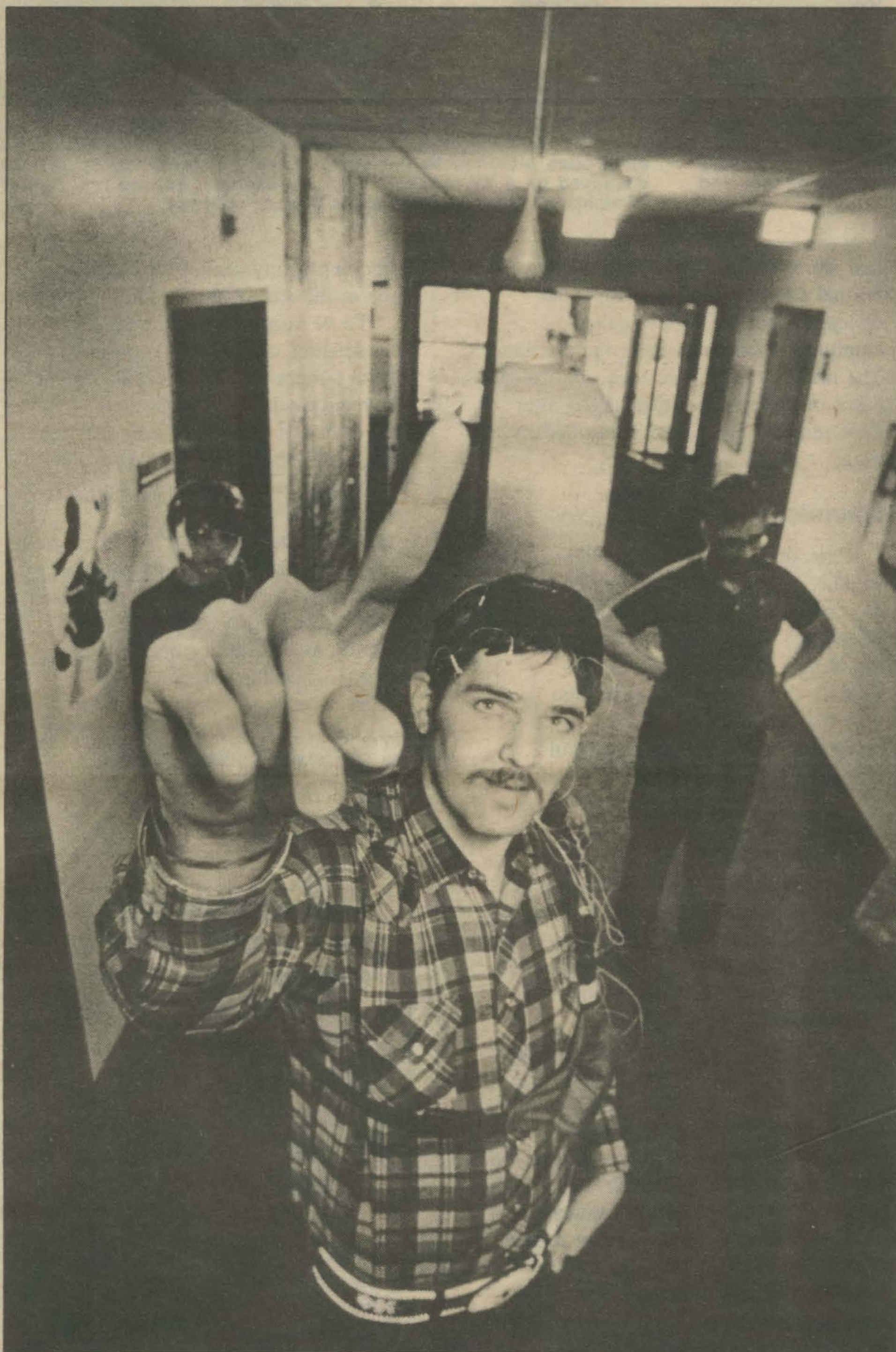
As the family prepared to return home, Annette's father remarked: "We're now looking to the future. Although Annette has some catching up to do, she has many more prospects than before."

"We believe that, at least in theory, all types of seizures ought to be completely controlled."

The severity of Annette's case is not typical of epilepsy. Most epileptics have good control over their seizures. But about 5 percent of the patients suffer from intractable or unmanageable epilepsy. They may be referred to one of six regional centers established by the National Institutes of Health in 1974 for epilepsy diagnosis, treatment, and research.

The University-based Minnesota Comprehensive Epilepsy Program (CEP), one of the original NIH-backed centers, began with a Promethean goal, says Robert J. Gumnit: "We believed that, at least in theory, all types of seizures ought to be completely controlled." Gumnit is a neurology professor in the Medical School.

University Hospitals' Station 49, a specially designed 11-bed unit with sophisticated electronic monitoring equipment, became the first in the nation to accept patients with intractable



TOM FOLEY

Jim Kinnischtzke points to one of the antennae wires hanging in a corridor of Station 49. The electrodes attached to Kinnischtzke's scalp transmit his brain waves via these antennae to monitors observed by the station's staff. As he moves through the dormlike station, the slightest seizure is detected and recorded, allowing doctors to determine the form of epilepsy and an appropriate treatment.

epilepsy—patients who, in Gumnit's words, "had generally been written off by doctors who felt there was nothing more to be done to help them. But we figured that if we could help that group, then the lessons we learned would be very useful in cases that were not so difficult."

The University's Station 49 is the busiest center in the country for treating severe cases of epilepsy. There is a three-month waiting period for admission, with some patients coming from across the country and even from foreign lands.

Today, CEP director Gumnit and his colleagues are still confident that, ultimately, all persons with epilepsy can be seizure-free. Gumnit's optimism is based on improved diagnostic methods, new anticonvulsant drugs, and refined surgical techniques for patients like Annette who fail to respond to medication.

"Although we can't say every patient has total control yet, we are able to say that we're doing an awful lot of good. In 1984, we are in a position to help people we couldn't help just a few years ago. By 1989, we'll be helping people we can't help in 1984."

An electrical storm

Because of the sudden and often bizarre nature of epileptic seizures and the strange mannerisms characteristic of certain forms of epilepsy, its victims have been persecuted and ostracized throughout history. In some cultures, epilepsy was believed to bring divine or demonic powers, while other societies institutionalized people with the disorder.

"The public's understanding of epilepsy has changed dramatically in 50 years," Gumnit said. "A poll conducted in 1939 found a common attitude that people with epilepsy were all crazy, should be locked away, kids shouldn't play with them, and they shouldn't marry. But those ideas, thankfully, have changed. Today, the majority of the public recognizes epilepsy as a physical illness that can be treated. People with epilepsy can work and live a normal life."

An estimated 2 percent of the population suffers from some form of epilepsy. A single seizure is not necessarily a sign of epilepsy. About 10 percent of us will experience a seizure sometime in our life, caused by an isolated event such as high fever.

In the more severe cases, patients experience as many as 200 seizures a day.

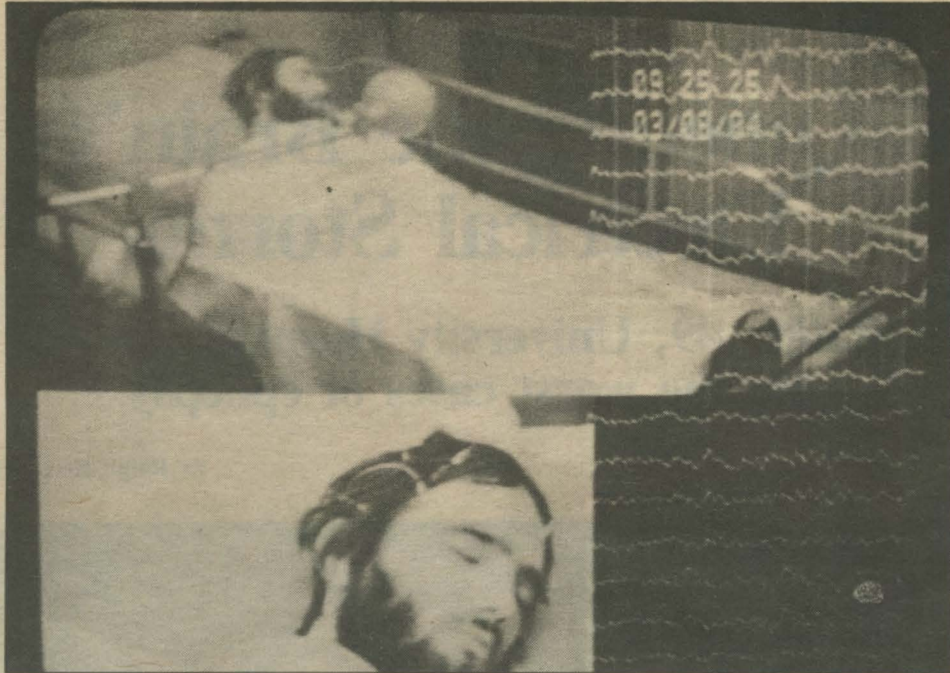
Our brain has millions of nerve cells, called neurons, working in delicate balance to control our thoughts and actions. Each neuron transmits tiny impulses of electrical current produced by the interaction of chemicals inside the cell. Each electrical impulse sends a message through the brain and nervous system, instructing the body to perform a particular function.

In epilepsy, those impulses go awry because of a temporary buildup of excessive electrical charges, sometimes referred to as an "electrical storm." As a result, the brain loses control over muscles, senses, consciousness, and thoughts. The loss of control is manifested in muscle convulsions, unusual behavior, and lapse of consciousness.

The cause of epilepsy is unknown in approximately half of all cases. Recognized causes include tissue damaged from infection, lead or mercury poisoning, tumors, strokes, and brain injuries. In cases where there apparently is no damaged tissue, some scientists speculate seizures may result from a yet-unknown abnormality of the chemistry of the brain.

Epilepsy can be classified as general or partial, depending on the extent of the misguided electricity in the brain. Annette was plagued by severe general seizures, originating from an electrical storm raging across her entire brain. People with Annette's form of epilepsy can be wracked by convulsions and fall unconscious—a drop attack. Lasting one to three minutes, the seizure leaves its victim confused or tired for several hours.

One of the most serious forms of partial epilepsy—also cases for Station 49—is called temporal lobe epilepsy. The electrical misfiring is confined to the brain's temporal lobes, the complex area near the temples that helps control such varied functions as smelling, hearing, tasting, equilibrium, and



TOM FOLEY

David Each is undergoing diagnosis of his epilepsy. In Station 49's special observation room, two video cameras are trained on him, and electrodes attached to his scalp detect his brain waves. It is all displayed on a TV monitor. Even the slightest seizure is recorded, allowing doctors to diagnose his form of epilepsy.

memories involving hearing and seeing. Temporal lobe seizures are characterized by purposeless activity, including chewing, staring, lip smacking, and fidgeting with clothing. The seizure can last for several minutes, and afterwards the victim has no recollection of what happened, only a feeling of confusion and exhaustion that, again, can last for several hours.

About 80 percent of all persons with epilepsy are seizure-free, 15 percent have some control, and the final 5 percent have almost no control over their condition. It is this last group that is represented at Station 49.

Precise diagnosis

"We concentrate on making a precise diagnosis. First, to determine that the patient does have seizures and, second, what kind," said neurologist Gumnit. "This requires an intense look at what is going on in the brain."

The evaluation begins by reducing medication and depriving the patient of one night's sleep. When the brain is irritated, tired, and low on medication, the true nature of the illness is revealed.

"We sometimes try to recreate a situation in which seizures will occur and record them. We ask the patient to do whatever seems to provoke a seizure, such as jogging or sleeping," says nurse-clinician Sue Whalen.

The patient is monitored through radiotelemetry 24 hours a day. In radiotelemetry, the patient is able to move freely through Station 49 with electrodes attached to the scalp that send EEG signals to a remote receiving station where technicians can monitor, brain activity, recording even minor seizures. An EEG recorded during a seizure will show bursts of energy coming either unusually fast or unusually slow. In the more severe cases, patients experience as many as 200 seizures a day.

Seizures are also filmed on television cameras, providing both a closeup and a full view of the seizure. Because of the intermittent nature of seizures, continuous videotaping and radiotelemetry give the medical team a more exact understanding of the severity and kinds of seizures the patient is experiencing.

At the end of the patient's 10- to 12-day in-hospital evaluation, the medical team confers. Surprisingly, they find that about 20 percent of patients have normal EEGs, meaning there is no epilepsy; another source such as emotional strain is causing the seizures. The majority of people with confirmed cases of epilepsy are discharged after their seizures have been controlled by drugs.

Chemical control

Generally drugs control epilepsy by actually affecting the neuron, preventing the occurrence of the abnormal electrical discharge, or by stopping the spread of the electrical charge.

More than a hundred years ago it was discovered that sedatives called bromides could effectively control seizures. Phenobarbitol, discovered in 1912, was once widely used. Dilantin and more than 25 other drugs are currently available.

"We find many patients who come to us with a lot of seizures can be helped with the same medicines that they're on," Gumnit said. "But we dose them differently, and make some other adjustments."

Development of new anticonvulsant drugs has been painstakingly slow, partly because of the nature of the disorder. "Epilepsy is an episodic event," Gumnit said. "It's not like you can give an injection, watch what happens, and see how the medication works." Months of observation may be necessary.

But Gumnit is optimistic that new drugs now undergoing clinical study will someday benefit many more people. "We're one of the major units in the country evaluating new anticonvulsants. We're looking at four at the present time."

When all else fails

The surgical control of epilepsy is dramatic, sometimes controversial, and always the treatment of last resort. Less than 10 percent of patients who are evaluated by CEP are considered for surgery.

There are two types of epilepsy surgery: the temporal lobectomy for patients with persistent temporal lobe seizures, and the corpus callostomy for patients such as Annette with uncontrolled drop attacks.

The University of Minnesota was a pioneer of the temporal lobectomies in the 1940s. The surgery involves removing a tiny section of the temporal lobe at the site of the seizure's origin.

"To be successful, we must show that seizures are coming from only one of the temporal lobes," explained University neurosurgeon Robert Maxwell. "If you remove part of one lobe, and the other is damaged, the patient can have a problem with memory and speech."

Locating the exact site of the seizure used to be one of the most stressful of operations—for both neurosurgeon and patient. The patient had to be kept partially awake during open brain surgery while the surgeon used electrodes to test for seizures. An anesthetized brain won't reveal seizures, but the seizures detected in the operating room were often caused by stress and weren't typical of the patient's problem.

The neurosurgeon, now armed with an electrical roadmap of Jeff's brain, disconnects the electrodes and removes a tiny piece of the temporal lobe...

In the past year, Maxwell modified the electrode monitoring so the patient can be completely anesthetized. Now the origin of the seizures is probed during a period of everyday living following surgery.

The procedure is illustrated by the following patient history.

Jeff is a 24-year-old patient whose seizures take the form of aimless, unconscious walking. The seizures also involve the lip-smacking and fidgety movement more typical of temporal lobe epilepsy.

On the day of the surgery, Jeff is strapped into a surgical chair in operating room J at University Hospitals, his head encased in a steel support. After removing a four-inch-square piece of Jeff's skull, the neurosurgeon connects 64 tiny wires onto parts of the temporal lobe. The electrode-conductor plate, placed between the scalp and the skull, is covered with protective gauze, and Jeff moves to the recovery room.

Within a few days, Jeff is taking short walks along the L-shaped corridor of Station 49. Dangling from the ceiling, about every 15 feet, are surveillance wires hooked into elaborate electronic equipment located in a nearby room where technicians monitor Jeff's brain activity. The electrodes can detect the slightest seizure and pinpoint its origin in the brain to within a few centimeters.

Back in the operating room two weeks later, the neurosurgeon, now armed with an electrical roadmap of Jeff's brain, reopens the skull, disconnects the electrodes, and removes a tiny piece of the temporal lobe identified as the source of the disorder. Jeff's epilepsy has been cured.

"This is a real breakthrough," Maxwell said. "You no longer have frightened patients in the operating room."

By analyzing the occurrence of seizures in a relatively natural living environment for a two- or three-week period, physicians can more accurately pinpoint their origin.

"We can map out where the seizure originates within half a centimeter," Maxwell said. "We know the pattern of spread, and how it relates to speech, movement, and sensation. When we go back in, we know exactly what's important and what's not."

Severing the halves of the brain

The corpus callostomy is done in rare cases on very debilitated patients like Annette who suffer frequent drop attacks that can result in multiple injuries. Most are so heavily sedated that they appear to be retarded, and most remain at home.

In the early 1940s some patients with generalized seizures—the kind where misguided electrical activity spreads across the entire brain—underwent experimental surgery to sever the corpus callosum. The corpus callosum is the connective pathway through which the two sides of the brain "talk." By cutting this connection, the excessive electrical activity could be kept on one side of the brain.

Although these early patients showed improvement and few side effects, the technique was not generally accepted until it was refined in the early 1970s. Today, the University of Minnesota is one of a handful of medical centers where it is performed.

Of the 21 patients who have undergone the surgery at University of Minnesota Hospitals, 17 found that their seizures had been controlled. Seizures continued in the other four cases.

The side effects of the surgery are minimal, doctors point out. There may be some postsurgery weakness and speech impairment, caused by the swelling of the brain, but they usually clear within a month after surgery.

Who should undergo seizure surgery, and when, are questions of continuing debate and research.

"There are an awful lot of people who could benefit from seizure surgery who aren't getting it," Maxwell said. "The surgery has been shown to be effective in about 75 percent of cases—45 percent completely free of seizures—with only a 1 percent mortality dating back to 1929. These

Continued page 13

By John D. Fisher

Editor's note: *John D. Fisher was 12 when he walked into the office of the* Annandale Advocate, *his hometown's weekly newspaper, and requested a job. He was sat in front of an old Linotype machine, one of those clanking beasts with a belly of molten lead, and was told, "Here boy, set type."*

Any notions about the romance of community journalism must have been quickly dispelled. Nevertheless, in January 1983 John Fisher and his wife, Ann Jennen, became co-publishers of the Annandale Advocate. *She is business manager, while he works as editor. At age 27, Fisher, it seems safe to state, is among the youngest editor-publishers in the country.*

Annandale is a town of 1,600 people about 50 miles west of the Twin Cities. With a circulation of 3,000, the Advocate *is beginning to assume a certain status as a sheet of impressive literacy and professionalism.*

Fisher developed his writing and reporting skills—after a stint as a 15-year-old Advocate *columnist—by working three years for the* Minnesota Daily *when he was a student on the Twin Cities campus. His major was American studies, and he recalls that even then he had a propensity for undisciplined scholarship.*

The thoughts on Goose-footed Bertha originally appeared a couple of months ago in Fisher's weekly column, "Matters of Small Importance."

PAUL DIENHART

John Fisher conducts his quests from the office of the *Annandale Advocate*.

The Quest for Goose-footed Bertha

I did not go questing after Goose-footed Bertha in the same fashion as Galahad went questing after the Holy Grail. Sir Galahad was pure and pious and had a definite object in mind. Goose-footed Bertha, unlike the Holy Grail, required of me no piety. She required only that I indulge in a piece of leisurely and undisciplined scholarship. And the great reward for pursuing the gentle occupation of idle learning lies in its unerring capacity for revealing obscure, utterly useless, and strangely enriching truths.

I mention the Holy Grail because it seems to me to illustrate the human characteristic of getting caught up in the headlong pursuit of whatever objects the age deems useful. In his account of King Arthur's court, Sir Thomas Malory describes the Grail as the cup from which Christ ate the paschal lamb. It is said to have been taken to England by Joseph of Arimathea and stored in a castle, where it became an object of obsession for knights of all nations. According to legend, only a knight who was perfectly chaste in both mind and body (one such as Sir Galahad) was worthy of discovering the Grail. Indeed, after a year of intense questing, Galahad found the Grail, and "his soul was borne visibly to heaven by a company of angels." A disembodied hand appeared and took the Holy Grail to the same destination, "and no man on earth has seen them since."

It strikes me that Galahad, who was pure and chaste and entirely good, would have been borne into heaven eventually even without discovering the Holy Grail. The same cannot be said of Sir Gawain, who must have known he was not chaste, yet was the first knight to vow to quest after the Grail. "Many knights of the Round Table made similar vows," Malory writes, "and King Arthur was deeply distressed."

It is to Arthur's credit that he was so deeply distressed. He must have recognized the folly of the quest. But the knights heeded him not, and all went off a-questing for something they could not find.

The special joy of useless knowledge is that *it* seems to seek *us* out. We trip over it as we rush after various grails we may never find. Pausing to savor these useless offerings might just salvage all our questing, especially if the object of our quest turns out to have no more use than Galahad's Holy Grail.

Bertrand Russell, a man who rose to prominence making and defending dubious assertions, once wrote an essay praising useless knowledge. In it he cites the story of Thomas Hobbes's first contact with Euclid—a story, Russell asserts, "everyone" knows.

Whether useless or useful, this story is knowledge neither I nor any of my friends seem to possess. But the story is a good one and worth telling in order to bring Russell's grand claim a little nearer the truth. Happening across a volume of Euclid, Hobbes is said to have opened the book by chance to the theorem of Pythagoras. "By God, this is impossible," he exclaimed, and, according to Russell, "proceeded to read the proofs backwards until, reaching the axioms, he became convinced."

Russell then made another of his sweeping comments: "No one can doubt that this was for [Hobbes] a voluptuous moment, unsullied by the thought of the utility of geometry in measuring fields."

Leisurely and undisciplined scholarship—like strong beer, bawdy songs, and a bleacher seat at the ball park—is to be counted among the pleasures of a civilized life. I have this on Mr. Russell's good authority, and so have no reason to doubt it. I also have the evidence of my quest after Goose-footed Bertha.

My quest began, as have many important things in my life, innocently. It began with a volume of Mother Goose. My mother, who loves me and seeks whenever possible to prove it, hunted up the profusely illustrated volume and gave it to me one snowy night this winter. It occurred to me that Mr. Russell probably could have told me about the origins of Mother Goose. But he was unavailable, and so I was driven to find out for myself.

In an old graveyard in Boston, I soon learned, there are three gravestones bearing the name Goose. One of them is said to contain the remains of a woman called Elizabeth Vergoose, whose son-in-law, a printer called Thomas Fleet, was supposed to have printed the songs and rhymes she sang to her grandchildren. No one has ever found a copy of this book, and scholars doubt that she was the original Mother Goose.

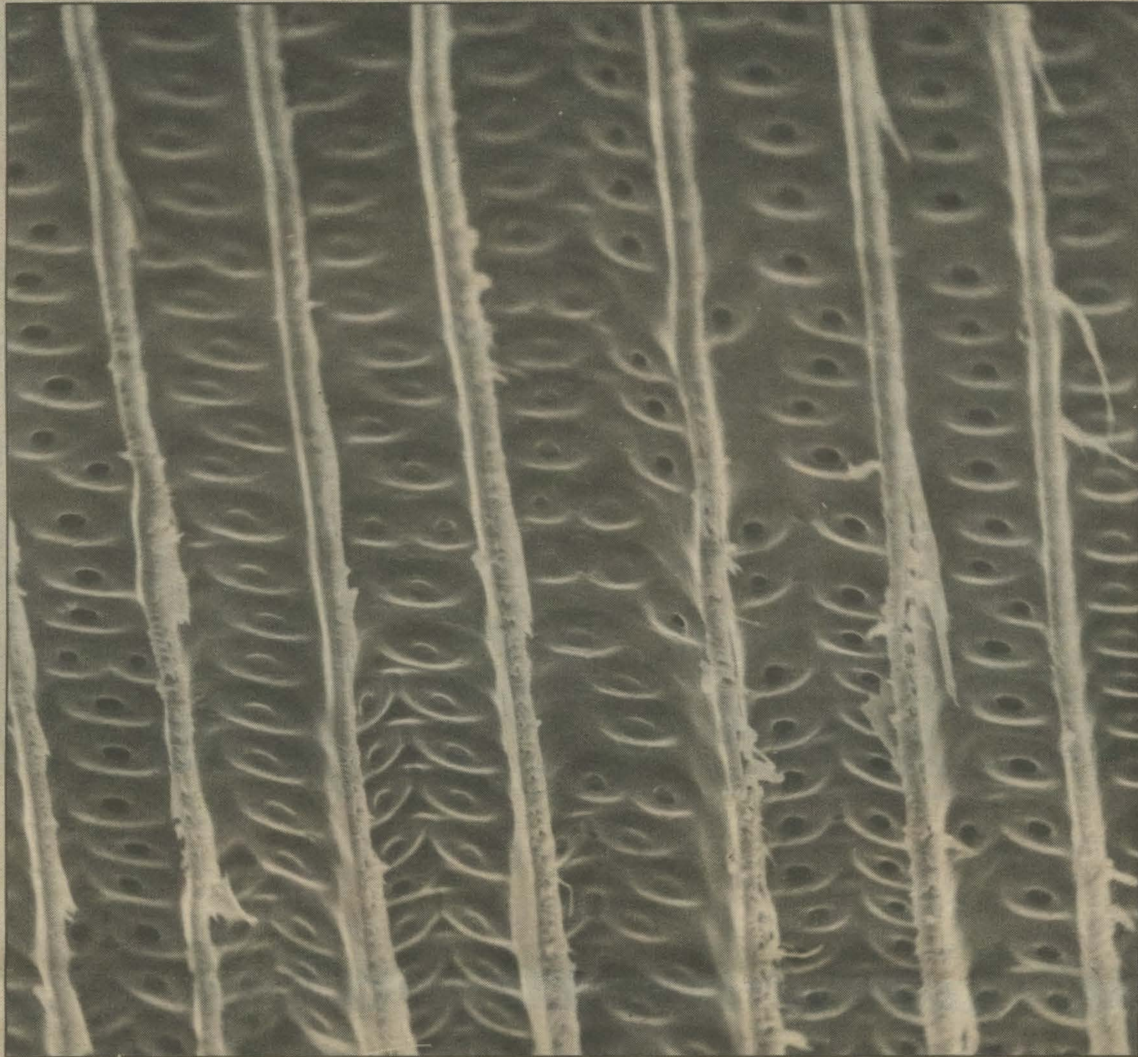
Digging further, I discovered that in 17th-century France a man named Charles Perrault published a book of stories for children under the title *Mother Goose*. Some of these stories can be traced to the eighth century, to Charlemagne, the greatest of the medieval kings. Charlemagne's father, Pepin the Short, was married to a woman about whom I was unable to uncover any information, except that she frequently told stories to little Charlemagne and was known, for obscure reasons, as Goose-footed Bertha.

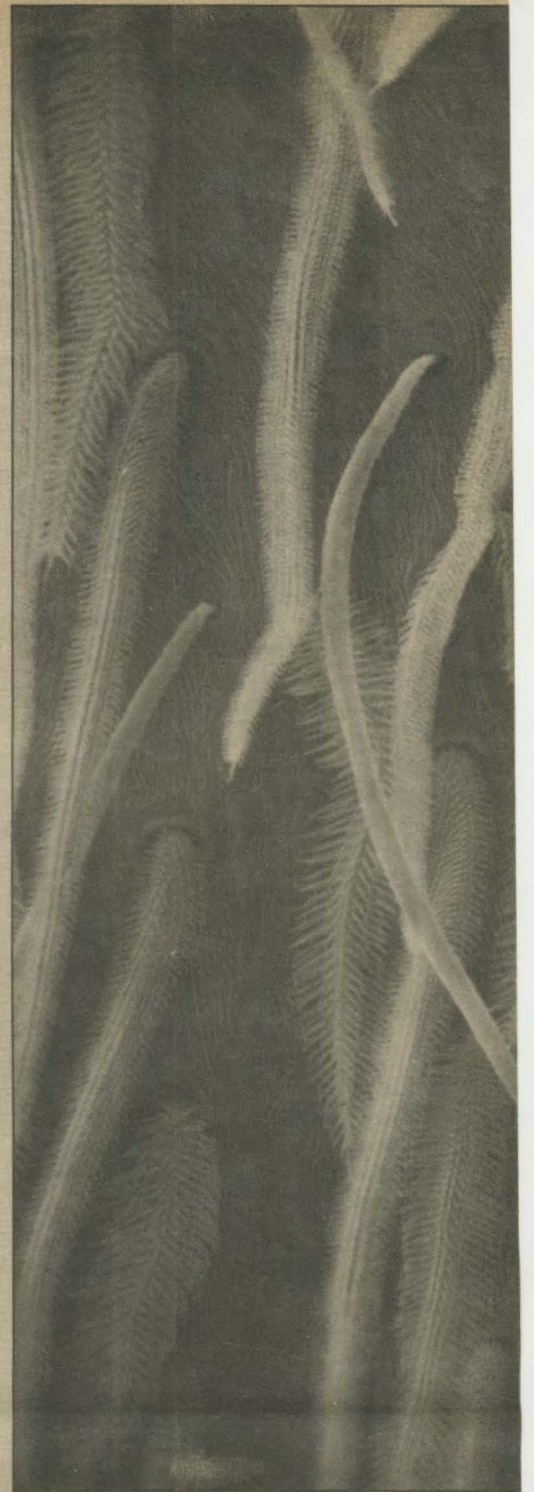
It makes me feel good to know that Charlemagne had such a mother. Somehow this knowledge makes reading the Mother Goose rhymes vastly more interesting.

The quest for useless knowledge is unlike Galahad's obsessive quest for the Holy Grail. There is no definite object in mind. There is no promise of heavenly rewards. There is only the subtle joy of discovery, which, as Russell said of Hobbes, is a voluptuous moment, unsullied by thoughts of mere utility.

It might be true that knowing about Goose-footed Bertha will do me no lasting good. But it cost me nothing and it gave me pleasure to find her. And this, it seems to me, is preferable to an endless questing after some elusive Grail. □

Nature will bear the closest inspection. She invites us to lay our eye level with her smallest leaf and take an insect view of its plain.
—Thoreau's Journal



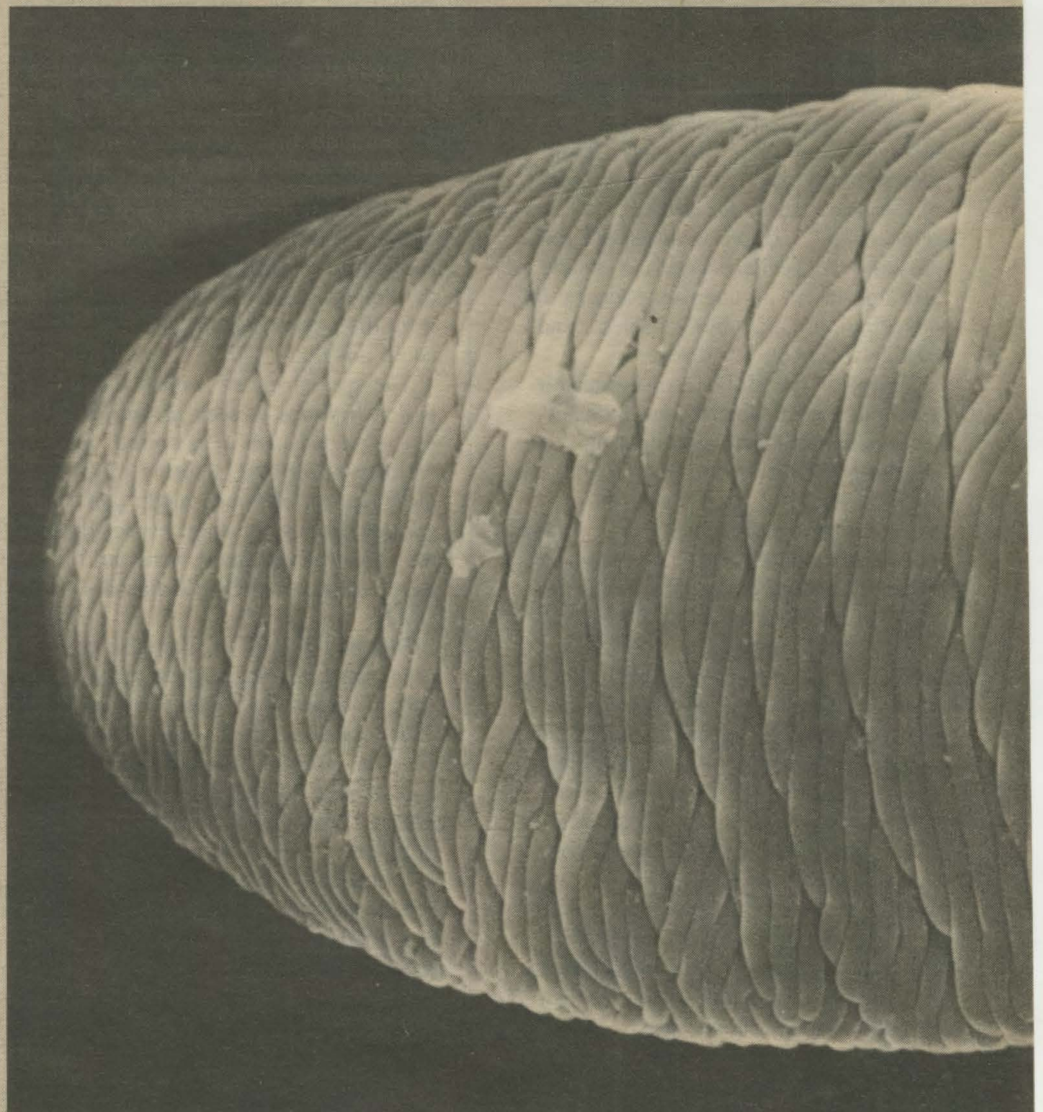


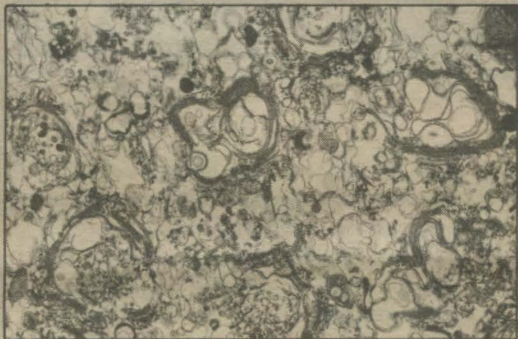
Thoreau would have enjoyed the view through an electron microscope.

Nature inspected at so fine a scale can have an order and symmetry that is very satisfying. In a human world that often seems chaotic and irrational, the internal rhythms and instinctive patterns of nature are a refuge, a stable measurement of the world. It is an order we all have in common.

The current exhibit of electron micrographs at the Bell Museum of Natural History on the Twin Cities campus has some of the feel of an art exhibit, but all of the images were taken in the course of University research projects. Although the motivation for the pictures was scientific understanding, the researchers admit the images have another appeal, one such as Thoreau felt with his eye inches from a leaf in the forest surrounding Walden Pond.

A word of warning. These selections from the Bell exhibit have a few surprises. Some may give a new twist to the adage that beauty is only skin deep. There is beauty on the molecular level—perhaps, in some cases, only on that level. □





Clockwise from the top center:

These downy feathers are actually hairs on the head of *Dolomedes*, the fishing spider. Despite having eight eyes, most spiders see very poorly. They gather information about their environment with the aid of hairs specialized for feeling, sensing chemicals, and picking up vibrations of prey struggling in the web. You might say you're looking at a spider's fingers, nose, and ears.

Magnified 86,000 times, this is the dust that rubs on your fingers when you catch a Monarch butterfly. Butterfly wings have scales that may insulate the insect against the sun or help it to fly—nobody knows for sure. The scales are composed of pairs of ribs connected to other pairs by rows of crossbars. At this high magnification, the fine threads of the ribs appear to be individual protein molecules.

After it was invented 40 years ago, the electron microscope began to clear up some mysteries of the inner mechanisms of cells. By focusing a beam of electrons with a magnet, rather than a beam of light with a lens, scientists verified the existence of the Golgi apparatus. This complex and delicate cell organelle packages proteins for secretion. Its stacks of membranes and vesicles give this photograph the quality of modern art.

Not to mince words, this is the thread cell from the slime gland of a hagfish. The hagfish, a well-named serpentlike creature related to the lamprey, defends itself by exuding a layer of mucus, held to the fish in a slimy mass by the unraveled thread cells. Stephen Downing of the School of Medicine on the Duluth campus has been using hagfish as an unlimited source of pure mucus. Better knowledge of how mucus works might explain, for example, why children with cystic fibrosis have much thicker mucus than normal children.

This is what wood looks like, close up. These tubes conduct water up a tree. The small pits allow water to move from cell to cell.

Credits
Gilbert Ahlstrand, plant pathology
Sharon Robinson, anatomy
William Cunningham, genetics and cell biology
Stephen Downing, UMD medical school
Robert Blanchette, plant pathology

Will 'Our' Birds Keep Returning Every Spring?

By Paul Dienhart

Taking a summer stroll through a Minnesota forest, vaguely aware of the darting movement of birds in the green boughs and the sound of their singing, it's easy to think of them as *our* birds. That kind of insular assumption could prove deadly.

This is a story about how "our" birds spend their winter vacation, and some unpleasant experiences they are having with accommodations down Mexico way. It involves hungry people, frontier cattle barons, boundary lines on a map, and forests so damp with teeming life that it's quite an operation to set them afire.

Migrant birds are cosmopolitan creatures, respecting only the borders programmed in their brains. They spend perhaps two and a half months in North America, mating, nesting, feeding on the summer abundance of insects, and raising their young away from the predators of the tropics. Then they head south, where they spend the majority of the year. Minnesota's barnswallow winters as far south as Argentina. Most Minnesota birds, even many of the bluejays, leave before the cold and snow begin.

Across North America, more than a third of the 650 species of birds we think of as ours spend a good seven months of the year in the tropics. As recently as 20 years ago, vast areas of the tropics were covered in forest. No more. Most migrant birds—warblers, thrushes, flycatchers, orioles—are woodland dwellers, and their tropical habitat is disappearing.

A recent study in the Great Smoky Mountains found the warbler population was down sharply. Not coincidentally, the birds' winter habitat in Peru had been destroyed. A survey conducted by the U.S. Fish and Wildlife Service found the population of a number of bird species decreased between 1966 and 1979.

We're just beginning to learn about the life of migrant birds in the tropics. Since they have so long been regarded as our birds, North America seems to be the place most ornithologists studied them. It was assumed that migrant birds, who were adaptable enough to leave a spruce-fir forest for a rain forest, had a knack for living in changing conditions. At any rate, migrant birds couldn't be very important members of the rain forest community.

Work by Dwain Warner and his students has sharply challenged those easy assumptions. Warner, an ornithologist at the Bell Museum of Natural History on the Twin Cities campus, has been studying birds in Mexico for the past 40 years. It strikes him as strange and horrifying that nature could change so much in so short a time.

Journey to a cloud forest

In 1941 Warner was a graduate student at Cornell, watching birds "while the world seemed to be collapsing," waiting for his draft notice.

ALLEN DOWNS

Vanishing rain forest in the tropics could leave woodland birds without a winter home, say University researchers.

That winter he hitchhiked south, crossed the Rio Grande, and joined his adviser at a Mexican cloud forest—a place long since destroyed.

"You'd look up the mountain and all you'd see was fog," Warner said. "I didn't even know there was a forest up there the first time I looked."

Traveling up the steep face of the mountain by mule, Warner entered a region of mist and fog that amazed the boy from Northfield, Minnesota. "There were tall trees, festooned with magnificent growths of orchids, lichens, and mosses, such a profusion of plants on top of plants that you couldn't find the leaves that belonged to the trees," he said. "There were ferns the size of trees, and clouds poured through all the time. It seemed to me pure and beautiful."

The dripping humidity of a cloud forest is like a natural hothouse. The lushness and diversity of a tropical forest is such that it can hold 1,200 species of orchids. Epiphytes grow on nearly every available surface, drawing water and nutrients from the air. Wildlife is in similar abundance.

In the cloud forest and the valley of rain forest below, where vine-draped trees all but shut out the sun with their thick canopy, Warner saw birds from Minnesota woodlands living in close quarters. The constant climate of the virgin tropical forest seemed to concentrate everything. Warner was soon hooked on learning about the life of birds in these forests.

Investigation in the tropics may sound exotic, but it's a lot of hard work. Rain forests are aptly named. "Come late May, it's like God pulled the chain," Warner said. "One week we had 27 inches of rain. The volcanic soil of the forest floor gets very slippery when it's wet."

In those early days, Warner would slide around collecting birds to record which species dwelt in the forest. He is now curator of the Bell Museum's collection of 36,000 preserved birds. But he must feel a special closeness to those Mexican birds. "We lived in a leaky tent and kept a pot on a fire next to the dissecting table," he said. "Every time we finished with a bird—hummingbird, parrot, whatever—we'd toss it in the pot. Soup of the day. We'd keep a pot going for a week, clean out the bones and things on the bottom, and start over."

The forests were so thick in those early days—just 30 or 40 years ago, really—that they seemed to repel roads.

> **"Flying over the country you see fires smoldering wherever you go. It's very depressing."**

The few roads that existed were never marked. Warner recalled having to wait at forks for a bus to come along ("There are always buses in Mexico.") so he could read the bus sign and make the correct turn. Now there are many roads and signs, and the roads seem to have strangled the vegetation as they wound into the forests.

"Flying over the country you see fires smoldering wherever you go. It's very depressing," Warner said. "There are forests I walked through 40 years ago that had hardly ever seen an ax. Now they're all gone, turned into agricultural land. The forests on mountainsides tend to be cleared from the bottom up. First in the valleys, then up the slope to the band of cloud forest. Most of the mountains are totally denuded." Over half the natural vegetation of the region has been converted to crop and pasture land, and the remainder is rapidly disappearing.

Rain forests or hamburgers?

The disappearing forest is largely the result of two recent forces: population pressure and beef cattle.

Traditionally, Mexican peasants have practiced slash-and-burn agriculture. A small section of rain forest is cleared, crops are grown for a few years until the soil is exhausted of nutrients, then the family moves on to a new patch of forest. The abandoned clearing grows back into forest.

The peasant population is growing. Decreases in infant mortality have outstripped the increased use of birth control. More and larger forest plots are being opened, and are farmed for longer periods of time. This land is losing its ability to regenerate vegetation. Sometimes entire forests are burned in a desperate attempt to raise enough corn and chili beans.

But the major force Warner is seeing on Mexico's eastern coast is not slash-and-burn farming. It is the destruction of forests for pasture land to graze beef cattle. The futility of this effort makes the loss of resources especially sad.

A rain forest may appear to be the richest, lushest piece of earth imaginable, but nearly all the nutrients are stored in the greenery. The floor of a rain forest is bare volcanic soil. There is no litter on the forest floor because every fallen leaf is immediately devoured by fungi and decomposers, and is returned to the 300-foot-high trees. Burning off a rain forest's vegetation is tantamount to stripping the land of its nutrients. So turning a rain forest to pasture results in some very poor grassland indeed. One cow needs nearly two and a half acres of this land to graze, and as much as seven times that area after ten years, when the soil is even more depleted.

"Turning a rain forest to pasture could make the land subject to hardpan, essentially making it worthless forever," said Hans Gregersen, a professor of forest economics at the University.

Nevertheless, there is enormous pressure to clear virgin forests. Urban Mexicans with rising incomes want an improved diet, explained Frank Miller, a University anthropologist who studies Mexican agriculture. There is a domestic market for the cattle, and as long as there is profit the wealthy stock owners see no incentive to preserve rain forests.

Many of these pasture operations are on the Mexican frontier, where "ranchers tend to be a law unto themselves," Miller said. "A traditional figure of Mexico is the *cacique* [ka-SEE-kay], an Aztec word standing for 'big man.' " These ranchers combine political clout with Mexican machismo and rule their vast landholdings like private fiefdoms, Miller said. It is considered a mark of prestige to have pasture holdings as far as the eye can see.

The role of peasants in a pasture operation is minimal. They may be given a small wage to cut and burn the forest. The grassland compacts the soil and makes it impossible for the peasants to farm. They don't have the money to buy cattle or fencing. "You still come across villages just eking out an existence," Warner said.

A finely balanced forest community

In the 1960s, Warner conducted his research around Mount Orizaba in the Sierra Madre range running down Mexico's east coast. The moist sea air rolling from the Gulf of Mexico to Orizaba created a series of habitats among the most diverse in the world. Each change of altitude held a different climate and new plants and animals. Those rich forests are disappearing so rapidly that Warner had to move his investigation south to the remote Tuxtlas mountains.

The Tuxtlas are a rugged terrain formed by ancient volcanoes. They sit on the gulf coast almost directly south of Minnesota. At least a third of the birds that spend the winter in the Tuxtlas are North American migrants. It is here that Warner and his students have discovered that the birds' style of living makes them particularly vulnerable to the vanishing forests.

Warner and his students at that time, John Rappole and Mario Ramos, captured 12,000 birds for study. What they found still amazes Warner. "The banded birds returned to *exactly* the same spot in the forest year after year," Warner said. "It was a stable community, where most of the birds lived as individuals in definite territories, defending their turf even against members of their own species. If a bird's territory is destroyed, it can't just move next door because there's probably a territory owner there ready to drive away intruders."

This picture is in stark contrast to the old view that migrant birds were wanderers who could readily adapt to different habitats. According to that theory, deforestation might even favor migrants because they were more opportunistic than birds who were year-round residents. Now it seems clear that migrants are not gypsies, but reputable property owners who fly thousands of miles to reach a territory about 20 meters square.

When birds come south to find their winter home has been burned, they become what Warner calls floaters. Rather than seizing opportunity, a displaced bird's only hope is to find a territory where it isn't chased away. "If a floater doesn't find a new home in a certain number of days or weeks, its chances for survival are less and less," Warner said. Rappole studied one forest clearing where the bird population—migrants and residents together—decreased by 43 percent. Three migrant species disappeared from the area entirely.

Research now in progress is trying to determine more exactly the fate of floaters. Wood thrushes—another of the birds we think of as Minnesota residents—are being fitted with tiny radio transmitters. The scientists hope to follow the birds' search for territory through the tropical forest. Radio tracking is a technique Warner helped pioneer at the University's Cedar Creek biology station. "Field biology has come a long way from clipboards and binoculars," he said.

ALLEN DOWNS

This cloud forest on the sides of Mount Orizaba was destroyed in the early 1960s. Tree ferns have given way to poor pasture for the grazing of beef cattle.

A biological clock in a dinky brain

For many years now, come the second week in April, Warner has taken his classes on a pilgrimage to South Dakota's Sand Lake wildlife refuge. There they watch one of the great aggregations of waterfowl in North America—geese, ducks, gulls, swans, cranes, herons, cormorants, and pelicans come through on their northward migration. No matter how mild or severe the winter, Warner and his students have never been stood up. At this time of year, the migration urge is so strong that caged birds will face in the direction of their migration.

But Warner never realized how strong and circumscribed that will to migrate really is until some recent work in tropical forests. Unfortunately, the findings spell more bad news for migrant birds.

Using mist nets, finely woven, deep-pocketed nets that are set up like multitiered volleyball nets, Warner captured birds passing through the Mexican state of Veracruz on their migration. All the Canada warblers, summer residents of Minnesota forests, hit his net site within 48 hours. Passage peaked during a matter of hours. Other species showed the same incredible precision. This pattern held true year after year. It was as if the birds corrected their flight for winds and storms to arrive at a certain place at a certain time.

"Such precision," said Warner, shaking his head. "Wow. That little dinky brain of birds is something we ought to understand a lot more about. If nature is that precise, we'd better understand why. It certainly limits the possibilities for preserving and managing birds."

The biological clock that so exactly sends birds on their way depends upon healthy birds to follow its commands. Birds shut down their digestive systems during migration and burn fat. Poor habitats could interfere with building their fat reserves. If they're burning energy searching for food, they may not be able to keep to the schedule mandated by the biological clock. "What happens if their biological clock runs out and they've only returned as far as the center of Iowa?" Warner asked.

This spring Warner plans a massive netting effort on the birds' flight path near the St. Croix River. He wants to determine the health of migrants by the time they reach their nesting sites. "They have to have a fat load when they get home because they arrive here before there's a good food source," he said. Birds captured in the mist nets will be gently slipped into nylon socks and weighed. Years ago Warner determined the non-fat weight of birds according to wingspan. A simple subtraction will show how much fat the captured birds are carrying.

During peak times, as many as 80 birds may lodge in the mist nets in a half hour period. "Oh, we know how to catch birds," Warner said. He has

If a bird's territory is destroyed, it can't just move next door because there's probably a territory owner there ready to drive away intruders.

recruited seven undergraduates who will receive University credits for helping in the study. They'll work round the clock and bunk at Warner's home in Afton, conveniently located on the flight path.

When the woods grow quiet

Warner clearly relishes this kind of field work. As a farm boy he explored the homes of badger, muskrat, and owl. Even when he "dragged all sorts of dead things home" his parents encouraged his curiosity, he said. "I grew up during the Depression, but I guess I never felt we lacked anything. I always had something to do. Maybe sometimes I've neglected things I should have gotten done." He sweeps his hand toward the foot-high stacks of paper in his office, all under the baleful observation of a stuffed raven named Edgar Allan who sits on a top shelf. "I've never been bored."

The world finally did collapse sufficiently for Warner to be drafted in 1943. The buck private was dispatched to the South Pacific to control malaria in New Caledonia, where there was no malaria. He found his thesis topic by collecting birds from the jungle—most of which are now at the Bell Museum. "Nothing was known about the birds in that part of the world," he said. "We still don't know much about the world. We don't even understand Mexico, our neighbor."

Mexico is crucial for saving the migrant birds. Even if forests farther south are preserved, birds depend on Mexico for replenishing their fat reserves. No North American bird is presently in danger of extinction because of Mexican deforestation, but some are clearly at risk, Warner said.

A problem is that the case for preserving virgin tropical forests tends to sound relatively abstract. There's the birds, the argument that the greenery provides oxygen to balance the world buildup of carbon dioxide, and the idea that the great genetic diversity of the rain forest could hold valuable traits for

breeding commercial plants and animals. It all seems to pale beside the fact that the poorest 40 percent of Mexico's population is hungrier now than 10 years ago.

"Brazil is very straightforward about it," said forester Gregersen. " 'You want us to save our rain forests?' they say. 'O.K., you can pay for it. What's it worth to you?' It will take megabucks to secure the lands. Even if you come up with the money, the people still need food."

"Birds treat this as one world."

The best solution, Gregersen believes, might be to help these countries develop agriculture away from forested lands. The great majority of rain forest destruction is now for inefficient pasture operations, he said. "The real issue is whether we're going to help provide an alternative to these ridiculous agricultural schemes."

Costa Rica is a model for preserving virgin forests. In the past 12 years it has protected more than a million acres of forest. For its size, Costa Rica can claim the most diverse collection of animals and plants in the world, an attraction that drew 650,000 visitors to the country in 1980. Warner hopes that tourism might be the economic incentive that will slow deforestation.

TOM FOLEY

Dwain Warner has studied birds in Mexico for 40 years.

"Very soon, every country in the western hemisphere must take the responsiblity to preserve habitats, or there won't be any habitats left to preserve," Warner said. It's not only a problem of tropical forests; North American woodlots are disappearing too.

We all share the same international resources. That is made clear by the birds, who do not recognize national borders. "Birds treat this as one world," Warner said. He's afraid that unless people adopt a similar attitude, the woods will grow very quiet. How do you measure the loss of the delicate, flutelike song of Swainson's thrush? □

Note on the Photographs

In the early 1960s, Allen Downs took photographs of Mount Orizaba, the site of Warner's work and one of the most naturally diverse areas in the world. The region has now largely been turned to pasture land, the forests destroyed.

Downs was the head of the Twin Cities campus studio arts department and an award-winning filmmaker. He first met Warner when he wanted advice on a documentary on ruddy ducks. Warner's advice was to change the project to the life history of the blue-wing teal. Warner showed Downs the teals' wintering grounds in the marshes of Veracruz. The resulting film, *The Flight of the Teal*, received much acclaim. "Downs was mad at me the rest of his life," Warner said with a grin. "He wanted ruddy ducks."

Allen Downs died late last year at his retirement home in Mexico.

Bell Museum Members Invited to Touch and See Natural History

It is a kind of organized chaos, and the kids love it. A group of them scuttle past, following the animal tracks printed on the carpeting. "What in the world is this from?" asks a three-year-old boy, presenting a large leg bone to his mother. Another child, draped in the pelt of a wolf, is crawling on all fours toward an unsuspecting playmate.

"We have only two rules here: don't run and don't scream," said Dan Seemon, a student who works at the Bell Museum's Touch and See Room. "The beaver needs to be replaced again. It's getting worn out from the petting."

This neighborhood group of preschoolers and their mothers are among the 27,000 people who visit the Bell Museum of Natural History each year. The building on the edge of the Minneapolis campus is often easily recognizable by the line of orange school buses parked in front.

Kids may know the museum best for its Touch and See Room, but that's only part of it. "We hope to give all ages some ways to identify with the Bell Museum," said museum director Donald Gilbertson. This is not just idealism. The museum will need public support to survive intact.

University funding for the public roles of the museum—the exhibits and the education programs—is being phased out. The museum has started a membership drive to replace the funding. "We've always been active in research," said Gilbertson, whose specialty is invertebrates. "Now we're going to make more of an effort to reach the public. Membership means accountability. To attract members it's necessary to provide vigorous programming. We need to show that if you visited the museum a year ago there are lots of reasons to come back again."

TOM FOLEY

One of the most popular spots in the Touch and See Room is the human skeleton. "This is what you look like on the inside," Natalie Dobbins told her son Ben. The two were part of a neighborhood group from south Minneapolis touring the Bell Museum of Natural History. "I'd never heard of this place before," Dobbins admitted. The museum hopes to change that with new programs and activities and a membership drive.

Visitors to the Bell Museum already know about the electron micrographs and the migrant bird research described in this issue of *Update:* both were presented as exhibits there.

The Bell is the only museum around that regularly features exhibits on University research. It's one of the many new directions the museum is taking to provide distinctive services. Take your pick:

- In November, Dwain Warner will leave his migrant birds long enough to lead a 19-day public safari to Kenya, home of 400 bird species, not to mention lions, zebras, wildebeests, and baobab trees.
- Weekday afternoons, student workers at the museum answer questions for the Wildlife Information Service, everything from how to get bats out of an attic to getting sparrows out of martin houses.
- Half-day weekend field trips offer an opportunity to watch the May migration of birds, to explore a tall grass prairie, and to learn about bird behavior.
- The museum's naturalist staff will help families explore caves, find wildflowers and nesting birds, and identify fossils on a Memorial Day camping trip to Whitewater State Park.
- The museum has some of the best natural history dioramas anywhere. Many of the backgrounds were painted by Francis Lee Jaques, one of America's foremost wildlife artists. The scenes have such realistic detail that botany professors lead their classes in winter field trips through the museum. The exhibits are always free.
- Informal courses are offered through University extension. You can learn about nature photography, identifying birds, Minnesota geology, or the life of Minnesota plants.
- Teachers can take a day-long program to learn about using plants in the classroom using techniques like tissue culture.

All the above are open to everybody, but members get discounts on some of the fees.

Members also get special benefits. The museum has started a quarterly newsletter for members that features stories on research and exhibits and a listing of museum events. Members get a 10 percent discount at the museum's Blue Heron Bookshop and a free checklist of Twin Cities area birds. Besides getting free or discounted admission to museum events, members are invited to tour the collections with curators. Some of the preserved animal specimens date to the turn of the century, and the collections have become valuable tools for comparative biologists.

Membership is $20 for individuals, $25 for families, and $15 for students and senior citizens. Entrance to the exhibits will continue to be free to all.

To become a Bell Museum annual member, make your tax-deductible check payable to the Bell Museum of Natural History. Send it to Friends of the Museum, Bell Museum of Natural History, 10 Church Street S.E., University of Minnesota, Minneapolis, Minnesota 55455. □

Epilepsy, from page 6

patients were literally felt to be hopeless without surgery, but the operation gives them the chance of reaching their full potential."

But he points out that identifying patients who might benefit from surgery at an earlier age is difficult because some children with seizures improve with age. "It is a question of great controversy," he said.

Learning to live

Controlling the worst cases of epilepsy, then, has many stages. There is no magic pill. There is no instant cure by a dexterous cut of a scalpel. Station 49 doesn't even end its role when the physical problems of the disorder are under control. Sometimes the greatest gift the center offers the patients is help in adjusting to a more normal life.

Patients who grow up having uncontrolled seizures suffer far more than physically. They often fall behind their peers, both in school and in their social lives. "They tend to become very dependent, introverted, and shy," Whalen said. "Part of our job is to encourage independence and help them learn how to be assertive and to interact in normal social situations."

The social adjustment begins when a patient is admitted to Station 49. The unit bears little resemblance to a hospital ward. There is carpeting, a large living-recreational room, a kitchen, and a common dining area. Patients often prepare their own meals and plan their own evening activities—important steps for these people.

"We may have reduced the number of seizures, but they still need coping skills to get along in school or on their job," Gumnit said.

Looking to the future, Gumnit still believes that complete control of all seizures is possible, but he doubts there will be any cure-all.

"Like anything else in medicine, it's hard for people to understand that it might not be something that's new out of the bottle, but perhaps a better way of organizing the care. So what I'm preaching is referral to medical centers with modern techniques and special expertise. It may not be as dramatic as a new drug or new vaccine, but I think it is going to make a big difference." □

Did U Know?

- The first open heart surgery, in 1954...
- The first use of the heart-lung machine for open heart surgery...
- The first successful implantation of an artificial pancreas in a diabetic patient...
- The first successful bone marrow transplant...
- The development of the first total body X-ray scanner...

...all happened at University of Minnesota Hospitals. Today, Minnesota is recognized as the leading organ transplant center of the world. □

The Living Legacy of One Good Chemist

When Izaak Maurits Kolthoff celebrated his 90th birthday in February, chemists from around the world thanked him for his presents.

Kolthoff's contributions to individuals and to science seem to push at the outer limits of what a single person can accomplish. Part of that has to do with the nature of being a professor. But most of it is due to the professor's being Kolthoff.

Kolthoff has published more than 1,000 papers on analytical chemistry, helping to form the basis for a field that was barely in existence when he wrote his first paper in 1914. And he is still publishing. Since his "retirement" in 1962 he has published 133 articles. He is currently investigating chemicals called crown ethers with University postdoctoral fellow Miran Chantooni.

Kolthoff had 1,073 Ph.D. descendants as of 1982.

A life of doing good research is an obvious and direct contribution. During World War II he designed a new low-temperature process for producing synthetic rubber. His work in analyzing metal ions is now used in coping with water pollution.

It gets more complicated to assess the influence of being co-author of a chemistry textbook that has been a bible of the field since 1936. Now in its fourth edition, *Quantitative Inorganic Analysis* has been translated into Spanish, Japanese, Italian, Yugoslavian, and Russian. The book revolutionized the teaching of analytical chemistry around the world.

Then there's the *Treatise on Analytical Chemistry*, a standard reference Kolthoff has co-edited. Its 40 volumes take up several feet of bookshelf.

Seeing a student through a Ph.D. program creates a special bond between adviser and student. Kolthoff's method was to work side by side with his students, challenging them to become co-investigators.

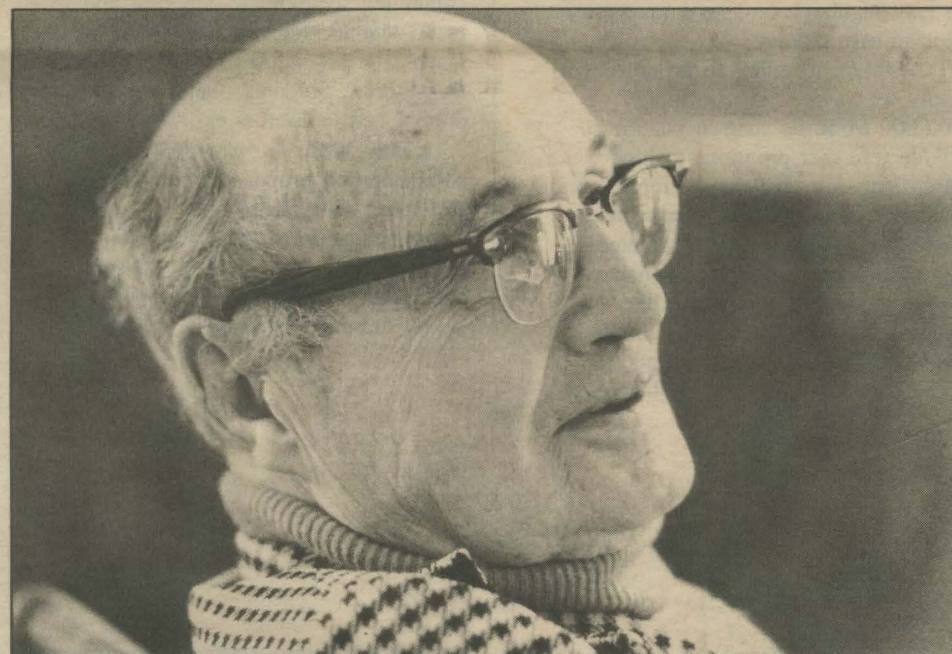
If one assumes that postdoctoral researchers are bound to carry the influence of their advisers, and, in turn, pass that way of doing things on to their own Ph.D. students...well, Kolthoff had 1,073 Ph.D. descendants as of 1982. Some of those are fifth-generation Kolthoff students; he is their intellectual great-great-great-grandfather.

That Kolthoff has such a mass of intellectual progeny is a tribute to their own prolific ability to guide students through research. But that was Kolthoff's ability, too. His 51 first-generation Ph.D.'s went forth to places like MIT, Ohio State, Harvard, the Universities of Pittsburgh, Florida, and Pennsylvania and followed their mentor's lead.

Not all of Kolthoff's students chose an academic life. He is well-represented in the laboratories at Dow, Bell, and Eastman Kodak. As of last year all seven of the analytical chemists at Dow had either been taught by Kolthoff or by one of his Ph.D.'s. The group is responsible for 103 papers and 33 patents.

Herbert Laitinen, a professor of chemistry at the University of Florida, recalled his student years with Kolthoff in these terms: "For the first time I felt a faculty member was on the same side as I was. The thing he wanted most was for us to challenge him. He taught us respect for truth, not authority. Not who is right but what is right prevails."

Truth over authority was the basis of Kolthoff's social activism. In the '30s he helped German scientists persecuted by Hitler to find positions at the University of Minnesota. In the '50s he helped lead protests against McCarthyism, earning the wrath of the senator himself. And in the '60s he helped launch a worldwide drive against the testing of nuclear weapons.


TOM FOLEY

Izaak Maurits Kolthoff at 90

A native of Holland, Kolthoff came to the Twin Cities campus on a lecture tour in 1927, was invited to stay, and never left. He not only continues to do good research, he even lives on campus in a small suite of rooms in Comstock Hall, a women's dormitory behind Coffman Union. "I must say he just charmed all the women in the hall," said Corinne Youngdale, hall director when Kolthoff moved in. "He's got a good sense of how to talk to students."

Just across Washington Avenue from Comstock is Kolthoff Hall. The chemistry building contains a case of awards the world has bestowed on its namesake (there's even a chemistry award named after him now, the Kolthoff Gold Medal).

Kolthoff doesn't like to dwell on the subject of awards; they don't fit the style of someone who has always called for the questioning of authority. But he is fond of a phrase used when he was presented last year's American Chemical Society Award for Excellence in Teaching. Symposium speakers praised him in particular for his ability to make them feel, as students, that they were his "partners in a search for truth."

"Partners in a search for truth—I think that's the highest honor I ever received," Kolthoff said. And there are so many who have reason to call Kolthoff their partner. □

Top Students: The U Wants You

The University is working on plans to more aggressively recruit Minnesota high schools' top students.

"I think, very frankly, that we've been complacent," President C. Peter Magrath told the Board of Regents in February. "I really think we have felt that we are good and therefore the good students will come here. What has happened, of course, is that the University has become an afterthought."

The administration hopes to increase enrollment among Minnesota high school seniors in the top 20 percent of their classes and out-of-state high school students in the top 10 percent, while maintaining the current number of minority students and international undergraduate students.

This fall 60 percent of the 3,074 freshmen who enrolled at the Twin Cities campus were in the top 20 percent of their high school classes; at the Morris campus half of the 391 freshmen had finished in the top 20 percent; and at Duluth 35 percent of the 1,647 freshmen had a similar class standing. The figures are from the Minnesota Higher Education Coordinating Board.

Of Minnesota's high-ability students who don't enroll at the University's Twin Cities campus, 27 percent go to private colleges in the state, 27 percent go to colleges in neighboring states, and 29 percent go to other four-year schools. The rest attend Minnesota state universities, one of the University's other campuses, or two-year schools in the state, or they do not attend any postsecondary school.

Mary Schertler, a regent from St. Paul, suggested that contacting top students during their junior year of high school is essential. "If every private school in the country is contacting students in our state in their junior year and we're waiting until their senior year, we're not going to have a chance," Schertler said. "I'm convinced that if we have one strategy, it should be that the kids be contacted sooner. It's worth the postage and it's worth having that brochure. Then, at least we're in the running."

Magrath and Minneapolis regent David Lebedoff said they think personal contact is the most important approach. Having well-informed alumni and staff

Continued next page

available to visit and advise high school students could have a great impact on recruitment.

"Very few people are critical when we go out and try to attract the very best graduate students from around the world to come to the University of Minnesota," Magrath said. "Why shouldn't we try to attract the very best undergraduates?" □

U Foreign Language Standard Increased

At a time when corporations and Presidential commissions are pleading for better training in foreign languages, the state's schools seem to be headed in the opposite direction. In March the College of Liberal Arts (CLA) on the Twin Cities campus gave the wheel a hard pull to turn that situation around.

The college has called for an entrance requirement and an increased graduation requirement in foreign languages. The aim is to send a message to high schools and their students about the importance of studying foreign languages. The message also may have the effect of encouraging the study of less popular languages like Russian, Japanese, Chinese, and Arabic—languages that could enhance most résumés.

Starting in 1986, freshmen without a year of high school foreign language study will have to take a remedial University course without earning credits. In 1987, it's two years or take two no-credit courses. In 1988, the standard settles at three years of high school instruction or three no-credit college courses.

"No student will be denied admission to the college because of these standards," said Fred Lukermann, dean of CLA. The penalty is that students taking remedial courses might take longer to graduate. After three quarters of no-credit courses, they'll still need three more quarters of language courses to graduate.

The proposed change in the graduation requirement kicks up the quarters of language instruction from five to six. (A year of instruction in high school counts as one college quarter.) The new requirement also drops the option students had of getting half their langauge credits by taking foreign culture courses taught in English—"the scenic route," Lukermann calls it.

In past years, most students have taken the scenic route. Meanwhile, their high school language training has declined. In 1980 only 17 percent of CLA freshmen had studied languages for three years in high school, compared to 67 percent in 1967. Only half the public school districts in Minnesota now offer any courses in foreign language.

"Over and over again we've been told that the public schools need a clear signal from the colleges and universities that we are committed to improving foreign language instruction," Lukermann said. "We see this action as that signal."

When languages are offered at high schools, they tend to be Spanish, German, or French. These three popular languages are the only ones covered under the new entrance requirement. The college does not expect freshmen to take Japanese for no credit, because students have no chance to study that language in high school. Freshmen with no high school language training can avoid taking language courses without credit by choosing to study one of the 28 languages the University offers besides the big three. Students studying the less popular languages immediately begin to earn credits.

The University plans to do more than simply set rules. It is requesting $500,000 from the state legislature to provide refresher programs to high school language teachers, to replace an antiquated language lab, to provide special language classes for talented high school youth, to start intensive summer courses in languages like Japanese and Arabic, and to provide scholarships to language students.

The University has already budgeted $17,000 to bring high school language teachers to campus this summer for training in language proficiency testing. Eventually, CLA plans to move to a language entrance standard based on proficiency rather than on number of years of instruction.

The new requirements were recommended by a CLA task force that consulted with state high school principals and teachers. The state Board of Education has already proposed that all school districts offer at least two years of language instruction, only one year less than the CLA 1988 standard.

CLA, the University's largest college with 17,000 students, is the first college in the state to set such standards.

The CLA proposal must still be approved by the regents and by the Minnesota Higher Education Coordinating Board. Approval is expected in late spring, Lukermann said. □

Daily Wins Return of Mandatory Fee

The three-year legal battle between the University and the *Minnesota Daily* has ended. Starting spring quarter, the Twin Cities campus will re-impose a mandatory student fee to support the student newspaper. The University will also pay the *Daily*'s legal fees of $182,094 and contribute to a fund to promote study of the First Amendment.

The controversy dates to June 1979, when the *Daily* published a humor issue containing scatological language and racial, ethnic, and religious slurs. The *Daily* later apologized for the issue in an editorial. Students, members of the public, and legislators expressed outrage.

In May 1980, the University administration proposed a refundable *Daily* fee, disregarding the recommendation of the campus fee committee that the mandatory fee be continued. The regents voted 8 to 3 to accept the administration proposal, and at the same time increased the *Daily* fee from $1.80 to $2 a quarter. The *Daily* filed suit, claiming this action was punishment for the humor edition and thus violated the Constitutional guarantee of free speech.

In December 1982 U.S. District Court in Minneapolis upheld the administration's action. Judge Robert Renner found that the *Daily* was not being punished since the increased fee more than made up for any revenue lost to student refunds. He noted that even before the humor edition, groups of students who disagreed with *Daily* editorial content had asked that they not be required to pay a fee to support the paper.

The *Daily* took the case to the U.S. Circuit Court of Appeals, and in October 1983 a three-judge panel ruled that the fee change was clearly a response to the humor issue and violated the *Daily*'s First Amendment rights to free expression. The panel found that the *Daily* was singled out for punishment since student newspaper fees at the Duluth, Morris, and Waseca campuses continued to be mandatory.

The University asked for a hearing on the decision by the full appeals court, but in January of this year the full court chose not to review the decision. The University's only remaining court of appeal was the U.S. Supreme Court.

The regents chose not to take the case to the Supreme Court, and in February the University and the *Daily* reached a settlement. Maintaining that "no wrong was committed," President C. Peter Magrath said that "there comes a time when such matters should be put to rest."

The legacy of the controversy may be contributions to First Amendment scholarship. Part of the settlement included setting up a fund for bringing scholars and journalists to the University to discuss First Amendment issues and press responsibility. The $20,000 fund is composed of a $5,000 contribution from the University, $5,000 from the *Daily*'s law firm, and $10,000 from the *Daily*. □

UPCOMING

Kissinger To Speak

In May, former Secretary of State Henry Kissinger will speak on the Twin Cities campus as part of the Humphrey Institute's Carlson Lecture Series. Funded by a $1 million gift from Curtis Carlson, founder of the Minneapolis-based Carlson Companies, the series was started in 1982 to bring world leaders to campus for public discussion of current affairs.

The most recent Distinguished Carlson Lecturer was former President Jimmy Carter, who spoke in March. Carlson's gift provides for up to three presentations each year. Speakers have included Barry Goldwater, Andrew Young, Jehan Sadat, Jeane Kirkpatrick, and Coretta Scott King.

Kissinger's appearance will be open to the public free of charge. Further details will be announced at the end of April. □

Opera Week at Northrop

The Metropolitan Opera, with stars Placido Domingo, Marilyn Horne, Renata Scotto, and Sherrill Milnes, returns to Minneapolis this year for its 40th-anniversary visit to Northrop Auditorium. Met Week is May 21 to 26.

America's foremost opera company will be performing works by Wagner, Mozart, Verdi, Zandonai, Britten, and Handel. The great tenor Placido Domingo will make his first Twin Cities appearance since 1972, singing in Zandonai's tragic opera *Francesca da Rimini*. A highlight of the tour is sure to be Handel's *Rinaldo*, a baroque tour de force that has never before been performed in the Met's 100-year history. The opera offers a momentous challenge: the title role was written for a baroque-era castrato singer. Mezzo-soprano Marilyn Horne is one of the few virtuosos with a voice of sufficient strength and suppleness to tackle the role.

Tickets remaining for the performances go on sale April 18 at Orchestra Hall, Dayton's, and Northrop. □

Judith Blegen stars in Mozart's "The Abduction From the Seraglio."

LETTERS

Hail Morris

I enjoyed the last issue, especially the cover story with its "prairie campus" story on the University of Minnesota, Morris. As a 1969 UMM grad, I guess it's safe to reveal now: like Greg Nelson, I was afraid I couldn't find my way around the big Twin Cities campus. That's why I went to a small campus. At UMM you learn your way around long before your senior year.

Lee B. Temte
Minneapolis

Reference

We are using the article "A Conversation With Anatoly" as a source of reference in a social studies class.

Phyllis Axel
Nicolet High School
Glendale, Wisconsin

U·P·D·A·T·E

Spring 1984 Volume 11, Number 2

Editor
Paul Dienhart
Copy Editor
Lynn Marasco
Photographer
Tom Foley
Alumni Communications Director
Marcy Sherriff

Editorial Board
Chuck Benda
James Day
Paul Dienhart
Elizabeth Petrangelo
Marcy Sherriff

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The opinions expressed in *Update* do not necessarily reflect the official policies of the Board of Regents or the University administration.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age, or veteran status.

A Blessing

Received the winter issue yesterday and as usual could not put it down til thoroughly read.

Especially enjoyed reading Paul Dienhart's "conversation with Anatoly Liberman." I thought how fortunate to live in a nation which appeals to the oppressed and mentally superior Einsteins, Tellers, and Libermans. The descendants of Jacob become more and more a blessing to our country and to the free world.

Carl Woie, B.E.E. '50
Longville, Minnesota

State Aid

Your article in the winter issue of *Update* states that college tuitions have increased steadily since 1978 while financial aid has become more difficult to obtain. While federal student aid has leveled off, the state picture is much brighter as a result of actions by the 1983 Minnesota Legislature.

The legislature appropriated $89.6 million for the 1983-84 biennium for Minnesota's major student aid program, the State Scholarship and Grant Program; this represents a 55 percent increase over the $57.7 million in funding for the previous biennium.

The increased aid was part of a major new financing package for higher education in Minnesota in which increased tuition was very carefully countered with increased amounts of financial aid.

In addition, the legislature revised the program to more effectively target available financial aid money to students from lower income families.

Under the new policy, called Shared Responsibility, all applicants are expected to provide 50 percent of their cost of attendance from savings, earnings, loans, or additional assistance from institutional or private sources. The remaining 50 percent is then met by a contribution from parents, if they are able, and by a combination of a federal Pell Grant and a State Scholarship or Grant.

A preliminary analysis by the Higher Education Coordinating Board, which administers the program, indicates that the new policies are fulfilling their objectives. That is, a significant shift has occurred in the distribution of funds from students from middle and upper income families to students from lower income families and from students in private institutions to students in public institutions. But students in all income categories and postsecondary systems are receiving more aid than in 1982-83.

Already this year students attending the University of Minnesota have received approximately $8.5 million compared to $4.5 million in 1982-83.

Phil Lewenstein
Assistant Director for Communications
Minnesota Higher Education
Coordinating Board

RESEARCH BRIEFS

Invulnerable Children

A Richfield, Minnesota, girl who escaped from the trunk of her abductor's car by disassembling and crawling out the taillight helped to inspire Twin Cities campus research on "invulnerable children."

Norman Garmezy, a professor of psychology, included the newspaper account of that 11-year-old girl's January 1978 escape in his grant application to study stress-resistant children—those who remain healthy and competent in the face of stress.

JOHN WARD

Three projects—one studying regular public schoolchildren, one studying handicapped schoolchildren, and one studying children who had undergone major heart surgery—are now being analyzed after three years of collecting data.

The researchers are looking for factors that protect children against the damaging effects of stress and disadvantage. Garmezy and his colleagues think that they may have teased out some personal attributes that could be crucial.

The intelligence of the child is very important, but IQ doesn't completely explain how the child uses intellect, Garmezy said. Effectiveness in problem solving, reflectiveness, quality of divergent thinking, flexibility, and social understanding are among the other possible stress-resistant attributes the researchers have studied. Garmezy also mentioned a quality that is often cited as helping adults cope: humor. "The ability of kids to generate humor might be an important element," Garmezy said. A researcher working with Garmezy is looking at the quality of humor and wit in children under stress.

But the Minnesota researchers are still unsure which of these factors is the most important, or how family might contribute. "We do have some insights," Garmezy said. "But we are only beginning our study of protective factors, which is still an area of tremendous neglect."

Garmezy is chair of an international research network that will attempt to isolate the biological, psychological, and social factors that act as either risk or protective factors in the major mental disorders.

"Mental illness is the number one public health problem in America today," Garmezy said. "Millions of people suffer from depression every year, antisocial disorders have a huge impact on our cities in terms of crime, and schizophrenia has remained an unsolved mystery for centuries."

And the approach for centuries has been to study those who already display mental illness. "We've been so devoted to the study of maladaptation that we've failed to recognize the struggle of all humans, sick and well alike, to make it," he said. "Asking what a person's strengths are is a very different orientation for us, but it's an important one. I never cease to marvel at the resilience and magnificence of the human spirit." □

Drug Could Help Addicts Kick Habit

A drug that might help narcotic addicts kick their habits has been patented and licensed for development by the University.

"We synthesized this drug as a tool for studying brain chemistry—the medical uses are only a spin-off," said Philip Portoghese, professor of medicinal chemistry on the Twin Cities campus and inventor of the drug.

Portoghese synthesized the drug, beta-funaltrexamine, because of the similarity of its chemical structure to the brain's natural painkillers, the endorphins and enkephalins. The new drug attaches to the same receptor sites in the brain as the natural painkillers, enabling Portoghese to block those sites while testing the action of drugs on the brain. It was a good means of reducing the variables in scientific experiments.

But the drug not only blocks the natural painkillers, it blocks the effects of heroin, morphine, and codeine. And in animal tests it blocked the receptors for up to four days.

The long-term effect, the nonaddictive nature of the drug, and its ability to block only a specific receptor and not interfere in other brain functions all pointed to its applicability to treating narcotic addiction. Addicts who took the new drug would not get high from narcotics. It could give them the resolve to kick their habits.

Unlike methadone, the new drug is not addictive. It gives only a limited, slight high, which is not enhanced by taking larger doses. The slight reward addicts get from the narcotic blocker might be enough to keep them on a treatment program, Portoghese pointed out. Programs using another narcotic-blocking drug that gives absolutely no sensation have had high dropout rates.

The new drug still needs federal Food and Drug Administration approval. Testing on humans may take several years. A new biotechnology company, Nova Pharmaceutical Corporation of Morristown, New Jersey, has contracted with the University to produce the narcotic-blocking drug. □

Scanning Mummies

It's never too late for a CT scan.

Even after 3,000 years it's possible to detect disease with computed tomography. A CT scan looks something like a conventional X ray, but gives a view of the body in cross section. "It's like cutting slices of a loaf of raisin bread," explained Derek Notman. "Then you can hold up each slice and find the positions of the raisins." With a conventional X ray, all the raisins would appear to be on the same level.

Notman, a medical resident in radiology on the Twin Cities campus, is at the forefront of the nascent field of scanning mummies. The scans he has done of the four Egyptian mummies at Twin Cities museums make him the leading authority in the world.

CT-scanning has a tremendous advantage when it is used on mummies because it can make sense out of a corpse that might be fused with burial objects, body wrappings, even a wooden coffin. "Mummies have a lot of extras that appear in X rays as an unreadable mishmash. Everything overlays everything else," Notman said.

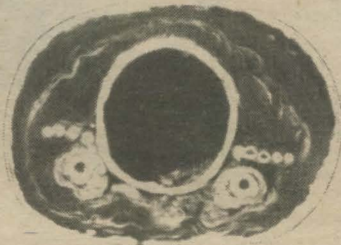
Consider Lady Tashat, the mysterious mummy from the Minneapolis Institute of Arts. A 1916 X ray revealed that a skull had been mummified between her thighs. Notman's scan turned up an infection of her right knee that he thinks might indicate tuberculosis. "This kind of information could be a great aid to studies of ancient disease," he said. "Lady Tashat may not be the only mummy with disease in her bones."

Even a little new information about mummies could be worth a great deal because most mummies have no history at all: they were dug up by grave robbers, stripped of valuables, and then sold to tourists. "Mummies were sold on the streets of Cairo, stacked against walls like loaves of French bread," Notman said.

Notman is so intrigued by the CT scans that he is continuing the work as the basis of a thesis in the University's ancient studies program. He hopes that publication of his findings on the Twin Cities mummies will stimulate international interest in the new way of unwrapping mummy mysteries. □

TOM FOLEY

Feet-first into the CT-scanning chamber, this 3,000-year-old Egyptian mummy will reveal its secrets centimeter by centimeter. CT scans are like cross-sectional X rays. Below is a CT scan of Lady Tashat, who is distinguished for having a skull embalmed between her thighs. The circle in the middle is the added skull; it rests on the leg bones, above which are the bones of Lady Tashat's fingers. Ghostly images of burial wrappings and the outer ring of the coffin complete the picture.



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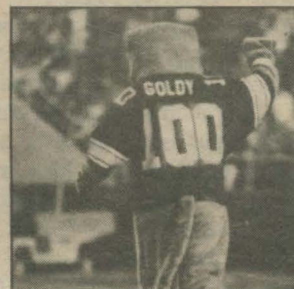

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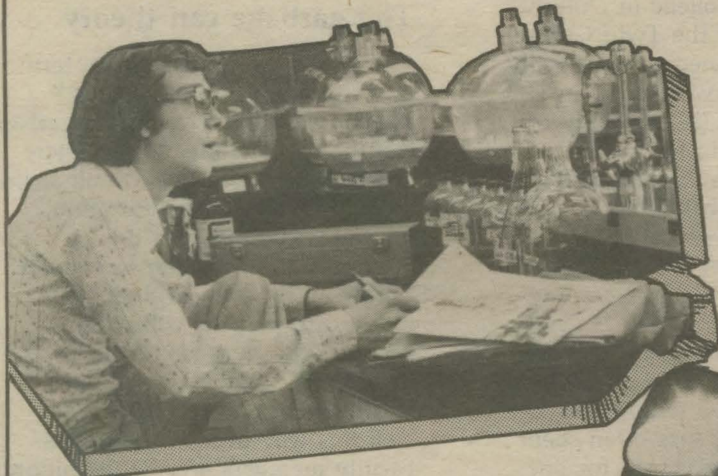

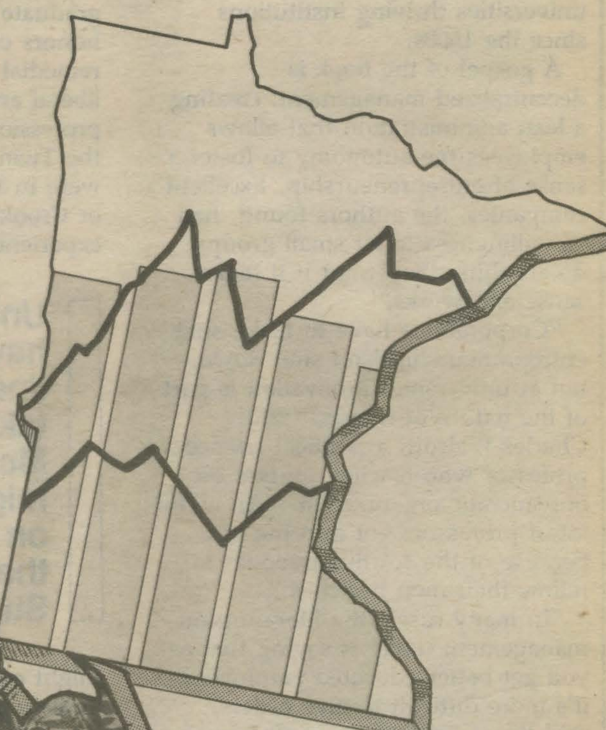

RE-SHAPING THE UNIVERSITY

Will the puzzling task of putting the pieces together result in excellence?

By Paul Dienhart

There's a rule of thumb for institutions during times of decreasing resources: if you can't get bigger, you'd better get better. Administrative decisions over the next five or ten years will decide the future of the University of Minnesota, whether it will remain first-class, keeping its place among the nation's top 20 graduate and research institutions as it has since 1920...or whether it will gradually sink.

The University is at a crossroads, a position made more obvious by the resignation of President C. Peter Magrath, who will assume the presidency of the University of Missouri January 1.

The complex puzzle of what the University essentially is and how it works is gradually being reassembled. A few of the pieces that don't fit very well are being discarded in the process. Central administrators are beginning to take the lead in deciding what pieces go where.

Some people hail the change as a long overdue revolution. Others see it as an abomination. Professor Samuel Krislov, a political scientist with 20 years of experience in campus politics, likens it to the slow shifting of a bull elephant. "Any change at a place as big as the University is going to be slow and gradual," he said, "and in that sense the shift is important."

The shift may have started 10 years ago when Magrath became president. Almost immediately he began edging the University toward a planning process that could help it through the coming times of lower enrollments and tighter finances. That time is now.

"The question," said Regent David Lebedoff, "is whether the University of Minnesota can maintain and build upon quality. The word is *excellence*."

A best-selling message

Excellence is a popular word these days. Some kind of fascination with the idea of excellence led more than a million people to shell out $20 for a rather repetitious book called *In Search of Excellence*—one of the

Puzzle, from cover

fastest selling phenomenons in the history of publishing. Thomas Peters and Robert Waterman's "lessons from America's best-run companies" turn out to have striking similarities to principles that have kept universities thriving institutions since the 1500s.

A gospel of the book is decentralized management: creating a lean administration that allows employees the autonomy to foster a sense of entrepreneurship. Excellent companies, the authors found, had "a willingness to let small groups do anything they want if it makes sense and works."

"Corporations have to make sure entrepreneurship isn't shot down, but at universities innovation is part of the nature of things," said Charles Walcott, a political science professor who teaches courses on bureaucratic organization. "An awful lot of professors got into the job because of the relative freedom to follow their own hunches."

"In many cases, the literature on management today is saying that as you get better educated employees, it's more difficult to give orders," said Bruce Erickson, a professor of strategic management in the School of Management. "Businesses are moving toward more participatory management, the kind of structure universities have long had on the surface."

But corporations are simple when compared with universities. Their measure of excellence is whether they are growing and making a profit.

Universities don't have that bottom line. Otherwise, taking a cue from McDonald's, an arch might be constructed on the mall, bearing the legend "58,000 Students Served." That was the number of full-time students last year. But some were undergraduates and some were graduate students; some took honors courses and some took remedial courses; some were in liberal arts and some were in professional schools; some were on the Twin Cities campus and some were in Duluth or Waseca, Morris or Crookston. Making the experience of one group excellent might come out of the hide of another group. And that just takes into account the education mission.

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"The University is hydra-headed; it looks in all directions," said Walcott, who tells his classes to check out the words engraved above the pillars of Northrop Auditorium for an example of impractical operating goals. There, in glorious language, is spelled out the triple mission of education, research, and service. "But it gives you no guidance on whether to spend your time working on research or preparing a lecture," Walcott said.

The mission doesn't even end at education, research, and service. There's also a land-grant and sea-grant extension role. There are five campuses involved, a diverse group that includes a small liberal arts college at Morris, two-year technical colleges at Waseca and Crookston, and a four-year college in Duluth. Add the fact that the Twin Cities campus is positioned to necessarily become involved with the state's major urban area (it's the only truly urban university in the Big Ten)—and the result is a set of missions that probably is unique in American higher education.

How, then, does the entire, multi-missioned University attain excellence?

One way of proceeding has been to ignore the institution as a whole. "Even departments within the College of Liberal Arts often seem to have little consequence for one another," Walcott said. "It's difficult to inculcate in the faculty a sense of commitment to the whole University. Peters and Waterman use a Japanese model of management where everybody buys the values of the company. There seems to be an inability to articulate the values of this place, to provide a vision of the University."

This is the point where the University may have something to learn from those simpler organizations called corporations. No matter how decentralized, Peters and Waterman's excellent companies were "fanatic centralists around the few core values they hold dear."

This is radical stuff for higher education. Nevertheless, more people are beginning to say publicly that universities could benefit from greater centralization. To understand why this is controversial, it's necessary to look at where higher education has been in the past 30 years.

The garbage can theory

"There's an organizational term that can apply to universities," Walcott said. "It's called the garbage can theory. The idea is that there are no purposeful goals at all at the level of the whole organization." Instead, people within the organization have their own goals. Throw all those individual goals into a can, and the collection becomes the purpose of the institution.

Universities often worked very well this way over the centuries. Faculty members are, by definition, independent. By proving their intellectual potential over seven years they earn tenure, a lifetime job guarantee that is the basis of academic freedom. In times of increasing resources—the 1960s, for example—a good faculty freely pursuing its intellectual curiosity will naturally advance an institution. Administrators, caught between an independent faculty and a politically appointed board of regents (with each regent often looking after a different constituency), end up in the role of "mediators."

In Search of Excellence: An Agenda

One of those good news/bad news letters was sent to deans and directors around the University this summer. The good news was that most units could expect stable budgets for the next two years, and a few might even see an increase in money. The bad news was that units would have to work this summer preparing a plan for improving themselves with their stable budget.

The plans will have to include budget shifts of 1 to 2 percent to high-priority areas.

"We're now in an era when we can talk a little more about what we're going to build," said Kenneth Keller, vice president for academic affairs. "We're asking units to pay attention to where they're going with their high priorities and how concerns of the entire University can be incorporated into their plans."

Concerns of the entire University were recently spelled out in the 259 recommendations of six task forces formed with the stated intention of finding ways to make the University excellent. Shortly before President C. Peter Magrath announced that he would be leaving for Missouri, he wrote a statement of University goals based on the task force recommendations.

Here's a look at some of the concerns that will have to be addressed if the entire University is to have a chance to call itself excellent.

Students

When the University recently hired Preston Townley, a former General Mills executive, to become the new dean of the School of Management, he was heard to say: "I feel that the customer orientation that I've had in a 22-year business career is going to be very similar to the kind of orientation we have here. We're going to be very responsive and close to our customers."

It's going to be a great time to be a student—particularly a talented student—in the coming years. Good students are now being recruited by colleges in a manner that used to be reserved for football stars.

Even higher education responds to the law of supply and demand. The supply of students is decreasing. The number of high school graduates in Minnesota is expected to decline 35 percent between 1979 and 1994. University of Minnesota enrollment is beginning to drop, down by a few percentage points last year. Freshman applications for this fall are down 9 percent on the Twin Cities campus.

After years of record enrollments, the University has an opportunity to provide a more personalized education for students—rather than worry about finding classrooms big enough to fit them all.

Students have a right to expect more for their money. Tuition has gone up an average of 27 percent (adjusted for inflation) over the past ten years. Polls of current students indicate a great respect for the quality of the University, coupled with frustration over feeling lost in the crowd.

The task force on improving the undergraduate student experience came up with 132 recommendations —and that was just for problems outside the classroom: need for shorter lines, better communication, and simplified bureaucracy.

"For me, the most important finding of the report is that the University has extraordinary resources for providing a first-class undergraduate education," said John Wallace, the academic affairs assistant vice president who chaired the task force. "We can offer faculty who are really doing their disciplines. Whether it's history or physics, the faculty is making substantial contributions to advancing knowledge on a world-class level. If you're turned on to a subject, we have the faculty, equipment, and library to really pursue it. Some of our biggest problems involve student access to those resources. We have to do a much better job of bringing undergraduates together with those resources."

Good students are now being recruited by colleges in a manner that used to be reserved for football stars.

Julieann Carson barely had time to get married and take an abbreviated honeymoon this summer. Carson is directing a project to recruit high-ability students that began this spring at the insistence of the regents. Between meetings she found 15 minutes to talk about the effort.

Students in the top 20 percent of their high school classes are among the students most likely to benefit from the advanced resources at the University. The University will benefit too.

"As the numbers of students decline, we want to have a higher percentage of very bright students," Carson said. "The whole learning process will improve if the classes

That is the word Clark Kerr, former president of the University of California and recognized sage of higher education, used in his famous 1963 lecture at Harvard. A university is composed of several nations in a lawless coexistence, Kerr said. A president is a mediator who can have "no new and bold vision of the end."

Magrath recalls reviewing a 1974 book by James March and Michael Cohen, who labeled universities "organized anarchies." The authors argued, Magrath said, "that presidents of universities were as needed as former rock stars or retired prostitutes. Presidents really couldn't do anything because colleges and universities, by their natures, can't be led. I think that's balderdash."

Kerr has changed his view since the 1960s. Now he and Magrath are two of the best-known advocates of higher education planning, an endeavor that puts central administrators in a new role.

The need for leadership in higher education has changed in the past ten years, a reflection of a change in the external environment. Things were very different from 1955 to 1975, when college enrollment shot up from 2.5 million to 9 million. It was a time when more college buildings were constructed than in the previous 200 years. The earnings of full professors began to rival the salaries of business executives by the early '70s. Research money was plentiful, a trend that started with the race to catch up with the Soviets' Sputnik in the late '50s.

Decisions could be as pleasant as where to spend money. Fifteen years ago planning at the University was a matter of waiting your turn, recalls political scientist Krislov. "If your department didn't get a position one year, you figured they owed you one and they'd give it to you next year," he said. Filling

Fifteen years ago, planning at the University was a matter of waiting your turn.

empty positions was almost automatic. "Now the justification has to be in terms of the college's needs and the students' needs," Krislov said.

Things have changed. The cost of everything—books, equipment, building maintenance—skyrocketed in the inflationary '70s. Faculty salaries lost 20 percent of their purchasing power. Minnesota had a state budget shortfall that threatened the University with a $60 million cut in its allocation. One of the triumphs of the Magrath administration was keeping permanent losses to $11.6 million.

At the same time, the University began experiencing year after year of record enrollments. The University wasn't getting any credit for educating more students; it wasn't getting money to hire more professors. Everyone tended to see the student demand as the final peak of the baby boom generation.

But now, enrollments are finally starting to go down. Traditionally, that means lower allocations for supporting higher education.

The locus of power

Almost immediately after coming to Minnesota 10 years ago, Magrath started a planning process to prepare for the coming changes in higher education. "Planning will be one of the magic words of the 1980s," he wrote in a statement of University goals. "If educators do not plan, then somebody else will surely do it for them."

Planning involved all units of the University putting their priorities in order for steady or decreasing funding. Using criteria like quality, demand, and uniqueness, the units had a chance to demonstrate which programs deserved increases in support.

"The biennial request used to be shaped by a political poker game," said John Howe, a history professor who served as the faculty senate's chief link with administration last year. "We've come a remarkable distance in developing a planning process."

The planning also resulted in what Peters and Waterman might call a centralizing of values. Someone had to decide how the plans coming from the different departments and colleges fit the mission of the whole University.

"The locus of decision making has changed," said management professor Bruce Erickson. "The University used to be run by deans running independent units. Now the locus of power is the vice presidents."

The question is how to keep the decentralized autonomy that served universities so well for centuries—the structure industry is moving toward—while using central power to give more direction to the whole enterprise.

"It's important to make sure the ordering of priorities is still made in a decentralized fashion by the people who know best what's important in their fields," said Kenneth Keller, vice president for academic affairs. "Central administration's role is to make some difficult decisions on the basis of that information. Faculty members make the order of priorities. What they don't do is determine how far down in those priorities the University can fund."

"This has always been a more decentralized university than the other Big Ten institutions," Krislov said. "There's still more departmental autonomy here than there was at Wisconsin 15 years ago. Because the University has always been so highly decentralized, and even indifferently run in many ways, some departments have been able to become much stronger than the University as a whole. Psychology and economics are conspicuous examples of strong departments. On the other hand, departments that have been poorly run have had more opportunity for bad decision making."

"I believe we've been an underadministered university," Keller said. "We have to make some changes in that respect.

"The role of central administration

Puzzle, next page

are not only smaller but more intellectually stimulating."

Her most memorable teaching experience at the University involved a course on literary criticism with four or five very bright students in a class of 25. "I found I was teaching it to the level of the best students," she said. "The other students were stimulated to keep up. It was magic for everybody and the best class I ever taught."

Many colleges at the University have "honors" courses for their best students. These courses are designed for small groups that can keep up with a challenging level of instruction. There will be more honors courses, offered by more colleges. "This is the direction the University is going," Carson said.

Other programs to enhance student recruitment include developing more ways for bright students to earn college credit while they are still in high school, greater use of advanced placement exams that provide credits for college-level knowledge, and more chances for high school teachers to return to the University to keep up on the latest knowledge.

Along with making a more conspicuous place for the best students, the University must get that message to the students themselves. "We've always taken a passive attitude of letting the students come to us," Carson said. "The University hasn't been letting students know how good we are."

All campuses and colleges are including recruiting efforts in their planning priorities.

The College of Agriculture, for example, has seen numbers of entering freshmen fall from 257 in 1975 to 90 last fall—in spite of a robust job market for agriculture graduates. The college has no problems finding jobs for its graduates, but unless it can increase enrollment it will have a difficult time replacing departing professors and keeping at the forefront of research.

The College of Agriculture and affiliated technical programs on the Crookston and Waseca campuses are providing more scholarship money for high-ability students. The number of merit scholarships jumped from 25 to 50 last fall. The college hopes a private fund-raising campaign will result in 100 merit scholarships by 1985. The college also is considering an honors program.

Minnesota has been late to enter the recruiting race. Michigan and Michigan State already have competitive recruiting programs. Michigan covers 14 states, and Michigan State plans to make a big push in the Twin Cities area this year. Wisconsin is also recruiting Minnesota students.

Carson plans to return the favor: Milwaukee and Green Bay are target areas for Minnesota recruiting efforts. "It's a marketing atmosphere now," Carson said.

Top high school students sought by Minnesota receive seven letters, beginning with one from the president. They hear from regents, administrators of the college they plan to enter, alumni, and the financial aid office. They are invited to "Scholar Days," an open house where they can hear about honors courses, financial aid, and life on campus. The program even gives them a chance to sit in on classes, tour departments, and meet professors.

Faculty

Great colleges and universities have two basic elements: a great faculty and outstanding students. It's rare to find one without the other. An exceptional faculty tends to attract the best students.

Most faculty members are committed to teaching and research. They must be, because there are few who couldn't earn more money by leaving for the private sector. But there are limits, even for professors.

Faculty purchasing power has decreased 20 percent since 1972. A survey recently conducted for the *Minneapolis Tribune* found University of Minnesota faculty salaries on the Twin Cities campus ranked 10th nationally among salaries paid on the main campuses of other public universities. Minnesota salaries average $32,700, compared to a Big Ten average of $34,900.

"A decade of limited resources generated by external events...has had a serious effect on faculty morale," concluded a task force that looked at ways of enhancing the quality of the faculty. A poll conducted for the task force showed that 67 percent of professors now express general satisfaction with their jobs. That compares to 80 percent in 1980 and 91 percent in 1956.

Faculty salaries continue to be the administration's number one priority at the legislature. The goal is to bring purchasing power back to 1972 levels by 1991. The University has a $1.7 million "retention fund" that it uses to attempt to keep the best people from being lured away by other institutions. The current budget includes a 6 percent merit pay increase for faculty.

Pay isn't the only dissatisfaction. Faculty members don't like the ways they have to divide their time. The task force's poll found 59 percent believe they had to spend too much time on committee and administrative work. An overwhelming 83 percent wish for more time to work on research and writing. Being a professor, it seems, has not only become less lucrative, it's less fun.

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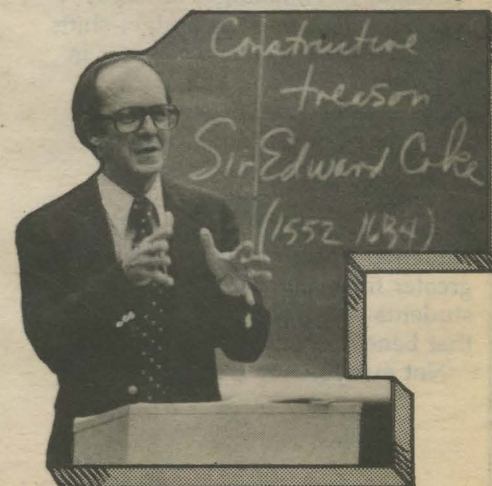
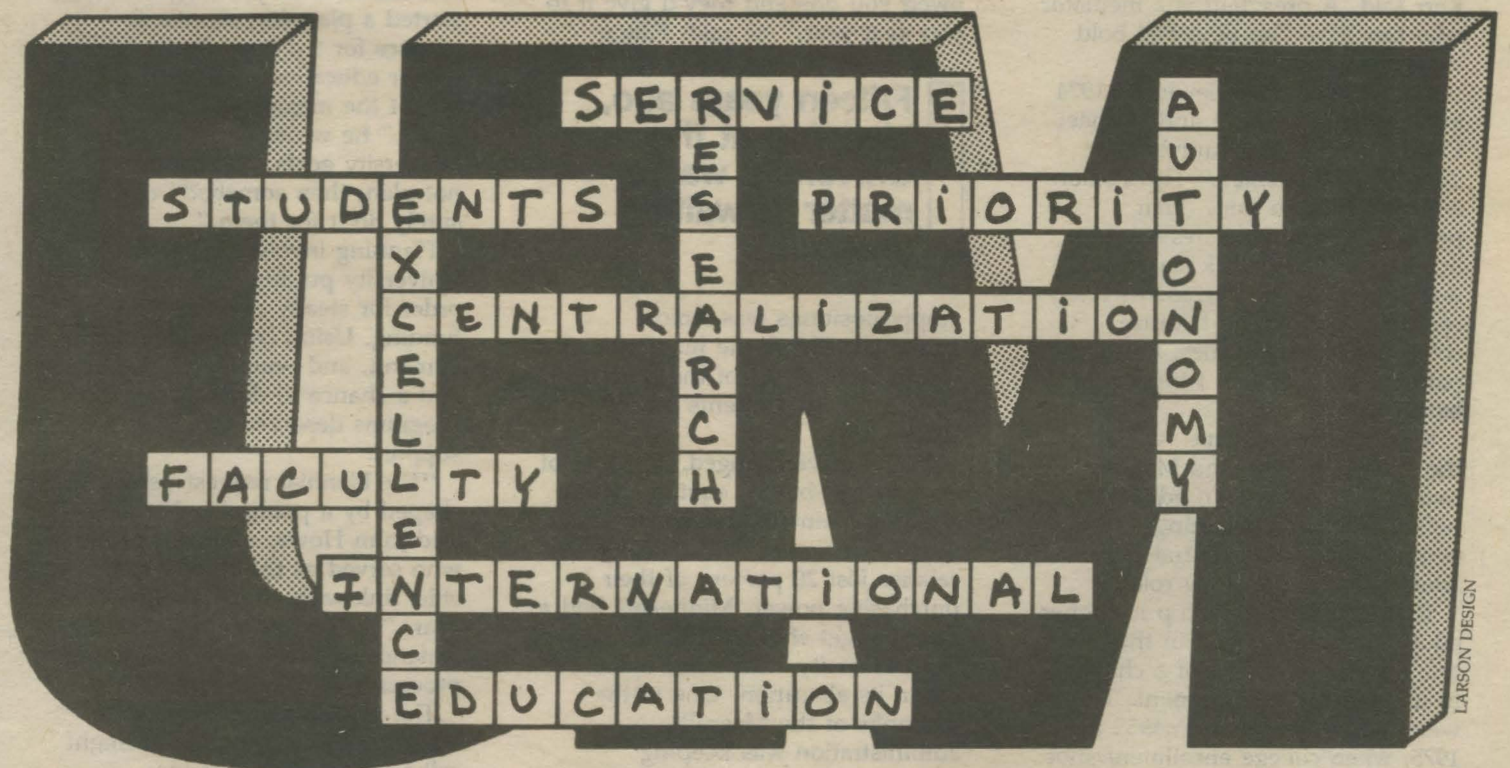


Puzzle, continued

is to insist that the faculty make choices in a situation where all the decisions cannot be to grow," Keller said. "The mistake that is sometimes made is to equate faculty being forced to make choices with faculty losing power. I think faculty still have the most important role in the University. The reputation of a university has never been made on the basis of its central administration; it's a result of its faculty."

"To say that Keller is not much involved in setting priorities is not to know much about what he's doing," Howe said. "I don't mean that as a criticism. Keller plays a forcing role with considerable skill. He works very hard to press the necessity for making priorities to the faculty level. That's a difficult job because faculty have very little experience at making these choices."



Blissful asphyxiation?

There was a protest in front of Coffman Union on the Twin Cities campus this spring. It wasn't about war or social issues, it was a protest of the administration's decision to cancel the undergraduate degree program in dance.

Not everyone is going to like changes in the University. "The alternative is a kind of blissful asphyxiation," Keller said. "Everything is light and nice and you go into somnolence as an institution."

Universities—as the name implies—are expected to offer a broad program. Minnesota offers more programs than most universities in the country. But what is the correct balance between being broad and preserving weak programs?

"I think it's a matter of truth in advertising," Keller said. "To tell a student we have a program in a certain field, without saying that it really isn't one of the better programs in the country, is not really to afford an opportunity. The great colleges of liberal arts in the country have perhaps two thirds of the programs we have here. Having narrower breadth does not necessarily destroy the experience."

Planning and priority setting have already led to the reduction, redesign, or elimination of nearly 100 programs. Internal budget shifts freed $13 million for investment in high-priority areas where administrators see a chance to maintain or significantly improve quality. New lab equipment, an expanded library collection, a recruitment drive for high-ability students, better faculty salaries, and greater financial aid to graduate students—all were high priorities that benefited from planning.

Not everyone at the University is happy about the new way of doing things. Some are downright furious.

It's difficult for a liberal arts professor to feel good about the Institute of Technology (IT) getting a $650,000 increase in its two-year budget when liberal arts has been cut $1.5 million in the past five years. Administrators explain that IT doubled its enrollment in the past ten years while faculty numbers essentially stood still.

"My ox has been gored like hell," said history professor John Howe. "I believe there's some danger of distorting the mission of the University. I worry about the core areas of liberal arts education. At the same time, I believe the planning work has been absolutely essential."

Other professors believe centralized planning is exactly what's wrong. They say the administration pays only token attention to the views of the faculty and makes decisions based on economic or political expediency, not on the long-term good of higher education. They worry that courses and research will be measured by popularity, not on the basis of whether they advance knowledge. They believe that the University's attempts to increase funding by building ties with industry (see companion story) could turn the University from its basic research mission. In short, they fear that the University is becoming too much like a corporation—and not even an excellent one at that.

A vision of the University

"The management of universities and of private companies are moving toward each other, but I don't think we'll ever come together," Keller said. "There are some things you shouldn't even try to do centrally at a university. What we're trying to do now is introduce some centrality into a system that, by its very nature, is decentralized. Private companies are finding they do well when they stimulate the creativity of their best people. We try to do the same thing—and we've tried to do it longer. We never had the illusion that a top-down management structure would work best."

The success of the new system could depend on the extent faculty are able to trust administrators. There will be greater demands on the leadership abilities of administrators.

"I believe we've been an underadministered university. We have to make some changes in that respect."

"Administrators have to be more than technicians," Howe said. "They have to have a vision of what the University can be. Faculty and students won't believe their university is being run effectively if the people in charge don't have a sense of the place and the direction it's going. That sense is very difficult to develop in a place as big and sprawling as this. I think it needs to come from the president's office."

At their June meeting, the regents issued a statement on the need to "develop clearer goals and directions for the University." They pointed out a need for "leadership for an uncertain and challenging future."

"A number of people within the University have been critical of administration for not setting goals and directions," Keller said. "I think that's a valid criticism. We've started to do that more, and I see it as an evolutionary process."

But how do you set directions at a "hydra-headed" institution that seems to face in all directions?

"None of the missions is incompatible with the others," said Regent Lebedoff. "It's possible—even essential—that superior research and instruction occur at the same time. Real quality doesn't rob other sectors. There's no such thing as isolated quality. Either the whole University achieves quality or the institution cannot be called excellent."

Magrath recently received the reports of six task forces, each with a theme of University-wide excellence. The idea was to look for ways to reinforce the University's missions without pulling them apart (see companion story). A task force on improving the student experience, for example, promoted the idea of recruiting high-ability undergraduates. Talented students can benefit from the special experiences a research university can offer. Better students can raise the level of discussion and teaching in the classroom.

Just before he accepted the job at Missouri, Magrath wrote a statement of University goals, based partly on the findings of the "excellence" task forces. The statement, along with the continuing planning process, should help the new president set an agenda for action.

"Quality is especially critical in those areas where the University has unique responsibilities," Magrath wrote. He singled out research and graduate and professional education as "defining characteristics of the University."

The vision that seems to be developing is that excellence will flow from the University, enhancing its reputation as a national research institution. Research is *the* essential part of graduate education, and the

best graduate schools in the country also have outstanding undergraduate programs. Indeed, ways should be found to make the research experience available to the best undergraduates. Research keeps faculty members at the top of their fields. Much of the University's service function is a result of research: from developing taconite processing and higher yielding varieties of wheat to helping the state become a leader in high technology.

"We should be as good as Wisconsin, as Illinois, as Michigan. We should be that good. We aren't quite that good."

The University has 13 graduate programs rated among the best in the nation, making it the 16th best graduate school. Magrath's goal would be to double the number of excellent graduate programs and become one of the top eight of all institutions—public and private—by 1991.

"We should be as good as Wisconsin, as Illinois, as Michigan," Keller said. "We should be that good. We aren't quite that good. My own extraordinarily subjective judgment is that we are in the top ten, but not the top five, public universities in the United States. I think it is not an unreasonable goal to be in the first five of those institutions within the next five or six years. We can do that by building in fields where we are close to excellent and maintaining excellence in fields where we've already achieved it.

"The natural evolution of good programs has to be nurtured, and once you get there it has to be preserved. This is what some people identify as strong central control. I view it as strong central leadership, and a setting of standards. If we're to be excellent, it requires a great energy on the part of faculty. They have to be stimulated to that energy."

For 20 years, Keller has been a member of the University's chemical engineering department, currently recognized as the nation's top department in that field. Even now, as a vice president, he continues to advise graduate students.

"I moved into a department that, in my view, did everything right," he said. "It was unusual in that senior faculty worked the hardest, and did their best to relieve the burden on junior faculty, so junior faculty could develop. The senior faculty taught more; they brought in research money to distribute; they sent promising students to work with junior faculty. It was a collaborative effort. We used team teaching a lot, and all the other lecturers sat in the audience every day. It was commonplace for someone to come up at the end of a lecture to explain how a point hadn't come across clearly enough, and that we should correct it tomorrow. There was a constant level of honest reflection. Part of it was a holding to high standards. That is not the same as being discouraging to people. It's simply being honest. It's the kind of excellence we have to try to make a cultural tradition across the University."

Chances for excellence

"Excellence breeds excellence," Magrath noted in his statement of goals. Excellence "must be more than an administrative slogan or the commitment of only part of the University," he wrote. "It must permeate the fabric of the entire institution, becoming a shared value."

The fate of the institution could depend on the willingness of people to unite behind an idealistic concept like excellence. "In the end," Krislov said, "you can't make units better than they want to be." The commitment to excellence will have to be strong enough to weather politically unpopular decisions, protests from constituent groups, objections to raises based on merit, and selective funding for programs.

"So many key decisions at the University have always been much more egalitarian oriented than excellence oriented," Krislov said. "And I don't see a big shift in that."

"It's difficult to set goals when you get concerns from constituencies who don't see their needs fitting that structure," Keller admitted. "I think the future lies exactly in doing that, though."

What does the University have going for it, in this quest for excellence?

It has the American people who agreed across every population group in a Gallup poll that "developing the best educational system in the world" ranks well ahead of developing the most efficient industrial system or strongest military establishment as a priority for determining America's future. People want excellence in education, and the country's drop from first to fifth in per capita income makes a clear case for the importance of major research universities.

Minnesota alumni see the University as a valuable state resource with a good national reputation, but a place that is often too impersonal. A recent poll of alumni found that 90 percent were proud to be U of M grads, 79 percent felt the University was a good place to send their children, and 93 percent remembered their overall experience at the University as positive.

The fate of the institution could depend on the willingness of people to unite behind an idealistic concept like excellence.

Last year the University ranked third in the nation in private support, raising $62.7 million. Only Harvard and Stanford, both private institutions, ranked higher. "Donors are like savers," Magrath said. "They put their money into institutions that offer the best return on investments."

"I think most faculty recognize that this is a good place," Krislov said. "They also have all the typical fears of people that are in a declining industry.

"I think the commitment to excellence, though, has the effect of arresting decay. For that reason it could be terribly important. The other attitude—that things are declining, but what do you expect?—will hasten decline. If every department at this University were excellent, I don't know where the money would come from. That's not an argument for not trying to strengthen the place. We'll worry about that catastrophe when and if it comes." □

The Search for a New President

After ten years as president of the University of Minnesota, C. Peter Magrath announced June 18 that he will become president of the University of Missouri effective January 1, 1985.

Magrath will leave his administrative duties at Minnesota in October. The regents will name an interim president until they select a new president. "I think we'd be extremely lucky if we have somebody by the time President Magrath is in Missouri," said Lauris Krenik, chairman of the board of regents. Krenik speculated at the July regents' meeting that it could be mid-1985 before Magrath's successor is named.

The full board of regents will select the new president, but will be aided by a 12-member advisory panel consisting of seven faculty members, three students, and two staff members. The advisory panel will submit names and provide background information on prospective candidates. It is the same procedure the regents followed a decade ago when Malcolm Moos resigned as president.

C. Peter Magrath

The regents established an October 15 deadline for receiving applications and nominations. Regent Wenda Moore stressed the importance of considering qualified women and minority candidates.

Magrath, 51, was previously president of the State University of New York at Binghamton. He served in several teaching and administrative roles at the University of Nebraska and Brown University.

At Minnesota, Magrath was widely recognized for starting a planning process and for helping to bring the University through some rough fiscal times.

In a statement to Missouri's board of curators, Magrath said, "I cannot overemphasize how important the planning and priority-setting process is, if we are serious—as I am—about strengthening the university's ability to serve the state."

The planning process Magrath established at Minnesota will continue during the transition period. "Peter Magrath has put in place a process of priority setting that is sufficiently sound to keep the institution running quite stably in a period of transition," said Vice President Kenneth Keller.

Magrath's resignation statement said, in part, "The decision to leave Minnesota, which developed over the past six months, was not easy, but it is the right one, both for me personally and for the University of Minnesota. I believe my work here is completed. The University of Minnesota is fundamentally healthy. It has come through a difficult fiscal period—perhaps the worst in its history—with its core programs intact, its educational ideals still vibrant, and sound plans for its future." □

Excellence, from page 3

Professors have a special need to stay excited about their jobs. As soon as they settle into a routine—the refuge of the burned-out employee—they're no longer doing their job of advancing knowledge, pushing the limits of their disciplines.

Along with plans for pay increases, President Magrath recently announced plans to help faculty members stay intellectually vital. The majority of faculty members can't afford to sacrifice half their salary to take a sabbatical—the traditional way to find scholarly renewal. A recent survey found that slightly more than one third of professors eligible for sabbaticals actually took them. To encourage the use of sabbaticals, the administration has started a fund to supplement the half salaries.

Other funds will expand the graduate fellowship program and start a fellowship program for junior faculty members. Graduate students are the faculty's partners in research. They don't just work in the labs and libraries; a good graduate student will challenge the way a professor looks at a project. At the same time, graduate students can get the kind of hands-on education only a research university can offer.

Junior faculty are under great pressure to do the good research that will earn them tenure. On top of that, they often have heavy teaching loads. A fellowship program for them will give them more time to do research and will encourage senior faculty to act as their mentors. Outstanding young professors should realize their potential sooner under the new fellowship program. That could result in loyalty to the institution that helped make the success possible.

Faculty cannot excel without the tools of scholarship. Magrath announced a commitment to seeking the books and equipment that are necessary for research.

Graduate Education

Graduate and research education is one of the things that can give some sense of unity to the many and diverse missions of the University.

"Perhaps the best way to address the question of quality in an institution such as the University of Minnesota is through its graduate programs and research," concluded a task force that looked at ways to improve graduate education.

The University currently is ranked 16th among all the graduate schools in the country. But there has been some slippage in the University's rankings in the past two or three decades. There are not as many programs in the top 15 as there once were.

Perhaps the most ambitious goal announced by Magrath is to work toward making the University among the top eight graduate schools in the country by 1991. That will have ramifications that reach far beyond the Graduate School. There is a good case to be made that graduate education is a way to advance the three major missions of the University: education, research, and service.

Graduate education is often synonymous with research. Graduate students get the best part of their education by working with professors on research. Research, in turn, is the major way universities provide community service.

Even when the national economy was sluggish, the economies of Boston and San Francisco thrived. These two areas happen to have some of the strongest graduate and research institutions in the country. Along with the Twin Cities, these areas presided at the birth of high technology, which gave rise to hundreds of new firms.

It seems no coincidence that a strong graduate school was present when Minnesota earned its reputation as "the state that works." Working toward achieving excellence across the graduate programs could be one the state's best investments in its future.

In the late '50s and early '60s, when Minnesota's primary industry began to shift from mining to high technology (it is now the world center for biomedical engineering), the University had one of the ten best graduate schools in the country. High-yield wheat, taconite processing, computers, and biomedicine—all were developments spurred on by graduate research at the University. At the same time, the Twin Cities were becoming a cultural mecca, attracting companies and thinking people who appreciated the area's arts activities and the quality of life in general. That reputation depends in part on the University's arts and humanities graduate programs. Strong programs in the social sciences, law, and business management were providing the people to run the companies and the state.

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But what does all this have to do with improving undergraduate education? Might that be neglected in the process?

"I challenge you to take the names of the ten best graduate schools, put them in a hat, and pick one that you would feel disadvantaged to attend as an undergraduate," said Robert Holt, dean of the Graduate School and chair of the graduate education task force. "The evidence is overwhelming that a first-class undergraduate education at a major university depends on a first-class graduate program."

There's a logic to that. Top researchers are going to join the best research universities. Professors interested mainly in teaching join small colleges. Second- or third-rate researchers go to institutions of the same caliber, and there's no guarantee that their teaching is any better than their scholarship.

Research universities can offer distinctive education to undergraduates. The better the research, the better the education.

There is a key distinction between the University's graduate and undergraduate education philosophy. As a land-grant institution, the University has an obligation to provide access to Minnesotans who want an education. Just about every segment of the population is served by University undergraduate programs. But that kind of easy access would spell death for quality graduate education. The graduate task force urged more recruiting and better financial support for the best graduate students. Minnesotans alone can't provide that quality. Bring the best students from other states and nations here, and they just might stay to help Minnesota after they graduate.

Competition for the best graduate students will be fierce in the years ahead. It will be necessary to compete if the University is to have any chance of meeting the goal of moving ahead in the ratings. And the success of the University's missions could depend on that.

The State Economy

A lot of universities these days are talking about the new "university-industry partnership." The idea is that industries will provide universities with grants and equipment to work on basic research questions that concern industry.

This is also the direction of the University of Minnesota, and it is probably the direction that is the most controversial among the faculty.

There's no doubt the University has had lots of involvement with Minnesota's economy. The development of new crop varieties and of taconite processing are familiar stories. It's less well known that scholars from the Institute of Technology helped start 44 new companies in the state. The University trained two thirds of all the scientists and engineers in the state's high technology industry.

But there's something more overt about the latest push for an industry connection. For one thing, the need on the part of universities is more obvious. Funding from most federal agencies has been declining since 1982. Equipment to conduct state-of-the-art research is more sophisticated and expensive than ever before, yet federal support for research equipment is one twelfth what it was 15 years ago.

High technology is a natural industry for involvement with the University. Magrath's agenda for the future calls for continuing to transfer knowledge in technological development. The transfer would include not just engineering but also biology, medicine, management, and even human services: "areas where advancing technologies provide unique educational and research opportunities."

As if to guard against the University's becoming too strongly oriented toward technology, Magrath stresses in the same document the need to further "two basic missions of the University," agriculture and the liberal arts, particularly the humanities. He also endorses expanded communication with business, government, and industry.

"The whole idea of catering to the practical world is bastardizing the University's function," said George Donohue, a sociology professor who studies the effect of society's structure on the power of groups. He believes current trends

bode ill for the power of professors to do the kind of research universities were designed to accomplish.

"Industry operates on a short-run payoff," Donohue said. "Maximizing profit does not necessarily mean maximizing knowledge. The University should be responding to problems that might occur 25 and 30 years from now. We're not going to get that from public advisory committees, or from business people looking for a profit in the next few years, or from a new company that may be innovative but has to make it in the next three or four years or go broke. That's what private consultants are for. The University's unique function is to look at today's world in light of what tomorrow's world is going to look like.

"I think people should have input into higher education. But the idea that they should have direct control—are they going to control for the biggest producers or the producers who need the most help? If you're responding to the piper because the piper pays, down the road that group is going to be in control."

"Our interests are very clear: teaching and scholarship. If we abandon them in serving the community, then we haven't done it correctly."

Magrath said he believes universities "have always been handmaidens of the public interest in society. That's an inescapable fact of life. It was true during World War II, when universities served the wartime interest. It was true in the Sputnik environment of the late '50s."

There are areas where the interests of universities, government, and business overlap, Magrath said. "There are other areas where they need to be separate—not hostile, but separate. There's nothing wrong with that."

The key is recognizing mutual interests, academic affairs vice president Keller explained. "Our interests are very clear: teaching and scholarship," he said. "If we abandon them in serving the community, then we haven't done it correctly. If we take on jobs that have nothing to do with teaching people or training graduate students, then we've done something incorrect for a university. The creativity comes in learning how to bring interests together to serve our ends.

"We have always been at the mercy of federal funding priorities that may be different from our own, but we're used to that system," Keller said. "My view is that there are not a lot of additional risks in a relationship with industry.

What is risky is that we don't know as well how to do it. It's all uncharted waters, and I think we have to be very careful. It means we have to understand ourselves well enough to face the reality of the world yet maintain our own separateness. That's what we want to do, because our connection with the world is important.

"If our idea is to look down the road to see what the problems will be 30 years hence, and our approach is to isolate ourselves from the society in which we're trying to make those predictions, the likelihood that we will really understand where society will be in 30 years is very small."

Perhaps the most visible University partnership involves 70 acres of underdeveloped land between the campus and downtown Minneapolis. It is now being called the Minnesota technology corridor. The idea is that the University, industry, and the city of Minneapolis will work together to make the area a growth place of small technology companies. The University will locate its new supercomputer institute there, a project that typifies complex interactions of mutual interest.

Supercomputers are a fantastic tool for conducting basic research, and Minnesota is one of the few universities in the country to have its own supercomputer. Now the University wants to become the leading center for developing software for applying the incredible calculating speed of supercomputers. The state legislature appropriated $5 million for the facilities and $2.6 million for the first year of operation; the University will supply $3.5 million from internal funds; Minneapolis will match the $3.5 million. The federal government got involved because the National Science Foundation purchased $2.7 million of supercomputer time to be distributed to researchers around the nation.

Another resident of the corridor is Automated Transportation Systems, a small firm that originated as a dream of mechanical engineering professor J. Edward Anderson. Anderson wanted to create a personalized rapid transit system of small cars dispatched on an elevated track by a computer, an inquiry that easily fell under his professorial duties. But once the theories turned into working drawings, the University role ended. The University is not in the transit business.

Instead of trying to develop Anderson's system, the University put up $100,000 to help him patent the ideas. "It was not appropriate to develop the ideas with our students in our labs," Keller said, "so we suggested it move off campus. The adjacent location provides for some appropriate interaction without interfering with the role of the University."

The University intends to be more aggressive about seeking patents. It recently named Anton Potami to the newly created position of assistant vice president for research administration and technology transfer.

"There has been an increase in the number of opportunities for faculty to create companies out of technology they've created," Potami said. "We plan to lend assistance to faculty who want to set up companies, and we would like to be the focal point for industries trying to locate technical expertise."

International Character

Universities, along with the nation, are beginning to realize that greatness demands an international vision. Economic and political forces are giving us a clear choice: countries and institutions that look at the international level will advance, the others will fall behind.

There are pockets of sophisticated international understanding at the University. There are also large gaps. The University must bring international character to all its parts, one of the "excellence" task forces recommended. The scope of an excellent university must be international.

In spite of the nation's per capita income falling to fifth in the world, there is a stubborn reluctance about acknowledging international dependencies. A 1980 Roper poll found that 49 percent of respondents believed foreign trade was harmful or irrelevant to the U.S. economy. The fact is, one out of every three U.S. acres produces for export, and one out of every six manufacturing jobs depends directly on foreign trade. Since 1960, foreign trade has grown from 10 percent to 25 percent of the gross national product.

The University already has one of the highest percentages of foreign students in the country. It's a resource that could be better used. A half dozen international communication classes, for example, have international students helping to teach the classes.

The University recently strengthened its foreign language requirement. A presidential commission has noted that nearly all the 10,000 Japanese trade representatives in the United States speak fluent English, while few of the 1,000 U.S. representatives in Japan are fluent in Japanese.

The School of Management now requires undergraduates to take 12 credits in international business. At the request of the legislature, the University is considering a degree program in international business. Minnesota—as the new world trade center in St. Paul indicates—has an international economy.

Fewer than 5 percent of University students study abroad, and the University should try to double that number by 1990, the task force recommended. The eventual goal should be programs that give a quarter of all students a chance to study abroad.

The Goals: A Synopsis

This, then, is the situation the new president of the University of Minnesota will step into:

Financial Resources: Currently a stable financial situation, but against a background of dropping enrollment and decreasing governmental support. The best private fund-raising record of any public university in the country. A movement toward research partnerships with business and industry.

Organization: A proven process of planning and priority setting. A migration of decision-making power toward central administration.

Vision of the Institution: Building on the unique missions of graduate training and research to improve the entire University. Hiring and retaining excellent faculty members and recruiting top students. Moving the University to one of the top eight universities (public and private) in the country and the best in the Big Ten. (The University is currently ranked 16th in the nation for its graduate and research programs.) A commitment to increasing the University's international character.

Objective: Excellence across all disciplines. □

Witches, Hags, and Healers in the Minds of Chinese Women

By Paul Dienhart

When Victoria Cass was living in Taiwan years ago, her little daughter enjoyed the Saturday-morning ritual of cartoon shows. Cass couldn't help but notice that even by American standards of green muscle men and adventurous rock stars, these cartoons seemed strange. In a time before the women's movement, Taiwanese cartoons featured Buddhist warriors, men and women fighting side by side.

Such equality was especially striking in China. The traditional image of women in China stretched the outer limits of male chauvinism. It was a country where women could barely walk on feet deliberately deformed by binding. The traditional wife was kept in the back apartments of the house, only gaining some validity as a wife if she produced a son. A woman whose husband or betrothed died was expected to go into a lifetime of mourning.

So Cass, now an assistant professor of East Asian studies on the Twin Cities campus, was intrigued by these cartoons of battling Buddhist women. She soon found a much more amazing example of feminism in traditional China. It was a story about a real person.

At the end of the 19th century a Chinese woman walked out of her traditional arranged marriage, proclaiming she had experienced "the 18 circles of Buddhist hell." She renamed herself Woman Warrior of Mirror Lake. She founded a feminist journal and started a campaign against foot binding. Four years later she was executed by decapitation.

How could this person ever come to exist in such a society? There must have been some kind of everyday models to indicate there were other ways for women to lead their lives, Cass deduced. She decided to look for these models, archetypes of new behavior, in the period of the Ming dynasty, 1368 to 1644. The period interested Cass because it was a time when China was in transition, changing from a medieval to a more modern society.

She found three archetypes: witches, healers, and hags. These models were honed more than 2,000 years, becoming a part of the Chinese imagination even in the 20th century. They were far from being the foot-bound, house-bound traditional woman.

A *wu* is a sort of a witch, a shaman actually. A *wu* is always a woman, and has the power to make it rain. The Chinese believed women's yin nature is watery, giving them an affinity with the atmosphere. It is possible to go to Taiwan today and find a *wu*. She will do a dance to draw the rain spirit into her.

Accounts of the *wu* written by Confucian officials during the Ming period tended to blast this activity by women, Cass found. The Confucian religion was highly patriarchal. Women were considered a polluting element.

Nevertheless, women were not as powerless as the Confucians might have liked. There were even empresses during the Ming period.

A religion that tended to promote power in women was Daoism. Along with Confucianism, it was one of China's earliest religions, originating about 500 B.C. Unlike other Chinese religions, Daoism had many goddesses. These goddesses could be benevolent, evil, or even sloppy.

The Daoist myth of the creation features a slimy snail lady. She molded figures out of clay that became the aristocrats of the world. "Then she got tired and lazy," said Cass, "and simply slithered through the mud, making formless wads of dirt. These blobs became the rest of humanity, people like us."

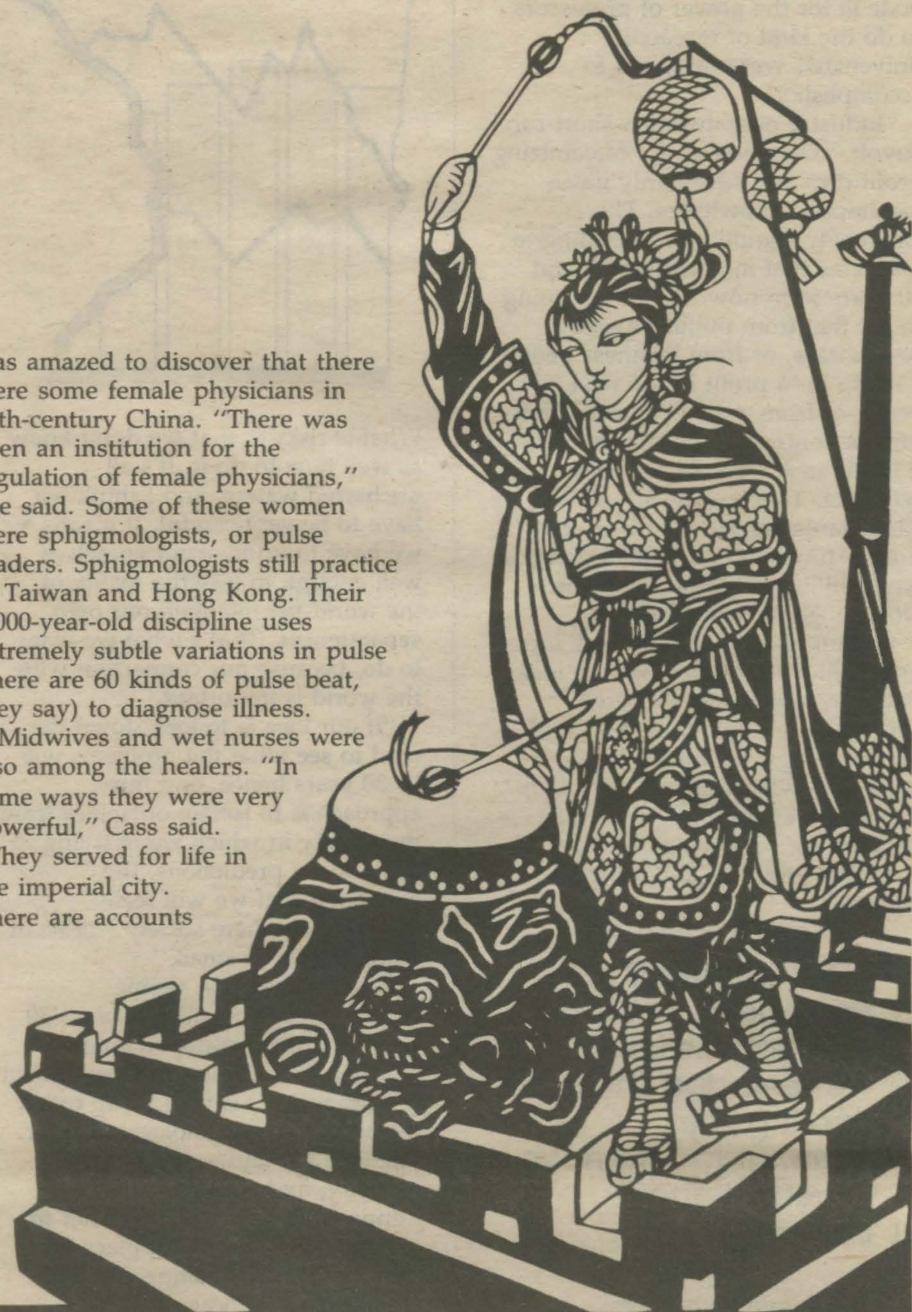
Also in the witch category were women who were mystics. They lived in temples in the mountains, often under the sponsorship of Buddhist or Daoist nobles. The Confucians didn't like these women either.

The Confucian religion was highly patriarchal. Women were considered a polluting element.

Almost in spite of himself, a Confucian official recounted his failure to unmask a famous female mystic. Daoist mystics attempted to transform their bodies into something superearthly. To achieve immortality they tried to wean themselves from mundane earthly practices—eating and drinking, for example. "This female mystic had achieved the state of not needing food to live," Cass said. "In his account, the official tried to discredit her by offering her tea. She drank it, but deeming it vulgar to digest it, she drained it from her fingertips. The official was horrified, but impressed."

Another nontraditional role for women was that of healer. Cass was amazed to discover that there were some female physicians in 14th-century China. "There was even an institution for the regulation of female physicians," she said. Some of these women were sphigmologists, or pulse readers. Sphigmologists still practice in Taiwan and Hong Kong. Their 2,000-year-old discipline uses extremely subtle variations in pulse (there are 60 kinds of pulse beat, they say) to diagnose illness.

Midwives and wet nurses were also among the healers. "In some ways they were very powerful," Cass said. "They served for life in the imperial city. There are accounts of emperors refraining from doing things that would disturb the nanny or wet nurse."



How could the woman warrior arise in a culture of foot-bound, house-bound Chinese wives?

The incipient Chinese feminist could also look to the hag for inspiration. "Hags are a universal type," Cass said. "They are women who work as moneylenders or matchmakers. They might sell herbs or serve as coroners' assistants to do the actual touching of the corpse."

There aren't many factual accounts of hags, but they appear frequently in Chinese fiction, Cass said. "They were always cackling around on the periphery of society. There were a lot of dire warnings not to let them enter a house. In fiction they were essential to stir things up and get the plots moving in novels and operas. They're meddlers, but they were out there on the streets. They weren't confined in houses."

Women did have power in ancient China. Cass found that a range of behavior was permitted between the extremes of the foot-bound woman closeted in her husband's house and the woman warrior. "The foot-bound woman was a Confucian ideal," Cass said, "but they may have been in the minority."

Ironically, two major ways women gained power in traditional Chinese society—childbirth and great age—often result in loss of power for women in modern Western society.

Cass is continuing to explore these ideas in a book she is writing on a great novel of the Ming period, *Flowers in a Golden Vase*. It concerns six wives of a nobleman and how they get along together in the back apartments of the estate. "It's a disaster epic," Cass said. "We meet several archetypes, including a venomous dragon lady."

Archetypes are important, Cass said. "I believe people think in terms of myth, fable, and fantasy, not just logically. We live with these examples in our heads. The Chinese are particularly aware of the power of folklore."

In China popular tales are regularly used to inspire the population to self-sacrifice and other tenets approved by the government. One of the most famous tales is called "The White-Haired Girl," Cass said, and was performed as an opera even during the cultural revolution. A girl that is raped and killed by a wealthy landlord haunts a cave in the hills. Eventually the white-haired ghost helps lead the Communist army in the revolutionary battles of the 1930s.

An archetype that is not present in modern China is that of the woman warrior, Cass said. It doesn't fit with the Marxist morality of asexual cooperation. □

Designing for the Living

A mechanical engineering class is putting theory into practice by helping disabled children to a better life.

By Darlene Gorrill

Some 40 feet down the hall, his smile becomes visible—a mammoth grin accompanied by excited, animated waves. The joy seems only to grow larger the closer the child in the wheelchair moves. The object of 10-year-old Kirk Wetzlich's attention finally notices him and returns the greeting with equal enthusiasm.

"Hi, Kirk." Former mechanical engineering student Jeff Haberer reaches over and gently touches Kirk's shoulder. "Does it still work?" Kirk smiles and nods.

For Haberer, designing a self-feeding device for Kirk wasn't just another class assignment. For Kirk, the new feeder meant a large step toward independence.

The two became acquainted through a project that matches handicapped students with Institute of Technology (IT) mechanical engineering seniors who design devices for them. Participating schools are Dowling, Portland Secondary, and Emerson Schools in Minneapolis and Cavanaugh School in Crystal.

IT students usually design devices specifically for one person, said Darrell Frohrib, mechanical engineering professor and project leader. Because producing only one device is a costly process for industry, there aren't many products that fit the needs of an individual, he said.

Teachers at the schools make a list of suggestions; the IT students then visit the schools and meet the children for whom they will design devices. Most college students have no idea of the kind of life handicapped students lead until they visit the school, Frohrib said. "They come from those schools staggering because it's a sea of need."

"I had worked with disabled people before as an orderly in a hospital for the mentally retarded," Haberer said. "I guess that made me comfortable around disabled people. But it's shocking the first time you come into the school and see all of the children running around in wheelchairs and feel sorry for them."

As the sights and sounds of Dowling—the children's loud voices, the hallway games—became more familiar his perceptions changed: "You start to feel that it's just normal life—that there's nothing to be sorry about."

The human dimension to engineering—the ability to relate to the design's user—is an important lesson the students learn, Frohrib said. "Engineering design should be a product of serving a human need; sometimes you don't see that human need."

Haberer and his partner in the project, Tom Marrinan, recognized Kirk's need immediately. They decided to find a way to enable Kirk, who suffers from cerebral palsy, to feed himself.

"Kirk kind of takes your heart right in," Marrinan said. "He was so easy to work with. He knew his limitations. We knew something about engineering, but we didn't know about cerebral palsy."

Kirk communicates by using a bliss board, which has symbols and letters of the alphabet that he points to. "He was our biggest critic in the sense of what worked or not. Even though he can't talk, you can tell by his smile," Haberer said.

Marrinan and Haberer originally planned to design "something all-encompassing" that would allow Kirk to use his arm for other activities, too. They created an arm brace designed to control Kirk's spastic motions. But what they didn't realize was that, with the brace, the upper part of Kirk's arm became spastic, rendering the device ineffective.

"We were very disappointed, mostly because we had disappointed him," said Marrinan.

After some false starts and modifications, the project was completed in two quarters. The device they came up with, which attaches to Kirk's wheelchair, has a lever that he can pull to move a spoon across a plate to scoop up food. The spoon then continues on its path to his mouth. A button rotates the plate in a circle so the spoon can pick up food from any location on the plate.

Haberer remembers the day the final product was delivered: "School was out for him. We had to do sort of a detective search to find him. Finally, we got his phone number. When we drove up to his house we could hear the honking sound from inside the car"—the first time they heard the horn on the wheelchair. "He was so excited that he almost couldn't get the device to work.

"There is a lot of satisfaction in seeing something you designed being used in a real human way. I saw a way to use my engineering skills in a constructive manner."

IT students began working in schools several years ago, but actual devices have been constructed only within the past year and a half. "The students' designs have changed form from paper designs to paper designs plus prototype," Frohrib said.

The rehabilitation project is one of eight options in the engineering design program, which is a required course for mechanical engineering seniors. Other design projects have included a cleaning device that

Mechanical engineering senior Jeff Haberer visits Kirk Wetzlich to see how well he's doing with the feeding device. "He really considers them friends now," Kirk's mother said of the engineering students.

TOM FOLEY

could replace the vacuum cleaner, an improved valve for food processing equipment, safety refinements on existing products, and experiments on internal combustion engines.

The rehabilitation project began on a much smaller scale four or five years ago when Frohrib became involved with a committee of the Courage Center, a rehabilitation facility in the Minneapolis suburb of Golden Valley. Frohrib helped the center determine projects that would aid handicapped people, and students concentrated on producing designs to solve those problems. The students didn't meet the people who would be using the designs, nor did they build any prototypes.

About two years ago, occupational therapist Marcia Mulhausen heard about the students' efforts and wondered if the project could be extended to include handicapped students at Dowling School, where she works.

Frohrib began sending his students to the school. "That was sort of like putting the flame to a pile of dynamite," Frohrib said. "The empathy with the kids was so real."

Frohrib once considered biomedical engineering as a possible career, but when he was in college in the 1950s there was no such field, he said. He has continued to look for opportunities to follow through on his belief that engineering should work to benefit individual people directly.

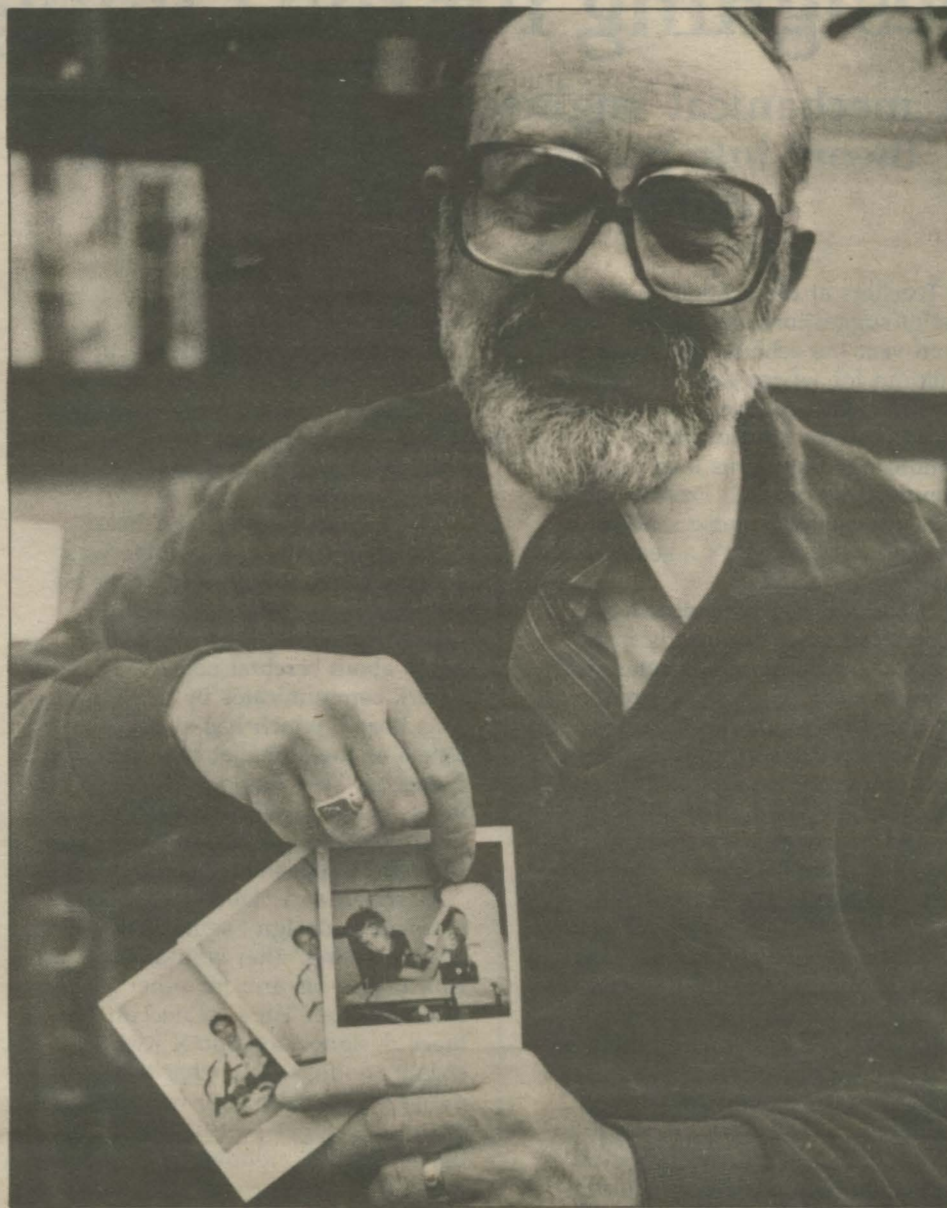
The individualized approach of the project points out a real problem for handicapped people: because a design may be applicable to only one person, production costs may be prohibitive. "I think the marketplace could be tapped with the right strategy," Frohrib said. He envisions a flexible manufacturing operation that could supply some standard products, yet be able to accommodate individual needs.

Students' designs can be as basic as an adjustable wheelchair tray made with a hinge joint from a lawn chair.

"We knew something about engineering, but we didn't know about cerebral palsy."

Many projects are designed to capture the curiosity and interest of handicapped students. The "busy box" is a simple square box with levers to pull and lights that flash. Another invention, known as a "consequence device," provides stimulation and helps develop eye-hand coordination. A yank of one lever sends a whirl of air through a blower, pushing a button can sound an alarm, and there's a kaleidoscope attached. An Apple computer has been adapted to allow handicapped students to use it for entertainment and instruction.

A picture collection of satisfied customers helps keep Professor Darrell Frohrib committed to his course on designing aids for the handicapped.



TOM FOLEY

Cerebral palsy kept Kirk Wetzlich from feeding himself until two engineering students came up with a device that helps him transport a spoon from plate to mouth. "It's meant a whole new world," said Kirk's mother. "He could take pride in doing something he couldn't do before."

TOM FOLEY

One of the more sophisticated projects is a soccer game that can be played with two simple control buttons. A music synthesizer in the machine plays "The Star-Spangled Banner" when the game is turned on and off, "Yankee Doodle Dandy" and the *William Tell* Overture when the ball hits certain places, and bursts forth with the "Hallelujah" chorus when a goal is scored.

"Dr. Frohrib encouraged us to be ambitious. We didn't know how ambitious we were at the time, but we found out," said Ron Anderson, who worked on the game.

Anderson visited Portland Secondary School earlier this year. "A lot of kids were bored out of their minds," he said. "There was just no stimulation. You can see the frustration they are feeling. We wanted to build something that would be useful for everybody with limited skills, yet be entertaining. I'm glad I took the class. It gave me a taste of life—what's out there."

The project also gave Anderson, working with Kevin Faulds and Mark Stiyer, a different perspective on college learning. "I think it was the first time I felt I was an engineer," he said. "We had to dive into theory; that was something we didn't expect to do. We felt like the faculty are almost peers as opposed to the traditional interaction."

The projects do seem to make a difference, participants agree. "It's a situation where it's obvious a little help means a great deal," Frohrib said.

The large imitation driver's license on Kirk's wheelchair demonstrates his willingness and determination to function for himself. According to Carol Wetzlich, Kirk's mother, the feeder has meant "a whole new world. He could take pride in doing something that he couldn't do before," she said. "It means that when he is a teenager, he will be able to function without his mother to feed him."

Some students can see the effect immediately. Jeanne Etem, who along with Colleen Guest designed a detachable bliss board to be used on the walker of a student who has cerebral palsy, remembers the day the device was delivered: "It was great because it was his 18th birthday party. We were having cake and ice cream. We gave him the board. He used it to signal that he wanted some more cake and ice cream. He was really excited.

"It was great to work with someone and know that you helped make his life easier in a small way."

Frohrib said he would like to see the projects include expertise from other departments, such as electrical engineering. James Holte, associate professor of electrical engineering, did assist the soccer game inventors. Frohrib is also interested in seeking funding for prototype costs, which can range from $50 to $100 or higher and are now borne by the students or the schools. Students are also hindered by lack of a workshop; they do the work at home or use employers' shops.

Expansion of the project to include other schools is possible, Frohrib said. Only this spring, Emerson School was added. One student team is investigating the potential for marketing the devices.

"I couldn't stop it if I wanted to," Frohrib said. "I said to my wife, 'This is taking on new dimensions.' "

One new dimension is continuity—trying to stay in touch with students who have received devices. "As Kirk grows, for example, what happens?" Frohrib asked.

Etem, who said the project has made her more sensitive to the needs of the handicapped, would like to visit the student for whom she designed the portable bliss board. And Haberer and Marrinan discovered a new pal, one they escorted to campus for a tour and meeting with Frohrib.

"He loved it. I think he was really impressed, and I was, too," said Carol Wetzlich. "He really considers them friends now." □

By Noam Chomsky

Editor's note: Noam Chomsky, one of the world's most celebrated scholars, will be coming to the Twin Cities campus next spring to co-teach a course on ideological bias in the American press. The graduate-level course will be sponsored by the journalism, philosophy, and American studies departments.

Chomsky, who holds the Ferrari P. Ward Chair of Modern Languages and Linguistics at MIT, has had a profound effect on current thought in philosophy and linguistics. At the same time, he has earned a reputation as a brilliant critic of U.S. foreign policies and our press.

His pioneering contributions to linguistics, mathematical psychology, and philosophy have been presented in a remarkable stream of books, including Syntactic Structures, Language and Mind, Reflections on Language, The Logical Structure of Linguistic Theory, *and* The Sound Pattern of English. *His political commentaries include* American Power and the New Mandarins, Towards a New Cold War, After the Cataclysm, *and* The Fateful Triangle.

This article is excerpted from a speech Chomsky delivered at this year's convention of the Northwest Broadcast News Association in Minneapolis. The Update *version of Chomsky's remarks is scheduled for simultaneous publication in* Harper's *magazine. A complete version of Chomsky's speech, along with the fascinating open discussion that followed it, will appear in the summer issue of* The Thoreau Quarterly, *published by the University's philosophy department. A $12 yearly subscription to* The Thoreau Quarterly *may be obtained by writing* The Thoreau Quarterly, *355 Ford Hall, 224 Church Street S.E., University of Minnesota, Minneapolis, Minnesota 55455.*

1984: Orwell's and Ours

In May 1983, a remarkable event took place in Moscow. A courageous newscaster, Vladimir Danchev, denounced the Russian war in Afghanistan over Moscow radio in five broadcasts extending over a week, calling on the rebels "not to lay down their arms" and to fight against the Soviet "invasion" of their country. The Western press was overwhelmed with admiration for his startling departure from the Soviet propaganda line. In the *New York Times*, one commentator wrote that Danchev had "revolted against the standards of double-think and newspeak." In Paris, a prize was established in his honor to be given to "a journalist who fights for the right to be informed." In December, Danchev returned to work after psychiatric treatment. A Russian official was quoted as saying: "He was not punished, because a sick man cannot be punished."

The event was considered to have afforded a glimpse into the world of *1984*, and Danchev's act was justly regarded as a triumph of the human spirit, a refusal to be cowed by totalitarian violence. What was remarkable about Danchev's action was not merely the protest, but the fact that he referred to the Russian invasion of Afghanistan as "an invasion." In Soviet theology, there is no such event as "the Russian invasion of Afghanistan." Rather, there is a "Soviet defense of Afghanistan" against bandits supported from abroad.

Orwell's *1984* was largely drawn from the practice of existing Soviet society. What was striking about Orwell's vision was not his portrayal of existing totalitarianism, but his warning that it could happen in the West.

So far, at least, that has not come to pass. Industrial capitalist societies bear little resemblance to Orwell's Oceania—though the terror-and-torture regimes they have imposed and maintained elsewhere achieve levels of violence that Orwell never depicted, Central America being only the most obvious current case.

Implicit in the press coverage of the Danchev affair was a note of self-congratulation: it couldn't happen here. Certainly no Danchev has been sent to a psychiatric hospital for calling an invasion an invasion. But let us inquire further into just why this is the case. One possibility is that the question does not arise because there are simply no Danchevs here: we cannot perceive an invasion if the invader is the United States. This would be a stage beyond what Orwell imagined, a stage beyond what Soviet totalitarianism has achieved. Is this merely an abstract possibility, or is it an uncomfortably close assessment of our own world?

Consider the following facts. In 1962, the U.S. Air Force began its direct attacks against the rural population of South Vietnam, with heavy bombing and defoliation, as part of a program intended to drive millions of people into camps where, surrounded by barbed wire and armed guards, they would be "protected" from the anti-French resistance (the Vietminh). This is what we call "an invasion" when conducted by some official enemy. The government of South Vietnam had no legitimacy and little popular support, and in fact its leadership was regularly overthrown in U.S.-backed coups when it was feared that they might arrange a settlement with the South Vietnamese enemy.

For the past 22 years, I have searched in vain for even a single reference in mainstream journalism or scholarship to an "American invasion of South Vietnam," or American "aggression" in South Vietnam. In the American doctrinal system, there is no such event. There is no Danchev, though in this case it took no courage to tell the truth, merely honesty. (Popular attitudes, incidentally, were rather different. As late as 1982, over 70 percent of the population, but far fewer "opinion leaders," regarded the war not just as a mistake, but as "fundamentally wrong and immoral," a problem known as "the Vietnam syndrome" in American political discourse.)

These facts should give us pause. How was such astonishing subservience to the doctrinal system achieved? We can begin to understand by looking more closely at the debate in mainstream circles between the "hawks" and the "doves." The hawks were those, like journalist Joseph Alsop, who felt that with sufficient dedication the war could be won. The doves agreed with liberal historian Arthur Schlesinger that it probably could not, though like him, they took for granted that "we all pray that Mr. Alsop will be right." All agree that it was "a failed crusade" undertaken for motives that were "noble" though "illusory" and with "the loftiest intentions," in the words of Stanley Karnow in his recent best-selling history, highly regarded for its critical candor.

Strikingly omitted from the debate is the view that the United States could have won, but that it would have been wrong to allow aggression and massacre to succeed.

This commentary illustrates the genius of brainwashing under freedom. In a totalitarian system, it is required only that official doctrine be obeyed. In the democratic systems of thought control, it is deemed necessary to take over the entire spectrum of discussion: nothing must remain thinkable apart from the Party Line. State propaganda is often not expressed, merely presupposed as the framework for discussion among right-minded people. The debate, therefore, must be between the "doves" and the "hawks," the Schlesingers and the Alsops. The position that the United States is engaged in agression, and that such aggression is wrong, must remain unthinkable and unexpressed. The "responsible critics" make an estimable contribution to this cause, which is why they are tolerated, indeed honored. The nature of Western systems of indoctrination was not perceived by Orwell.

The devices that are used to

Chomsky, next page

Propaganda is to democracy what violence is to totalitarianism. The techniques have been honed to a high art, far beyond anything that Orwell dreamt of.

LETTERS

Chomsky, from page 11

ensure obedience are effective though not overly subtle. Consider, for example, what is universally called the "peace process" in the Middle East: the Camp David accords of 1978-79. Few ask why the inhabitants of the territories under Israeli occupation reject the "peace process" with virtual unanimity. A moment's thought suffices to provide the reason. The "peace process" served to remove Egypt from the conflict so that Israel would then be free, with U.S. support, to extend its settlement in the occupied territories and attack Lebanon, exactly as it has been doing since. But such observations are excluded from "responsible" discussion: the United States is committed to the creation of a powerful and expansionist Israel as a "strategic asset." Anything that contributes to this end is, by definition, the "peace process." The term itself eliminates any further discussion: who can be against peace?

There are thousands of similar examples. The U.S. marines in Lebanon are the "peace-keeping force," and actions taken against them are "terrorism." Often, unwanted facts are simply suppressed. The "secret bombings" of Laos and Cambodia were "secret" because the media refused to report the ample evidence available.

I doubt that any story has ever received the coverage of the downing of Korean Airlines flight 007 last fall, sure proof that the Russians are the most barbaric devils since Attila the Hun so that we must place Pershing missiles in Germany and step up the war against Nicaragua. The densely printed *New York Times* index devotes seven full pages to the atrocity in September 1983 alone. In the midst of the furor, UNITA, the "freedom fighters" supported by the United States and South Africa, took credit for downing an Angolan jet with 126 killed. There was no ambiguity, the plane was not off course flying over sensitive installations. It was simply premeditated murder. The incident received 100 words in the *New York Times* and no comment anywhere in the media.

This is not the only such case. In October 1976, a Cuban airliner was bombed by CIA-backed terrorists, killing 73 civilians. In 1973 Israel downed a civilian plane lost in a sandstorm over the Suez canal with 110 killed. There was no protest, only editorial comments about how "no useful purpose is served by an acrimonious debate over the assignment of blame" (*New York Times*). All of these incidents have been quickly forgotten.

In such ways, history is shaped in the interests of those in power.

All of this falls under the rubric of what Walter Lippmann, in 1921, called "the manufacture of consent." Propaganda is to democracy what violence is to totalitarianism. The techniques have been honed to a high art, far beyond anything that Orwell dreamt of. The device of feigned dissent, incorporating the doctrines of the state religion and eliminating rational critical discussion, is one of the more subtle means, though simple lying and suppression of fact and other crude techniques are also highly effective.

It should be noted that ideological control (Agitprop, in Soviet usage) is far more important in the democracies than in states that rule by violence, and is therefore more refined and effective. There are no Danchevs here, except at the remote margins of political debate.

For those who stubbornly seek freedom, there can be no more urgent task than to come to understand the mechanisms and practices of indoctrination. These are easy to perceive in the totalitarian societies, much less so in the system of brainwashing under freedom to which we are subjected and which all too often we serve as willing or unwitting instruments. □

Did U Know?

The most successful medical school in the nation in turning out family practice physicians is the School of Medicine on the Duluth campus.

A national study this year found that more than 58 percent of the students who began their medical training in the two-year program in 1980 have elected family practice as their career choice. This compares to less than 13 percent of graduating medical students nationally.

Since it was founded in 1972 to help meet the need for family practice physicians in rural communities, the school has consistently led the nation in the percentage of its students who choose family practice careers.

The dedication to family practice becomes even more significant when it's considered that these students spend only their first two years in Duluth. Their last two years are spent on the Twin Cities campus, where they are exposed to all medical disciplines—many more lucrative than family practice. □

Good-bye, Mickey

As a Washington Roundtable analyst who has been studying the need for improvement in educational standards for several months, I was pleased to read the news that the College of Liberal Arts (CLA) is attempting to impose increased foreign language requirements for University students. The leadership role taken by the University in setting high standards is vital to the entire state of Minnesota. All of the research on effective schooling points to the fact that higher scholastic expectations lead to higher achievement. In this case students who intend to attend the University could now be faced with a "pay me now or pay me later" decision in terms of studying a foreign language for several years.

Many theorists project that the future health of our economy rests with the ability of America's citizens to understand foreign customs, cultures, and languages. They often overlook the fact that learning another language is a rigorous mental exercise that also develops critical thinking skills and a better understanding of our native language. As a business manager, I have often been appalled by the inability of new subordinates to express their ideas cogently in either written or verbal terms.

I remember the graduation ceremonies in 1969 when some of us from the ranks of IT [the Institute of Technology] sang the Mickey Mouse Club song while the CLA graduates filed up for their diplomas. The time is at hand to ensure that academic excellence replaces the snide cynicism reflected in our harmonious "M-I-C...K-E-Y ...M-O-U-S-E."

Michael A. Rose, B.E.E. '69
Seattle

Varsity Blues

"Getting a Perspective on University Athletics" (*Update*'s spring issue) was a well-balanced provocative presentation. I agree with those of the faculty who think the University "has no reasonable reasons for being in the big-time football business at all."

Athletics mean dollars, and to that end all of the fine attributes of sportsmanship, team spirit, facing adversity, and physical well-being take a back seat. A very small percentage of the students actually engage in varsity sports. My 1931 class of electrical engineers had no varsity athletes, but we did not neglect that aspect of our education. Certainly we were not lacking in good sportsmanship.

Illiterate athletes, million-dollar salaries, massive stadiums, drug abuse, and a host of other shameful actions make one feel concerned.

I.L. McNally, B.E.E. '31
Sun City, California

Holtz's Salary

I read with shock and amazement the news item in the winter issue of *Update* that funds for Lou Holtz's salary "will be split 75-25 between the athletic department and the University of Minnesota Foundation." Only a week or so after reading this, I received a call by a current University student asking me to continue my contributions to the Foundation. I told her I would, despite my serious reservations about the Holtz "gift."

I came to Minnesota at the end of the great Bernie Bierman era. Growing up with Wheaties in the 1930s meant growing up with U of M national champions. Doubtless, the University has lost its national reputation in football, but its excellence as an educational and research leader has never diminished. After the likes of Nagurski, Nomellini, Giel, Stephens, and Bell, Minnesotans are tired of losing teams. But, so far as I can recall, the purpose of the Foundation is to enhance the quality of education and research of the institution, not to build the school's football fortunes.

Julius Paul, A.B. '47
Fredonia, New York

Football's Place

I greatly appreciated the article on athletics at the University, in particular as regards the football program. Now I like football as much as anyone else. In fact the only reason I have a high school letter is because I was manager of the football team for two seasons. But I question whether things haven't gotten out of hand at the University—with early registration for athletes and reserved space in dormitories. Is the purpose of the University to teach people to think, to develop a commitment to truth, beauty, and goodness—or to have athletes on campus? The fact is, the University has become so desperate for a football team that it would appear Lou Holtz will be allowed to get away with things ranging from evangelizing players to connections with Jesse Helms to early registration. I think education will suffer in the process.

Ronald Pajari, B.A. '75
St. Paul

Editor's note: Freshman, sophomore, and some junior and senior football players will be housed in Sanford Hall. Early registration for athletes is on a case-by-case basis according to special need—the same policy that applies to nonathletes who have problems with their schedules. Lou Holtz has his own strong religious beliefs, but does not proselytize his players.

RESEARCH BRIEFS

Bird Watching

I was fascinated with your article on the migration of birds in the spring issue of *Update*. I live by the San Francisco Bay in Marin County and I am a bird watcher. I love to see the migrations as they pass by and have wondered a great deal about where the birds are going and how they find their way.

Hulda E. Thelander, M.D. '24

Psycho-Poetry

I am enclosing a poem by Julia Davis, a Ph.D. candidate in counseling psychology. The poem was written in December 1983 as Julia looked out over the [Twin Cities] campus from Elliott Hall. It captures something essential about the University's setting and the Department of Psychology. The devotion of the University's psychology department to rigorous empirical research has earned it a reputation for "dustbowl empiricism," a term that originated in the 1930s and is used freely by Minnesotans and non-Minnesotans alike.

I met Julia when I supervised her during a rotation of her internship, and have her permission to submit the poem. My hope is that you will encourage a search for poems written about the University of Minnesota.

Sara Hunter, Ph.D. clinical psychology '74
St. Paul

Epilogue: The Empiricists

Rain-filled dusk unwinds the evening mists
across, among the roofs and trees.
Slow and dark within the city lights, the campus waits.
Oxford spires cannot measure these.

A half, a century's worth of learning here,
no deeper roots than in a farmer's field,
but a belief in dust, and that the counted grains
contain more truth than ancient quarries yield.

These zealots with their lists and rods
sift every doubt into their crucible
and, in homage to exacting gods,
test for the Irreducible.

Night rises from the walks and lawns.
Inside, the clocks remove the separate hours,
the counters sleep, and sleeping, dream
of theories that encompass towers.

©1983, Julia Davis

Editor's note: Readers, any other U of M poems out there?

Adjusting Fear of Sensational Crime

The same murder that is terrifying to read of when it occurs down the street is almost comforting to read about when it happens 2,000 miles away.

This was one of Twin Cities campus psychologist Linda Heath's findings in her study of the impact of newspaper crime reports on fear of crime, recently published in the *Journal of Personality and Social Psychology*.

Heath found that the reporting of sensational local crimes makes people fearful, but the reporting of sensational distant crimes actually reassures people. "Readers like the grass to be browner on the other side of the fence, and the browner the better," her study concludes.

Heath found people in Fresno, Youngstown, and Tacoma were more afraid than people in Rockford, Peoria, and Nashville, despite similar violent crime rates in all those cities.

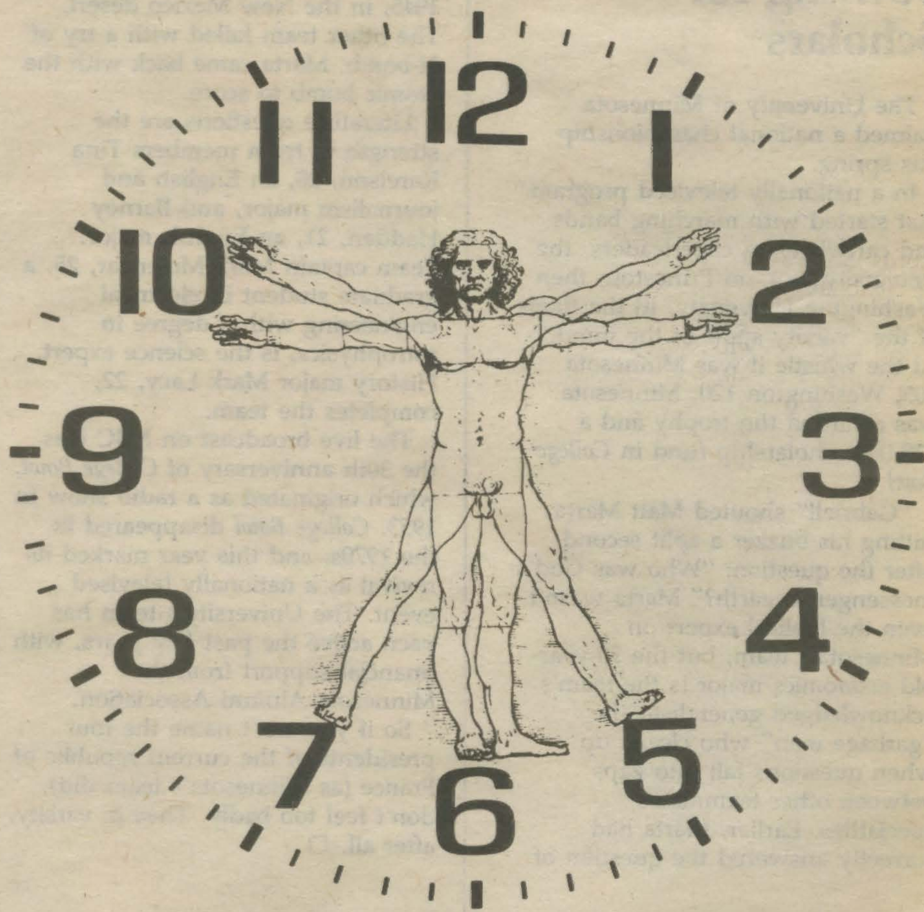
"My personal reading is that fear levels are too high," Heath said. "The crimes that people are most afraid of—assault and murder, even rape—are usually committed by a friend, relative, or acquaintance—someone the victim knows," she said. "So for the average person to be terrified of being attacked by a stranger just doesn't make sense."

The population groups that are most fearful—women and the elderly—are actually those statistically less likely to be victimized. Their fear, Heath concluded, has more to do with riveting media reports than with actual crime statistics. "One report of a violent attack is more real than all the statistics in the world," she said.

Although Heath doesn't suggest that newspapers eliminate articles about sensational local crimes, she does have suggestions for how they can reduce their readers' fear.

By including wire service reports of crimes in distant places, she said, they can reassure readers that not all crimes take place in their city. And, because Heath found that random crimes are much more frightening to readers than are crimes with some sort of motive, she said that reporters can ease readers' minds by including details that clarify the crime's nonrandom nature.

In Minneapolis and St. Paul, Heath said, "the media are very responsible," giving their readers lots of contextual information about crimes. "I would say fear among Twin Cities residents is probably lower than it should be given the crime statistics. When I talk to people here they seem to know about crimes but always dismiss them as flukes. It's probably very healthy." □



TOM FOLEY

Learning To Use the Body's Rhythms

William Hrushesky is a chronobiologist, an investigator of biological timing. Organisms have internal rhythms, and Hrushesky recently found ways to exploit those rhythms for more effective cancer treatment and better diagnosis of heart health.

Circadian rhythms are daily activity patterns of bodily functions like heart rate, blood pressure, temperature, and urine production. Now Hrushesky has extended that list to include the human body's sensitivity to anti-cancer drugs.

One of the problems of treating cancer is that cancer cells are very similar to normal cells, and drugs that kill cancer cells will also kill some normal cells. Hrushesky found evidence that the harmful side effects of two drugs used to treat bladder cancer can be minimized by giving the drugs at certain times of the day.

These bladder cancer drugs are effective, but sometimes physicians are forced to lower the doses because the drugs can damage kidneys and reduce the number of infection-fighting white blood cells. But Hrushesky found a schedule of one drug given at 6 a.m. and the other at 6 p.m. that seemed to minimize the side effects. Hrushesky, a cancer researcher at the University's Masonic Cancer Center, said he needs to test many more patients to determine whether the time of day the drugs are given affects the curability of the cancers.

In another application of body rhythms, Hrushesky invented a device to measure the biological age of the heart. In cancer treatment it could be used to assess the effects of drugs on the heart. But it should ultimately prove useful as part of routine physical exams, or even as a personal fitness gauge in health clubs or homes.

The device works because of a body rhythm that was first noted in 1733. When we breathe, a partial vacuum is created in the chest cavity as the lungs inflate. A young, supple heart muscle quickly reacts to the pressure change by pumping blood into the heart. As the heart gets older, this rhythm diminishes. Previously, the rhythm was thought to disappear entirely by middle age. But Hrushesky found it diminished at a steady rate of 10 percent for every decade of life.

Thus the rhythm acts as a measure of the suppleness, compliance, and elasticity of the heart—the heart's biological age.

Hrushesky's Sin-o-graph machine is sensitive enough to detect even the low-level rhythms in the hearts of people in their eighties. A reading takes less than two minutes. A small sensor clipped to the ear measures the pulse while the person inhales or exhales into a mouthpiece that measures breathing rate. An attached computer figures the rhythm.

As a doctor treating cancer patients, Hrushesky was concerned that the most common drugs used in chemotherapy are harmful to the heart. Some 5 to 10 percent of certain chemotherapy patients suffer severely damaged hearts, a condition that can be fatal. "I wanted to be able to predict which patients would get these heart problems so that I could prevent them—it was driving me crazy," Hrushesky said.

Hrushesky is now forming a small corporation for producing the device after it is awarded a patent. □

CAMPUS NEWS

Bowling for Scholars

The University of Minnesota claimed a national championship this spring.

In a nationally televised program that started with marching bands and cartwheeling cheerleaders, the University took on Princeton, then Washington University, in the finals of the "varsity sport of the mind." At the whistle it was Minnesota 205, Washington 120. Minnesota was awarded the trophy and a $20,000 scholarship fund in *College Bowl*.

"Gabriel!" shouted Matt Marta, hitting his buzzer a split second after the question: "Who was God's messenger to earth?" Marta wasn't even the biblical expert on Minnesota's team, but the 20-year-old economics major is the team's acknowledged generalist—the "garbage man" who cleans up when questions fall into gaps between other teammates' specialties. Earlier, Marta had correctly answered the question of what had been "born" on July 16, 1945, in the New Mexico desert. The other team failed with a try of H-bomb. Marta came back with the atomic bomb to score.

Literature questions are the strength of team members Tina Karelson, 20, an English and journalism major, and Barney Hadden, 21, an English major. Team captain Mark Molenaar, 25, a graduate student in electrical engineering with a degree in astrophysics, is the science expert. History major Mark Lacy, 22, completes the team.

The live broadcast on NBC was the 30th anniversary of *College Bowl*, which originated as a radio show in 1953. *College Bowl* disappeared in the 1970s, and this year marked its revival as a nationally televised event. The University's team has been active the past few years, with financial support from the Minnesota Alumni Association.

So if you can't name the four presidents of the current republic of France (as Minnesota's team did), don't feel too badly. They're varsity, after all. □

U·P·D·A·T·E

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Copy Editor
Lynn Marasco

Photographer
Tom Foley

Alumni Communications Director
Marcy Sherriff

Editorial Board
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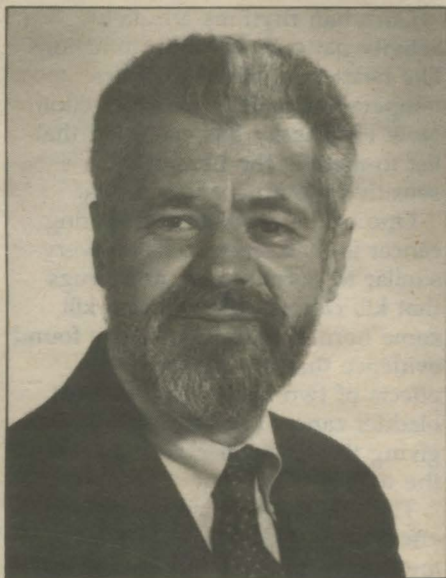
Introducing... Three New Deans

Ettore F. Infante demonstrated his respect for the University of Minnesota even before the search that resulted in his appointment as dean of the Institute of Technology (IT) began: he recommended it to his daughter Cecilia, who recently completed her freshman year in the College of Liberal Arts.



Infante of IT

As head of the National Science Foundation (NSF) division of mathematical and computer sciences, Infante made regular trips to the Twin Cities campus when the math department was awarded a $5 million five-year NSF grant in 1981 to set up one of two national institutes in applied mathematics. Infante was impressed with the area and the University.

The 45-year-old applied mathematician left his NSF job in Washington and a professorship at Brown University to become the new IT dean. He replaces Roger Staehle, who resigned in May 1983.

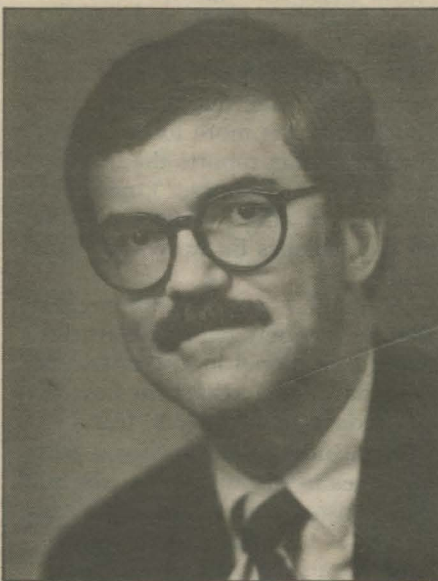
At the NSF, Infante was at the forefront of the drive to keep the United States in the supercomputer race. He is associate editor of the *Journal of Computers and Mathematics* and served on the White House Office of Science and Technology's Policy Committee on Supercomputers.

"His particular experience is precisely in the area where we have the greatest need," said Kenneth Keller, University vice president for academic affairs. The University is in the process of getting a supercomputer institute under way and improving its computer science and electrical engineering departments. The math institute Infante was involved in funding is beginning a study of problems related to supercomputers.

Infante said he plans to continue the close ties to industry that developed under Staehle's deanship. He cautioned, however, that University research should not be determined by corporate objectives.

Another emphasis will be graduate education, Infante said. High-quality research depends on recruiting the best graduate students. That will mean providing more financial support for graduate students.

Infante (who is known to friends and colleagues as Jim) was born in Modena, Italy, and has been a U.S. citizen since 1964.



Townley of Management

Preston Townley was never a typical business executive, which helps explain why he jumped careers to become dean of the School of Management.

With an M.B.A. from Harvard, he had risen to become head of the consumer foods division of General Mills, a position that made him a likely candidate to one day become president of the company. He decided to resign.

A few years after he had started at General Mills in 1964, he took a year off to be a White House Fellow, serving as a special assistant to the postmaster general. His community service work went far beyond adornment of an executive résumé. He is currently director of the Urban Coalition of Minneapolis, a member of the St. Paul/Minneapolis Council on Foreign Relations, and a board member of the St. Paul Chamber Orchestra. He is a past director of the Hennepin County Health and Welfare Council.

Accepting the deanship was a way of combining community service with his management expertise.

Townley, 45, replaces David Lilly, who became University vice president for finance and operations in June. Lilly, who also had a background as a business executive, was dean when the School of Management increased its faculty by 50 percent and increased private contributions from 8 to 21 percent of its budget. Greater efforts were made to cater to working professionals, and evening M.B.A. enrollment tripled. The school rose in the rankings to become one of the nation's top 16.

Townley said he plans to continue in the direction taken by Lilly. He wants to foster a consumer orientation that is responsive to the needs of the students and the business community. A special role for the school, Townley believes, is helping small entrepreneurial businesses during the time they're trying to get off the ground. That could offer management challenge worthy of a university.

Allen of Agriculture

It's been a good year for C. Eugene Allen. First he was named new dean of the College of Agriculture—a position that has been upgraded to include associate directorship of the Agricultural Experiment Station. Then the 17-year veteran of the University was presented with an award for his excellent teaching of undergraduates.

Allen had already won national awards for his research. A professor of animal science and food science and nutrition, he is currently isolating factors in blood serum that regulate muscle growth in swine.

As dean, Allen plans to give a lot of attention to the problem of declining enrollments in the College of Agriculture. Improving the curriculum, placing a high priority on hiring the best faculty available, and finding more scholarship money for good students are all key elements to boosting enrollment. □

Kudos, Kudos

Two Twin Cities campus economists were honored this spring by the National Academy of Sciences, the country's most prestigious scientific organization, which is made up of fewer than 1 percent of U.S. scientists.

Thomas Sargent, a nationally known theorist in macroeconomics, became the 12th University of Minnesota professor to be inducted into the organization. His colleague **Anne Krueger** won the academy's 1984 Robertson Memorial Lecture award, which carries a $5,000 prize. Krueger, who is on leave from the University to serve as vice president for economics and research at the World Bank in Washington, lectured at the academy's annual meeting.

Three new Regents' Professors—the title is the highest honor the University can bestow on a faculty member—were named at the June regents' meeting. They are **Eville Gorham,** professor of ecology and one of the world's foremost experts on acid rain; **Warren MacKenzie,** head of the studio arts department and a world-renowned potter; and **James White,** professor of pediatrics and laboratory medicine and pathology who developed new techniques to study blood platelet structure and function. There are 20 Regents' Professors on the faculty. They hold the title for as long as they remain at the University and receive an annual gift of $5,000.

Nine faculty members received the 1984 Horace T. Morse-Amoco Foundation Award for Outstanding Contributions to Undergraduate Education. They are **Wilbert Ahern,** history, Morris; **C. Eugene Allen,** animal science and food science and nutrition and newly named dean of the College of Agriculture; **Thomas Brothen,** psychology, General College; **Clarke Chambers,** history, College of Liberal Arts; **Gerald Erickson,** classics, College of Liberal Arts; **Harlan Hansen,** curriculum and instruction, College of Education; **Patrick Kroll,** business, General College; **Verna Rausch,** laboratory medicine and pathology, Medical School; and **D. Peter Snustad,** genetics and cell biology, College of Biological Sciences. Each winner receives $1,000 and a limited-edition sculpture designed by the late Katherine Nash, a studio arts professor who had won the Morse-Amoco award for her excellent teaching.

Maxine S. Piper of McLean, Virginia, has been named 1984 Volunteer of the Year by the Minnesota Alumni Association (MAA). She is president of the Washington, D.C., alumni chapter, and has helped that group recruit new members and expand its educational activities. The 32,000-member MAA depends on volunteers to orchestrate more than 500 events and programs for University alumni and friends each year.

Lastly, the University's two major alumni publications both won national awards from CASE, the Council for the Advancement and Support of Education. ***Update*** received a special merit award in the best article of the year category for editor Paul Dienhart's profile of Gerald Vizenor, "Survival Tactics of a Compassionate Trickster" (fall 1983). ***Minnesota,*** the magazine of the Minnesota Alumni Association, was cited as being among the best alumni magazines in the country. □

Tough Policy on Sexual Harassment Approved at the U

A new sexual harassment policy as tough as any in the nation was approved by the University Senate this spring.

The key addition to the University's 1981 policy concerned the issue of consensual relationships. According to the revised policy, "A faculty member who enters into a sexual relationship with a student (or a supervisor with an employee) where a professional power differential exists must realize that, if a charge of sexual harassment is subsequently lodged, it will be exceedingly difficult to prove immunity on grounds of mutual consent."

Only a few schools like Harvard, the University of California at Berkeley and at Santa Cruz, and now Minnesota have policies that judge mutual consent a poor defense against sexual harassment charges.

"This statement is a warning and a lecture," said Richard Purple, professor of physiology and a member of the subcommittee that recommended the policy revision. A warning is needed, he said, because some recent cases have shown that respondents had "misconceptions about what constituted mutual consent."

It is difficult for consent to be given freely when there is a power disparity in the relationship, Naomi Scheman, assistant professor of philosophy, pointed out during the debate on the measure.

President C. Peter Magrath hailed the new code as "quite momentous, a very desirable and very important step."

Under the policy, sanctions against those found guilty of sexual harassment could include reprimand, denial of merit pay, reassignment of teaching responsibilities, or suspension without compensation.

Other measures added to the policy call for the University to provide adequate counseling to victims of sexual harassment and to sponsor a study of the extent of sexual harassment on campus. During the first two and a half years the University had a policy, 100 complaints of sexual harassment were filed with the University against students and civil service and academic staff members. □

TOM FOLEY

All That Jazz

Two hundred classic 78 rpm jazz records recently made their way from a trash dumpster to the Twin Cities campus music library. Patricia Bratnober had tried for eight years to find a good home for her late husband's collection of jazz records. Finally, faced with moving to smaller quarters, she left them for the garbage collector.

The next day she got a call from jazz studies professor Reginald Buckner, who had just heard about the collection. "I told him I was terribly sorry, but he was a day too late," Bratnober said. But some of her friends had seen the pile of records in the alley and saved them. When she found out that the records were safe, she called Buckner with the good news.

The collection turned out to be a gold mine of original recordings. Since Bratnober's late husband, Harry, was an accomplished jazz pianist, many of the recordings featured jazz piano giants like Art Tatum, Fats Waller, and Mary Lou Williams.

Harry Bratnober's connection with jazz at the University began in 1941, when he and his friends Ken Green, Bob Baker, and Leigh Kamman organized the Boogie-Woogie Club. Their first concert drew an audience of 3,000 in the newly built Coffman Union. In attendance was Dmitri Mitropoulos, conductor of the Minneapolis Symphony Orchestra, who said he was deeply touched by Green's rendition of his composition "Beat Me, Dmitri."

Buckner, who has taught courses on the history of jazz, is well known locally as a jazz pianist. "Jazz should not dominate the musical curriculum," he said, "but it and other indigenous American forms of music should have a place. For American music to be a mystery to its own people is ridiculous."

Buckner hopes the Bratnober records will form the nucleus of an extensive jazz collection by encouraging more people to donate to the music library. □

CAMPUS NEWS

Easy Riding on Leg Power

Put two aerospace engineering students together in a dorm room, add the fact that they're both avid bicyclists, and you've set up some late night discussions on designing a speedier bike.

If you also have something like the IT Innovation Fair, a contest to encourage Institute of Technology students to design innovative and marketable products, that fast bicycle might actually get built. Aerospace junior Bob Stuelke won $200 in first prize money for his "human-powered vehicle" at the first annual innovation fair.

Marketability of the products was a major criterion of the contest, and Stuelke already has an order for 12 bikes. The going rate for three-wheel recumbent bikes is about $800 (although some sell for as much as $1,600), and Stuelke plans to retail his invention for $700. "All we need is one more energy crisis," Stuelke said.

He and his old roommate, Dave Lung, had the idea to build a practical commuting vehicle that was stable at high speeds. The present model cruises easily at 25 miles per hour, and has reached 70 on some hills. Stuelke welded the bike together using aircraft tubing, and it weighs only 48 pounds. With gears on both axles, it has 28 speeds.

"The lack of wind resistance is the major advantage," Stuelke said. "It just pulls away from other bikes coming down a hill." The rider actually reclines on the bike, head back and feet straight out front. It's surprisingly comfortable.

Turning has long been a problem on experimental speed bikes. This one can spin tight circles around trees. It is not steered; the rider simply leans in the desired direction.

Stuelke wants to make a few more refinements: attach a flag to increase its visibility and rearview mirrors for the rider, improve the gearing, and do something about the rear seat shock absorber that is currently a yellow tennis ball. "I'm taking an aerodynamics course next year, and I might be able to put it in a wind tunnel to experiment with cowlings," he said.

"The innovation fair rejuvenated my interest in the project," Stuelke admitted. The fair was organized by the Association for Creative Engineering, an IT student group, with $500 in prize money donated by the Institute of Technology. Six other prizes were awarded for inventions like a solar cooker, a swinging lounge chair, and a thermostat controller. □

TOM FOLEY

Bob Stuelke and his winning invention

UNIVERSITY OF MINNESOTA

U·P·D·A·T·E

Summer 1984 · Volume 11 · Number 3

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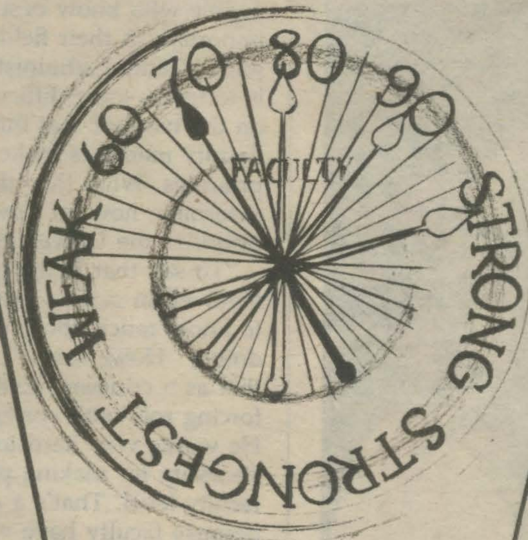
U·P·D·A·T·E

FOR FACULTY AND STAFF OF THE UNIVERSITY OF MINNESOTA



By Maureen Smith

The year she chaired the Senate Consultative Committee, Pat Swan kept a bar graph on her bulletin board, a reminder of one of the overriding realities for the University.

It was a projection of student enrollment a decade ahead, and "1994 on the bar graph didn't look too good," said Swan, professor of food science and nutrition. "What we were doing was preparing ourselves for that future as best we could. I was convinced that if we didn't lay the groundwork, we would come to a crisis."

Swan, in her willingness to look at hard realities, is typical of those who have had leadership roles in faculty governance in recent years. She believes in making choices for the future. Yet some faculty members have been uneasy as they have seen more decisions made by central administration.

"Faculty members would say to me, 'Why are we pulling back all this money for [Vice President Kenneth] Keller to play his games?'" Swan said. "In their framework, they were right. We could muddle through." But in the long run, she said, failing to plan would mean that "we were going to do more than shoot ourselves in the foot.

"We were trying to prevent doom when people weren't interested in considering doom," she said. "Not every faculty member had a bar graph sitting in the middle of their bulletin boards."

Looking ahead, planning, making choices—someone's got to do it. The more tough decisions are made at the University, the more questions are raised about where the power lies and whether it has shifted.

If power means having the final say about what happens at the University, faculty members never had it and never will. If it means having a voice in major decisions, they have more than ever before. If it means being left alone in their departments to do as they choose, they have less than they used to but still quite a bit.

At the all-University level, faculty influence is exercised primarily through the University Senate and its committees. One measure of faculty power is to assess the health of the governance system.

Now, with the resignation of President C. Peter Magrath, the University is on the brink of change. It is a good time to

consider how faculty are involved in governing the institution.

The locus of power

The need for leadership in higher education has changed in the past 10 years, a reflection of a change in the external environment. Things were very different from 1955 to 1975, when college enrollment shot up from 2.5 million to 9 million. It was a time when more college buildings were constructed than in the previous 200 years. The earnings of full professors began to rival the salaries of business executives by the early '70s. Research money was plentiful, a trend that started with the race to catch up with the Soviets' Sputnik in the late '50s.

Decisions could be as pleasant as where to spend money. Fifteen years ago planning at the University was a matter of waiting your turn, said Samuel Krislov, professor of political science. "If your department didn't get a position one year, you figured they owed you one and they'd give it to you next year," he said.

Things changed. The cost of everything—books, equipment, building maintenance—skyrocketed in the inflationary '70s. Faculty salaries lost 20 percent of their purchasing power. Minnesota had a state budget shortfall that threatened the University with a $60 million cut in its allocation. One of the triumphs of the Magrath administration was keeping permanent losses to $11.6 million.

Almost immediately after coming to Minnesota 10 years ago, Magrath started a planning process to prepare for the coming changes in higher education. "Planning will be one of the magic words of the 1980s," he wrote in a statement of University goals. "If educators do not plan, then somebody else will surely do it for them."

Planning involved all University units' putting their priorities in order for steady or decreasing funding. Using criteria like quality, demand, and uniqueness, units had a chance to demonstrate which programs deserved increases in support.

"The biennial request used to be shaped by a political poker game," said John Howe, a history professor who chaired the Senate Consultative Committee (SCC) last year. "We've come a remarkable distance in developing a planning process."

Inevitably, the planning also resulted in more centralized decision making. Someone had to decide how the plans coming from the different departments and colleges fit the mission of the whole University.

"The locus of decision making has changed," said management professor Bruce Erickson. "The University used to be run by deans running independent units. Now the locus of power is the vice presidents."

The question is how to keep the decentralized autonomy that served universities so well for centuries while using central power to give more direction to the whole enterprise.

"This has always been a more decentralized university than the other Big Ten institutions," Krislov said. "There's still more departmental autonomy here than there was at Wisconsin 15 years ago. Because the University has always been so highly decentralized, and even indifferently run in many ways, some departments have been able to become much stronger than the University as a whole. Psychology and economics are conspicuous examples of strong departments. On the other hand, departments that have been poorly run have had more opportunity for bad decision making."

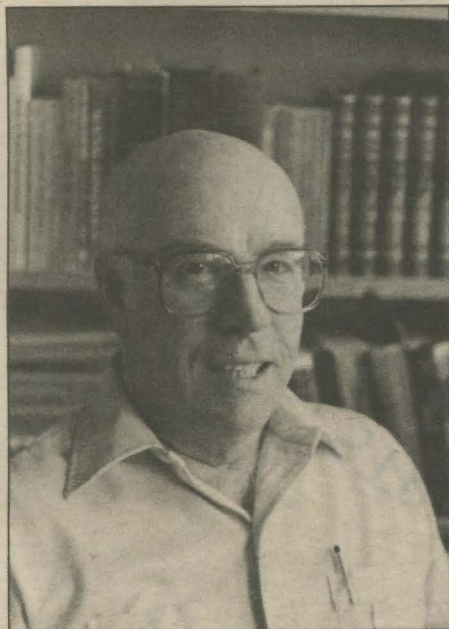
TOM FOLEY

Pat Swan: "We were trying to prevent doom when people weren't interested in considering doom."

"I believe we've been an underadministrated university," said Kenneth Keller, vice president for academic affairs, who will become interim president when Magrath leaves (see story on page 9). "We have to make some changes in that respect.

"It's important to make sure the ordering of priorities is still made in a decentralized fashion by the people who know best what's important in their fields," Keller said. "Central administration's role is to make some difficult decisions on the basis of that information. Faculty members make the order of priorities. What they don't do is determine how far down in those priorities the University can fund."

"To say that Keller is not much involved in setting priorities is not to know much about what he's doing," Howe said. "I don't mean that as a criticism. Keller plays a forcing role with considerable skill. He works very hard to press the necessity for making priorities to the faculty level. That's a difficult job because faculty have very little experience at making those choices."



PEG PALMER

Donald Spring: "Never before did we get anything like the specific information that we now get from Vice President Keller."

The key link

The SCC, or its faculty component, the Faculty Consultative Committee (FCC), is the key link between faculty and the administration. "The University would be a very different place if there were no FCC," said John Turner, Regents' Professor of Political Science.

If consultation is measured by time spent and words spoken, Keller and other administrators get high marks. "I've been in University governance for years and years," said Donald Spring, English professor on the Morris campus, who just completed a term on the FCC. "Never before did we get anything like the specific information that we now get from Vice President Keller. He tells us not only what he has done but what he's considering doing."

And does he listen? "I honestly have seen Keller's decisions shaped by the comments that are made," Spring said.

"Very often members of the FCC are able to point up problems and offer constructive criticism to policies, and I'm pleased to say that the administration considers the position of the FCC on crucial issues very carefully and is amenable to influence," Turner said.

But one of Turner's concerns is that faculty leaders and top administrators may be talking too much, taking up more time than would be needed.

"This is something that's been on my heart for a long time," Turner said at an FCC meeting last spring. One day, he recalled, Keller met with the FCC, the SCC, and the Senate Finance Committee for a total of six hours on the same topic. Some of the same faculty members were at all three meetings.

"We're making enormous demands," Turner said. "Isn't there some way we can have joint meetings to save this guy's time?"

Krislov has a different view of the consultation with one committee after another. "There are three or four committees that can claim authority over practically anything that occurs at the University," he said, citing the SCC, the Senate Committee on Educational Policy, the Senate Committee on Faculty Affairs, and the Senate Finance Committee. The overlap allows administrators to choose which group to consult and whose advice to listen to, he suggested.

"The administration can use that, and does. And I think consciously. Maybe I am being unfair, but I think they're smart enough to have figured this out," Krislov said.

Similarly, Krislov said, the administration can embrace or ignore any recommendations that the various committees make. "The committee structure, and I don't think it's accidental, is labyrinthian," he said. "That means that the administrators by and large can pick and choose if they like what the committee is doing. Nothing is authoritative, so you waste enormous amounts of time if they decide they don't like what you're recommending."

Turner said the committee system is "better than it was but still a little cumbersome. We need to work out the twilight zones of jurisdiction between senate committees and task forces. This is a problem that can

Introducing *Update*

Beginning with this issue, faculty and staff members on all five campuses will be receiving *Update* instead of *Report*.

Before the change, faculty and staff received 11 issues a year of *Report*, and alumni received four issues of *Update*. Because some people received both publications, the editors faced the dilemma of duplicating stories or avoiding duplication but then depriving many readers of some of the best stories.

To resolve the problem and save on costs, we are merging the two publications. Faculty and staff will receive 10 issues of the new *Update* per year, and alumni will continue to receive four. As before, Paul Dienhart will edit the alumni *Update*. The six issues that are sent just to faculty and staff will cover topics of specific concern to those groups. As before, Maureen Smith will edit the faculty-staff paper.

Keeping the two *Updates* straight may create some confusion for the editors, but readers needn't worry. Both groups of readers will be receiving as much University news as before. Faculty and staff will receive 10 issues a year instead of 11, but there will be more total pages.

If you have any reactions, or suggestions for stories, we'd like to hear from you. Write to *Update* at University Relations, 6 Morrill Hall, Minneapolis, or call (612) 373-2126. □

be easily resolved if we set our minds to it."

Excessive time spent on committees was one of the faculty concerns identified by the Steering Committee To Facilitate the Scholarly Activities of the Faculty, chaired by Professor Jack Merwin of the College of Education. The Merwin task force, one of six task forces assigned to major issues in the planning process, made its report last winter.

Sixty percent of all faculty members who were surveyed said they wanted to spend less time on committee and administrative work, said Merwin, who now chairs the SCC. One of the main reasons people feel that way is that they have seen months of hard work go into committee reports that are then ignored, Merwin said.

When the Merwin report was presented, Magrath responded sympathetically to this concern and said the administration should at least acknowledge every committee recommendation.

"I've never seen anything like what the president is doing with this group of task force reports," Merwin said. "That may itself be encouraging.

The faculty at large

The FCC and other faculty leaders could be doing the best possible job of consulting and advising and voicing faculty concerns, yet all that still would be only half the battle. The harder part is letting the rest of the faculty know what's going on.

"One of the major problems that the University faces is that of communication between the faculty committees and the faculty members whom the committees represent," Turner said. "The administration appropriately consults with these committees and then rightly assumes that it has consulted with the faculty. But individual faculty members tend to say, 'I have never been consulted.'

"The administration cannot consult with every faculty member on this campus," Turner said. Ways must be found to strengthen communication between faculty committees and the rest of the faculty, he said.

"There are 3,000 individuals called faculty out there," Keller said. "The senate consultative structure is an excellent way to make me aware of the general concerns of faculty, but a useless way of making the faculty at large aware of my views."

Attempts to communicate with the average faculty member are often doomed to failure, Krislov said. "If faculty members paid attention to everything that's in their boxes, never mind what's in the *Daily*, they would spend their whole life on that."

"Once you've been in governance, you follow it all the time," said Paul Murphy, professor of history who chaired the SCC in 1975-76 and is now returning to the committee nine years later. "I think a great many faculty stay as far away from it as possible and don't have any sense—this reflects my own bias—of how important it is," he said.

Murphy said he would like to see more young faculty members involved in governance. "There is a perception, which I think is inaccurate, that there is a small group of senior faculty people who kind of pass these jobs around among themselves," he said. "It really isn't true."

Swan said she is often brought back to reality by talking with faculty members who concentrate on their research and teaching and steer clear of campus politics. "There's an element of rationality there," she said. "It's not a crazy decision."

Faculty governance works because of "a small group of people who put in a large amount of effort," said Donald Spring, from Morris. "I'm rather proud of the people who do that, the people who devote the time Pat Swan did or John Howe did, and it isn't just the chair.

"I'm not upset that only some of the people do that," Spring said. "Because we do have some few, we have all we need." Other faculty members can appropriately adopt "a kind of relaxed attitude that is not apathy," he said.

Swan said the ideal might be for faculty members to be "willing to get really involved for a short period of time and then with confidence withdraw. I think at the level of the SCC you can do that. One can be very active and then once the term is over walk out and without any regret ignore it completely."

Report card on governance

"It's a funny thing about the faculty's opinion of governance," Swan said. "If you ask if it's working, the people who are actively involved will say that their basic feeling is yes. If you ask people who are not actively involved, their feeling is that not much is happening. I see an

Duluth Governance Goes Its Own Way

Faculty members on the Duluth campus went without a governance system for almost three years, and some of them say they never missed it.

When faculty members at Duluth and Waseca voted for a faculty union on their campuses in 1980, they were dropped from the University Senate and all its committees, and campus governance structures were abolished until something new could be negotiated.

"The regents, acting on the advice of some legal beagles, abolished all governance on this campus. For some reason they felt they had to do that," said Virginia Katz, assistant professor of communication at Duluth and president of the University Education Association.

"I would have to say that we really haven't missed it that much," Katz said about the University Senate. "They always treated us like poor country cousins anyway."

Jonathan Conant, associate professor in foreign languages and literature, has attended senate meetings on both the Twin Cities and Duluth campuses. At his first meeting, in the Twin Cities, he remembers that "all of a sudden out of nowhere came this booming voice" of a faculty senator from Duluth, participating in the meeting via telephone.

As a Duluth senator, Conant said, his experience was that "we sat up in the regents' room around a table with loudspeakers and microphones. Whenever we wanted to say something we interrupted like that. I didn't see that we had any relationship with the University Senate in any way at all. Nor have I seen any disadvantage of not being represented."

Conant is one of the primary designers of the new Duluth campus governance system that went into effect a year ago. "We tried to streamline a lot," he said.

After campus governance had been abolished, Katz said, Duluth faculty discussed whether its structure should become part of the union contract. "The administration didn't want that, and frankly we didn't care," she said. "All faculty governance is purely advisory anyway. It always has been and always will be."

The new system is separate from the contract and also separate from the University Senate. "I do wish they'd stop calling it the all-University Senate," Katz said.

What Duluth faculty mainly wanted in a governance system was something that would take less of their time, she said. Even with the streamlined system, she said, it's hard to find people to participate.

"It's only advisory, and [administrators are] going to do what they want anyway, and it doesn't promote your own career professionally," she said. "They say teaching and research and service are considered for promotion and tenure, but the fact of the matter is that service is just diddly squat as far as promotion and tenure are concerned."

Counting the University president, who is an honorary member, the Duluth Campus Assembly now has just 61 members. "We do the whole thing in reverse," Conant said. "When you vote for someone, you elect them to one of four standing committees. No one is in the assembly who is not a member of one of the committees."

There are executive, educational policy, student affairs, and conciliation committees. (Conciliation is not quite a grievance committee, because grievances are covered under the contract, but was set up to resolve other kinds of disagreements. "As far as I know it has had no business," Conant said. "Educational Policy and the Executive Committee are both very, very busy.")

Each committee includes a top administrator as a voting member—the provost, for example, on the Executive Committee. "He actually votes on recommendations that will ultimately come to him," Conant said. "The structure requires the administration to be very up-front about why they object to something."

If the provost or another administrator would eventually have to veto a proposal, the objections can be stated from the beginning. "Then we can say, 'How about this compromise?'" Conant said. "That saves us all sorts of time. Otherwise he'd have to say no and send it back to us, and we'd have to start over."

In the Campus Assembly, a two-thirds vote is required to pass any proposal. "You don't want something to pass that an entire constituency is opposed to," Conant said. "That's consensus politics. What's the point of passing something if a whole constituency is furious? You only govern by the consent of the governed."

English professor Wendell Glick agrees that the new system takes less time, but he has a different view of it. "It takes almost no time, because the union contract gave away all the faculty prerogatives," he said. "The administrators make almost all the decisions."

Glick represented the Duluth campus on the Senate Consultative Committee (SCC) for six years. "My feeling is, and I think I'm in the minority, that we have lost a great deal [by not being represented]," he said. "We gained much, I thought, from representation on senate committees. That now is gone."

"We learn from each other," Glick said about faculty members on the five University campuses. "To some extent there's a kind of isolation, it seems to me, now. That is not to say that a number of our faculty don't have relationships with people in comparable departments on the Twin Cities campus, because they do. But to have an official structure through which these relationships are facilitated is very worthwhile."

Most people he talks to don't miss the senate or the old governance system, Glick said. "I miss it myself. I like consultation, and we have very little of it now."

Katz agreed that the SCC "occasionally does discuss things that affect our terms and conditions of employment. We need to know what's going on down there.

"I'd like to be involved in the system, but in a new way," she said. "Just to come meekly back in again and be a member would not be satisfactory to me." □

element of that in myself from time to time, at the college level. I wonder, 'Are the faculty committees doing anything?'"

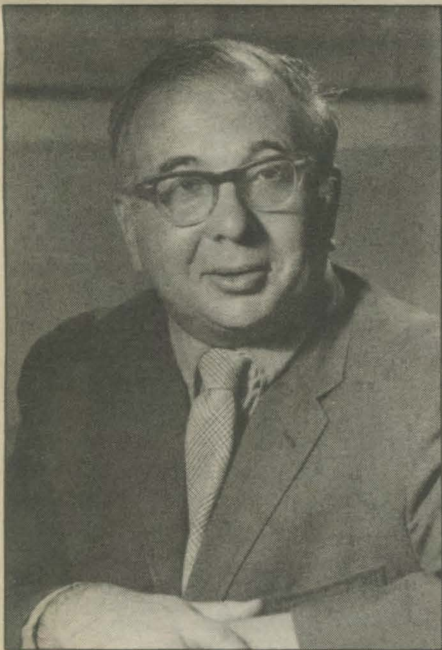
(Efforts to interview some average faculty members, or distinguished faculty members who stay away from governance, were mostly unsuccessful. Understandably, faculty are reluctant to comment when they are not well informed. Nobody wants to give the impression of being ignorant or apathetic, least of all faculty members.)

Speech professor Richard Sykes, who calls himself a maverick, was president of the University of Minnesota Education Association at the time of the collective bargaining election on the Twin Cities campus. His view is that the University Senate is dominated by traditionalists—faculty members who opposed unionization. And he said he thinks they're doing a good job, by and large.

"I don't think a large percentage of faculty members are dissatisfied with faculty governance," Sykes said. "Actually faculty consultation would be a more accurate word than governance. Legally, the regents, not the faculty, govern the University, but there has been an unwritten constitution that the faculty will be consulted on decisions.

"The problems that are occurring are external," Sykes said. "Declining resources mean tough decisions on cutting programs. I think there is a fair process of consultation about this, but obviously the people who are being cut will be dissatisfied. This dissatisfaction is not over faculty governance, but a result of the fact that hard decisions have been made."

"The process of faculty governance has improved a great deal in the past 20 years," Turner said. "The faculty has become more assertive in areas where the voice of the faculty should be heard. The faculty as a whole is unaware of the influence that the FCC has been able to exert over time."



TOM FOLEY

Samuel Krislov: "The committee structure is labyrinthian. That means that the administrators can pick and choose if they like what the committee is doing."

Instruments of control

When it comes right down to it, faculty members who complain that power is shifting to the administration are concerned mostly about what they have seen happen in, or to, their own programs.

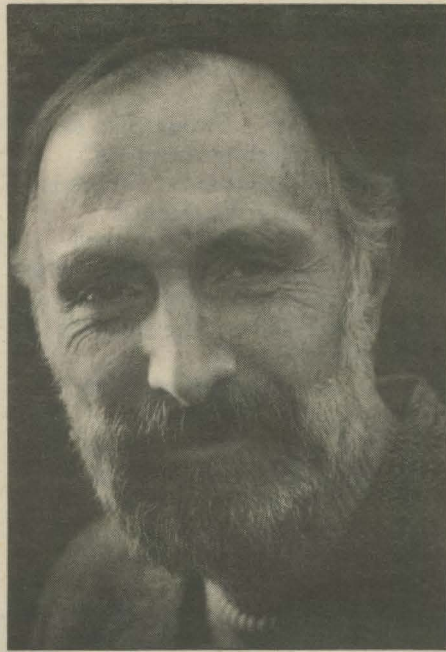
"Control was, in a sense, much more centralized in terms of the power of a president or a dean when I first came into universities," said George Donohue, professor of rural sociology. "Very few people questioned the president or deans. But the president or deans usually didn't concern themselves with the academic program per se, but rather with the allocation of resources.

"Control was much less effective at that time because there weren't the present instruments of control. Record keeping was less. One thing a bureaucracy does is keep records for control, not necessarily to increase excellence. Prediction and control are what the centralization is about now, and they are justifying prediction and control on the basis of some concept of excellence."

Krislov said administrators have a right to gather information. Units in the College of Liberal Arts were recently asked for figures on the number of graduate students and the number of applicants, just to get the ratio, he said. "A chairman wrote a stern protest that this threatened the existence of his department, as if the college had no right to know. The tradition was that the deans didn't know and they had no business knowing."

The most important decisions are still made at the department level, Swan said. "Who makes decisions about who to hire? We make them in the department. That's one of the most important decisions we make. We decide who to tenure and who to promote. We don't have our decisions reversed. We decide what to do with our budget inside our department. We can't command resources. It would never occur to me that we could command dollars.

"If someone says the power is being centralized, it is the power to allocate dollars. Then we have to look at the distinction between the deans and vice presidents. During the years of growth, probably the deans had a lot more leeway in deciding how to use dollars. No one ever took money away from them. They only added. The dean



TOM FOLEY

John Howe: "The biennial request used to be shaped by a political poker game. We've come a remarkable distance in developing a planning process."

was viewed as a more important decision maker.

"When resources are shrinking, you have to pull back some money in order to do new things. The role of a central office in deciding what is allocated to deans is an important role. I still think the dean is the most important person in determining what happens with a college. It's a political process. You've got to convince someone else that what you're doing is a real gem," Swan said.

"Keller doesn't control what political science does or what economics does any more than [former vice president] Gerry Shepherd did," Krislov said. "Those units that complain are not typically the units that have established strong standards for themselves.

"Most of the people who complain about centralization are really saying, 'We are the great poohbahs who, when we reach a decision, should never be questioned. The reason we say that is because we don't know why we did it in the first place and we don't have an answer to your question.' I don't think you find the departments that really know what they're doing arguing that central has pushed them around."

When money is taken away from some units and given to others, some people are going to be unhappy. "The alternative is a kind of blissful asphyxiation," Keller said. "Everything is light and nice and you go into somnolence as an institution.

"The role of central administration is to insist that the faculty make choices in a situation where all the decisions cannot be to grow," Keller said. "The mistake that is sometimes made is to equate faculty being forced to make choices with faculty losing power. I think faculty still have the most important role in the University. The reputation of a university has never been made on the basis of its central administration; it's a result of its faculty."

Despite concerns about some of the decisions that have been made, history professor John Howe believes in the process. "My ox has been gored like hell," he said. "I believe there's some danger of distorting the mission of the University. I worry about the core areas of liberal arts education. At the same time, I believe the planning work has been absolutely essential."

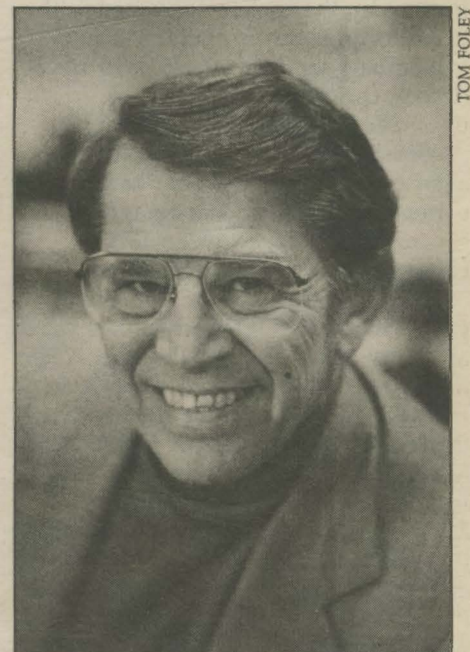
Pulling together

Power and control are words that most faculty members feel some ambivalence about. Leadership and vision are not.

What should the University be looking for in its new president? "Leadership," history professor Murphy said, pounding one fist into his other hand. "That's the name of the game."

"Administrators have to be more than technicians," Howe said. "They have to have a vision of what the University can be. Faculty and students won't believe their university is being run effectively if the people in charge don't have a sense of the place and the direction it's going. That sense is very difficult to develop in a place as big and sprawling as this. I think it needs to come from the president's office."

"I think people are hoping to see a leader, someone who can be



TOM FOLEY

Jack Merwin: "We can't afford to have it be a floating year. We have to move forward in directions that have already been established."

looked up to as Miss, Mrs., or Mr. Higher Education in the state as well as in the University," Merwin said.

Finding a new president is going to be "a matter of searching out people who are probably functioning very well somewhere else," he said. "It will be very much a search as opposed to screening candidates. I'm not optimistic that it's going to be done in a short time. It's going to be a lengthy process, and rightly so.

"We can't afford to have it be a floating year," Merwin said about the year of transition. "We have to move forward in directions that have already been established."

"I think we're going to need a lot of good will," Swan said. "I'm willing to fight with anyone for my own ideas, but I think this year there needs to be a lot of pulling together." □

Editor's note: Paul Dienhart conducted some of the interviews for this story, and some portions of it are from the cover article he wrote for the summer issue of Update, *sent to alumni.*

Report Suggests Ways of Improving Education at U

Undergraduate education on the Twin Cities campus is the domain of many but the province of none, and it's time that changed, the student experience task force said in its final report.

The 30-member task force, made up of faculty, students, and alumni, proposed consolidating undergraduate education responsibilities in the Office of the Vice President for Academic Affairs as a step toward improving the student experience for 45,000 undergraduates.

"There must be a clear, authoritative voice speaking for undergraduate education in the setting of priorities at the University," the report said.

The task force's recommendations, presented to the Board of Regents at its July meeting, are incorporated in a 64-page report that examines the quality of student services and the quality of instruction and learning methods at the University. In an interim report released in May, the task force suggested that the University do a better job of communicating about itself and that its student services and facilities be made more "user-friendly."

An illustration of where there should be better coordination within the undergraduate framework is in fusing the University's academic mission with the policies of the admissions, financial aid, recruitment, and orientation offices, according to the report.

Among the more striking findings of the task force is a perception among many that the University's colleges and departments aren't held accountable for the quality of instruction and advising. There is also a perceived accountability gap involving cocurricular activities, which enhance education outside the classroom, the task force said.

The task force report urged that the vice presidents for academic affairs and student affairs take immediate steps to document the quality of instruction, advising, and cocurricular services.

Another method of improving the student experience at the University is to offer expanded honors programs and other "enriched learning opportunities" for undergraduates who want an intense educational experience, the report said.

The interim report concentrated on ways of improving student services, such as establishing a long-range parking plan and providing more campus maps, information booths, and common space, but it only touched on the quality of undergraduate instruction and learning methods. The final report details ways of upgrading teaching and learning methods. The report recommends that the University:

—Consider implementing the semester system so that students can engage in more intense study in a particular course. President C. Peter Magrath has said he strongly supports a semester system and will appoint a study group to look at implementing this recommendation.

—Provide a clear, easy-to-follow procedure for students to pursue when they have specific complaints about the quality of instruction and advising, and develop more rewards for high-quality instructors.

—Revise the current financial aid system so that students can use that aid to study abroad. Additionally, more funding should be earmarked for study-abroad scholarships.

—Improve instruction in large classes by encouraging professors to form smaller discussion groups as part of the course, and establish a committee to explore better ways of teaching large classes.

Additionally, one-to-one chats with instructors are very important, said Steve Ansolabehere, a student task force member and recent graduate in political science and economics.

"It's not just the one-to-one talks but the smaller group seminars also, because they make the University feel more human. And this is what students have expressed a need for," Ansolabehere said.

The report comes at a critical time in the University's 133-year history. Enrollments, which have been rising in the past decade, are expected to decline in the coming years. The report, officials say, will influence University planning for the next few years.

Although no funding recommendations were made, the report said the task force is "very enthusiastic about the prospect of fulfilling some of its recommendations at current funding levels." The task force recognized, however, that implementing certain recommendations will require substantial funding over a number of years by the state and University.

Several of the task force's recommendations have already been implemented, according to Darwin Hendel, a task force member and research associate in the academic affairs office. For instance, Hendel said, proposed elimination of a 10-cent bus fare between the east and west banks of the Minneapolis campus has already occurred.

Hendel said the wide-ranging report was especially noteworthy because of the breadth of its recommendations. "There's a tremendous opportunity for change because there are things everybody can do to contribute to the improvement of undergraduate education," he said. □

Alumni Help Recruit Students

University alumni, a previously untapped force, will be put to work recruiting high-ability students this fall.

Between 125 and 150 alumni volunteers will contact top students throughout Minnesota and in the neighboring states that have reciprocity agreements with the University.

"A lot of people feel very strongly that one of our unused resources is alumni," said Julieann Carson, director of the high-ability student recruiting project.

Carson will meet with a group of alumni leaders in September to talk about "how they can become our national network, helping us identify high-ability students, hosting receptions, and getting in contact with students."

The alumni recruiters will receive background information about all five University campuses. "We want our alumni to understand that we're a five-campus system," Carson said. "The theme I have in my own mind is that there's a place for everyone in the University system."

Nancy Devine, assistant director of Alumni Relations, is coordinating the alumni recruiting effort. Because a high-ability student will be deluged with letters and brochures from colleges around the country, Devine said, "what makes a difference in where that student decides to go is the personal contact."

In the Twin Cities, students who express an interest in a particular college will be called by a graduate of that college. In the rest of Minnesota, efforts will be made to match alumni and high-ability students town by town. "We are now identifying alumni in every one of the 87 counties," Devine said.

Milwaukee and Green Bay have been targeted for a recruitment campaign in November. "There will be receptions for students, parents, and alumni with an admissions officer, and then the alumni will follow up," Devine said.

The Wisconsin cities were picked because one of the University's top competitors for high-ability students is the University of Wisconsin-Madison. Next year the market will be tested in Chicago. The Institute of Technology (IT) will be recruiting in Chicago this fall, and some IT alumni are likely to be involved.

A recent survey showed that alumni who live outside Minnesota have the strongest allegiance to the University, Carson said. "That's an energy we have to tap."

The alumni recruiting effort began last year on a trial basis in 17 Minnesota communities, Devine said. "We asked the alumni to make just one call, to invite the student to Minnesota Scholar Days. They carried it much further. In some cases they even offered to drive students into the Twin Cities. The alumni were highly motivated and enthusiastic."

A fuller story on recruiting high-ability students, including some of the projects that have been funded at the coordinate campuses and in the collegiate units, will appear in the November *Update*. "People believe in this project, and things are happening," Carson said. □

Regents Approve UEA Contract

A new contract calling for faculty members at the Duluth and Waseca campuses to receive the same basic funding for salary increases as their Twin Cities campus counterparts was approved last month by the Board of Regents.

The new contract calls for average salary increases of 5.75 percent for 1983-84 and 6.5 percent for 1984-85.

In addition, the contract provides for Duluth and Waseca faculty members to receive the same basic funding for salary increases as the rest of the University of Minnesota system (Twin Cities, Morris, and Crookston campuses) during 1985-86 and 1986-87. Salary increases for these years will depend on how much money the state legislature gives to the University.

The contract affects about 340 faculty members at the UMD and Waseca campuses who are represented by the faculty union, the University Education Association (UEA).

The agreement follows more than a year of on-again, off-again negotiations between the University and the UEA. Talks were stalled last October and finally resumed in May. □

IT Programs Aim To Reach Young Minority Students

By Pamela LaVigne

Sara Mortenson, an American Indian and computer science junior, wasn't sure what she wanted to do after high school until she participated in a program for eleventh-grade minority students, sponsored by the Institute of Technology (IT).

She liked the four Saturday morning classes so well she took a student job in IT that summer—a bio-engineering project on wrist and finger joint function with mechanical engineering professor Arthur Erdman.

"I didn't know anything about engineering or IT," Mortenson said. "That really opened my eyes and opened a lot of doors for me. I probably wouldn't even have considered [enrolling in] IT if I hadn't worked on these projects."

Project Technology Power, IT's Office of Minority Affairs' programs for black, hispanic, and American Indian students, has made a difference for Mortenson and other minority students.

Last year, 1.1 percent of IT's graduates were minority students (1984 figures will be available in December). In the 1983-84 school year these students composed 1.7 percent of IT's total undergraduate enrollment, compared to the national average of 8.2 percent. Between fall 1980 and fall 1984, the retention rate for minority students in IT was 70 percent, greater than IT's overall retention rate of 56 percent for the same period.

Project Technology Power (PTP) started in 1974 to combat the problem of severe under-representation of minorities in technical careers, PTP director Don Birmingham said. Its goals are the recruitment, successful education, and graduation of minority students in engineering, computer science, and science programs. Its precollege programs include the following:

Math Bridge. The Math Bridge program for eighth graders started in 1977. For the past two years the School of Management has been cosponsoring Math Bridge with IT. The program introduces minority students to the University and encourages them to take high school chemistry, physics, and four years of math. "Even if they don't choose to go into technical college programs, these high school courses increase their options," Birmingham said.

Junior and senior high math instructors, University faculty, and currently enrolled IT minority students jointly decide the curriculum. Activities for this year's 170 participants featured problem-solving and study skills exercises, a computer graphics project, and a physics lab.

As in all of PTP's programs, strong support characterizes Math Bridge. Participants are picked up by bus in their neighborhoods. They receive awards, which this year included calculators for those with perfect attendance records, and back packs for outstanding performance.

Many of the minority students currently enrolled in IT work in the Math Bridge program. "We have the role-model interaction built into the program," Birmingham said. "Parents' involvement is crucial too, so we ask that they attend the final session, when they receive information on the University and technical careers."

Computer Camp. During summer 1984, IT and the School of Management also collaborated in launching Computer Camp for ninth graders. (See related story.)

Proposed Precollege Programs. Plans for extensively revising the tenth- and eleventh-grade programs have been proposed. Birmingham and Russell Hobbie, IT associate dean, are now seeking funding for them.

Students in the proposed tenth-grade program will train intensively in preparation for the PSAT college entrance exam they will take in the fall. Students also will tour IT departments and local businesses. The proposed $40,000 program includes an unusual item: paying the participants a stipend, based on the hourly minimum wage.

Students in the proposed eleventh-grade program will begin by taking a diagnostic math test. Those scoring at or above the eleventh-grade level will take five to six weeks of intensive physics; students not scoring at their grade level will work to improve their math skills. Both groups will take chemistry classes. "We are attempting to reinforce and strengthen their skills in areas that will help them to be competitive in their chosen careers," Birmingham said.

Recruitment is the objective during students' senior year, and all minority prospective students receive much individual attention. "The reason I stayed hooked was that they stayed in contact with me," said Michael C. Johnson, who attended the first Math Bridge program and now is an electrical engineering major in IT.

College Program. PTP provides numerous support services for past program participants and other minority students once they are enrolled at the University: tutoring, scholarships, academic advising, support groups, part-time and summer internships. During college, Johnson interned three times with Honeywell, a firm he first visited as a participant in PTP's earlier precollege programs. "You can ask any IT student—the experience I'm receiving is invaluable."

For minority students to do well in college and find jobs afterwards requires commitment at many levels, Birmingham said. "The students themselves must be strongly committed and have their parents' support. Beyond this, the public and private school systems must be committed to providing each student with the best possible education, and universities and colleges, as well as industries, must be committed to providing access." □

Inner City Students Catch Computer Fever

By Deane Morrison

Fear of computers may be epidemic, but there was certainly no evidence of it among the teenagers leaning eagerly over their consoles. Most were using their computers to draw complex geometric figures and exquisite designs. Although the graphics were not quite on a level with the special effects of the movie *Tron*, they bore witness to the degree of computer literacy that bright youngsters can achieve with just a few days of expert guidance.

The youngsters were participants in the University's first summer Computer Camp for minority students. All the students had just completed ninth grade and an algebra course and are planning to take a higher math course next year. Most had had very little exposure to computer science before attending the camp, but they soon became engrossed in the wonders of programming, computer graphics, and word processing.

The students came from inner city schools in Minneapolis and St. Paul. They were chosen by camp director Al Lopez, who had asked the schools' principals and math, science, and counseling department heads to appoint a contact person responsible for nominating up to 15 students for the camp. Lopez then selected 50 nominees from each city, of whom 66—43 girls and 23 boys—enrolled.

The Minneapolis students attended the weeklong camp at North Community High School in Minneapolis; St. Paul students attended camp at the Guadalupe Area Project in St. Paul. Both camps employed five teachers, chosen from teachers of high school computer classes who had taught ninth-grade and minority students. The camps, held during consecutive weeks in June, ran weekdays from 9 a.m. to 4 p.m. Everything was free to the students, including bus transportation, lunch, and morning and afternoon snacks.

"Each student had his or her own Apple IIe computer," said Lopez. "They spent almost six hours a day at it, with about five students per teacher. By the end of the week they were doing basic programming."

Students worked from printed handouts that explained step-by-step how to run the computer. Mornings were spent learning basic programming commands with the Applesoft Basic software. In the afternoon, students developed their computer literacy by trying out various software packages on the market and discovering the variety of feats possible with computers.

TOM FOLEY

Students who'd had little exposure to computers soon became engrossed in the wonders of programming, computer graphics, and word processing.

They worked with four programs: Data Base, LOGO, Bank Street Writer, and Master Chart, according to teacher Jeff Wynne from Franklin Junior High School in Minneapolis. Data Base is useful for arranging information, for example, to alphabetize names or put them in order of birth date. LOGO is a graphics program used to draw pictures and geometric designs. It requires some math knowledge. Master Chart can put data in a bar or line graph and can also do graphics. Bank Street Writer is a word processing program, good for writing and printing letters or documents.

Students spent one day working with each of the programs. Some turned out rather fancy drawings on their computer screens, such as a picture of a boat with clouds and scuba divers. Instructions for drawing boats were provided, and many students asked how the commands worked in order to apply the knowledge to drawing other things.

The Computer Camp is part of the University Advance program—U Advance for short—a joint project of the Institute of Technology (IT) and the School of Management. U Advance also includes the Math Bridge program for eighth graders and will expand to include programs for tenth and eleventh graders.

Involved in planning U Advance are Julieann Carson, former director of undergraduate programs at the School of Management and now associate dean of the College of Liberal Arts; Russell Hobbie, IT associate dean; and Don Birmingham, director of minority affairs for IT. Carson hired Lopez, the management school's precollege coordinator, for the Computer Camp. President C. Peter Magrath provided support for this year's camp from discretionary funds, but funds for next year's camp have not yet been secured.

"I hope the camp will continue next year," said Lopez. "The biggest advantage to this program is that it gives the students confidence in handling a computer and teaches them about a computer's abilities and what they can make it do. I've heard it costs $150 to $450 per student at most computer camps—this one seems to be one of the least costly to produce."

Financial worries seemed far from students' minds. Besides the excitement of the computers and the break-time volleyball games, they were treated to a tour of the School of Management and the Institute of Technology. Those with perfect attendance received calculator watches, and everyone took home a certificate of participation.

"They all seemed to enjoy the camp," said Wynne. "Some of the students wrote their own conversation programs, in which the computer asks questions and the operator answers. One girl in the Minneapolis camp used a quiz program to write a huge trivia quiz about Michael Jackson."

Probably not even the instructors could pass that one. □

Joyce Kramer: Champion for Indians, Women

By Shahla Rahman

Joyce Kramer is a woman of many worlds. An American Indian, she met her husband at a party celebrating George Washington's birthday. While the occasion was all-American, the location was the exotic Mount Kilimanjaro in Tanzania, Africa.

Kramer, an associate professor in the UMD School of Social Development (SSD), covers a wide range of interests in her teaching, research, and community activities: development of educational programs for American Indians, health issues for the mentally ill, and women's rights. She also has a deep love for Africa and this winter will return to Kenya on a University project.

Kramer's ancestry is Omaha and Pawnee Indian from Nebraska. She grew up in Denver, however, where her mother was active in the White Buffalo Council, an agency designed to ease the transition of Indians moving from reservations to urban centers. "I would go down there with my mother, and this exposed me at a very early age to the difficulties Indian people face," Kramer recalled.

While doing doctoral work in sociology, Kramer was instrumental in forming the Carolina Indian Circle at the University of North Carolina at Chapel Hill. "Indian students are often ignored and sometimes feel lost, especially in the South," she said. "Even though there are 60,000 American Indians in the area, most desegregation programs focus on the black people. There are just not many Indian programs around."

It was not the lack, but the wealth, of Indian programs that brought her to UMD. Both she and her husband had been teaching at the University of North Carolina. In 1980, while on a sabbatical, Kramer served as acting director of American Indian projects in SSD.

When SSD was founded in 1973, American Indian programs were one of the school's principal components. Since then, these programs have included two National Institutes of Health-funded projects to provide training and human services to rural American Indians and to study high blood pressure among Indians. With Graduate School funding, Kramer is now studying the effects of self-determination on the health, education, and welfare of American Indians. SSD faculty member Will Dodge and Phil Norrgard, director of health services at the Fond du Lac Reservation, are collaborating on this project.

Kramer chairs the American Indian Coordinating Council, which

KEN MORAN

Joyce Kramer

oversees all Indian programs at the UMD campus. She also is involved in Indian programs at the UMD School of Medicine and works closely with the Indian community in the Duluth area.

The School of Social Development has merged with the College of Education, and many of the school's undergraduate and graduate programs will be cut back.

"I truly believe that UMD has the best and widest range of programs for American Indian students in the country," Kramer said. "That is why it is especially hard for me to see so many of these programs receive funding cuts. We have Indian students out there who want to come to UMD, but we are being forced to turn them away."

Another minority group of great interest to Kramer is women. She works with the Women's Coordinating Committee and other female faculty, staff, and students to improve the standing of women in the University community.

Women and other minority groups face similar problems, Kramer noted. "Both women and minorities tend to be threatening because they are outsiders to those people traditionally in power," she said. "In many ways, women are more egalitarian than men, and this of course does not serve well in a competitive society."

Kramer believes that the establishment of the Women's Studies Program at UMD, for which she teaches a course on women and social policy, is a big step for UMD. "But we still have a long way to go," she added.

With two other UMD faculty members, Kramer is involved in a comparatively new area of study. Ruth Myers from the School of Medicine, Jacqueline Royce from the College of Education, and Kramer are examining the problems of people with dual disorders—those who have chronic mental illness as well as a chemical dependence on drugs or alcohol.

According to Kramer, people with dual disorders are in a "Catch-22" situation. "These people are often caught in two different treatment modes that are not necessarily compatible with each other," she said. As an example, she cited a patient who was considered chemically dependent on drugs, yet who was being treated with prescription drugs for mental illness. Only in the last two or three years has this problem been recognized, Kramer said.

A project for the School of Social Work on the Twin Cities campus will take Kramer to Kenya during winter quarter 1985. She will supervise students in internship positions in various locations, mostly in Nairobi.

The trip will mark her fourth visit to Africa. She spent her sophomore year at the College of Addis Ababa in Ethiopia, then returned to Africa to teach for a year at the Machame Girls Secondary School in Moshi, Tanzania, during which time she met her husband. Several years later, Kramer went back to Africa for a yearlong research project on pre- and postnatal care in two similar communities with one difference—one had a modern health center and one did not. Interestingly, her research showed that people in the community with no health center had fewer health problems than those living near the modern facility.

"Also, I was pregnant at the time, so that really helped my research," Kramer said. Her first child, a boy, was born in Kenya. She also has a daughter.

"I am really looking forward to going back to Kenya after 14 years, and I am curious about the changes I will find there," she said.

Being away from her family for a long period of time is not new to Kramer. Until recently, she maintained a long-distance marriage with her husband, Tony Thomas, who continued to teach anthropology at North Carolina after Kramer came to Duluth. "I was technically on leave from North Carolina for a couple of years, so my husband decided to stay on and teach there. But both of us really fell in love with the Duluth area, and this year he moved here on a permanent basis," she said.

Thomas is involved in renovating the Saints Mary and Joseph Church on the Fond du Lac Reservation into a museum and information center. Built by an Indian of hand-hewn logs around the turn of the century, the church is the oldest structure in Carlton County.

For Kramer, identity, work, and family truly reflect many worlds. □

STEVEN CARAS

Merrill Ashley, originally from St. Paul, dances with the New York City Ballet in *Brahms/Handel*, choreographed by Jerome Robbins and Twyla Tharp. The company will perform this piece Friday and Saturday nights during its Northrop engagement. Because of the "no-star" policy, principal dancers will be announced only when the audience is seated before the performance.

Nation's Premier Ballet Company Talked into Dancing at Northrop

By Pamela LaVigne

On a blustery December day in Manhattan last year, a five-year quest ended, opening the door to what promises to be the Midwest's major cultural event of the season: eight performances by the New York City Ballet at Northrop Auditorium, October 9-14.

This visit will be the group's first appearance in the Twin Cities, and the first time audiences here will see the choreography of the late George Balanchine, the company's cofounder and artistic director, danced by the troupe for which the works were created.

Ross Smith, director of the Department of Concerts and Lectures, and Dale Schatzlein, assistant director—chief booking agents for Northrop, in other words—are the local impresarios to thank for this engagement. Great art requires great audiences, however, and these two also deserve credit for building a base of informed, appreciative dance fans. That task began 10 years ago.

In September 1974, the Minnesota Orchestra left Northrop Auditorium, where it had performed since 1929, to take up residence in its new home, Orchestra Hall. With the move, Northrop concert planners had 35 vacancies in their calendar, and 4,800 seats to fill for each date.

The question was posed: "Where is our best possibility for service to this community and this state?" Smith recalled. Given the size of Northrop and the desire not to duplicate programs available elsewhere, the answer was: dance concerts.

Thus the World Dance Series began, its early years a learning period for people on both sides of the curtain: Northrop administrators learning how to package and sell something that had never been presented in such quantity in the Twin Cities; the ticket-buying public learning about, and eventually coming to enjoy, dance concerts.

The inaugural season (1974-75) featured six companies; that number doubled the next year—too much growth, too soon. "We lost our shirts," Smith said. In that one year, Northrop went $116,000 into debt and continued to lose money on the dance series for two more years, but since the 1978-79 season it's been in the black.

From the beginning, Smith said, "the one thing we tried to concentrate on is quality." And that they did, literally from the bottom up.

In September 1975 the stage floor was redone in what is called the Balanchine basketweave design. The resilience of this design gives dancers both greater spring and protection than conventional footing, Schatzlein explained.

Northrop's old floor, typical for a multipurpose stage, was just two inches of fir flooring laid over concrete. The replacement consists of five layers of one-by-three pine

crossed at even-narrower centers, with sound insulation woven between—"so the dancers don't sound like a herd of camels," Smith said. (Since the new was laid over the old, the woven design had the additional advantages of convenient installation and less expense.)

Bringing in quality companies meant going after the Big Three of the dance world: American Ballet Theater (ABT), Joffrey Ballet, and New York City Ballet (NYCB). The Joffrey tours extensively, Smith said, so they were not difficult to engage. ABT took a while longer, but it too was hired, and, for seven years running, spent a week in performance at Northrop. NYCB proved harder to entice.

Sui generis

Many consider New York City Ballet the premier performing-arts institution in this country, perhaps in the world. Everything about the company is the realization of the dream of its cofounder and patron, Lincoln Kirstein: to develop American ballet dancers rather than import artists from Europe. Even before there was a New York City Ballet as it is known today, there was the School of American Ballet, founded in 1934. The company has its own home, the New York State Theater in Lincoln Center, and its own 109-member orchestra, a symphonic ensemble acclaimed apart from its rehearsal and concert appearances with the company.

Necessary, even wonderful, as these support systems are, they do not account for the preeminence of the ballet company; what does is the group's performance of a repertoire of works almost exclusively choreographed by one man: George Balanchine.

Balanchine graduated from the Imperial (Russian) Ballet School. After a knee injury early in his dancing career, he turned from performance to choreography. Dance, he believed, did not have to act out a story; movement for its own sake was his passion.

He wrote: "We must first realize that dancing is an absolutely independent art...it can be enjoyed and understood without any verbal introduction or explanation....The important thing in ballet is the movement itself, as it is sound which is important in a symphony. A ballet may contain a story, but the visual spectacle, not the story is the essential element. The choreographer and the dancer must remember that they reach the audience through the *eye*—and the audience, in its turn, must train itself to *see* what is performed upon the stage."

Balanchine's genius in creating new works that demonstrated these beliefs transformed ballet. *Newsweek* put it this way: "He changed the look of classical dance forever—and, with it, the look of the dancers themselves. He liked his performers long-legged, speedy, and angular, just like his dances."

As a choreographer, Balanchine is unique also because of his own musical background. Son of a composer father and trained in classical piano and composition, Balanchine was aware of music's structure in ways not typically found among dancers. This sensitivity produced works that, in his words, were an invitation to "see the music and hear the dancing."

Getting to *Yes*

Getting Northrop to look as attractive to NYCB as the ballet company looked to Northrop, however, was a long time coming.

Schatzlein likened negotiations with the company to a similar experience he had in arranging to present the Dance Theater of Harlem at Northrop. Although a colleague in Iowa had tried unsuccessfully for 11 years to book the Harlem group, Schatzlein decided he would give it a shot. "I just got a bug about it," he said.

After some digging, he found a lawyer on the theater's board who was sympathetic to the idea of the group's traveling to the Midwest. Then Schatzlein arranged a "nice little package" to propose to the troupe: stops at Madison, Chicago, Iowa City, and Minneapolis. "We took a risk—we took a whole week [of concerts at Northrop] just to make it work." To cover the costs of that week, he raised $7,000 from the St. Paul Companies and Dayton-Hudson Foundation, funds used to underwrite four lecture-demonstrations the group gave for Twin Cities area school children.

"They say no, they don't answer, we don't take no for an answer," Schatzlein said.

He and Smith were as firmly convinced of their goal and their ability to achieve it with NYCB. "Our argument basically was backed up by what we had brought to Northrop," Smith said. "We had an audience, we had the physical facilities, we will somehow or other find the money. They know there is a dance audience here and they will make it better."

With that message, they approached the company from all angles. In addition to meetings with the group's administrators, "we were trying to make a connection on a peer level," Smith said, trying to find someone in the same league as the ballet to say "the people in Minneapolis know what they're doing." At various times, people from the National Endowment for the Arts and the Metropolitan Opera were making the case for Minnesota. "There were a lot of seeds," Smith said.

The meeting that finally produced a *yes* from NYCB occurred on that windy day last December. Smith and Schatzlein were at a meeting with the company's general administrator, Betty Cage. Smith pointed out how Northrop had spent $850,000 to sponsor the Metropolitan Opera that spring, $450,000 before that for ABT. Hearing these figures, Cage did some quick pencil calculations, leaned back, and said, "Well, I think maybe you *can* afford us."

"You have to be persistent," Smith concluded.

That's good advice for the final leg of presenting the company too: fund raising. Bringing NYCB here will cost $600,000, "more than we have ever paid for a ballet company before," Smith said. Ticket sales generate about 90 percent of that amount; corporate, foundation, and individual contributions will cover the remainder. Grants have been given by the Dayton-Hudson Foundation and the Mary Livingston Griggs and Mary Griggs Burke Foundation.

"This is An Event—like the Picasso exhibit," Smith said. Noting that he will retire in December, he added, "It's the capper of my career here. There's nothing I'd rather go out on than having the New York City Ballet at Northrop." □

CAMPUS NEWS

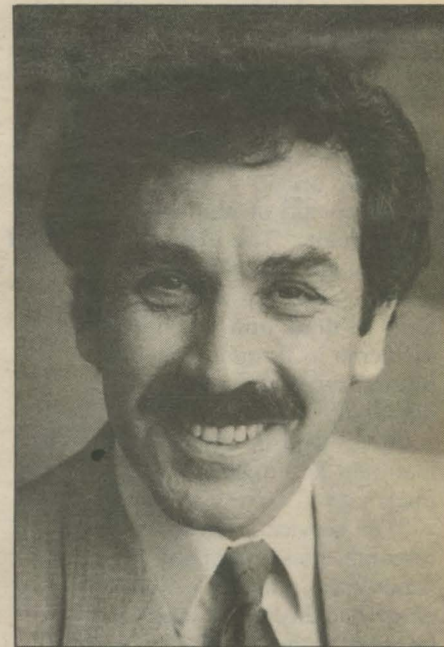
Keller Named Interim President

Kenneth Keller, vice president for academic affairs, will become interim president of the University when C. Peter Magrath leaves to become president of the University of Missouri.

Keller, whose appointment was made last month by the Board of Regents, will probably assume his expanded duties November 1 and will serve as interim president throughout the search for a new president, which could take up to a year.

Keller will assume the interim presidency with the understanding that he will not be a candidate for the permanent position. David Lebedoff, Minneapolis, nominated Keller, saying he had done an "exemplary job" of filling in for Magrath when the president was on sabbatical in the summer of 1982.

"My greatest concern during the perod of the interim presidency will be to continue the University's steady progress in planning its future and, more importantly, in acting effectively on its plans," Keller said. "One of President Magrath's major accomplishments has been to put into place a process of planning that has helped us to see more clearly our complex role as a leading national research university, a land-grant institution, and an urban university. We have committed ourselves to setting priorities and making choices that reinforce that role.


TOM FOLEY

Kenneth Keller

"We have a legislative session ahead of us and an academic year is about to begin. I look forward to working with my vice presidential colleagues and with the University community to keep the University healthy and vigorous and attractive to the kind of person I know the regents are seeking as our next president," he said.

"Ken Keller is the ideal choice to serve as interim president," Magrath said. "He can keep University of Minnesota programs and planning moving without missing a beat as the regents go about their task of searching for a permanent president. We'll have an easy transition to Ken on November 1, and the University will do well in 1984-85 even as a new president is being recruited." □

David Brown Is Med School Dean

David M. Brown, director of clinical laboratories at the University of Minnesota Hospitals since 1970, will become dean of the Medical School September 15.

Brown, who is professor of laboratory medicine and pathology and of pediatrics on the Medical School faculty, succeeds N. L. Gault, Jr., who announced last year his plans to return to the faculty to teach and do research in geriatric medicine.

Brown's appointment was approved by the Board of Regents last month, after a one-year national search that drew more than 100 applicants.

"Dr. Brown has had a distinguished career as a teacher, researcher, and clinician," said Neal Vanselow, vice president for health sciences, in recommending Brown's appointment.

"His knowledge of the University and the Medical School, his experience as a member of numerous hospital, Medical School, and University committees, and his national service as chairman of the

Council of Academic Societies of the Association of American Medical Colleges should provide him with the tools he will need to serve as the leader of one of the University's largest and most prestigious academic units."

Brown said of his new assignment, "The major challenge of medical education today is to provide students with the basic tools to think and to understand medicine in terms of science, human relations, and societal demands."

Brown said he also will strive to maintain an environment that fosters good faculty research.

"The service, education, and research missions of the Medical School are indistinguishable. It's clear that the major gains in improving the health care of our nation and the world resulted, in large part, from advances made in medical research," he said.

Brown is married and has three children. He lives in Golden Valley. □

U·P·D·A·T·E

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Editor
Maureen Smith
Associate Editor
Paul Dienhart
Copy Editor
Pamela LaVigne
Photographer
Tom Foley

Update is published 10 times a year to inform readers about news, challenges, achievements, and people associated with the University of Minnesota.

Six issues a year are directed to faculty and staff of the five-campus University system, exploring topics of specific interest to those groups.

Four issues a year address subjects of broader interest and are also sent to alumni and other friends of the University as a cooperative effort of University Relations, the Minnesota Alumni Association, and the University of Minnesota Foundation.

Update welcomes ideas and letters from all readers. Write to *Update*, 6 Morrill Hall, 100 Church Street S.E., Minneapolis, Minnesota 55455, or call (612) 373-2126.

The opinions expressed in *Update* do not necessarily reflect the official policies of the Board of Regents or the University administration.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age, or veteran status.

Gopher Fans Now Prefer Dome

Over half of Gopher football season ticket holders say they would prefer to keep University of Minnesota home games at the Humphrey Metrodome rather than move them back to Memorial Stadium, according to a telephone survey recently commissioned by the University.

The survey of past and present season ticket holders found that, overall, 53 percent of those surveyed want the University's football team to continue to play in the Metrodome, 36 percent want the games moved back to Memorial Stadium, and 11 percent don't have a preference.

Of those who made the move to the Metrodome in 1982, 48 percent are happy with the new location. However, of those who decided not to renew their tickets when the game locale was changed, 76 percent said they'd like to see the Gophers play in their old home on the Minneapolis campus. A third group—those who purchased season tickets after the move— favored keeping the games in downtown Minneapolis by a margin of 4-to-1.

"I think on balance the survey seems to indicate that more people are interested in staying where we are playing the games now than in moving back to Memorial Stadium," said Frank Wilderson, the vice president responsible for intercollegiate athletics.

Survey results will be used to help the Board of Regents decide this fall whether to exercise the last of three one-year options to withdraw from the University's 30-year contract with the Metropolitan Sports Facilities Commission, which was signed in 1982. If the board does not act on the option, the Gophers will be obligated to play football in the Metrodome for the next 27 years. If the University decides to pull out, the Gophers would likely move back to Memorial Stadium, which would need extensive renovation to bring it up to standards.

"Our final recommendation will be based on many more considerations than just the survey, although the survey is an important piece of information," Wilderson said. "Otherwise, we wouldn't have done it."

President C. Peter Magrath told the board in a letter that the administration will present information about attendance, income, expenses, and other factors before the regents decide—probably in November—whether to let the contract stand.

The survey, conducted by the Minnesota Center for Social Research, sampled 1,511 persons representing 20,332 season ticket holders. Responses were grouped into three categories—old purchasers, those who did not buy tickets for the move to the domed stadium (so-called "dropouts"), and new purchasers—and weighted according to the number of tickets that group accounted for. The responses of old purchasers, who make up almost 68 percent of ticket holders, were given a like amount of weight in figuring the overall survey results. Dropouts carried 6.5 percent of the overall results; new purchasers carried 25.6 percent.

The survey also looked at plans to buy tickets for the 1984 season and found that 93 percent of old purchasers, 74 percent of new purchasers, and 20 percent of dropouts intended to have a reserved seat for Gopher home games.

The survey also sampled 487 of the 4,603 students who held season tickets last year and found that 50 percent of them favored keeping football games at the Metrodome and 41 percent favored Memorial Stadium games. Of 500 students selected at random, 40 percent preferred the domed stadium, 48 percent favored the on-campus location, and 12 percent didn't express a preference. □

Berger Gift Repays 'Debt'

Benjamin N. Berger's got everything in the world. He's got money, power, prestige, and a loving family. But he doesn't have peace of mind.

The causes and effects of crime relentlessly gnaw at this cigar-chewing, 88-year-old Polish immigrant. Berger has interviewed 5,000 criminals, hoping to find a solution to crime.

Now he's asking the University's Law School to join him in his search. Berger is giving the Law School $1 million to establish the Benjamin N. Berger Chair in Criminal Law.

"The No. 1 social problem in America is crime," Berger wrote to the Law School. "The crime rate in America is over 100 percent more than in any other country in the world. The only way a problem can be solved is by finding an answer to it, which should not be too hard to do.

"I don't want this commitment to be construed as a gift or contribution. I feel that this is a repayment to America for the opportunity given me to make this commitment possible."

Berger immigrated to the United States in 1913 as a penniless 16-year-old. He parlayed a small savings into a fortune as owner of 16 theaters in Minnesota, South Dakota, and Iowa. Berger achieved renown by founding the Minneapolis Lakers basketball team and owning the former Shiek's Cafe and the Minneapolis Millers minor league hockey team.

The endowment, which matches the largest ever given the Law School, will probably be used to attract a nationally recognized criminal law scholar, said Dean Robert Stein.

Stein said the endowment is set up so that the Berger Chair will be permanent. The chair won't be activated, however, until there is enough interest income from the $1 million to fund a scholar's research and instruction on an annual basis, Stein said. The contribution will be parceled out over a 10-year period. □

WE'LL LET YOU KNOW

Question: Now that the University is looking for a new president, I'm reminded of something I've been curious about. Besides a big salary, what are the "perks" that go with the job?

Answer: The two big ones are a house and a car.

Eastcliff, a 20-room white Georgian colonial home along North Mississippi River Boulevard in St. Paul, is the official residence of the president of the University. It was a gift to the University from the Edward Brooks family in 1958.

At the time C. Peter Magrath became president, a stipulation was still in force that Eastcliff must be used as the president's home or it would revert to the Brooks family. Now that is no longer true.

"Presumably that's a negotiable item for a new president coming in," said Duane Wilson, secretary to the Board of Regents. If the president did not want to live at Eastcliff, the University could use the home for another purpose.

A household budget and entertainment budget are presented to the regents every quarter. The entertainment money is used for official University entertaining, Wilson said.

The president is given use of a University car and a parking space in Northrop garage. Earlier presidents had a driver as well as a car, but Magrath decided he could do his own driving.

The president is also given tickets to Gopher football games and a box for cultural events in Northrop Auditorium. "Those are presumed to be for at least semiofficial business," Wilson said. The idea is that the tickets are used to bring guests to campus.

"That's all that's provided by the University," Wilson said. In addition, the Minnesota Club and the Minneapolis Athletic Club offer complimentary membership to the president of the University.

If you have a question about how things work at the University, or why things are the way they are, send it to Update at University Relations, 6 Morrill Hall, Minneapolis, or call (612) 373-7507. Each month we'll choose a question that seems to be of wide interest and try to find someone who can answer it.

LOOKING BACK

. . . 30 years ago

Faculty members and students in the College of Science, Literature, and the Arts (SLA) were preparing for a football game between the SLAers and the SLAves. Reports were that Paul Giel, All-American football star, would join the student team even though he was enrolled in the College of Education and not SLA.

Roger Page, assistant dean of SLA and coach of the faculty team, protested. "Borrowing Giel is just another student trick," he said in the *Minnesota Daily*. "He's not even an SLA student. The students are victory crazy."

Page said students had won two of the three earlier games, but the faculty had outscored the students 35-23 overall. SLA Dean E. W. McDiarmid said the point average cited by Page was "the Old Grey Fox's clever way of covering up two 7-2 and 3-2 defeats by adding in the 31-13 advantage in the first game."

In another contest, SLA students were voting for the absent-minded professor of the year. Because students were allowed to vote as often as they wanted, some ballot stuffing was expected. Candidates included, among others, Clarke Chambers, assistant professor of history; Mark Graubard, associate professor of general studies; and B. E. Lippincott, professor of political science.

The *Daily* did not report the results of either the football game or the absent-minded professor contest.

. . . 20 years ago

Fall quarter enrollment hit a new high in 1964: 38,403 students.

In the fall of 1870, a year after the University was founded, enrollment was 24. By 1880 it was 215, and by 1890 it was 1,005. Enrollment was 2,556 in 1900, 3,882 in 1910, 8,946 in 1920, 11,961 in 1930, 14,986 in 1940, 22,080 in 1950, and 28,777 in 1960.

The Bureau of Institutional Research predicted that about 62,000 students would be enrolled by 1975. (In fact the 1975 figure was 55,114, a new record but not as high as the prediction.)

. . . 10 years ago

A special subcommittee of the Minnesota state senate was investigating the University's presidential search process. Regent Elmer L. Andersen, chairman of the board, testified that religious considerations "in no way affected the decision on the choice of a president."

Andersen said the only reason C. Peter Magrath was chosen over David Saxon of UCLA was because of Saxon's view that the coordinate campuses should be subordinated to the Twin Cities campus. Andersen said both candidates were fully qualified but said Magrath was the regents' first choice "and the best choice."

Regent Lauris Krenik said he was unsure whether Saxon would have accepted the presidency if it had been offered.

Regent L. J. Lee acknowledged that he had asked Saxon about his religion but said he was merely trying to ascertain the ethics or philosophy of the candidates. (Saxon said he was Jewish but not active in any religious group.) □

PEOPLE

Crookston: Provost Stanley Sahlstrom has been serving as president of the Postsecondary International Network.

■W. Daniel Svedarsky, associate professor of natural resources, has recently been named to a national judging panel that will recognize sand and gravel companies that have carried out outstanding reclamation to benefit fish and wildlife habitat.

■Stephen Sylvester, assistant professor of social sciences, has received a grant from the Office of International Programs and the Center for Educational Development to improve curriculum in the social sciences and to develop a new course in comparative government.

■Barbara Weiler, head of University Relations at UMC, has been elected president of the Crookston chapter of the American Association of University Women.

Duluth: Lance Cavanaugh has been named development director. He had been executive director of the University of Nevada, Reno, Foundation. He also has served as executive director of the Southwest State University Foundation and as director of university relations and alumni affairs at Southwest State.

■Four UMD faculty members have recently published books. They are: Burton Galway, *Public Acceptance of Restitution as an Alternative to Imprisonment for Property Offenders;* H. Mitzi Doane, *Famine at the Feast: A Therapist's Guide to Working with the Eating Disordered;* and Timothy Roufs and Larry Aitken, *Information Relating to Chippewa Peoples from the Handbook of American Indians.*

■Bruce McLeod has been named athletic director and Dale Race, men's basketball coach. McLeod, a UMD staff member since 1969, had been assistant athletic director since 1977 and acting athletic director since Ralph Romano died in December. Race had been assistant basketball coach at the University of Wisconsin-Eau Claire from 1979 to 1984 and head basketball coach at Milton College from 1975 to 1979.

■Jean Regal, assistant professor of pharmacology received $228,000 in grants to study anaphylaxis—extreme allergic reactions in the body. The grants are from the American Heart Association and the National Heart, Lung, and Blood Institute.

■Arlen Severson, professor of biomedical anatomy, has been named School of Medicine Basic Science Teacher of the Year. With the award, he received a $500 check from the Minnesota Medical Foundation.

Morris: Richard Grant, assistant professor of English, and John Reinhard, instructor of English, have received a grant from the West Central Regional Arts Council to support a daylong workshop, "Writing From Experience," on October 27. Novelist Norman Maclean, author of *A River Runs Through It,* will be one of the visiting writers.

■Craig Kissock, professor and chair of the Division of Education, and Bruce Burnes, associate professor of education, have received a grant from the Office of International Programs to develop a theme-based model for including international content and perspectives in the teacher education program. The theme is "Education Reflects Cultural Values."

Twin Cities: William Bart, professor of educational psychology, has received a Fulbright Senior Professor Research Award for research at the Max Planck Institute for Psychological Research in Munich, West Germany, during the 1984-85 academic year.

■James Bowyer accepted the position of head of the Department of Forest Products in the College of Forestry beginning July 1. He succeeds John Haygreen, who is stepping down from administrative duties to focus on teaching and research. Bowyer has been on the University faculty since 1969 and in 1983 received the Horace T. Morse-Amoco Foundation Award for his contributions to undergraduate education.

■Alan Ek accepted the position of head of the Department of Forest Resources beginning July 1 after a nationwide search. He joined the Minnesota faculty in 1977 and served for a year as acting head of the department.

■Eugene Gedgaudas, professor and head of the Department of Radiology, was recently voted president-elect of the American Roentgen Ray Society.

■L. Sunny Hansen, professor of educational psychology, recently won the Outstanding Achievement Award in Education from the Minneapolis YWCA. She was cited for her work on BORN FREE, a national program to expand career options and reduce stereotyping of both women and men.

■Paul Li and Harold Wilkins, professors in the Department of Horticultural Science and Landscape Architecture, have been named fellows of the American Society for Horticultural Science. They received the honor August 8 during the society's annual meeting.

■John Manning, professor of reading education in the College of Education, has been installed as vice president of the 60,000-member International Reading Association. He will serve as the association's president during 1985-86.

■G. Edward Schuh, head of the Department of Agricultural and Applied Economics, will leave the University to become director of the agriculture and rural development department of the World Bank in Washington, D.C., December 1. Schuh has also been elected a fellow of the American Agricultural Economics Association, an honor bestowed on only three or four people each year.

■George Sheets, associate professor of classics, has received a one-year fellowship for independent research from the American Academy in Rome and the National Endowment for the Humanities.

■Terrence Simon, assistant professor of mechanical engineering, has been awarded an Amoco Foundation Engineering Faculty Grant to support his research and educational activities over the next year. This program, sponsored by the Amoco Foundation of Chicago, is directed toward attracting and retaining outstanding engineering faculty members at highly recognized engineering schools throughout the country.

■Robert Stein, dean of the Law School, has earned the National Notary Association's 1984 Achievement Award for his role in creating a model law for the nation's 3.5 million notaries public.

■Frank Wood, professor of special education in the College of Education, is the 1984 recipient of the J.E. Wallace Wallin Award from the Council for Exceptional Children. He was chosen in recognition of his "outstanding professional career as a teacher, scholar, and researcher, and for his profound commitment to children in trouble."

Waseca: Myra Battenfeld, accounts specialist in the Business Office, was honored in June at the YWCA Leader Lunch in the Twin Cities for her excellent work as a coordinate campus representative on the Civil Service Committee.

■Karen Liu, home and family services, taught in the Elderhostel program at the College of St. Teresa in June. □

RESEARCH BRIEFS

City Lights Open Up the Night

For thousands of years night was to the human race a symbol of evil, danger, and the unknown. But since the advent of street lights, darkness has become as much our province as daytime, says geographer Mark Bouman.

Streetlights and the connection between city lights and city life is the topic of Bouman's doctoral dissertation in cultural geography.

"You know the joke, 'Will the last person to leave Detroit please turn out the lights?'" Bouman asked. "Well, that's a very telling joke. It shows how closely lights are associated with civilization. Lights are the last shred of urbanity."

In Mesopotamia, Bouman found, people equated night with evil and chaos. Outdoor nighttime activity consisted only of occasional festivals, where citizens "thumbed their noses at the gods" by frolicking at feasts lit by oil-burning lamps.

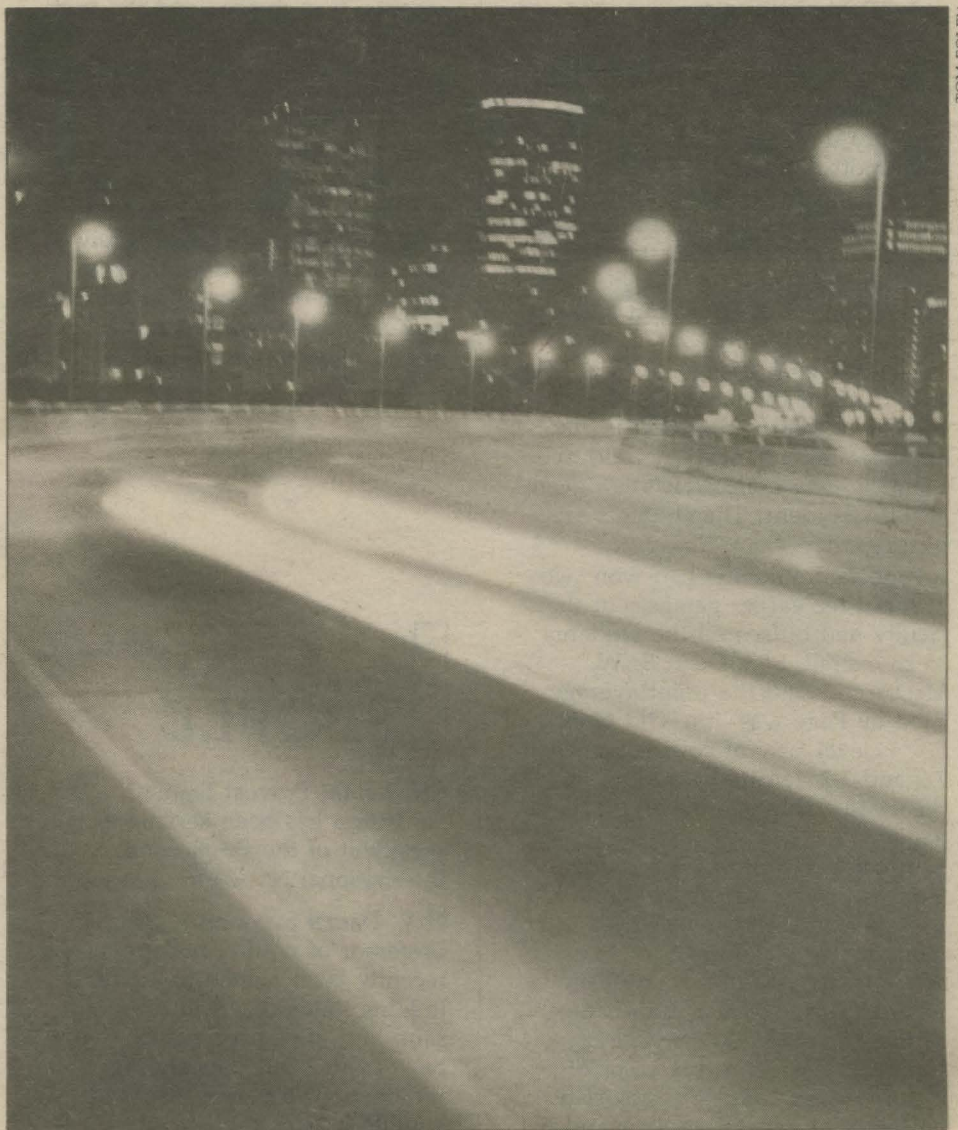
In ancient Greece and Rome, nobles attended nocturnal banquets, getting around by the light of lamps carried by slaves. Their nighttime antics were seen by some writers of the time as perfect evidence of the nobles' decadence.

During the Middle Ages, when cities began to take on more of a mercantile character and the urban focus of European civilization shifted to the north, regulations were made requiring citizens to hang torches on their houses. Finally, night light began to be seen as a public good rather than as a sign of corruption, Bouman said.

As more people and industries moved into cities, the demand for outdoor lighting became acute. Bouman believes that, historically, the demand has two roots: providing safety from thieves and other criminals, and allowing nighttime social life.

Oil lamps were still the main source of light in the 18th century. It wasn't until 1801 and the advent of coal gas that the first outdoor gas lights were installed, appropriately enough, in Paris, the City of Lights. But what really caught the public's imagination was the illumination of London's fashionable Pall Mall district in 1807. The first outdoor incandescent electric lights in the United States were installed on New York City's Wall Street in 1882.

By the turn of the century, the illumination of city downtowns allowed people to enjoy nighttime shopping, restaurants, theaters, and other entertainment, Bouman said. "The lighting landscape of the night not only permitted this activity, it also came to symbolize it—the city's 'distance from nature.'" □



TOM FOLEY

Night lights in Minneapolis

UNIVERSITY OF MINNESOTA

U·P·D·A·T·E

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MOVING?

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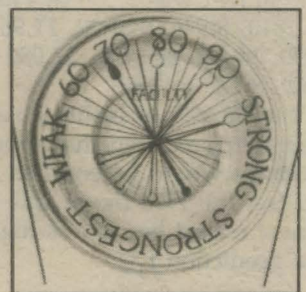
INSIDE

Faculty Power

With tough choices to be made, faculty are having a say, but some see power shifting to the administration.

Cover



Computer Camp

The Institute of Technology is opening eyes and opening doors for minority students.

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New York City Ballet

A five-year quest by Northrop impresarios led to the Midwest's major cultural event of the season.

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UNIVERSITY OF MINNESOTA

U·P·D·A·T·E

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How Are the Kids Doing?

A Report on the Day Care Dilemma

Children at the University's Child Care Center

By Lynette Lamb

It is a rare mother who doesn't feel a tug at her heart when her maternity leave ends and she has to decide whether to entrust the daytime raising of her child to strangers.

But for more and more parents there is no real choice. For financial, professional, or personal reasons, the decision on day care has already been made. Nationally, about half the women with children under age 6 work full-time. Compare that to 1940 when just 8.6 percent of women with children under age 18 were working full-time. And the trend toward full-time working mothers is increasing.

Just how many of its employees rely on some sort of child care arrangement was brought home vividly to 3M when results of a recent employee poll showed that only 7 percent of their employees lived in traditional families in which the father worked and the mother stayed home with the children. "The majority of women and men said child care was sometimes a problem," said 3M child-care coordinator Sue Austin.

"The numbers are real and dramatic," said Patty Finstad, director of the University of Minnesota Child Care Center. "Moms need to work, greater numbers of women need to go to college for training, but statistics show that just one parent out of six will find satisfactory child care."

Finstad is pointing out a major problem: the need for child care is increasing all the time, but the number of high-quality day-care spots is not keeping pace. High-quality, popular centers like Finstad's have waiting lists; in the case of the University's Child Care Center, the wait is usually at least one year and often as long as three.

"Parents get very frustrated looking for child care," said Jane London, coordinator of the Minneapolis Child Care Information Network, which fields about 7,000 calls a year from Minneapolis-area parents seeking child care. "Good-quality day care is very difficult to find—to find a program that is also affordable and close to home, well, they may not be able to find all three," she said.

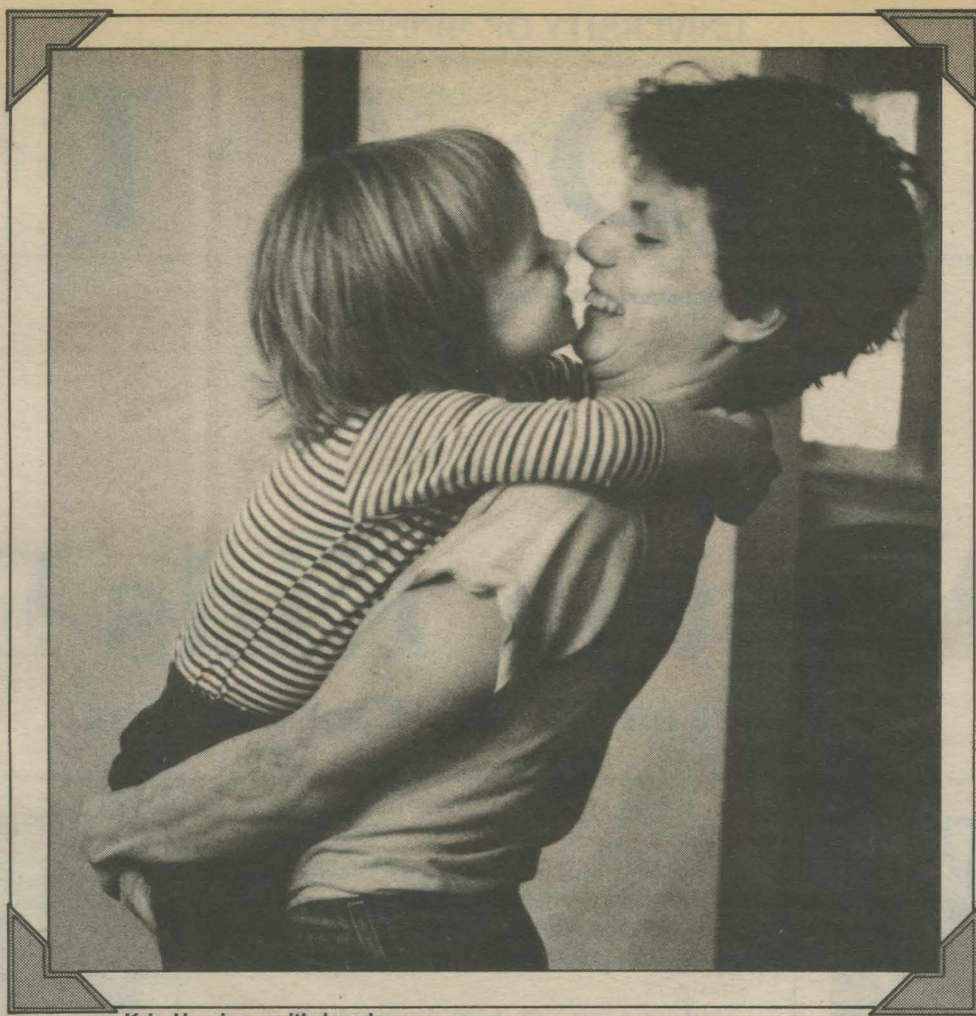
Parents are frequently shocked by the cost of day care, said London. At a day-care center, which is typically more expensive than a day-care home, the weekly cost for an infant is approximately $85-95; for a toddler it's $60-80. Day-care homes usually charge $60-65 a week for infant care, $50-55 a week for toddlers. Even more expensive is the at-home babysitter or nanny. If this person is well trained, home care can cost upwards of $200 a week.

Continued next page

PHOTOS BY TOM FOLEY

Child Care From cover

> **"Moms need to work, greater numbers of women need to go to college for training, but statistics show that just one parent out of six will find satisfactory child care."**



TOM FOLEY

Kris Heeringa with Laurie

Effects of day care

Finding and paying for day care pale in comparison to worrying about its effects, which it seems nearly every parent does at some time. The University's Laboratory Nursery School director, Lynn Galle, said, "One of our biggest concerns is helping parents come to terms with their feelings." Parents needn't worry as much as they do, the experts agree. As East Carolina University child development professor Charles Snow put it in his review of day-care research: "Infants and young children who attend good quality day-care programs do not differ markedly from their home-reared peers on most characteristics of development."

Snow cautions that current research on day care has its limitations: studies have been largely of high-quality, model day-care centers, restricted to immediate consequences, and confined to experiments and psychological tests, the results of which may not represent children's real-life behavior. Yet he also emphasizes that these results have been amazingly consistent.

Intellectual and emotional development seem to be unaffected by good quality day care. Social development, however, is affected, both negatively and positively. Day-care children tend to be more aggressive with their peers and less compliant with adults, but they also show more social confidence and greater skill in interacting with peers and adults. Probably the clearest disadvantage of day care concerns children's health—day-care children get more respiratory infections, influenza, and diarrhea than children who remain at home, a function of spending their days with other small children.

But the careful reader will note a refrain of qualification that resounds throughout these assurances about day care. The qualification is that, to be a positive experience, day care must be high-quality.

"It is a given that we will have day care," said child psychology professor Richard Weinberg. "And good quality day care is not going to have negative effects on children. What we should be concentrating on is how to create the best child care possible. The big issue is quality."

Quality day care

Quality can be a nebulous concept. Fortunately for the fledgling parent, there is much tangible advice as to what constitutes high-quality day care. And on this score especially, the experts tend to agree.

First, and most obviously, is the importance of the caregiver. "The quality of the care is only as good as the quality of the adults caring for the children," said University care center director Finstad. "A trained, supported teacher or aide who feels her work is valued will be better for the kids."

The child-to-adult ratio is also important, of course, and parents should be aware that state guidelines, which are 1 to 4 for infants, 1 to 7 for toddlers, and 1 to 10 for preschoolers, are less stringent than federal standards, which are 1 to 3 for infants, 1 to 4 for toddlers, and 1 to 7 or 1 to 8 for older preschoolers. Parents should also remember, said Galle of the Laboratory Nursery School, that "a ratio of adults to kids is just part of it."

Day-care personnel should have "certain personality characteristics that are hard to teach," Galle said, "warmth, empathy, patience, and responsivity."

Parents would be wise to check at least three references from parents of other children who have been at the day-care center or home they are considering. Other things to consider are whether the home or center is licensed, whether the physical environment is safe and comfortable, and what equipment and programs are offered.

A planned program of some sort is an important part of any good day-care program, Galle said. "Head Start research showed that there weren't great differences between types of nursery schools—Montessori versus traditional ones," she said. "What was critical was some sort of planned program."

This can be as simple as play in the park or a talk about flowers, said Galle. "Caretakers should show that they've put some thought into what they do, that they know what they're after," she said. "Kids should know they'll be following some sort of routine; they should know what to expect."

> **Intellectual and emotional development seem to be unaffected by good quality day care.**

At the University's care center, Finstad echoed this sentiment. "Kids need routine and a good combination of play and rest. We take our cues from the kids here. Learning goes on here all the time, but much of it is spontaneous. All the teachers' time is focused on the kids—even a parent can't do that."

The professionally run day-care center, like Finstad's, is what has been most studied by day-care researchers. This focus is somewhat ironic, because centers are not the most common mode of care. Day-care homes take in the majority of children. Such homes may be licensed or unlicensed; caregivers may be related or unrelated, trained or untrained. Parents should be aware that in Minnesota home day-care providers caring for two or more unrelated children are legally required to be licensed by the county.

Center-based programs are more likely to provide educational opportunities for children and to increase their social skills, maturity, and intellectual development. Centers have more stable and predictable hours than day-care homes and are publicly accountable and more easily monitored by parents. Typically their staff members are trained and their facilities are rich in materials and equipment.

Day-care homes, on the other hand, are more likely to offer authoritative discipline, socialization training, and more one-to-one adult-child interaction. They are usually closer to the child's home, located in familiar neighborhoods, and allow parents more flexibility and control over hours and instructions for caregivers. Finally, and perhaps most critically for many parents, day-care homes are usually less expensive than day-care centers.

Having a babysitter stay in your own home is another alternative for child care, albeit a less common one. Its advantages are obvious—with a babysitter the child stays on familiar ground and enjoys the one-to-one attention of an adult. This one-to-one situation, however, has its disadvantages as well. "The notion that it is better to have a private babysitter has not been demonstrated to be true," said child psychologist Weinberg. "Having a babysitter or nanny—just one person—affecting your child is a chancy approach to take."

Weinberg and Finstad recommend smaller day-care centers as optimal for children; Galle is less committal. "The decision you make about child care should be based on your needs as well as the needs of your child," Galle said. "Look at what's good for you and your family because your needs are interrelated. And keep reevaluating your situation. Assume choices aren't permanent."

The impermanence of child-care arrangements has certainly been the experience of Kris Heeringa, Vickie Courtney, and Linda Aaker, three members of the University community interviewed for this article. Chosen partly for the diversity of arrangements they represent, each of these women and their husbands had experienced at least two forms of child care and couldn't be certain what new arrangements the future held. Day care seems, above all, to require flexibility.

The Heeringas

Kris Heeringa is going back to work this fall after being a stay-at-home mother for the past 15 months. She will place Laurie, 3, and Peter, 1, in a group day-care home that Laurie previously attended.

Kris was happy staying at home, but she and her husband decided she must return to work for financial reasons. Her husband, Loren, is a manager at Honeywell and a Ph.D. candidate in the University's industrial psychology program.

Having experienced both means of child care, Kris isn't afraid about the switch. "At home I worry that I'm not providing enough stimulation for the kids," she said. "I don't always get around to an organized activity with the kids like the day-care teacher did." Kris also is no longer worried that day care will mean missing her children's development. Caring full-time for Peter she recognized all the stages of development she remembered from Laurie, who had a year of day care as an infant.

The differences between day-care homes with organized programs and trained instructors and maintenance-level day-care homes are something the Heeringas observed firsthand. Laurie spent nine months at one day-care home before transferring to Miss Vanya's Kiddy College, formerly a satellite program of the University's Child Care Center. "'I feel so much better about Miss Vanya's than about the previous place," said Kris. "It's a nice blend of organized schooling and a soft, comfortable home. We get reports on her progress, menus, and are told about activities, trips, parties—you knew they weren't just sitting in front of the TV all day."

Although the Heeringas really appreciated the educational component of Miss Vanya's, Kris said, "If I had to choose between a place that was strictly educational and one that was strictly affectionate and caring, I'd choose the latter. The most important thing for kids is to know that they are loved."

TOM FOLEY

Vickie Courtney with Jessica

The Courtneys

Vickie Courtney's daughter, Jessica, is 20 months old and has always stayed at home. For the first six months, her mom, a senior secretary in the Office of Student Affairs, and her father, Richard, an executive vice president of Meldrum Building Manufacturing, took turns staying home with her. Since then, Jessica has been cared for by a 21-year-old woman whom the Courtneys hired through a want ad in a Minneapolis newspaper.

"We feel it's really important at her age that she have the security of being at home," said Vickie. "The routine is important, there are fewer health risks at home, and we just felt it was best for her right now. We're very pleased with how it has worked out."

The Courtneys pay their sitter about what they would pay a high-quality day-care center, thus avoiding the extremely high cost of most individual home care. They had 50 responses to their newspaper ad and interviewed 25 people before choosing the woman they have now, of whom Vicki says, "Jessica adores her." The Courtneys wanted someone who lived close and had reliable transportation, child-care experience, and a similar philosophy of raising children. They asked for references, but felt they could tell a lot just from the interview. "You could feel if you were comfortable with someone and they were comfortable with you," said Vickie.

Although she admits that a babysitter doesn't provide the structure of a child-care center, Vickie has her sitter fill out a form in an attempt to keep abreast of Jessica's mood, health, and progress. "I insist on at least 15 minutes of reading a day and at least one activity like coloring. I don't like her to watch much TV. Of course, the disadvantage of a babysitter is that you never really know what goes on. But to me her personality and behavior indicate that she's extremely happy and comfortable with the arrangement. I just know if she weren't being treated well she wouldn't be happy—that's the only way we can truly measure it."

The Courtneys plan to place Jessica in a day-care preschool next spring when she will be two and a half years old. But for now, says Vickie, "I think all her needs are being met."

The Aakers

Linda and Monte Aaker were married for nine years before they decided to have children. When Linda, an attorney at the University's Student Legal Services, was five months pregnant, she applied for a spot at the University's Child Care Center, which has had a waiting list ever since it opened 10 years ago. "I heard about it through a colleague who had read a very favorable article about the center in the *Minneapolis Star and Tribune*," said Linda, whose daughter, Elizabeth, was enrolled there this June, 20 months after her mother originally applied. Elizabeth had been in home day care from age 5 months until mid-April, when the day-care provider had a back injury. For the next 6 weeks she was in another day-care center, which her mother now describes as "passive care."

"When they called from the University center I wasn't very sure I wanted to change her again, especially because it was $34 more a week and it would mean I would have to go back to working five days a week instead of the four days I had been working," said Linda. "But within 10 minutes of that first visit I could see a dramatic difference between the two centers—at the University it was active care, not passive or custodial."

TOM FOLEY

Linda Aaker with Elizabeth

As for her daughter's attitude about going to day care, Linda said, "The change is hard to believe. Elizabeth has such genuine affection for these people. She runs over and hugs them as soon as we get there and then starts to play. Never once since we started her there has she been clingy or reluctant for us to leave. It's a relief."

Like Kris Heeringa, Linda Aaker believes the day-care environment is more stimulating than what she could provide at home. "Socially, cognitively, and developmentally it's amazing how she's grown," said Linda. "She dances and conducts music and is very spontaneous. Some of the things she's learned are more subtle—she hands me her plate when she's done eating and she learned to drink from a cup after just one week. I've really seen her develop and grow there."

"Elizabeth has such genuine affection for these people. She runs over and hugs them as soon as we get there and then starts to play. Never once since we started her there has she been clingy or reluctant for us to leave."

The reliability of a day-care center is another important issue to Aaker and her husband, an administrator with the Minnesota Housing Finance Agency. "The day my sitter resigned at 7:30 a.m. I had to argue an appeal in court at 9," said Linda. "Luckily that day my husband could stay home with Elizabeth, but there are many days when it would be a real hardship for either of us. In family day care you are always at the whim of those people." She can count on the center always being open.

"You know, I never even think about the money any more," Linda said. "The peace of mind I have gained having her at the center is worth a lot more than the extra money we pay. I just can't say enough good things about that place."

A women's issue

Even if they can afford it, many parents cannot find a day-care situation that inspires the peace of mind that Linda Aaker enjoys. At least part of the lack of quality day care can be explained by the low wages and long hours that child-care workers endure. "Day-care teachers are overworked and paid abominably," said Finstad. "Child-care workers must be recognized as important to our society. Because we don't do that—society has not really recognized that young children matter."

Finstad and Weinberg also believe that day care is a women's issue.

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Lob Trees and Pathfinders

Clifford and Isabel Ahlgren have spent 35 years sifting the signs of nature and humans in the BWCA. The wilderness of our dreams depends on conscious understanding.

By Chuck Benda

It was morning on Jackfish Lake in the Boundary Waters Canoe Area. The cold September night had sprinkled frost over our sleeping bags, but the crystals melted with the rising sun. The water of the lake, still warm from the dog days of August, steamed like a big pot of black coffee. Somewhere above us, the sky was blue, but until the sun could burn off the mist, we were awash in silvery light.

By the edge of the lake, a companion knelt over the canoe, tucking the lunch pack under his seat. He looked like a voyageur to me, broad shouldered and bandy-legged, face stippled with whiskers. A loon called out from the fog, sad and eerie.

Once we were on the water, the swirls of mist became a blank slate for my imagination. Half expecting a birch bark canoe paddled by red-sashed voyageurs to emerge from the mist before us, I imagined the lakes and forest around me to be much the same as they were 100 or even 200 years ago. I filled my lungs with a raw draught of air, sighing as I exhaled.

Ah, wilderness! This is what it's all about. I wonder now, had I really known what it was all about, would I have felt the same way?

Wilderness defined

Webster defined wilderness as "a tract of land uncultivated and uninhabited by human beings" or "an empty or pathless region." Congress refined that definition when it passed the Wilderness Act of 1964, including such phrases as "an area...untrammeled by man...retaining its primeval character and influence...with the imprint of man's work substantially unnoticeable."

The BWCA is the most popular wilderness area in the north central states. For most of the thousands of visitors to the BWCA each year, these definitions would seem accurate enough: its "primeval character" is perhaps the biggest single reason they come. They want to visit a land untrammeled by man. But the notion that the BWCA is such a place, a wilderness as defined by Webster and the U.S. Congress, is an illusion—an illusion that needs to be destroyed if the area is to survive for future generations of would-be voyageurs.

Clifford and Isabel Ahlgren have spent the last 35 summers in the BWCA and surrounding area piecing together an ecological history of this "wilderness." The Ahlgrens are research associates for the University's College of Forestry and compose the core staff of the Wilderness Research Center in the northern Minnesota town of Ely. The University of Minnesota Press recently published their book *Lob Trees in the Wilderness,* a summation of their ecological history, and, in some ways, a culmination of their lifetime's work in wilderness research.

The early voyageurs used lob trees as signposts in the wilderness. Routes could be marked by choosing prominent trees along the way and lopping off several branches just below the crown to make them even more distinctive from a distance. The Ahlgrens hope their book, likewise, will serve as a guide to understanding the wilderness. Using a distinctive combination of history, research, and wilderness philosophy, their book shows how a continued human involvement will be necessary to preserve the best of what we take to be wilderness.

The most striking revelation of the book is that the BWCA, an area most would believe relatively unchanged by man, has the imprint of man throughout, though few would recognize it. Fire, logging, trapping, recreational use—even forest management—have fundamentally changed the area.

It was the rich resources of this area—primarily an abundance of beavers—that first brought Europeans to Minnesota. Some of the fur traders eventually built cabins and stayed in the area, joining the Indians who had lived here for thousands of years. Beaver were plentiful, but, contrary to popular belief, other wildlife—especially moose and deer—was often scarce. Much of the forest consisted of mature stands of white and red pine, growing as high as 250 feet, which prevented the growth of underbrush that would have provided browse and cover for other wildlife. The Indians lived a hard life, subsisting primarily on fish and wild rice. They sometimes had to resort to using dogs for meat.

> **From 1839 to 1932, 67.5 billion board feet of white and red pine—enough to cover the entire state with a solid slab of wood nearly two and a half feet thick—were removed from Minnesota forests.**

As beaver and other fur-bearing animals diminished, explorers set their sights on the tall pines. Early logging operations must have made the BWCA look positively urban in comparison to what it had been. Many logging camps dotted the area. Railroad lines were built.

The BWCA was also home to other short-lived commercial operations, including a gold rush, a few attempts at farming, and a number of commercial fishing operations. By the end of the logging boom, two thirds of the tall pine forests had been removed. Later pulpwood logging by paper companies altered the land even further. Human influence along with numerous fires created a landscape that the Indians who lived through it all could hardly recognize as the land of their birth.

As the logging played out, developers began to recognize another resource: recreation. Hundreds of resorts blossomed, and even developed a daily bus service for their customers. Thousands of hunters and fishermen made their way north. But it was this recreational use that eventually led to the preservation of the area, though not until it was a land far removed from wilderness as defined in either the dictionary or the Wilderness Act of 1964.

A "wilderness," once considered an inhospitable place to be avoided if possible, successively became a source of natural resources to be exploited, then a fun place to go for recreation, and, finally, a mystical place, essential to human psychological and spiritual well-being.

Each year, thousands of environmentalists, conservationists, and preservationists rally to the cause of protecting wilderness, whether the foe be acid rain,

mineral exploration, or even forest management practices. But do they know what they are fighting for? Or, more importantly, are they advocating action that could lead to the eventual destruction of that which they seek to preserve? It's happened before.

Wilderness sleuths

As a boy growing up in Toimi, Minnesota, a rural Finnish community of farmers and woodsmen north of Duluth, Clifford Ahlgren learned to speak Finnish before English. At the same time, he developed a curiosity about the ways of the forest. Toimi is on the southern edge of the Superior National Forest, and Clifford's childhood (he was born in 1922) coincided with the final years of the logging boom that changed the face of Minnesota forever.

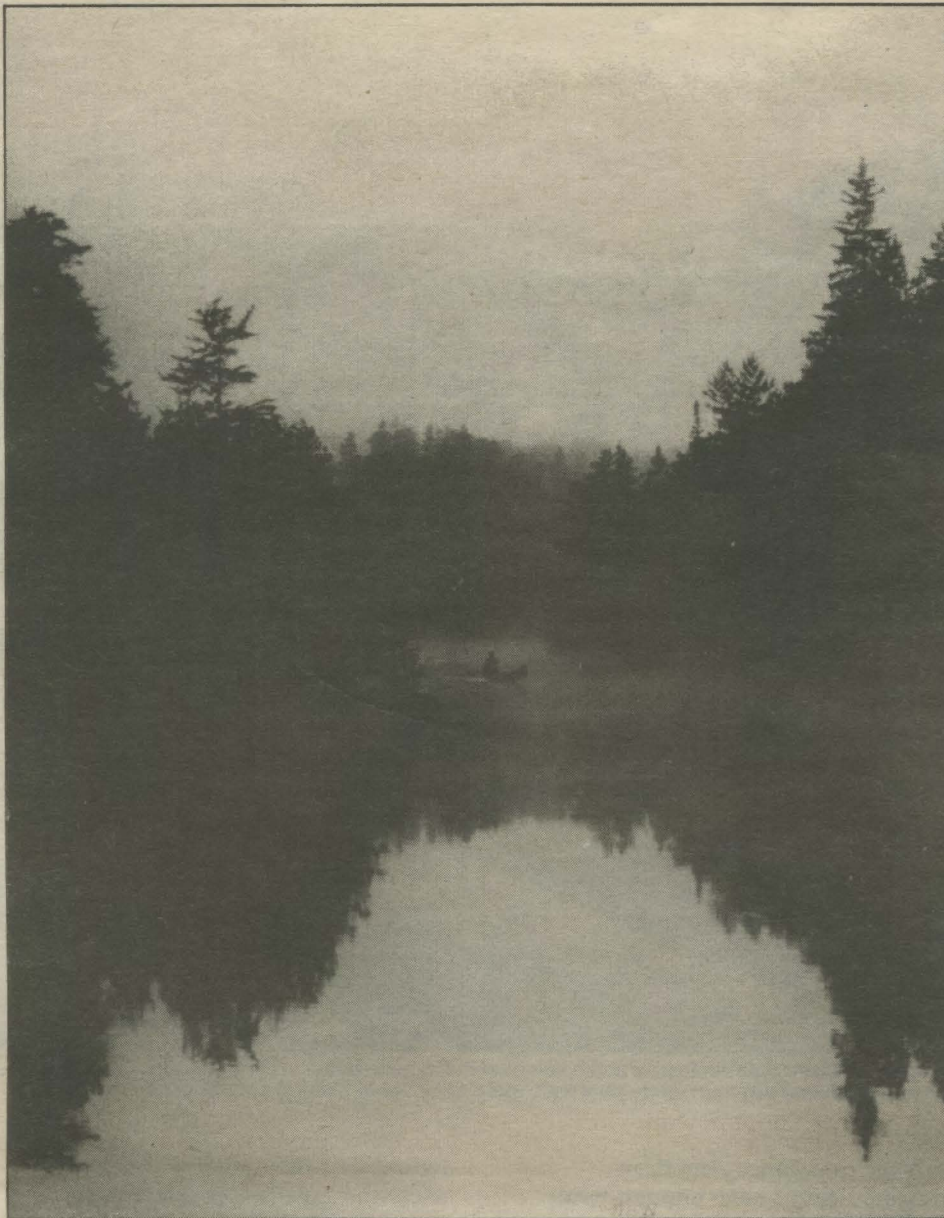
From 1839 to 1932, 67.5 billion board feet of white and red pine—enough to cover the entire state with a solid slab of wood nearly two and a half feet thick—were removed from Minnesota forests. Many Midwestern cities, including Des Moines, St. Louis, and Kansas City, were literally built from Minnesota pine. The handles of saws and axes were far more familiar to Clifford's hands than a baseball bat. Wood cutting was a part of everyday life, but he had a special curiosity about the way the land was changing.

"It was very intriguing," Clifford said, the slow, pleasant rhythms of his Finnish accent cementing the ties to his early days. "I was always interested in the woods and the ecology—although I didn't know what the word meant at that time.

"I saw the change in the landscape through removal of the forest. And I saw another forest return, and the various stages of growth along the way. It was the sort of thing that struck your eye and made you wonder what would have caused this."

By the time he was able to study ecology formally, he already knew most of the names of the plants native to his own neck of the woods. In 1948, he received a bachelor of science degree in forest management from the University of Minnesota and became director of research for the Wilderness Research Foundation, a post he has held ever since. He went on to earn a master of science degree in forest ecology and botany in 1953, also from the University.

While Clifford was growing up in Toimi, roaming the forests of northern Minnesota, Isabel (née Fulton), was following her schoolteacher father and two brothers (who, along with Isabel, eventually became college professors) through the woods near Hayward in central Wisconsin. Research was a way of life for the Fultons, whether the objective was serious or simply a way of keeping tabs on the welfare of the walleye population in their favorite fishing


MINNESOTA DEPARTMENT OF NATURAL RESOURCES

Half expecting a birchbark canoe paddled by red-sashed voyageurs to emerge from the mist before us, I imagined the lakes and forest around me to be much the same as they were 100 or even 200 years ago. Ah, wilderness! This is what it's all about. I wonder now, had I really known what it was all about, would I have felt the same way?

hole. When fishing was good in the nearby lakes, cooking and eating the fish was only half the fun: each catch was measured, weighed, and relieved of a few scales to be kept as samples.

In 1953, while she was teaching botany (she had earned a doctorate from Indiana University) at Wellesley College in Boston, Isabel decided she needed more first-hand experience in the field if she was to be a good teacher, so she visited the Wilderness Research Center, where she met Clifford. She convinced him to give her a job. Two years later they were married, and they've worked together ever since. Their mutual love for wilderness (and each other) would never have blossomed as it did had it not been for a young Chicago lawyer who first canoed the border lakes country before Clifford and Isabel were born.

One spot, beloved over all

After World War I, a young man named Frank Brookes Hubachek took a canoe trip (the first of many) into the lake country along the Minnesota-Ontario border. In the solitude of this wilderness area, face to face with the elements and the raw forces of nature, he found a country he loved and a source of emotional and spiritual regeneration.

In the following years, he came to believe that without wilderness areas in which other people could have the same sorts of experiences, the future of the human race might indeed be much more grim. Hubachek, a Chicago-based lawyer educated at the University of Minnesota Law School, began to purchase tracts of land in the area to protect them from logging and development.

As his belief in the value of wilderness grew, Hubachek saw a need for ongoing research into the nature of wilderness in order to aid its preservation. And as his holdings in the area grew, he began to look into ways that he could help foster such research. Under the guidance of Frank H. Kaufert, then director of the University of Minnesota School of Forestry (now dean and professor emeritus), Hubachek began to lay the groundwork for fostering the kind of research needed to preserve the wilderness.

As a starting point, Hubachek needed a forester to conduct an inventory of his timber holdings. In 1948, he hired Clifford Ahlgren, fresh out of the School of Forestry. The next year Hubachek founded the Quetico-Superior Wilderness Research Center on Basswood Lake and made Ahlgren director. Thus began the more than 35 years of continuous research that eventually was to piece together the ecological history of the BWCA and surrounding area.

A place to begin

The forest is slow to change, and each component is inextricably intertwined with the others. The mice that feed on the seeds of the jack pine are as much a part of the process of change as the raging forest fire that devastates 100,000 acres.

The Ahlgrens began what was to become a lifetime's work in much the same way the new owner of a hardware store would, by taking an inventory of "stock" on hand. In addition to keeping track of the timber, they began to collect, preserve, and label samples of plant species they found in the Quetico-Superior wilderness. Today their herbarium includes more than 5,000 species, from native lichens, mosses, trees, and ferns to non-native species such as lilacs, introduced by early resort owners, and timothy, possibly introduced through the manure from oxen and horses used in the early lumber industry.

The Ahlgrens also began establishing permanent study plots scattered across the area, covering the spectrum of soil and forest variations. Some 2,000 of these plots now provide data on fire frequency, soil temperatures, plant species, wildlife, rainfall, and forest succession. They continue to watch how the plots change over the years.

On the surface, the Ahlgrens' research might seem as dry as the pine duff on the forest floor. There were no startling discoveries, at least not the kind that make newspaper headlines, but rather the gradual emergence of a deeper understanding of the forest, the way it changes, and what role man has played and continues to play in that change.

Summer months were spent in the field testing, collecting samples, establishing test plots, and, in an important way, just watching the forest grow.

"When we started doing this book," Isabel said, "it was like

Continued next page

Lob Trees Continued

putting together a jigsaw puzzle. We didn't know where it was going. It was exciting."

They had a lot of puzzle pieces to work with. "In 30 years you can see a lot of man-made change, change you wouldn't notice just going in on a canoe trip once in a while," she said.

"You can walk in a forest for many years and not see anything," Clifford added. "All of a sudden, something pops up at you, which may not be any great shakes discovery, but it helps interpret the forest."

Winter months were spent in the laboratory and at home in Duluth reading, analyzing samples and other data, and writing some of the more than three dozen articles, books, and scientific papers the Ahlgrens have published.

Working together in a small office in their Duluth home, a tidy room affectionately labeled "the snarling pit" because of the heated discussions that have taken place there over the years, the Ahlgrens developed a system of collaboration that has served them well. Based on the Scandinavian work ethic that says if there's work to be done you pitch in and do what you can, the Ahlgrens divided chores according to their strengths and weaknesses, their likes and dislikes. Isabel's skill with words (her early college work was in English as well as botany) puts her at the typewriter, while Clifford handles much of the mathematical work.

The Ahlgrens' patience and perseverance brought them an understanding of forest succession that transcends earlier "discoveries" made on the basis of short-term studies.

They discovered that early logging not only eliminated vast existing stands of red and white pine, but also led to permanent changes in the forest composition. The thick stands of tall pines had created a humid microcosm beneath the canopy where the damp forest litter was unlikely to burn; in less dense forests, lightning strikes are far more likely to cause fires.

In the absence of the long-lived red and white pines (some living more than 250 years), faster-growing species such as birch and aspen have proliferated. These trees have life spans less than half as long as the tall pines and their shorter life cycles deplete the thin soil at a much faster rate.

Few red pine seeds germinate and survive the seedling stage, so massive quantities of seeds must be available if new stands are to grow. Once most of the red pine forest was gone, the remaining trees could not regenerate the forest.

After the logging boom decimated most of the stands of white pine, foresters began an effort to reestablish large tracts of the

MINNESOTA HISTORICAL SOCIETY

A logjam of Minnesota white pine at the height of the logging boom in the 1880s. The Ahlgrens are trying to develop a disease-resistant strain of white pine that could once again make it king of Minnesota forests.

majestic tree. Since American nurseries didn't have enough white pine seedlings to support large-scale reforestation, seedlings were imported from Europe. Along with the seedlings came a lethal fungus, blister rust, that spread across the country, infesting millions of white pines.

Today, blister rust kills almost 100 percent of young white pines before

> **"You can walk through the forest for many years and not see anything. All of a sudden something pops up at you, which may not be any great-shakes discovery, but it helps interpret the forest."**

they have a chance to get established. Man has already changed the BWCA so drastically that it can never return to its former "wild" state without further intervention.

A major part of the Ahlgrens' research has focused on developing new hybrids of white pine that are resistant to blister rust. Using stock found in the wild that was able to survive blister rust infestation (less than 1 percent of white pine seedlings), they have created a hybrid that they hope will one day allow the great white pine forests to return to the BWCA.

But this, too, is slow work. Breeding trees requires a lot more patience than breeding crops or flowers that mature in a single season. Even though they have grafted white pines onto old root stock, a trick that speeds up the breeding process a bit by bringing the trees to maturity sooner, the Ahlgrens have managed to obtain only second-generation hybrids in 35 years of work. In other words, they are working with the grandchildren of the original disease-resistant trees. Plant breeders like to have many generations to perfect a desired trait.

In 1986, with the help of the U.S. Forest Service, the Ahlgrens will plant several large test plots with strains of white pine they hope will prove resistant to blister rust.

The Ahlgrens have come face to face with wolves in the dead of winter with no place to hide, and they have faced hordes of mosquitoes in the heat of summer. They have raised two children, taking them into the field camps in the summer. They have chased off bears with a barefooted kick in the rump through the thin canvas on their cabin porch. Though they have learned many of its secrets, the forest still calls them.

"I imagine we'll continue poking away at some of this stuff as long as we're able to," Clifford said. "There's enough material in those files over there to dig out and analyze and put into papers that we haven't had the time to write.

"Once you've worked on it for so many years, it becomes a part of your life. I think we'll just continue on."

One change in the forest leads to another. From the least of the lichens to the most majestic white pine, all are caught up in the wheel of change, and all must be considered if this wilderness area is to be managed successfully.

It may be possible, with the hoped-for blister-rust-resistant white pine and the wisdom and knowledge of people like the Ahlgrens, to bring the BWCA and other wilderness areas back to a state close to what they once were—if indeed that is the choice that is made. Some might argue that the state of the BWCA today is preferable to what it was 300 years ago when it was a land where wildlife was scarce and people thought of it as a harsh environment to be gotten through quickly.

If the choice is made to maintain the area as it is now, management will still be required—as well as knowledge and wisdom—to ensure that mistakes similar to importing blister-rust-infested white pine are not made again.

It is unlikely that knowing the truth about the BWCA would have changed that special morning on Jackfish Lake for me, or that it would diminish anyone else's "wilderness" experience in the BWCA. Not knowing could be another story. □

By Gayle Graham Yates

The University's Extended Family

The analogy in greatest fashion these days for the university is that of the corporation. Certainly some similarities between the university and the business firm bear comparison. Each is typically a large and complex institution. Each has both immediate and long-range goals. Each employs a great many people and is responsible for their creative achievement and economic security. Each must produce a visible outcome that many people must recognize and approve for each to survive at what it does.

The analogy of the corporation for the university is particularly compelling to readers of the book by Thomas J. Peters and Robert H. Waterman, *In Search of Excellence*, in which the writers suggest that America's best-run corporations are those in which management gives small groups of imaginative people free rein to explore the full range of possible directions their work might take. It is an idea that parallels the university tradition of academic freedom, in which scholars have institutional protection to explore ideas wherever they may lead. While it could be argued, to make the corporate analogy complete, that university education is a service product, I think education is rather different from other services provided by corporations.

A more old-fashioned analogy is to my mind a better one. Like all analogies it is only partial in its direct application but rich in its suggestiveness. The analogue I prefer for the university is the family. Like the corporation and the university, the family is a complex institution. The family, too, must have both immediate and long-range goals to do its job. The family, too, is the locus for achievement and economic welfare. But the family, unlike the corporation yet like the university, is dominantly a set of relationships, and therein is the point, often underrated today in society and in the university itself, that I want to emphasize.

We know well that the family as an institution can be neglectful of its members, or even corrupt. But what the family does at its best is strikingly similar to what the university does at its best, for they both act to affect people's lives, to provide basic information, to transmit values, and to empower individuals and collectivities with the knowledge and mature self-confidence to change the world. The means to these ends in the university as well as in the family, I believe, are loyalty and love.

I am not blind to the needs of research that requires sustained authoritative teamwork, work that demands rigorous solitary discipline, or problem solving that requires genius. However, the atmosphere that nurtures cooperative teamwork, individual rigor, and flourishing genius is one that melds loyalty, trust, and the bonds of human affection. "We have to love them into learning," one of my colleagues who wins teaching awards says.

High on my list of cherished moral qualities is loyalty. My own deep loyalties may stem from my aunts' injunctions to me, the beloved girl child in an extended family, to "remember who you are." This advice came each time I was about to go out into the world beyond them to do they knew not what. They loved me, and they did not ever give up on me, even if they did not trust me not to do what I did in fact do—leave them and go to other parts of the world to eat foods alien to their Mississippi farm kitchen, to adopt world views unheard of to them, to vote for political candidates who were obnoxious to them, and to marry a man whom they perceived to be a Yankee.

> **"In thin times as well as thick, there is something to be said for loyalty to the university as to the family."**

The loyalty I feel for the University of Minnesota as an institution and for higher education as my career is not untested.

Perhaps none of us has easy grace for finding the work of our choice in adult life. I have said in public more than once that I will punch out the next person I hear saying that the university is not the "real world." Whether we are 19-year-old students or 44-year-old professors, the university is our workplace, and it is much like any other workplace. People are people are people, wherever they work and whatever their status, and some of them try to destroy each other at times, and some of them labor to nurture and support each other.

We remember who we are, as my aunts taught me, when the security of that identity, whether personal, national, or educational, is threatened. It is so in the university most clearly at a time of trial.

I remember being most impressed several years ago when an internationally renowned male scientist testifying before a legislative budget hearing for the University of Minnesota said simply, "I love the University."

I had my own moment of such truth privately one day, walking across the Washington Avenue Bridge after a University meeting in which I had been embattled and it seemed to me I had lost a lot. Troubled and angry and disappointed, suffering at the University's hand, I looked out toward the east bank of the campus in the distance and thought, "I love the University. It has given me a great deal, and I have given it much. It is larger than this moment's event. For my students, my colleagues, and myself, I must not give up." My experience was almost mystical. My childhood family lesson was there for me. I remembered who I was. I continued across the bridge, where some people go to jump off, and that afternoon I felt like singing some jubilant, joyous carol.

Or maybe it was the march tune for yet another battle.

In thin times as well as thick, there is something to be said for loyalty to the university as to the family. The university has its muck as well as its glory. It has its straying sheep as well as its dutiful daughters. It has its sad deficiencies, and it has its celebrated attainments in which we can all take pride. Its members' faith in its potential, belief in its integrity, and willingness to trust each other I have to believe will make the university better as an institution. Similarly, affection like that in a family has its place in a university.

In my conjugal family (as sociologists have named the constellation of wife, husband, and offspring), I am fortunate to have a son whose personality patterns are a great deal like mine. He has saved me from the foolishness that, if I had had only a daughter, feminist that I am, I may have fallen into thinking that only female people are this way. I love my boy child enormously, extravagantly, almost painfully, for I can nearly think his thoughts before him, know how deep his pleasure, feel how great his hurt before (or whether) he tells me.

My son and I are both fortunate to have the symmetry of our family completed by a father and daughter who are different from us. They are spontaneous, quick to action, witty, clever, charming, delightful. We never quite know what they are going to do next. We are organized and reliable. We anticipate what we are going to do next with a thoughtful plan. We move cautiously into new experiences, but once we make up our minds we act decisively and firmly. They do things and then backtrack, make several starts and stops before they figure out what they are doing. They do not get embarrassed like we do, even when they embarrass us. They laugh a lot. We are serious. While we are contemplating our plan, they sometimes wonder if we will ever get moving. They have already started three new projects while we were still thinking about it. They try out relationships. We make commitments for life.

Gayle Graham Yates is an American studies professor and a former chair of the Women's Studies Program. She is on sabbatical this year, working on a book with the support of a Bush Fellowship. A native of Waynesboro, Mississippi, Yates will write about her "personal journey" to investigate the changes the civil rights movement has brought to the region where she grew up. Another result of her year away from the University will be the development of an undergraduate-level course on the new American South. Yates and her husband have two children and live in South Minneapolis.

While such differences do not always make family harmony, they are wonderful lessons in tolerance and love. So tender and awesome is my feeling for her, there are few things I would not do for my 20-year-old daughter, joyous free spirit, sparkling marvelous stranger, spitting image that she is of my beloved with whom I skipped in the night streets of New York, holding hands and inventing alternate lines of rhyming nonsense when I was her age. My son and his father enjoy a very special male companionship, each admiring the other most deeply, and each sometimes utterly uncomprehending the other's behavior.

In urging a lesson of family love upon the university, I am not advocating a return to what in former years was known as *in loco parentis*, that set of rules and institutional policework treating students' personal conduct with the authority parents exercise over young children for their safety and protection. I, like most students and faculty, am happy to see those days behind us, though I slipped at least once. It is a source of much amusement to my daughter that I, the long-time college teacher, reverted to my college persona and its bygone codes the day I was moving my own first child into her college dormitory. I was startled and shocked to see a male student in a woman's dorm room and almost yelled "Man in the hall!" the way we did it more than two decades ago.

The correlate lessons of family love I yearn for between faculty and

Viewpoints, page 13

Showboat Summer

Quick costume changes require a helping hand. Barbara Cohen, who later in the play ap
son of the Count of Monte Cristo, has her dress secured by stage manager Nancy Hart.

A buoyant troupe of villains, heroes, minstrels, and hoofers takes to the water every summer.

There's more cheering and hissing down at the dock of the Minnesota Centennial Showboat most summers than there is across the Mississippi at the Hubert H. Humphrey Metrodome.

There is little evidence of the coming metamorphosis among the crowd gathered dockside on a hot summer evening. The singing of the cicadas nearly drowns out the murmured conversations of the assembled, who stand in a neat line waiting for the gate to open. As they file across the gangplank, order begins to blur like their rippling reflections. The actors, already in costume, take tickets and draw clusters of playgoers into conversation. There's a lot more smiling and the talk grows louder.

When the lights dim in the small theater a dastardly villain emerges to the warning chords of the piano. You hiss. As the hero and heroine, in front of intricately painted backdrops, manage triumphs and declare their undying devotion to one another, you cheer. You've been transformed into a theatergoer of the 1890s—and you and the actors and the folks sitting behind you are all enjoying this fantasy together. Between acts of this outrageously improbable melodrama, villains and heroes perform musical olios—campaign songs for and against Teddy Roosevelt, drippingly sentimental ballads, brass band ragtime salutes, a vamping number worthy of Mae West, and a dancing salute to Alexander Graham Bell. With flashing sabre the Count of Monte Cristo gets revenge against three villains (One! Two! Three!!), and is reunited with the fair Mercedes Mondego, our heroine. The Grande Finale is an all-stops-pulled version of the French national anthem, complete with flag waving and an actress embodying La Belle France.

In the moonlight afterwards there's more good will than after a small town church service. The actors line the gangplank, shaking hands, wishing everyone good night and gaily accepting the compliments of the audience. The fun was so fast paced it seems like you just stepped aboard. And now it's over, until next summer.□

Photos by Tom Foley

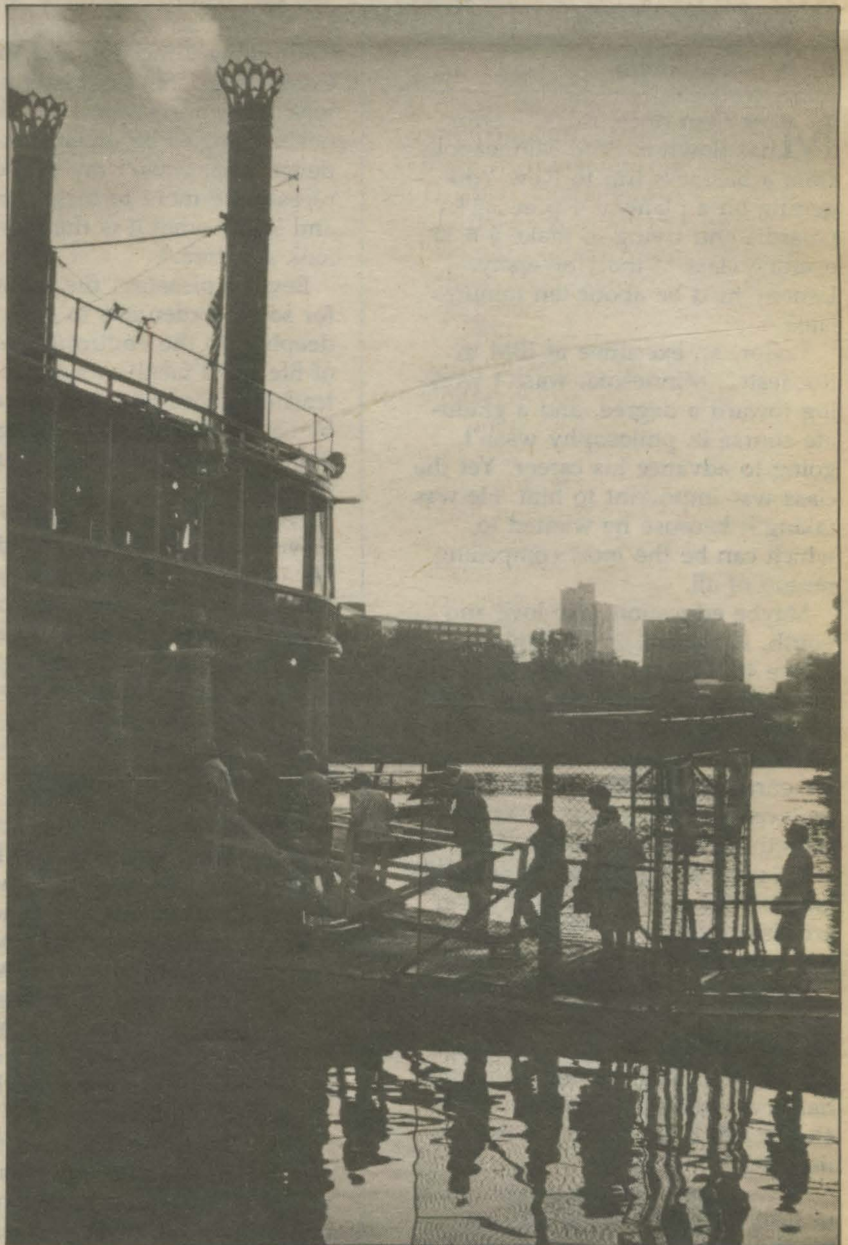
(above)
Actors in costume take tickets and mingle with the audience during intermission. Janice Lee rings the Showboat's bell to signal the continuation of the show.

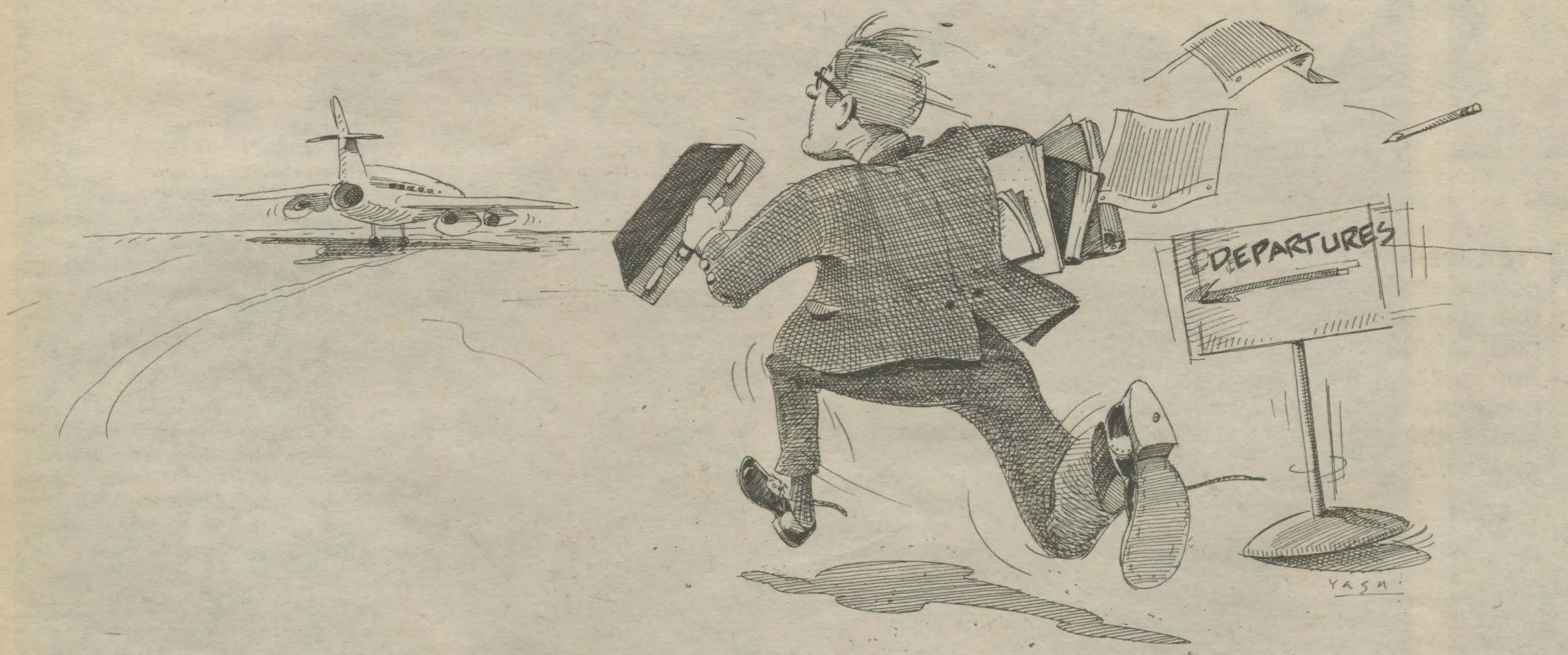
(right)
An attraction equal to the play are the musical olios between acts. One of the showstoppers, "A Salute to Alexander Graham Bell," required an afternoon run-through in rehearsal clothes.

n tights as Albert,

(above)
Janice Lee at the make-up table

(left)
My hero. Julie Yugend and David Conner get into character as Mercedes Mondego and her beloved Edmund Dantes, the Count of Monte Cristo.





True Fact: People have been known to jet in from La Guardia in attempts to be on time for their evening extension classes at the University. Another case of:

Extension Addiction

By Maureen Smith

More than once, Roger Taylor has flown back to Minneapolis from a business trip to New York, getting on a plane at 4 p.m. at La Guardia and trying to make a 6:30 evening class at the University. Usually he'd be about ten minutes late.

Taylor, an executive at IBM in Rochester, Minnesota, wasn't working toward a degree, and a graduate course in philosophy wasn't going to advance his career. Yet the class was important to him. He was taking it because he wanted to, which can be the most compelling reason of all.

Maybe education, like love and youth, is wasted on the young.

The 40,000-or-so students a year who take extension classes on the Twin Cities campus have all kinds of personal and professional reasons for enrolling, but one of the best reasons is that it's fun. "This is something I get pleasure out of," said James Martineau, a Minneapolis lawyer who has taken history and art history classes. "I love the subject matter."

(Extension classes enrollment is almost double the head count because students often take more than one class a year. The enrollment figure has been stable at between 76,000 and 78,000 a year over the past decade.)

"One of my favorite avocations is to walk through the [Minnesota Landscape] Arboretum, but I didn't recognize many of the trees or bushes," said Vera Schletzer, psychology professor and director of Continuing Education and Extension Counseling. "Several years back I took three horticulture courses. I'm never going to be much of a gardener. That wasn't my purpose. It pleases me more to look at a tree and know what it is than just to look at a tree."

Beyond pleasure, the motivation for some students is to look more deeply into the enduring questions of life. And faculty members enjoy teaching those who are students by choice and who can bring rich life experiences into classroom discussion.

"It's hard to teach tragedy to 19 year olds," said Archibald Leyasmeyer, associate professor of English on the Twin Cities campus. "When you're 35 you're aware, to use the language of Frost's poem, that the roads not taken have had an effect on one's life."

Slowing down time

Taking classes can be a way of packing more meaning into life. Taylor, the IBM executive, has a theory about events and time.

Think about a week in your life that was lacking in events. Maybe you sat bored at your desk at work, and the hours dragged by. Yet when you looked back on the week it seemed to have gone quickly, vanished without a trace.

Then think about a week that was full of significant events. Maybe you were traveling. Each day went by quickly, but when you looked back it seemed like more than a week ago that you were in Rome because you had seen so much since then in Florence and Milan.

Significant events make the hours and days go fast but the weeks and months go slow. Those events don't necessarily keep happening in adult life, Taylor said. "One has to continue to create those events. One of the best ways to seek out new and different things is by doing it with ideas. What better place to get ideas than in a philosophy class?

"I turned 41 last month. It's easy to settle back into your job and your responsibilities at home and lose some of your curiosity in fields other than the one in which you have your profession. It's easy to fall out of the habit, to turn on the television after dinner and become hypnotized, or pick up a magazine."

The 40,000-or-so students a year who take extension classes on the Twin Cities campus have all kinds of personal and professional reasons for enrolling, but one of the best reasons is that it's fun.

"It keeps you alive and growing," said Carol Swenson of Fergus Falls, an administrator at the Otter Tail County Historical Society who has taken history classes on the Morris campus. "It gives me new things to think about and keeps my mind going."

"The world seems to make more sense the more I learn, and as I get older I really appreciate getting different perspectives," said Maxwell Moon, a secretary on the Twin Cities campus. "The fastest way I can get a perspective usually is by taking a class. Coming into a new discipline shows me a new way of looking at things. What anthropologists think is different from what political scientists think. It gives me more angles on the world."

Cream of the professors

Learning can be found in all kinds of ways, in books and in life, but the students see advantages in taking a class. "I find it difficult to really focus without the structure of a class," Jim Martineau said.

Taylor engages in serious study and even writes papers on his own. But he said that when he wrote a paper for class, "I felt I did a more thorough job and got into the topic more deeply. Knowing that I would have a knowledgeable reader, I was more motivated to think it through."

Making friends is another benefit. "You meet wonderful people who are interested in what you're interested in," said Maria Murad, a writer and editor for Super Valu Stores.

(Although none of the Minnesota students mentioned this, a recent article in the *Chronicle of Higher Education* said that some people are looking to liberal arts classes as "an attractive alternative to the singles bar."

"Not least in the considerations are the interesting people you meet in the classes, and probably the most interesting are the professors," Taylor said.

He recalled that in one philosophy class the teacher, John Dolan, "would do such things as call the most renowned authority on the phone, because he knows all these people. He'd call Noam Chomsky or somebody and come to class and relate it. You don't get that if you're just reading articles."

"Not least in the considerations are the interesting people you meet in the classes, and probably the most interesting are the professors."

"We had the cream of the professors—[Theofanis] Stavrou, [Paul] D'Andrea, Toni McNaron," Murad said. "They were terrific teachers, and they never made you feel you weren't a part of it all."

"I love Mulford Sibley," Maxwell Moon said. "He opened my eyes to political theory. The course textbook, which he wrote, is something I'm sure I'll always keep as a reference. Harvey Sarles in anthropology is somebody else who has been important to me. From him I learned a lot about how scholars have divided up knowledge in the world. Both of them contribute every day to my own sense of the world."

Maybe it's because the students are older than the typical undergraduate, or maybe it's something about the environment in classes offered through Continuing Education and Extension (CEE), but several of the students said they were struck by the way faculty members treated them as friends or equals.

Donald Doekson, a senior analyst/programmer at the University, started his college career in the 1960s at a small liberal arts school that prided itself on close contact between faculty and students. "But I found there was nothing to match what I've found in CEE," he said.

Similarly, teachers speak highly of students. "They're there because they're curious about something and they want to learn," said classics professor Gerald Erickson.

Although he doesn't need the money as much as he did earlier in his career, Erickson keeps teaching evening classes because he enjoys it. "It sort of restores my faith in the whole process," he said. "These are volunteers. It's pretty clear they opted for that class."

Moving with the future

Curiosity and enjoyment aren't the only reasons that people take classes. Many people do it to keep up with their fields.

"In most fields, after eight years or seven years, if one doesn't keep up one is considered to be getting dangerously out of date," Leyasmeyer said.

"Roger Staehle used to say that we wouldn't have a shortage of engineers if they didn't get obsolete," said Harold Miller, dean of CEE. (Staehle is a former dean of the Institute of Technology.)

A popular course on the Duluth campus is a computer literacy course, in which 25 students work in a computer lab, one person to a computer. Sixteen sections filled during the past year. William Zimbinski, a Duluth dentist, said he took the course for two reasons. "I've got a son who is far ahead of me on computers. I'm better able to talk his language now. But primarily I wanted to make an intelligent decision on putting a computer into my office. It was a fantastic course."

"I fear that our society is very rapidly moving to a situation that would be very dangerous and very painful," Leyasmeyer said. "We could develop two classes in society—not rich and poor, not a racial or gender division, but a division between those who are moving with the future and those who are being left behind. The tip of the iceberg is the computer world, but I think it goes beyond that."

A master's degree?

Dorie McClelland, a partner in a real estate finance business, has taken both liberal arts and real estate classes at the University. One professor introduced her to her business partner; another suggested that she pursue a master's degree.

Taking classes led to "two really good opportunities I never dreamed I'd have," she said. "I did a career change and a life direction change." McClelland started taking classes for fun before she decided to work on a master's degree.

Many students enter continuing education with the idea of earning master's degrees. In most fields that means taking more than half of their classes during the day. The rule is that no more than 40 percent of the credits earned through CEE may be transferred to a graduate program.

Whether or not to offer a master's degree program in the evening is up to each department. A master of arts degree in English can be completed in the evening and a master of arts in speech-communication in the late afternoon and evening. Other master's degrees offered through CEE are a master of agriculture in food technology, a master of agriculture in technical communication, and a master of business taxation. A master of business administration (M.B.A.) degree is offered in the evening through the School of Management.

"There's an enormous unserved clientele of people in other fields who would like to earn master's degrees at night," Miller said. The primary problem is a difference in philosophy and registration requirements between CEE and the Graduate School.

"We pretty much let anybody register for classes who wants to take them. The Graduate School is concerned about the class mix. That's a concern I respect and understand," Miller said. The Graduate School's concern is with the quality of the educational experience if some students in the class are less able than the rest.

Erickson, who said some of his best students have been in CEE classes, also said the range of students' ability is greater in extension courses than in day school.

TOM FOLEY

Maria Murad, an editor for Super Valu Stores, returned to school to earn a master's degree in English, taking a lot of evening classes. Her daughter Victoria dropped us a note with a few facts her mother "may have neglected to give you." Her mother graduated Phi Beta Kappa with nearly a straight-A average. "Needless to say," Victoria wrote, "she is an excellent example to her children. We're all extremely proud of her."

Leyasmeyer recently chaired a committee to study the possibility of offering a new master of liberal arts degree in the evening. "What we proposed was an individually designed master's program with some requirements ensuring breadth and depth," he said. "I expect that by the end of the next academic year the program will be in place. I think we're a year away."

Feeling the pull

One measure of the importance people give to their classes is the juggling act they sometimes have to perform to fit them in.

Martineau, the lawyer, remembers the time he had an hour-and-a-half exam scheduled. "I was on a conference call with people from both coasts. The time for the exam came, and the time was ticking off in my office. I got there with less than an hour left. I got an A anyway."

"It's easy to settle back into your job and your responsibilities at home and lose some of your curiosity...."

Then there is the excitement people feel when they think about signing up for a new class. Doekson has taken career-oriented classes, physical fitness classes, and "English classes just for pure enjoyment." He is still eager to pore through every new CEE bulletin he receives. "I look through that catalog to see what there is to take," he said. "I look at the English classes to see if there's a class on an author I'm interested in."

The strongest testimonial of all for taking CEE courses may come from Maria Murad. "It changed my life," she said. "It's probably the best thing I've ever done for myself, and then it's for your family, too."

Murad has now finished her master's degree. She wasn't taking any classes when she was interviewed, but she still feels the pull. "After a while you miss it," she said. "Maybe this fall I'll take another class."□

Did U Know?

The University's Showboat has a name.

The *General John Newton* was a stern-wheel river patrol boat for the Army Corps of Engineers before it was donated to the University in 1956. Built by the Iowa Iron Works of Dubuque in 1899, the vessel served 58 years carrying mail, passengers, and freight as well as patrolling the Mississippi River. She spent many a spring evacuating people stranded by rising water.

The *General John Newton* carried such distinguished passengers as Herbert Hoover, Harry Truman, and Dwight Eisenhower. Since its refitting it has attracted such distinguished playgoers as Dame Sybil Thorndike, Celeste Holm, John Houseman, Arthur Miller, and Lee Strasberg.

The Minnesota Centennial Showboat has even starred in the movies. A Swedish film company reconverted it to a packet steamer and filmed one third of the movie *The Emigrants* on board.

The Showboat no longer runs on its own power. In 1981 the New Orleans Steamboat Company paid $35,000 to remove the engine works for building a new vessel. Some 40,000 pounds lighter, the Showboat acquired new dressing rooms and storage space after the change.

Since 1958, when the Showboat helped celebrate Minnesota's Centennial with a production of the melodrama *Under the Gaslight*, the Showboat has been a summer tradition.□

A User's Guide to Catching the Extension Class Habit

Registration

If you were ever a student on the Twin Cities campus, you might have a bad memory or two about registration.

Registering for evening classes could be a happy surprise.

"We decided years ago to set up our own registration system," said Harold Miller, dean of Continuing Education and Extension. "We've made the system fit the student."

In-person registration is in the campus office at 101 Wesbrook Hall, from noon to 8 p.m. during registration periods. The whole process usually takes just a few minutes.

Registering by mail is even easier. "It works real slick," said student Don Doekson. Early registration by mail is the best way to obtain space in limited-enrollment classes.

Complete instructions are included in the *Extension Classes Bulletin*, which is published yearly and sent to everyone who has registered for extension classes within the last two years and to others on request. Write to Continuing Education and Extension, 101 Wesbrook Hall, University of Minnesota, 77 Pleasant Street S.E., Minneapolis 55455, or call (612) 376-3000.

Counseling

Professional counseling and academic advising are offered through Continuing Education and Extension Counseling.

"We're open to any student or potential student in the community, and that takes in just about everybody," said Vera Schletzer, director of Continuing Education and Extension Counseling.

Nine psychologists and seven academic advisers are available for vocational, educational, personal, and financial counseling. A career planning workshop is offered for $115 and a battery of tests for $72; otherwise, all services are free.

Tests are given only if the counselor and student decide they would be useful. "We like people to talk with a counselor first," Schletzer said. "We want to find out what questions they have so they can decide what kind of information they need to answer their questions."

Counselors are available during the day and for evening appointments, until 8 p.m., four nights a week. "Anyone who wants real help should make an appointment," Schletzer said. "If you walk in, we can give you 20 minutes. If you make an appointment, you get 50. That's the difference." The office is in 314 Nolte Center for Continuing Education. "We also respond to phone calls," Schletzer said. The phone number is (612) 373-3905.

Duluth

The Duluth campus (UMD) has its own continuing education program, serving students in Duluth and throughout northeastern Minnesota.

"We offer courses in all the areas available at UMD, from medicine to business," said Gregory Fox, director of Continuing Education and Extension—Duluth Center. "There is a lot of interest in continuing education in northeastern Minnesota, and typically the people in this area look to the University to provide that."

Last year there were about 12,000 registrations in credit courses, plus conferences and workshops in 15 to 20 communities, he said.

Some of the UMD programs are national or even international. A program for people working in agricultural extension is *the* program in the country, Fox said. A summer social work institute is another national program. A group of 20 people who were selected competitively from around the country went to a watercolor workshop in China this spring.

For information write For information write to Continuing Education and Extension—Duluth Center, 403 Darland Administration Building, Duluth 55812, or call (218) 726-8113.

Morris

A diverse program of credit and noncredit classes is offered at the Morris campus (UMM), and an advising center for adults is available for those who are thinking about returning to school or changing careers.

"We're trying to develop an undergraduate degree for working adults who can't come full-time to UMM," said Roger McCannon, director of Continuing Education, Regional Programs, and Summer Session at UMM.

Although the campus does not offer graduate programs on its own, some master's degree programs have been developed in cooperation with the College of Education on the Twin Cities campus. More than 70 students, many of them UMM alumni, are enrolled in a master's degree program in elementary education.

About two thirds of UMM's extension students are women, partly because of funding that has been directed toward women's programs. The Rural Women Mean Business project, for example, is designed for women who want to start or expand a business.

Because UMM is only about 24 years old, McCannon said, the alumni pool is not large, but "we are seeing a number of alumni coming back for a second major and teachers wanting to change lanes."

The continuing education office is in 226 Community Services Building, Morris 56267, and the campus phone number is (612) 589-2211.

Crookston

A variety of credit courses are taught during the academic year through Continuing Education at Crookston.

"They are taken to some extent from our regular offerings in business, agriculture, hospitality and home economics, and arts and sciences," said director Richard Christenson.

Microcomputer and physical fitness classes have been the most popular, he said. Occasionally workshops are planned for farmers, and "we want to develop workshops to meet some of the needs of businesses and public agencies."

Write to Continuing Education, 301 Selvig Hall, Crookston 56716, or call (218) 281-6510.

TOM FOLEY

James Martineau, an attorney for the Minneapolis firm of Lindquist & Vennum, has been taking evening extension classes for 20 years. With a grandfather, father, and brothers in the legal profession, Martineau had definite plans for his career. Extension classes allow him to keep up with his avocational interests in history and art.

Waseca

Half-credit and one-credit classes have been developed on the Waseca campus (UMW) to serve the needs of adult students.

"The classes can be in agriculture or related fields, horticulture, home and family services, or business," said Nan Wilhelmson, director of Learning Resources and Academic Support.

Classes are targeted to special needs, she said. Some are aimed at farmers, others are for personal enrichment or professional development.

Wilhelmson's address is Administration Building, Waseca 56093; the campus telephone number is (507) 835-1000.

Rochester

Although there is no University campus in Rochester, the community is served by the Rochester Continuing Education and Extension (CEE) Center. All credit courses are offered through academic departments on the Twin Cities campus. Classes are taught in the Friedell Building on South Broadway.

Computer science and electrical engineering classes are taught in the evening by live interactive television, with the classes originating in Lind Hall in Minneapolis. "The live interaction is tremendously important," said Ray Fitzpatrick, director of the Rochester CEE Center. "When the students can press down on the bar and interrupt, they feel they are part of the class in Minneapolis."

Both undergraduate and graduate classes are available. Master's degrees in elementary education and adult education are offered through the College of Education.

The address is 1200 South Broadway, Rochester 55901; the phone number is (507) 288-4584.

Rural Areas

Rural Minnesotans who want to continue their education may not

know where to start.

A program to help them, centered on the Morris campus (UMM), is Project ENLIST (Educational Network Linking Institutions, Students, and Technology).

"There are many opportunities for adult learners in a rural area, but they're a little difficult to determine," said Roger McCannon, director of Continuing Education, Regional Programs, and Summer Session at UMM. "Just to visit the different institutions would take a week's driving."

Project ENLIST, a cooperative effort of 15 institutions, is funded by the Fund for the Improvement of Postsecondary Education. In Minnesota, the toll-free number for information is (800) 862-1329.

Travel-Study

If you'd like to combine the fun of travel and the satisfaction of learning, you might think about Study and Travel Adventures.

Trips that have been offered during the last year include a spring odyssey to Greece, a birding and natural history tour of south Texas, an introduction to historic Portugal, a trek through Zion National Park, and a French cooking and conversation class in the Charente-Maritime region of France.

Groups are small, and each tour is conducted by an instructor who is an expert in the field. Pretrip lectures help students prepare for the experience.

Next year's trips will be listed in the *Extension Classes Bulletin*, published in August.

Elderhostel

Minnesota Elderhostel, an on-campus living and learning experience, is for anyone over 60 who wants to keep learning. (Spouses or companions under 60 also may attend.)

Hostelers spend a week on campus, living in dormitories and taking as many as three courses. The cost of $190 covers room, board, tuition, and most extracurricular activities.

The 28 participating campuses in Minnesota include the Twin Cities, Duluth, Morris, and Crookston campuses of the University. Courses, on a wide variety of topics, are taught by regular faculty members. For example, hostelers in Duluth this summer took courses such as France and the French Since Napoleon, Forever Jung, and Creating the Future.

Last January the first winter program, at Lyman Lodge on Lake Minnetonka, filled to capacity. Hostelers enjoyed cross-country skiing, snowshoeing, and ice fishing, as well as traditional classes. Another winter program is planned for this January.

For information write to Minnesota Elderhostel, 201 Wesbrook Hall, University of Minnesota, 77 Pleasant Street S.E., Minneapolis 55455, or call (612) 376-2704.

Independent Study

Some people earn credits at the University without ever showing up in class.

CEE dean Harold Miller calls them "the hidden University"—the 8,500 or so students a year who enroll in correspondence courses and television and radio courses through the Department of Independent Study.

About 400 courses are offered by correspondence. The most popular are accounting, psychology, and economics. Students follow a study guide, working at their own pace, and send in assignments to be graded by faculty members.

For information write to the Department of Independent Study, 45 Wesbrook Hall, University of Minnesota, 77 Pleasant Street S.E., Minneapolis 55455.□

Child Care, From page 3

"Women who are parents do not and will not have equal opportunity unless they have child-care support," said Finstad. "Parents who need to work and are trying to survive or who want to train for work or finish college should be able to do so."

Not much help appears to be forthcoming from the government. Indeed, since the low-income day-care subsidy was cut two years ago, Finstad said her center has had many fewer low-income kids. But some employers are beginning to recognize the scope of the problem and do something to help.

"Society has not really recognized that young children matter."

Sue Austin was hired by 3M more than two years ago to be its first child-care coordinator; Austin now handles child-care referral, a subsidy program for sick-child care, a youth companion program for latchkey kids, and other information and referral efforts.

Information and referral seems to be the route taken by most Twin Cities companies that are trying to help their employees deal with child-care issues. Just two Minnesota companies—Cardiac Pacemaker in Arden Hills and Carlson Craft in Mankato—and a handful of hospitals and community colleges offer on-site day care.

"We used to think that on-site day care was the way to go, but it just hasn't caught on with employers," said Connie Bell, associate director of the Greater Minneapolis Day Care Association.

Sue Austin at 3M had an explanation for the lack of help from employers. "Many companies are just not in tune with their employees," she said. "The top management just isn't aware of what is really going on out there." The 3M survey of its employees helped convince that firm's management of the need for a child-care coordinator and some assistance for parents. Now 3M's policy is to help as many employees as possible through information and referral and subsidy programs, rather than to help just a few through an on-site day-care center. "Parents prefer home-based care or care close to home," said Austin, adding that 3M gave money to metropolitan area day-care centers to start infant day-care programs, which are scarce locally. "We felt we could accomplish more by dealing with the existing community services rather than by starting our own on-site program," she said.

The University helps its employees by subsidizing the University Child Care Center. Both the center and the Laboratory Nursery School have training and research functions and are part of the University's Institute of Child Development. (The nursery school offers limited periods of child supervision and is open to everyone, not just children of University employees.)

Finstad relies on outside grants to run satellite programs of the Child Care Center. Ten licensed family day-care homes are screened, visited, and advised by staff of the University center. Finstad's staff also compiles a list of other centers in the campus area, but these are not endorsed or in any way affiliated with her center. Because her center can accept only 68 children, said Finstad, the satellite program and information lists are important. "They broaden our ability to serve University families," she said.

The center's waiting list, however, demonstrates that a dearth of high-quality day care for University families remains. Indeed, there is a shortage throughout the Twin Cities and across the country. "Child care is a national problem," said Galle. "Our child-care problems reflect an attitude toward children and families in the United States. We're not willing to put the financial resources toward helping families survive. Until we change that attitude, things won't get better."

"It's pretty clear we don't live in a society that puts kids very high up on the scale of importance," said Weinberg. "We give lots of lip service to the importance of children—the hope of our nation—but we're really not very strong advocates for kids."

It is the children, after all, who will thrive or suffer depending on what kind of care their parents can find or afford. "Day care has been a women's issue and a welfare issue and a workplace issue," said Finstad. "When is it going to become a children's issue? Our children deserve better."□

Viewpoints, From page 7

students are these: respect for differences, such as I have learned in my own family; recognition that faculty and students possess a variety of needs and abilities; benefit of the doubt, acknowledging that many different routes travel to the same end; and even acceptance of being stuck with each other for better or for worse so that it is just as well to make the most of the situation even though it looks rather bleak at times.

Students and faculty members are more alike than different. Faculty members typically—but not always—have greater mastery of a specific subject than students. Sometimes faculty members are wiser and more mature than students—but not always. The object of their relationship is for the professor to bring the student as near as possible to similar mastery of the professor's subject. For that to happen requires, on the part of students and professors, numerous love skills: open communication, self-discipline, empathy, tolerance, generosity, kindness, trust, compassion, self-revelation, engagement, and judgment. The higher the level of all these skills the better the education on both sides. It is like the family.

My wish for my university, much like my wish for my family, is that we learn to love each other with all our might and that we learn clear-sighted loyalty that passes between us in both directions. My family's house on Vincent Avenue in Minneapolis is just a building, but it is a center for power and affection (as well as a smattering of helplessness and hatefulness) because it is our chosen home endowed with the meaning we have given it. As an institution, the University of Minnesota is neutral of meaning, but Morrill Hall where the president works and Lind Hall where my classroom is are chambers of enormous value and incalculable resources depending on the human power we generate in those rooms and the meanings we choose to assign to it. A helpful model for our work in the university is the work the family does for developing loyalty and love. For that matter, it is a model for the corporation, too. Analogies are only partial.□

LETTERS

University Poems

In the summer 1984 issue you printed a poem Julia Davis wrote about the University and an editor's note requesting any more poems about the U of M. This poem was written during winter quarter 1984 while I was taking an evening extension class from Professor Dearden. The class and Professor Dearden enjoyed the poem, so I wish to submit it to you as one student's thoughts on a professor who has been at the University many years. (Isn't he an institution yet?)

I have finally finished a B.A.S. in early childhood development, after 14 years of evening and summer day school classes. I live in south Minneapolis with my husband and three daughters and have been writing poetry for a number of years.

Annette Gagliardi, A.A. '79, B.A.S. '84

In the Ds

Dag-nab-it!
Devious, diabolical, Dearden's
discouraging dissertation on decrepitude defies discernment.
Disheartened disciples dispatch derogatory data
designed to dissuade Dearden's discourse.
"Desist and depart, Dearden!"
Declare disgruntled disciples.
"Dwelling on dementia dishevels doctrine."
Determined, durable Dearden,
dauntless, declines decapitation;
dutifully drones dreadful diagnosis;
disclaiming delicious, delightful doughnuts.
Disciples divulged declaration:
"Dowse it, Dearden!"
Deigns dreadful Dearden—
"Disburse, disbelievers!"

Dearden Replies

Annette Gagliardi was a student in my Biological Aspects of Aging course winter quarter 1984. Basically, the course covers what happens to our bodies as we age. Using slides, movies, and other audiovisual material we show what happens to body organs and systems as age gradually creeps up on us.

The course is offered only through Continuing Education and Extension once a year. The students tend to be older than the typical day school student. They are also quite verbal. The student-inspired discussions are an integral part of the course. Discussions often delve into gray areas of knowledge, making for an exciting time in class. The discussions also very rapidly break down the social barriers. Many comments relate to personal experiences, statements beginning, "Well, when my grandmother..." or "There was this elderly person I worked with at a home for the aged who...."

I thoroughly enjoy working with the students who enroll in the course. They are top-notch people. Very challenging.

Prof. Douglas M. Dearden
General College

Not long ago I wrote this poem about swimming at Cooke Hall. Though I usually don't write formal verse, I thought that the definite motion of swimming might correspond nicely with a definite verse form. Also, I liked the somewhat odd idea of writing a sonnet about a gymnasium.

Steve Eide, B.A. '80
Minneapolis

The Cooke Hall Sonnet

These winter mornings, spearing though the waves,
rhythmic limbs pushing past where I had been,
cause sweet headiness because my eyes are laved
with blue-white water and the pool is ringed
in tooth-hued windows, allowing us to bathe
amid filtered sun, dull on parchment skin.
These winter mornings, sneaking in the gym
to shed scratchy garments down upon the bench,
allow the stretch and workings of the limbs,
allow the web of muscle just that sense
of laps accomplished going rim to rim,
of motion living immersed in present tense.
These winter mornings, sneaking in the pool,
show a weary mind I'm the body's fool.

Here's a poem that's a bit on the light side, but I believe *Update* can use a little lighter touch now and then. I enjoy the paper and hope it will keep right on coming.

Richard A. Diercks, B.B.A. '41
Mound, Minnesota

The Campus After 40 Years

Where on earth did the Knoll go?
It's there, I see, if I walk slow.
Now who remembers Herman Glander?
There's cops aplenty, but they don't glad-hand yer
Like Herman did.

East Bank, West Bank,
Washington Bridge sure must have sank.
Not much change in Dinkytown
Glad to see 'er still aroun'
For ol' times' sake.

Jones's still here, but what's this Peik?
And Ford, Elliott, Johnston—yike!
Can't be sure I'm here at all
Weren't for good old Folwell Hall
Still standin' there.

Close It Down

Because your paper is being put out by a state institution, I do not believe articles written by critics or advocates of U.S. foreign policy have a place in it (Noam Chomsky's "1984: Orwell's and Ours"). It seems to me that with a campus as big as the U of M's there must be enough going on over there to write about without getting into political views. If not, let's save the taxpayers some money and close it down!

Arlene Strom, B.S. '67
Wayzata, Minnesota

Chomsky's "Facts"

While I find *Update* interesting reading at times, I really do not need three copies. I am enclosing the address labels so you can delete two of them.

However, if you continue to include in its contents such grossly inaccurate, slanted communist propaganda as Chomsky's, you might as well delete all three. Much of Chomsky's so-called facts are right out of the KGB's disinformation mill.

Edward M. Wiik, M.P.H. '71, B.M.E.'39
Minneapolis

Chomsky's Terrific

What a treat to be found way out here after so many years and to be reconnected to our dear University—for I was once a student on the farm campus. *Update* gave me a reawakening of the good times past.

Chomsky was terrific. Both the members of the Defense Department and of the White House should be forced to read this article! Where are we headed? We can be saved only by learning and by way of our higher education.

Clarence Jonk
Bodega Bay, California

A Sick Man

Noam Chomsky can thank his lucky stars that he is living in a free society where he can shoot off his mouth about anything from soup to nuts and get away with it. But, as they say in Russia, 'A sick man cannot be punished."

Love it or leave it.

Don B. Brouillard
Minneapolis

Holtz Defended

I feel compelled to respond to the letters pertaining to football in the 1984 summer issue. I graduated from the U of M in 1974 and was an avid Gopher fan. I have continued to be a Gopher fan despite their record. However, having lived in Fayetteville, Arkansas, "Home of the Razorbacks," for the past four years, I had been experiencing some difficulty in admitting my Gopher support to my Razorback friends. It's not easy to be faithful to a losing record, but with the hiring of Lou Holtz I am once again able to look a Razorback fan in the eye and say, "Go Gophers!"

It is true that a small percentage of students at the U of M are athletes, but it's wrong to say that the athletes are the only ones who benefit from the hiring of Lou Holtz. It's only common sense to back a sure thing. The Razorback fans knew this. The University of Arkansas benefitted financially, as well as academically, from the support of football fans. The fans were and are proud of their Razorbacks, and that includes their former coach Lou Holtz.

If Lou Holtz can do for the U of M what he did for the University of Arkansas, the U of M got a bargain when they hired him, no matter what his salary.

Barbara M. Steele, B.S. '74
Fayetteville, Arkansas

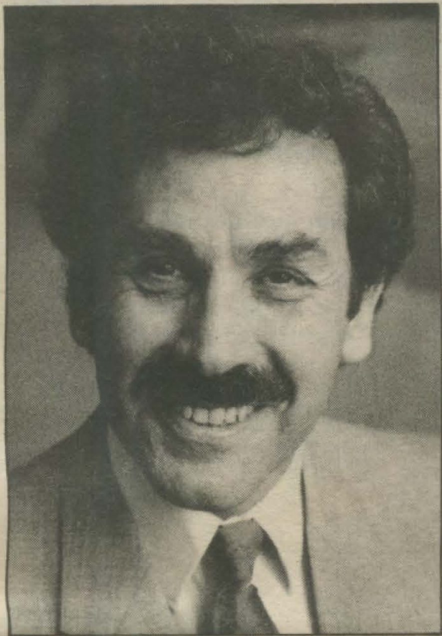
CAMPUS NEWS

Keller Named Interim President

Kenneth H. Keller, vice president for academic affairs, will become interim president of the University when C. Peter Magrath leaves to become president of the University of Missouri.

Keller, whose appointment was made in August by the Board of Regents, will assume his expanded duties November 1 and will serve as interim president throughout the search for a new president, which could take up to a year.

Keller will assume the interim presidency with the understanding that he will not be a candidate for a permanent position. Regent David Lebedoff, Minneapolis, nominated Keller, saying he had done an exemplary job of filling in for Magrath when the president was on sabbatical in the summer of 1982.



Ken Keller

"My greatest concern during the period of the interim presidency will be to continue the University's steady progress in planning its future and, more importantly, in acting effectively on its plans," Keller said. "One of President Magrath's major accomplishments has been to put into place a process of planning that has helped us to see more clearly our complex role as a leading national research university, a land-grant institution, and an urban university. We have committed ourselves to setting priorities and making choices that reinforce that role."

Magrath called Keller an ideal choice for interim president. "He can keep University of Minnesota programs and planning moving without missing a beat as the regents go about their task of searching for a permanent president. We'll have an easy transition to Ken on November 1, and the University will do well in 1984-85 even as a new president is being recruited."

Keller, who was educated at Columbia University and Johns Hopkins University, has spent most of his professional life at the University, having joined the faculty in 1964 as an assistant professor of chemical engineering. He was associate dean and acting dean of the Graduate School in the mid-1970s and was head of the department of chemical engineering and materials science from 1978 to 1980, when he became academic vice president.

Keller's main professional interest is in biomedical engineering, especially in the development of artificial organs. He has served as president of the American Society for Artificial Internal Organs and is on the Cardiology Advisory Committee of the National Heart, Lung, and Blood Institute of the National Institutes of Health.

He is a member of several boards, including the board of governors of the Argonne National Laboratory and the board of directors of the Walker Art Center of Minneapolis.□

Brown Named Med School Dean

David M. Brown, director of clinical laboratories at the University of Minnesota Hospitals since 1970, became dean of the Medical School September 15.

Brown, 48, who is a professor of laboratory medicine and pathology and of pediatrics on the Medical School faculty, succeeds N. L. Gault, Jr., who announced last year his plans to return to the faculty to teach and do research in geriatric medicine.

Brown's appointment came after a one-year national search that drew more than 100 applicants.

A native of Chicago, Brown earned a doctor of medicine degree from the University of Illinois in 1960. After completing an internship in pediatrics at the University of Minnesota in 1962, he became a fellow in endocrinology and metabolism, completing the program in 1965.

He served for two years on the staff of the U.S. Air Force Hospital in San Antonio, Texas, before returning to the University of Minnesota in 1967 as an assistant professor of pediatrics and of laboratory medicine and pathology.

Brown is the author of more than 150 scientific articles. His research has focused on diabetes, islet transplantation, and vascular and kidney diseases. He said he hopes to continue his research efforts as dean.

"The major challenge of medical education today," Brown said, "is to provide students with the basic tools to think and to understand medicine in terms of science, human relations, and societal demands."

Brown said he also will strive to maintain an environment that fosters good faculty research. "The service, education, and research missions of the Medical School are indistinguishable," he said.□

RESEARCH BRIEFS

Teen Sex: How Girls Decide

Despite the availability of more sex eduction and birth control options than ever before, the number of pregnancies among teenage girls went up 13 percent during the past decade, and 95 percent of the young mothers chose to keep their babies.

In an effort to understand why these girls make the choices they make, Twin Cities campus public health researchers Michael Resnick and Robert Blum have since 1980 been studying teenagers' sexual decision making. They've found that information—on contraceptives, on abortion, on adoption—is not the all-important factor it was once thought to be.

"There is an incredible gap between the knowledge and the application of that knowledge," said Resnick, Adolescent Health Program research coordinator, adding that only a third of sexually active teenagers consistently use birth control. "In so many instances it's heartbreaking—they have the knowledge, the awareness, and the understanding, but somehow it doesn't apply to them."

If lack of knowledge alone cannot account for the rising numbers of teenage mothers, what can? Resnick and Blum have concluded that an important answer is cognitive development—that is, how far along the girls' thinking and reasoning skills are.

"It's clearly a developmental ability to be able to link actions now with consequences in the future," Resnick said. "That's why health education is very hard with these kids. Some can't think of the future ramifications of their actions."

The ability to project herself into the future seems to be closely related to whether a girl uses contraceptives, Resnick said. "Risk, susceptibility, and comprehension of the future—these are very adult characteristics."

In the study of 206 sexually active teenage girls, the teen mothers were the least able to consider the future and had the highest levels of anxiety and the least sense of being in control of their own lives. They also accepted the most traditional notions of female sex roles. "There is a strong tendency [in this group] toward inaction, passivity, and an inclination to let 'whatever happens, happen,' " Resnick and Blum wrote.

Girls who chose abortions were best at considering the future and had the lowest demand for external approval and the lowest dependency needs of all the groups studied. Girls in this group recognized that they weren't ready for motherhood, could look ahead to the problems and complications childbearing would have for their future, and saw the abortion decision as ultimately their own.

Resnick and Blum are now looking at the 5 percent of teenage mothers who give their children up for adoption. "We're finding that, developmentally, the kids who place their children for adoption are very similar to the aborters in the previous study," Resnick said. "They're more sophisticated than [those who keep their babies]. They can frame their reasons for not parenting in terms of the good of the child and their own well-being. It takes a certain amount of understanding to think that through, and we don't always see that understanding in teen moms.

"I think if teenagers are encouraged to engage in a thoughtful decision-making process, we may see adoption chosen more frequently as an option," Resnick said. "But having a decision forced on them could have disastrous psychological effects on adolescents.

"Kids are very capable of making decisions," he continued. "They need a supportive, caring adult network to guide them, but pregnant teenagers should make their own decision about what to do."

Sex education is an important part of the overall sexual decision-making process, Resnick said, but he emphasized that it must be more than technical information. "Sex education must be embedded in the context of the kid's everyday life."□

U·P·D·A·T·E

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Copy Editors
Pamela LaVigne
Lynn Marasco

Photographer
Tom Foley

Alumni Communications Director
Marcy Sherriff

Editorial Board
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Update is published 10 times a year to inform readers about news, challenges, achievements, and people associated with the University of Minnesota.

Six issues a year are directed to faculty and staff of the five-campus University system, exploring topics of specific interest to those groups.

Four issues a year address subjects of broader interest and are also sent to alumni and other friends of the University as a cooperative effort of University Relations, the Minnesota Alumni Association, and the University of Minnesota Foundation.

Update welcomes ideas and letters from all readers. Write to *Update*, 6 Morrill Hall, 100 Church Street S.E., Minneapolis, Minnesota 55455, or call (612) 373-2126.

The opinions expressed in *Update* do not necessarily reflect the official policies of the Board of Regents or the University administration.

Fighting To Erase a Fishy Reputation

One of the most maligned species in Minnesota—ranking somewhere behind the mosquito but ahead of the carp—is the burbot. An indication of the prejudice it must endure is its common name: eelpout.

Some might argue that eelpout is an appropriate name for a snaky fish that exudes slime and has bulging eyes. Fishermen generally cut their lines when they catch an eelpout, partly because of its appearance and partly because of its tendency to twist its body around the arm of its captor. The final insult: fishermen swear the eelpout belches.

Yet the brave few who fillet and cook this fish enjoy a culinary experience akin to eating lobster—another creature not known for its gorgeous looks.

Jeff Gunderson has taken on the difficult task of enhancing the eelpout's reputation. Gunderson is a University Sea Grant fisheries agent stationed in Duluth. Sea Grant, similar to the long-established university land-grant system, is for the benefit of states with aquatic resources. This summer Gunderson received an award from the Great Lakes Sea Grant Network for his "Fixin' Fish" program.

Spreading the word by books, newspapers, radio, and television, Gunderson tries to show how to get the most out of the state's fish, including underutilized species like the eelpout. His argument is that if people know more about the nutritional value of fish and how to prepare it, they'd eat more fish. That, in turn, would help the state's fishery-based businesses.

But what about eating eelpout? "The ugliness factor is the hardest thing to overcome," Gunderson admits. "You can only look at it logically: ugliness does not influence taste. Folks think eelpout is ugly, but is a chicken any cuter?"

Well, slightly. But then chicken doesn't have the taste of lobster.

Gunderson includes eelpout recipes in his book *Fixin' Fish* (University of Minnesota Press), and in the Sea Grant publication on preparing northland fish, *Kitchi Gami Cookery*. The meat of eelpout becomes firm when boiled, a characteristic that makes it desirable in soups and chowders. Gunderson's favorite recipe is called Poor Man's Lobster:

3 lbs. burbot fillets (fresh or frozen)
3 qts. water
1 medium onion
salt to taste
½ c. lemon juice
3 pieces celery, cut up
½ lb. butter
¼ tsp. garlic salt
paprika

The International Eelpout Festival, held every February in Walker, Minn., demonstrates the kind of broadmindedness that fisheries agent Jeff Gunderson tries to encourage. For those who don't catch eelpout, the festival offers a consolation prize for the biggest walleye.

Place butter, onion, salt, lemon juice, and celery in 4-quart kettle; bring to boil. Add fish in 2-inch pieces; reboil 3 minutes. Discard liquid, place fish on cookie sheet. Brush with melted garlic butter; sprinkle with paprika. Broil for 2 minutes. Serve with melted garlic butter. Serves 4-6.

Fixin' Fish includes information on cleaning fish and on preparation techniques as advanced as salting, smoking, pickling, grinding, and drying. It sells for $6.95. *Kitchi Gami Cookery* is strictly recipes and sells for $2. Both are available from Sea Grant Extension Program, 203 Washburn Hall, Duluth 55812.□

UNIVERSITY OF MINNESOTA
U·P·D·A·T·E
October 1984 · Volume 11 · Number 5

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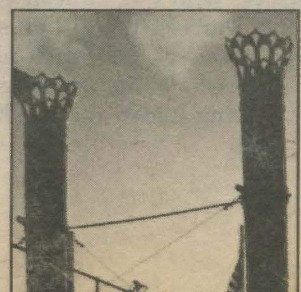

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November 1984 • Volume 11 • Number 6

U·P·D·A·T·E

FOR FACULTY AND STAFF OF THE UNIVERSITY OF MINNESOTA

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fupl

TOM FOLEY

Mary Ann Raymond, a sophomore in the Institute of Technology, is doing one of the things that students do: studying in Walter Library.

Bright and studious students are more in demand these days than ever. Everybody wants them. The story on the next few pages takes a look at the University-wide project to recruit high-ability students.

One of the secrets of attracting top students is to offer intense intellectual experiences when they arrive. A Welcome Week event, Rendezvous for Booklovers, is described on page 6.

Any student is more likely to choose a campus after visiting it and touring it. For a story about the tour program on the Twin Cities campus, see page 8.

Courting Top High School Students Prompts New Recruitment Strategies

By Maureen Smith

Top high school scholars are as much in demand these days as fast running backs and seven-foot basketball players. Everybody wants them.

"A faculty member's daughter heard from 388 schools," said Julieann Carson, associate dean in the College of Liberal Arts (CLA) and coordinator of the University-wide project for recruiting high-ability students. "When you're dealing with that kind of competition, you've got to be slick."

The first thing the Carson committee had to decide was where to start. There are three ways to attract good students, Carson said—with strong academic programs, traditional recruitment strategies, and merit-based scholarships. All three are important, she said, but the committee decided the most immediate need was to improve the traditional recruitment effort.

"We've worked on the timeliness of letters, the quality of brochures," she said. "We want to coordinate things so we're not a Keystone Kops act, with a student getting one letter from one part of the University one day and another the next."

Letters from President C. Peter Magrath were sent last spring to the 1,200 Minnesota high school juniors in the top 5 percent of their class and brought a 30 percent response rate. A similar letter was then sent to the same ability group in the states with which Minnesota has tuition reciprocity agreements (1,564 students), with a 17 percent response rate. (The reciprocity states are Wisconsin and North and South Dakota.)

About 10,000 letters were sent October 15 to the next 15 percent of students, and a regents' letter to parents of the top 5 percent students about financing a college education is scheduled for this month.

In addition, the Carson committee has distributed $100,000 to the freshman-admitting colleges and campuses for their own recruiting projects (see below). "We're trying to retain the individuality of the colleges and campuses while trying to give the University as a whole an image," Carson said.

The budget for the recruiting project, $300,000 this year, has been almost tripled for next year. About a third of the money will go for additional merit scholarships. Both the number and the size of the awards will be increased. "This is really a dramatic move by the University," Carson said.

Another plan is to develop a summer high school institute and to expand advanced placement programs throughout the state. Not only will high school students be earning credit, Carson said, but they will gain "a real familiarity and ease with and allegiance to the University throughout their high school years."

Renewing the climate

What about able students who are not in the top 20 percent of their class? Some people worry that they are being forgotten.

"It's the rage now to go after the high-ability students, but you have to realize that the main bread and butter for the University is the average student," said Benjamin Sharpe, director of admissions in the Institute of Technology (IT). "I'm somewhat concerned about ignoring the average yet capable students in the high schools. In some cases they really are getting the short end of the stick."

"We're not closing any doors at all," Carson said. "We're trying to open more doors for high-ability students."

As the student mix shifts so that there are more high-ability students, she said, "The whole learning context changes. It's better for everybody—the high-ability student, the average student, and the professor. We're renewing the undergraduate intellectual climate."

Glen Holt, director of the CLA Honors Program made a similar point. "As you raise the number of good students, the whole quality of instruction goes up," he said. Only 43 percent of CLA students were in the top 20 percent of their high school class, he said. "Our goal is to try to move that up." In a college with 16,000 students, that isn't easy (see below).

With a finite amount of money available, competition for financial aid might be seen between top students and average students. "One of our answers is that we're trying to find new sources of money," Carson said. "We want to keep the doors open to everyone."

TOM FOLEY

Julieann Carson

As a land-grant university, the University has the responsibility to be accessible to people of the state, she said, but "we don't want our identity as a world-class institution to be lost" as a result. "We're the school down the block, but we're respected around the world."

A place for everyone

Competition between top students and average students is one possible source of conflict. Competition among the campuses and colleges of the University is another. But Carson sees opportunities for cooperation.

"We're opening up the campuses for exchanges between them," she said. "There are some easy moves between Duluth and IT, Morris and IT. The associate in science degree at Crookston could be the front end to programs on the Twin Cities or other campuses. We're opening up the system into one educational system. We're not competing campuses but coordinated campuses."

Carson herself has held administrative positions in CLA and the School of Management, has worked closely with IT and General College, has taught and still teaches a course a year, and has been faculty representative for women's athletics. "I feel very much a citizen of the University," she said. "One of the things that has happened to me is that I really believe in this University. I believe in its strengths, I know a lot of its weaknesses.

"As long as students choose a college of the University, I don't care which one. The theme I have in my own mind is that there's a place for everyone in the University system. For every student, both high-ability and average, we have a campus that addresses her needs. We want people to look at the range of possibilities within the University before they look outside."

Here's what some of the campuses and colleges are doing to try to encourage students to take a closer look:

College of Liberal Arts

While enrollment in the College of Liberal Arts (CLA) declined this fall, the number of freshmen who signed up for the Honors Program jumped from 310 to 342.

"We think the recruiting program we mustered this year worked," said Glen Holt, director of the CLA Honors Program.

In a high-enrollment college like CLA, adding 30 more honors students doesn't make much of a dent in the profile of the student body. But little by little the percentage of honors students is edging up.

"The demographic points move so slowly," Holt said. "I think by winter we'll see about 8 percent of all CLA students registered for honors. When I came, in 1982, it was 6.7 percent, 6.9 percent. We went through the 7s last year. We expect to break 8 in winter, which will give me a real kick."

Freshmen invited to enroll in the Honors Program are those whose high school rank and standardized test scores put them in the top 10 percent of their class. Once at the University, students must keep getting 50 percent A's in order to stay eligible.

Close to 80 percent of all eligible CLA students are in the program, Holt said. "The idea that there are untapped hordes of high-ability students around is becoming increasingly a myth."

A series of five letters, starting with one from the University president, is sent to all Minnesota students in the top 10 percent of their class. "That was last year's campaign and that's the heart of this year's campaign," Holt said. "You can't say that high-ability students are contacted once and then forgotten. They weren't last year."

"We want to coordinate things so we're not a Keystone Kops act, with a student getting one letter from one part of the University one day and another the next."

With money from the Carson committee, two new features have been added to this year's campaign. "We're hitting reciprocity states, primarily to the east, in metropolitan areas," Holt said. A letter series is being sent to top students in reciprocity states, especially Wisconsin. "We know our yield won't be as good, but we want to see what it will be."

Second, more follow-up is planned for students after they have applied to CLA. "We have become very concerned about what happens to students after they say they're coming here, the transformation of the application into a live body in the fall," Holt said.

The rate of no-shows has been up, Holt said, and for an ironic reason: CLA and the Honors Program have been doing better at selling themselves, which has led more students to put in an application to the University when their first choice is a prestigious private school.

Still, CLA would like more of those students. "We assume that the people who have said they're coming are our most likely candidates for actually showing up," Holt said.

Besides two letters from Holt, these students will receive one phone call from an alumnus and one from an honors student. "We want to stay in contact with these people, try to make them members of the community before they arrive," Holt said.

CLA is also interested in students who are in the top 20 percent of their class but not the top 10 percent. Carol Dunkak-Dunekirchen is coordinating the recruiting effort for this group. Again, the campaign is built largely around a series of letters, plus an informational newsletter sent to admitted students.

Beyond that, Dunkak-Dunekirchen said, student volunteers will be making phone calls to interested students "to see how they're doing and if they have questions."

Another goal is to cut down on the time students have to wait for appointments. "We think we'll be successful with some additional staff," she said.

Besides individual appointments, students and their parents can come in for small group advising sessions. "We'll continue those because they're good," Dunkak-Dunekirchen said. "Students and parents can ask their own questions, and there are questions often that they don't think of that someone else asks."

Mary Yost leads these sessions, Dunkak-Dunekirchen said, and always studies up on each group so that she can interject students' names and areas of interest into her talks. The groups also go on tours led by University Relations (see story on page 8) and see a CLA slide show.

Now the biggest need is for scholarship money, Holt said. "We lost a substantial number of students this past year," he said, who would have chosen CLA if they had been offered $1,000 scholarships.

Institute of Technology

When it comes to recruiting high-ability students, the Institute of Technology (IT) is starting from a different place than any other unit of the University.

Its enrollment is about double what it was a decade ago, its average students would be considered

high-ability in most other colleges, and every year it turns away applicants who could make good engineers.

That doesn't mean IT doesn't need to do any recruiting. "We like to keep our posture high before the people of the state," said Benjamin Sharpe, director of admissions.

"We really have a responsibility," said associate dean Russell Hobbie. "We're the only engineering school in the state that is comprehensive. We have to make sure the residents of Minnesota know what's available."

One tension for IT is deciding how much recruiting to do outside of Minnesota when there are more Minnesota applicants than there are slots to be filled. This year the institute is aiming some of its recruiting materials at out-of-state students, but Hobbie said he doesn't expect that large numbers of students from outside Minnesota will apply.

High schools in Madison and Milwaukee are being targeted this year for the first time, Sharpe said. "We have some programs to offer that are not available in Wisconsin. Instead of students thinking the other MIT [Massachusetts Institute of Technology], they can come to this one."

A poster has been designed specifically for students who are not from Minnesota, and some materials are being sent to counselors in suburban Chicago high schools. "Looking retrospectively at our data, we've found that the number of freshman applicants and admits from Illinois has been climbing annually," Sharpe said.

Because top students receive enough mail from colleges to fill a large wastebasket or even a footlocker, Sharpe said he isn't convinced that mailing individually to students is the answer. "We're thinking that if we can reach the counselors, the students will hear the information from somebody else. We need some way of capturing their interest."

IT tries to appeal to high-ability students through honors seminars, merit-based scholarships, and participation with other Twin Cities campus units in Scholars Days. Top high school students are invited to campus to learn more about the University and about particular programs that interest them.

"Otherwise, we try to make things easier and more attractive for students in general," Sharpe said. "We try to give everybody as much information and as much personal attention as we can.

"We view what we are doing as dissemination of information rather than recruiting," Sharpe said. "We are getting information to students so they can make knowledgeable decisions."

Still, some of the activity this year would have to be called recruiting. "In fact what really is happening is that everybody in the United States is recruiting," Hobbie said. "You have to be recruiting not to lose."

College of Agriculture

The College of Agriculture thinks it has an image problem. It isn't that the image most people hold of the college is false, it's just that it's incomplete.

The usual picture of the college is that it's a quiet, bucolic campus where students go if they want to be farmers.

In fact, only 10 percent of the graduates go into production agriculture, said associate dean Keith Wharton. "We do have sort of a small college environment, but we have the background of this major university and we're right in the midst of a metropolitan area."

John Printz of Admissions conducted a market audit for the college last year and found that its main competitors were the University of Wisconsin-River Falls and the universities of North Dakota and South Dakota.

"We asked ourselves what do we have that is different, and it jumped right out at us," Wharton said. "We're part of a very large, very important, high-quality university. We're not a quiet, sleepy rural town. There's nothing wrong with that, but that's not what we are. We have the quality, the diversity, and the excitement of the University, and we're in a metropolitan area that has many major agricultural firms."

"We're the school down the block, but we're respected around the world."

In trying to convey an accurate and appealing image, it wasn't necessary "to go out and create a new group of friends," Wharton said. "We have a tremendous network —our alumni, the county extension agents, our own faculty who are out traveling and working extensively in the state, our own students."

Alumni, faculty, and county agents have all been encouraged to be Agricultural Partners in telling about the college, and the Agricultural Extension Service's computer network EXTEND makes it possible to send out information to every Minnesota county.

Not only will students be able to get their questions answered through EXTEND, but the network will be used to alert county agents whenever a student from their county has expressed interest in the college.

"We're not asking them to do anything unusual, but just to make contact in the normal course of their work," Wharton said. "They're already out there, and they're going to run into prospective students and their families."

Use of the network and help from the county agents aren't limited to the College of Agriculture, Wharton said. "That's open for the entire University."

With money from the Carson committee, 25 undergraduate students have been hired as Student Ambassadors who will talk about the college in high schools and community colleges.

"They've got to be students who can speak well and make a good appearance, but the story they tell is their story," Wharton said. "They want to do this. The push really came from the students."

The college is also in its first full year of an Agricultural Merit Scholars program for new students, both freshmen and transfer students. There were 25 scholars last year, there are 53 this year, and the goal is 100 two years from now. The minimum scholarship is $1,000 and the maximum $3,000.

Even more important than all of that—the scholarships, the recruiting efforts, the image building—is the experience provided for high-ability students once they are in the college, Wharton said.

"We're working hard to provide special experiences," he said. "This afternoon we're having our first seminar for our Agricultural Merit Scholars. Ed Schuh, who is leaving us to go to the World Bank, will lead a seminar on significant policy issues and what a freshman should know about them. We'll have two of these seminars per quarter."

Wharton said he has two memberships in the Humphrey Institute's Minnesota Meeting, and whenever he goes he's going to make sure he takes a student along. Other faculty members will be looking for similar opportunities to include students.

One of the most exciting opportunities for students is that they will be paired up individually with faculty members to work on research projects. "I can see some of the things these students are doing, and its a tremendous experience for them," Wharton said.

If the student experience is as good as people in the college think it's going to be, word will spread. "Satisfied students will tell other students," Wharton said.

College of Forestry

The College of Forestry is taking a wider aim geographically than any other college while trying to fill a smaller number of slots.

A national mailing has been sent to all students who marked forestry as their first interest when they took the Preliminary Scholastic Aptitude Test. Along with the letter the students received a minibulletin and a response card.

"We coded each one of those cards so we can keep an account of the kinds of responses we get by state and so we can have a better idea of where we may be able to make a market penetration, for lack of a better term," said John Bell, director of the Office of Student Services.

The letter was sent to about 1,000 students, and the goal is to attract 100 freshmen. Minnesota ranks third among the 43 colleges of forestry in the country.

"We have become very concerned about the transformation of the application into a live body in the fall."

"Our tuition rates are high for nonresidents," Bell said. "That may be the deterring factor for students from other states that don't have reciprocity." Like other colleges, the College of Forestry will be concentrating its out-of-state efforts in Wisconsin this year. Representatives of the college will go to the Milwaukee College Fair in late November and to post-high-school planning programs in cities like Green Bay that have paper mills.

In the five-state area of Minnesota, North Dakota, South Dakota, Wisconsin, and Iowa, letters and information about the seven $1,000 scholarships for high-ability incoming freshmen also were sent to some students who hadn't specified an interest in forestry.

"Our pulp and paper program is a heavy chemistry program, comparable to chemical engineering with emphasis on wood," Bell said. "We chose students who had an interest in chemical engineering or chemistry and told them about the program to see if they may have an interest. We did that with five of our other majors as well."

A newsletter will be sent each month from January through August to those in the prospective student pool, and two students will be hired to make follow-up phone calls. "We'll phone students after we've mailed the first newsletter," Bell said. "That way we can refer to the newsletter. It's kind of an entree to open a conversation."

A College for a Day program is planned in April for students who have been admitted. "We want to increase the number of shows for registration in the fall," Bell said. The program isn't new, he said, but "what we've never done before is to invite students from places like Wisconsin to spend a night in Bailey Hall. We can assure them of a place in Bailey Hall in the fall, and we feel that will be a good selling point."

Duluth

If there's one thing a recruiter wants a prospective student to do, it's visit the campus. This year the Duluth campus (UMD) is giving high-ability students a new reason to visit.

"Each collegiate unit will be hosting an honors recognition day for high-ability students and their parents," said Gerald Allen, director of admissions at Duluth. Money for the recognition banquets, which will be held throughout fall and winter quarters, comes from the Carson project.

Some of the other recruiting efforts at Duluth, such as the two-day campus preview in October and the letters to all Merit Scholarship semifinalists from Minnesota, are not new.

"The athletes always get the preferred treatment," Allen said. "This will be our third year of paying special attention to the Merit semifinalists."

When Merit semifinalists and finalists do apply to UMD, recruiters follow up to encourage the students to enroll in the fall. "We've had excellent success with that," Allen said. A few years ago, he said, UMD had only one Merit finalist. "We've got about 11 on campus right now."

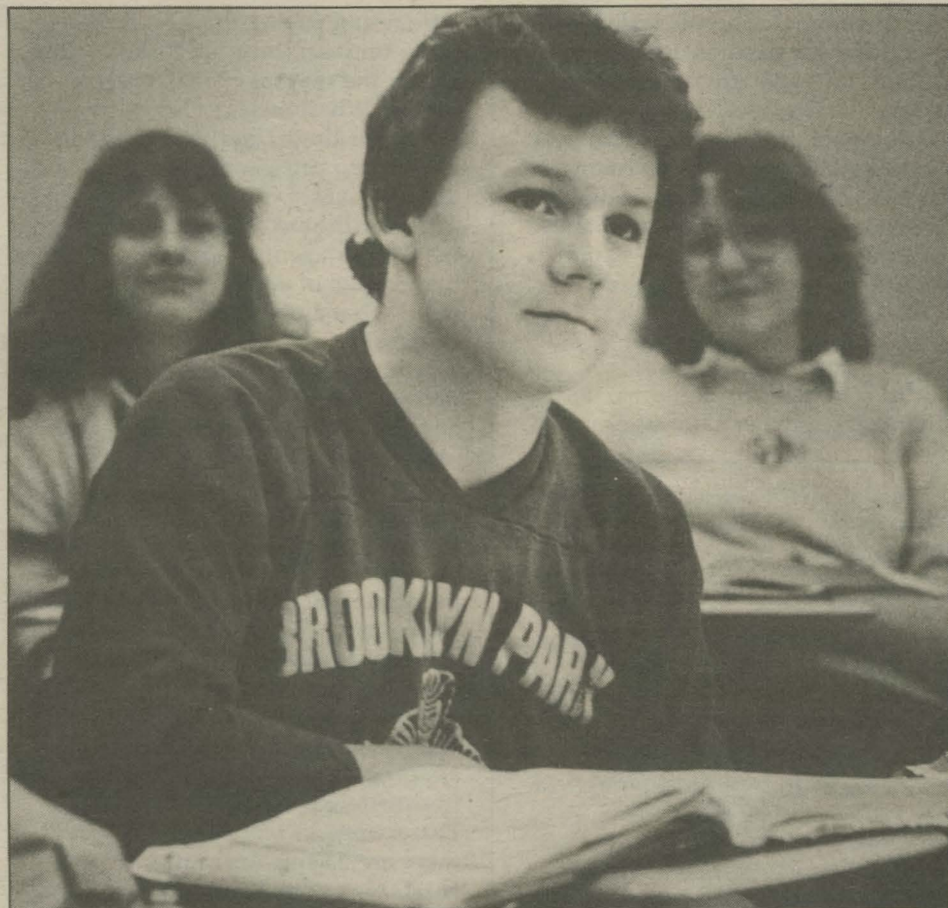
UMD is joining forces with the Twin Cities campus this year to hold open houses for students in Milwaukee and Green Bay. "We're working it together," Allen said. "We'll call and invite students with their parents. We will represent our own campuses, but we're giving a joint program."

UMD and the Institute of Technology cooperated on a pilot project last year, offering a program for students interested in engineering and for their parents. Judged a success, the program drew 217 students and 400 parents.

Morris

The Morris campus (UMM) may not be doing much that's new this year in the way of recruiting high-ability students. If not, it will be because UMM has already been doing so many things right.

"When our admissions counselors find a student they think is in the top 5 or 10 percent, they latch on to them and try to recruit them," said assistant provost Stephen Granger. "Over the past five years we've had a very substantial increase in the number of high-ability students.



High school students in the Talented Youth Mathematics Project get a crack at advanced math that is not taught early enough, or at all, in their own schools. While they are at it, they may form an allegiance to the University.

"We have changed the profile of the freshman class dramatically. Five years ago 21 percent of our students came from the top 10 percent of their high school class. That rose to 30 percent for the freshman class last year, and this fall it may be up to 33 percent." And all the while, the total enrollment at Morris has risen from 1,450 in fall 1979 to 1,665 in 1984.

How did they do it? "It's a combination of aggressive personal contact and the creative use of financial aid," Granger said. "Our scholarship program is probably the single thing that attracts students most, tipping the balance.

"We offer $1,000 in freshman academic scholarships to anyone in the top 10 percent of their high school class, whether they have financial need or not," Granger said. Money for scholarships has come from faculty contributions and especially from area residents. "It's widely supported around here," Granger said.

Financial aid packages for high-ability students are put together in such a way that 75 percent of the need is covered by scholarships or grants and 25 percent by work-study money. Students don't have to take out loans to meet their basic financial need.

UMM is also aggressive in promoting the University-wide Presidential Scholars program, with remarkable results. The numbers have risen from 3 or 4 scholars in 1980 to 62 in 1983 and 98 in 1984. (Presidential Scholars have grades and test scores that place them in approximately the top 5 percent of their class. Beyond that they must be nominated and write a creative theme.)

"We have more Presidential Scholars on the Morris campus than would be anywhere near our fair share," Granger said. "I'm not saying we have as many as the Twin Cities campus, but it's getting close."

Crookston

High-ability students may not want to stop with a two-year degree. But recruiters from Crookston are suggesting that the two-year campus might be a good place to start.

"About 25 percent of our students transfer on, but we've never really promoted that for high-ability students," said assistant provost Donald Sargeant. "People from rural areas may feel more comfortable starting on a small campus, and we're telling them that professionally they do have a bright future if they come to Crookston."

A promotional brochure will show students some possible career ladders. For example, a student could study agricultural production at Crookston, then finish a four-year degree in agricultural economics on the St. Paul campus.

"Our programs do transfer within the University," Sargeant said. "We want to show that there's a relationship between Crookston and the Twin Cities campus."

In the spirit of one-big-university, all of the career ladders in the brochure lead to programs within the University. Mostly, that means the Twin Cities campus because there aren't such obvious links between programs at Crookston and those at Duluth or Morris.

Besides publishing the brochure, the Crookston campus (UMC) is using funds from the Carson project to increase contact between students and prospective students. "We're having four or five students call high school seniors who have indicated an interest in UMC to see if they have any questions and invite them to campus," Sargeant said. "Our number one goal is to personally invite them to campus."

UMC has also installed an incoming WATS line to enable students from anywhere in Minnesota to call the campus toll free. Sargeant said he expects use of the line to grow as the number becomes publicized. "Right now nobody in the world knows the number. and it's not in our bulletins," he said. "We have little stickers we're putting on everything."

Waseca

A two-year agricultural campus with a single mission needs its own definition of a high-ability student.

"We're looking for students who have performed well in vocational agriculture (FFA) activities or in their local 4H clubs who are also in the top 20 percent of their high school class," said Gary Sheldon, assistant provost at Waseca (UMW).

"Our project is to identify them—find out who they are and where they are," he said. "We're contacting vocational agriculture instructors in the high schools and making a direct contact with county extension offices that are responsible for 4H. We hope to end up with a list of high performers who are also academically solid."

The hope had been to cover the southern half of Minnesota, Sheldon said, but the Carson project was able to fund only 25 percent of the request. "By the nature of the funding, we'll be limited to a 50- or 100-mile radius around Waseca," Sheldon said. "We'll probably get out farther than that. Whenever we make a high school visit, someone will carry this along."

What will the people at UMW do with the list once it has been compiled? Here, too, the plans for contacting the students are less ambitious than they were at the start. "We wanted to drive right to their place and talk to them and their parents," Sheldon said.

Because of the shortage of travel funds and staff, he said, the contact will have to be by letter or telephone, but it will be personal. If possible, he said, a student will receive "a telephone call from a meaningful person, maybe a professor." And the idea of personal visits hasn't been dropped completely. "We'll visit as many as we can," Sheldon said. "If they're close, obviously we'll visit." □

The World's Test for Mental Health

By Lynette Lamb

It has been acclaimed, indicted, and poked fun at. Whatever the reaction, the Minnesota Multiphasic Personality Inventory, the MMPI for short, is the world's best-known test for determining psychological problems. And now this famous test is being updated at the University, where it came into being almost 45 years ago.

Uses of the MMPI, developed in 1940 by the late psychologist Starke Hathaway and psychiatrist J.R. McKinley, have extended far beyond its original purpose of diagnosing mental illnesses to include screening people for high-stress jobs such as commercial airline pilots and police officers, classifying prison inmates, and studying personality cross-culturally.

Although it is still considered a highly sensitive measure, the MMPI, by virtue of its age, needed updating, said psychology professor James Butcher, who is one of the psychologists on the revision team.

Many of the items among the roughly 20 percent that are being changed are the same ones that regularly must be altered for cross-cultural translation, Butcher said. Examples include statements such as "I used to like to play drop the handkerchief" and "I often have an acid stomach." The MMPI has been translated into more than 60 languages and is used in about 50 countries, said Butcher, who added that it works "extraordinarily well" in places as culturally different from the United States as Thailand.

Adding some new categories of psychological problems is another important change being made in the revised version, Butcher said. Eating disorders such as anorexia nervosa and bulimia and temperament disorders such as Type A behavior were not recognized syndromes 45 years ago. Because the MMPI is widely used with adolescents, the revised version also will have separate adult and adolescent forms with many items on the adolescent form attempting to determine whether the test taker has an eating disorder or a drug, peer, school, or parent problem.

The original test, a huge project for its time, was based on the responses of just 724 people, most of whom were visitors at the University of Minnesota Hospitals. Because of the nature of the typical Minnesota hospital visitor at that time, the original sample was heavily biased toward middle-aged Scandinavian-Americans, Butcher said. The new normal sample will include a population of several thousand people, adolescents and adults, drawn at random from phone books in four or five states, and including ethnic minorities represented proportionately to the general population.

The MMPI revision, which has already been in progress for two years, will require another couple of years to complete, Butcher estimated. But spending four years on the MMPI is nothing to Butcher, who has devoted his entire academic career to the test. "I started working on the MMPI in graduate school in 1960, and it's been a full-time occupation ever since," he said. In 1965 Butcher began giving a national MMPI conference and training workshop; now eight to 10 are held each year to teach professionals how to administer and evaluate the test.

Butcher said he has good reasons for believing in the MMPI. "I couldn't tell you how many times I've interviewed patients and not known what was wrong with them and after looking at their MMPIs have found the answers crystal clear," he said. "It shortens the process and is objective. With the MMPI there is no human element like a tired therapist or a therapist who is being conned."

Although some MMPI test takers are concerned about how certain items will be evaluated, Butcher said that no single item is really important; rather, it is a group of items that together mean something. "Whereas an interviewer might leap to a conclusion based on the answer to one question, using the MMPI the therapist makes conclusions based on groups of similar items," he said. The original MMPI has 566 items and generally requires an hour and a half to take; the new version has 704 questions.

Butcher insists that the MMPI revision is not a major one. "It's like we're making an on-course correction," he said. "We're not doing that much to the test because there is still too much there that works."

And the reason it works? "Because 40 years ago they struck upon a very practical, almost simplistic approach to assessing clinical problems," said Butcher on a recent segment of PBS's "MacNeil/Lehrer Newshour." "If you want to know what is wrong with someone, you ask them. And that's exactly what the MMPI does—it asks it again and again."□

FirsTel Chosen for Phone System

University officials have selected an offspring of the deregulated AT & T as vendor for a $20 million to $25 million state-of-the-art telecommunications system that will be housed underground on the Minneapolis campus. FirsTel, a newly formed subsidiary of U.S. West, the parent firm of Northwestern Bell, was favored over four other vendors.

The new system will provide more efficient and less costly telephone and data communication for up to 23,000 phones and an estimated 1,200 to 1,500 microcomputers and word processors on the Minneapolis and St. Paul campuses. The voice-data system, a high-speed data communications system, and an updated closed-circuit TV system are scheduled for completion by summer 1986.

For the past five years, University administrators have been mapping a changeover from the current leased telephone and low-speed data transmission system to one that could be University-owned and -operated and would feature multifunctional telephones and higher speed data transmission.

Estimates are that during the next few years, costs will rise substantially for the University's present telephone equipment and services. These costs for the 1983-84 fiscal year were $4.8 million, and officials say that once the new system is in place, operating costs should rise not more than 5 percent per year. The University will finance the system with tax-exempt, variable-rate demand notes, and that debt will be paid off in 10 years or sooner through normal telephone charges to University departments.

In recommending FirsTel for contract negotiations, University President C. Peter Magrath mentioned the firm's "strong local presence and a commitment to Minnesota" through its ties with U.S. West and its affiliate Northwestern Bell. Magrath described InteCom, a Dallas-based firm that will supply FirsTel with the telecommunication equipment, as having voice-data switching capabilities and physical design that are particularly well suited for the University. Each of the other vendors is capable of providing high-quality telephone service, officials said, but the University opted for FirsTel because it provides the greatest flexibility and integration of voice-data capabilities.

The bulk of the telecommunications system will be housed in an approximately 17,000-square-foot underground building adjacent to Morrill Hall. Construction on the new system is scheduled to start this fall, with the first service scheduled for the new hospital addition, Unit J, in March 1986.

The four other firms that submitted proposals for the four-component telecommunications facility are Contel Inc. of Atlanta and Centel Inc. of Chicago, both firms that operate local telephone companies and sell telecommunication equipment; AT & T Information Systems, a New Jersey-based firm that sells telecommunication equipment and services; and InteCom, which proposed its own system. Eight firms had initially submitted proposals to the University.

For University telephone users, the system will be able to automatically redial busy numbers, handle conference calls, transfer a call, and leave messages. For University computer and word processor users, the system will transmit data at speeds considerably higher than now possible and without using special equipment.

The new system is scheduled to provide support and access for a proposed on-line library card catalog system, a proposed supercomputer institute, and a variety of computer networks that have either sprung up or are being planned at the University. □

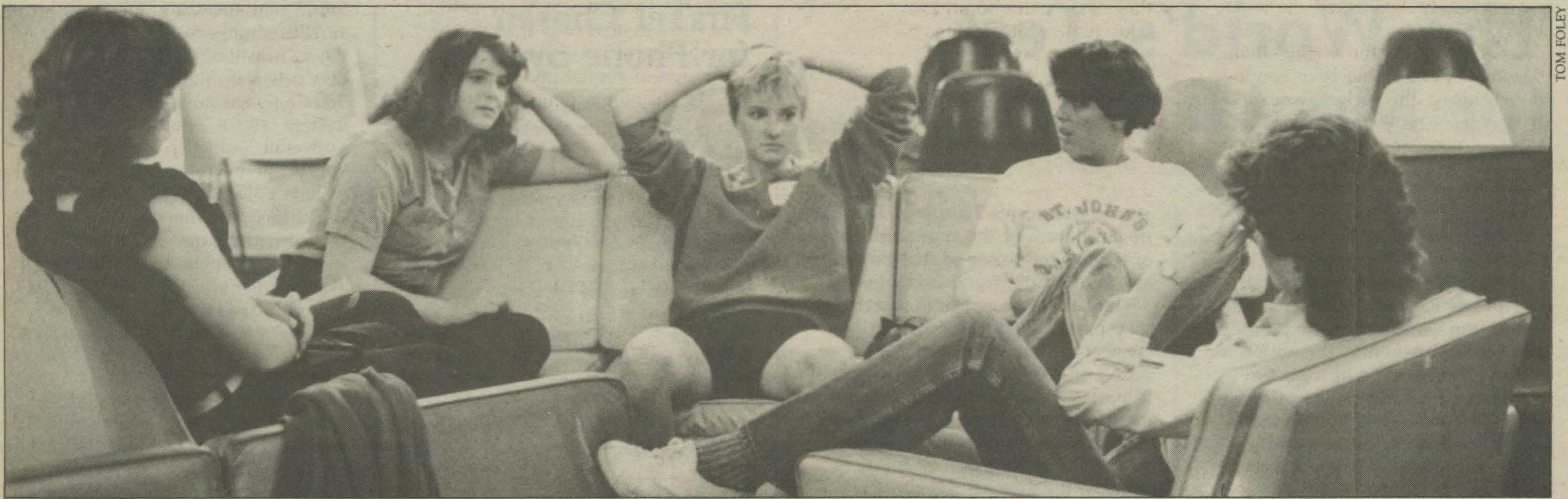
Lebedoff Heads Search Team

Regent David Lebedoff has been selected to head the committee seeking a replacement for University President C. Peter Magrath, who left the University in late October to become president of the University of Missouri.

Lebedoff will lead the search committee, made up of the 12 members of the Board of Regents, through the selection process, which could last up to a year. The committee, aided by a 12-member advisory panel, will begin evaluating nominations and applications after November 15, the deadline for submission of names.

"The selection of a new president for the University may well be the most critical decision made in this state for many years to come," Lebedoff said. "Our goal is to settle for nothing less than the very best. To achieve that, we would welcome suggestions and nominations from any person in the state who shares this concern for excellence and knows of an appropriate nominee."

History professor John Howe is now chairing the advisory committee. V. Rama Murthy, named in September as associate vice president for academic affairs, resigned as chair but is continuing on the committee. Mario Bognanno, professor of industrial relations, has been named the seventh faculty member on the panel. □


TOM FOLEY

Rendezvous for Booklovers starts out with book discussions throughout Coffman, like this one of Alice Walker's *The Color Purple.*

Booklovers Rendezvous During Welcome Week

By Pamela LaVigne

It was the Tuesday night before fall quarter classes began on the Twin Cities campus, a warm evening after some unseasonably cold weather. Windows were cranked open wide in the women's lounge of Coffman Memorial Union. Cooling breezes wafted by and the fountain on the plaza below tinkled pleasantly as 20 women prodded boxy couches and chairs into a large circle, getting ready to discuss Alice Walker's book *The Color Purple.*

One floor above, about half a dozen people were making a smaller circle to talk about Shakespeare's *Julius Caesar.* Down the hall, others were gathering to talk over *The Youngest Science,* an autobiography by Lewis Thomas.

So it went throughout the building. In all, six discussions were going on, part of Rendezvous for Booklovers, a Welcome Week activity initiated this year. It's an uncomplicated idea, yet one rich with possibilities for interdisciplinary collaboration and reciprocal benefits for everyone involved.

The idea is to get ten or so of the University's best faculty—men and women, representing a range of disciplines and collegiate units, known (possibly awarded) for their love of teaching—to select a book they'd like to talk about with freshmen. They write a short paragraph about their choice and about themselves, and the whole package is mailed to incoming students with an invitation to pick a title, read it, and come to a discussion about it during Welcome Week.

Stephen Wilbers, director of student academic support services for the College of Liberal Arts (CLA), first proposed Rendezvous. Harry Myers, Orientation Office director, said that book discussions had been part of Welcome Week about ten years ago, but they were quite a bit different from Rendezvous. "Steve brought a lot of new ideas and vitality to the idea because of his interest and background," said Myers.

Indeed, organizing this event seems a natural extension of Wilbers's interests. His Ph.D. in English attests to a certain appetite for reading. Since his graduate student days, he has taken a personal interest in the people who write books: his thesis has been published by the University of Iowa Press as *The Iowa Writers' Workshop: Origin, Emergence, and Growth.* And through his course, American Authors in Person, Wilbers not only makes the works of local authors required reading, he also has the authors themselves come to class for the discussion.

What's more, Wilbers also had two years' experience putting the Rendezvous program together: it ran originally for CLA incoming freshmen, and last year freshmen and transfer students entering all colleges were invited.

"It didn't take much convincing," said Myers, to include Rendezvous in this year's Welcome Week schedule. Two reports had recently been released—the McFarland committee's review of the orientation program and the Wallace report on the undergraduate student experience. Both recommended more academic programs and more faculty contact during orientation.

The purpose of Rendezvous for Booklovers, Wilbers explained, is "to introduce students to learning at the University of Minnesota in a pleasant and social environment....to suggest to students that college-bound students are readers."

"We think it does have some recruiting dimension," Myers added, noting that students may receive the letter inviting them to the discussion before they've decided among offers from several colleges. "[Rendevous] does have a direct impact on the image we're projecting," Wilbers said. "If there's no appeal to the intellect, we're misrepresenting ourselves. We are a community of scholars."

Although Rendezvous is a comparatively inexpensive event (the hours of administrative and faculty time are volunteered, and postage is the largest single expense), funding for it has always been precarious. Plans for this year's event were under way, in fact, before planners were certain of their purse. A partnership eventually was formed: University Bookstores, the *Minnesota Daily,* CLA, and the Orientation Office each chipped in $500.

TOM FOLEY

Naomi Scheman

In the circle

Naomi Scheman, associate professor of philosphy and director of undergraduate studies in the Women's Studies Program, led the discussion of *The Color Purple.* In this book, a young black woman, abused at the hands of her stepfather and husband, learns, largely through the lessons of other women, her own dignity and strength. Perhaps because of the story it tells, this book attracted only women readers.

Scheman began by highlighting her personal and academic background and asking the other women there to introduce themselves and tell how they came to choose this book. Many were "converts to the Twin Cities" as Scheman described herself, and many said another woman—mother, sister, friend, minister—had recommended the book. "I find that very moving," Scheman responded, and in marked contrast to what she often sees in teaching women's studies: that we devalue what we learn from our mothers. She hoped that that would be one lesson the women would not learn as they continued their education at the University.

Next, she introduced two themes she found striking in the book. Both seemed especially apt for the audience. Finding a voice was the first theme. "Though we're probably all more privileged than the book's characters, we've all experienced subtle silencing," Scheman said. Women are not supposed to be too smart, too talkative, too aggressive. "Even being told to smile is a form of silencing." How are you finding your own voice, and what are your expectations over the next years at

the University, she asked the students.

Differences was the second theme. Scheman spoke of her own coming of age during the early '60s just as the women's movement was developing. It was then she learned that "there are ways in which we share certain features of our lives because we are women," she said.

But that early emphasis on common traits consequently meant important differences were ignored: heterosexual/lesbian, rural/urban, married/un. We too readily jump to "That's OK," when we're confronted with someone different from us. "That's disrespectful," she said, and denies the reality of differences between a dominant culture and other cultures, equally complex though less widespread. While she enjoys reading about people who have experiences similar to hers, Scheman said, "I also want to get better at reading novels of people who are not like me."

She drew parallels to those in the room. Each of us forms one part of the whole, the zig of one fitting the zag of another. She sculpted the air to illustrate her point. "You're a really irregular piece. With any luck you're *not* a perfect, well-rounded sphere. We need the ways in which we differ from each other to fit this jigsaw puzzle together."

We broke into five smaller groups to continue our discussion. We spoke first of differences between ourselves and the book's characters—differences that were almost too easy, too obvious: poverty, family violence, little or no education. The more we spoke, though, the more we became aware of the amazing similarities between our lives and those of Walker's remarkable characters: the struggle to find one's own strength, the difference love can make and the unexpected places it can be found, the forgiveness that comes with growth.

Joy of teaching

In the course of commenting on the book, Scheman encouraged students in many ways. She counseled them not to worry about finishing in the once-standard four years, urged them to check out a local feminist bookstore, explained what bus to take to hear a noted author speak downtown the next day. She seemed so attuned to the concerns and interests of today's young women that it was hard to believe, as she herself noted, that it was 20 years since she had been a freshman, or that group leaders had not been coached on what to bring up.

There was no "game plan" for group leaders, however. An exceptional openness to and appreciation of students seem to characterize all the faculty who participate in Rendezvous.

Paul Quie, American Legion professor of heart research, became involved with the program last year through a colleague who had taken part in the original program. "I don't think a person can help but be nuts about incoming freshmen, can they?" Quie asked rhetorically. "They've got such fresh ideas, and they don't come to an analysis of a book with a lot of baggage."

Thomas Clayton, English professor and chair of the Classical Civilization Program, feels the same way. "I'm interested because they [the students] respond from a very different background from mine, a background as yet uncolored by the University. It's nice to catch them as freshmen—they've got a great many of their own ideas and a great deal of receptivity."

The two agree as well on why they participate: it gives them a chance to do something they like, pure and simple. "I was so pleased to be asked," Quie said, "because I think most of us in medicine carry around an image of being very narrow scientists. This gives such nice freedom of exchange. It's really quite a marvelous chance to discuss something you love."

Quie chose *The Youngest Science*, the autobiography by physician/researcher Lewis Thomas. Students who choose this book are usually considering medicine as a career, and discussion quickly centers on their perceptions of the difficulty of med school. "The toughness of the first year of medical school is highly overrated," Quie tells them.

> **"If there's no appeal to the intellect, we're misrepresenting ourselves. We are a community of scholars."**

Since the "floating crap game" type book discussions Clayton relished as an undergraduate at Northwestern (corner bars till the wee hours, anything that wasn't required reading), he has looked to conversation—face to face and through the mail—as an important method of developing ideas. "I like to talk about almost anything with almost anyone, and especially students," he said, stressing that it's not talking *to* students but *with* them that he means. The give-and-take of talk between people with different perspectives gives him "an opportunity to hear what I think." This year he was interested in hearing his—and the students'—thoughts on Shakespeare's *Julius Caesar*.

The way these teachers handle their groups also reflects their interest in students. "I don't feel that I'm a very good teacher," Quie said, "but I'm pretty good at creating an atmosphere for learning. I'm much more concerned with discussion [than with a lecture]. What is taught is forgot. What is learned becomes part of them."

How does Clayton guide students in discussion? "Oh, good grief, I tend to let them alone!" His approach is, "Follow where the discussion leads, and if it doesn't go, you lead it." Of his group this year, he said, "I talked a lot and so did they."

Clearly, these teachers are getting a lot from Rendezvous themselves. "It's the joy of participating in the discussion of something you love with bright young people," Quie said. He paused to reflect on that, nodded his head and leaned forward, eyes wide and sparkling. "It's joy really. That describes it about as much as I can. There aren't so many opportunities for that."

Try to turn them off!

Nearly all the 60-some students in the discussion groups converged afterwards in the Whole Coffeehouse. As Quie noted, the chemistry of groups is hard to predict, so a backup program was planned in case things didn't work well at the mixer. In fact, these students mixed so well that the plan was quickly scrapped.

(The cookies, lemonade, and background piano were saved, though, and the flip chart set up by the door. Its heading, "Books you never finished because they were so ugly" invited reply. *"Sweet Wreckless Love,"* the first title listed, actually didn't sound like such a bad idea.)

The animated conversation demonstrated that the evening's social aspects were well met. The Shakespeare group came down together, stayed together, and before breaking up decided to attend *Twelfth Night* at the Guthrie together.

Mike Heinrich and his buddy Nick Willmore had read *Physics as Metaphor* by University physics professor Roger S. Jones, who also led the discussion about it. Although they had some social objectives for the evening ("We figured we'd pick up some chicks here," said Mike in mock seriousness), they had other hopes as well. Nick said he'd wanted to talk about some of the basic ideas underlying the topics Jones addressed, such as how we define reality. Mike was interested in how society can be helped by different viewpoints. The discussion "wasn't on the level of the book," Nick concluded—for these two Institute of Technology freshmen, it had been too easy.

A few other participants said they were disappointed with their discussions, too, for similar reasons. They found that spending only an hour or so with strangers didn't compare to the satisfaction of the discussions they'd had in high school or with the after-class book clubs they had formed with a favorite teacher.

Overall, however, students' reaction to the evening was: More! Evaluations typically say, "great program," but, as one student put it, "a one-night stand isn't enough."

Anna Antoniou is a good example of the ripple effect the program has had. Because of it, she gave the University a second look. "It was a real relief to me last year when I got a letter about Rendezvous," she said. "I had high expectations" and didn't think the University could fulfill them. She enrolled after all, went to Rendezvous, and loved it.

To satisfy the urge for more of the same, she started an informal book club with six other participants. Because she'd expressed a willingness to work with the program if it was held again, she was contacted and hired to be the Welcome Week student coordinator of the event. (In all, three of the four student facilitators that evening had been participants last year.) And she saw to it that the book club, now a recognized student organization, had a table during the Welcome Week activities fair. The simple sign-up sheet netted some 30 signatures, almost all of them participants in Rendezvous the night before.

For Wilbers, seeing this program grow and inspire other activities is undeniably gratifying. Sometimes, though, unexpected feedback is even more so.

This year, for the first time, Wilbers himself was a discussion leader, for the book *Second Heaven* by Judith Guest. The day after Rendezvous he was attending a benefit reading by Guest on campus when he noticed three women from his group sitting down the row. He overheard one saying, "I don't know if it's always going to be this neat, but it sure is neat so far!" □

TOM FOLEY

In the Whole Coffeehouse afterwards, the meeting and mingling continue.

TOM FOLEY

Trude Cooke leads a tour.

Getting To Know 'U' Starts With Campus Tours

By Pamela LaVigne

When Lenora Taylor entered the University of Minnesota, she was 25, a single parent, and self-supporting—not the typical freshman, but the experiences that set her apart from the norm also made her feel independent and capable of doing things for herself.

Come the first day of classes, she arrived early to figure out where her first class would be held. She was in front of Walter Library, map in hand, when the previous hour's classes let out. Students streamed from every building on to the mall. "There I was standing, scared to death," Taylor remembers. Too overwhelmed to do anything else, she said, "I just sat down till they all went away." Maybe, she wondered, she wasn't ready for this after all.

Well, someone helped her out, and today she is in a position to see that others don't have to repeat her first-day freak-out. As coordinator of the Twin Cities campus tour program, Taylor oversees introductions of prospective students, their parents, and other visitors to the Minneapolis and St. Paul campuses.

Campus tours started about 1971 when the Visitor Information Center was established in Coffey Hall on the St. Paul campus. Though the center later closed (a victim of retrenchment), tours continued, arranged through University Relations. At first they were scheduled on demand and were conducted by student volunteers, but a regular schedule eventually evolved. A year ago this month, it was decided to formalize the program further and, in January 1984, two major changes were instituted: a full-time coordinator was hired, and guides began receiving an hourly wage.

There's no doubt that the new attention being paid to University student recruitment played an important role in fortifying the tour program. Its first objective, according to Taylor, is to provide a general look at the campus for prospective students and their families, "to point out that they can actually see and walk around the whole campus in one hour or less...to find out that the places they have to go aren't that far apart."

The basic tour includes the places all students must be familiar with: registration, financial aid, and housing offices; bookstores and information booth; health service.

Another goal of the tours is to highlight the many student services such as professional academic advisers, employment information, personal and career counseling, minority student centers, and sports facilities.

Actually, visitors can sign up for more than simply a campus tour: prospective students can sit in on classes, meet with an academic adviser from the college they would like to enter, and even talk with a professor in their area of interest—"when the student has a focus and can begin a two-way exchange," Taylor said.

Although the principal clientele is prospective students and their families, the program wants to attract more Minnesotans, alumni, and Twin Cities visitors. Taylor particularly wants faculty and staff to be aware of the program. "If we provide services that people within the University can count on, then we'll improve our image and increase our accessibility. We all see students every day." A good share of University tourists comes from informal contacts, she believes.

Anyone is welcome to take the basic campus tours and either of the two other regularly scheduled tours. Each lasts about one hour and is offered free of charge. Tours of the Minneapolis campus, east bank, leave at 11:15 a.m. and 2:15 p.m. The St. Paul campus tour starts at noon. It's possible to visit both in one day by taking, free, the intercampus bus.

In addition to these general tours, two others can be arranged: the Civil and Mineral Engineering (CME) Building in Minneapolis and, mid-April through summer, the animal barns in St. Paul.

The CME building, a seven-story "earthscraper," has proved quite popular with retiree groups. Sometimes, though, it takes an outsider to get you to see what's (literally) underfoot. Such was the case last spring with a Minneapolis woman whose Austrian relatives were visiting and wanted to see some amazing underground building they'd heard about in the Twin Cities. Through a series of phone calls, the woman found out it was the CME building and arranged a tour. Then she called back. By the way, had she mentioned that her relatives didn't speak English? A teaching assistant in the German department was asked to help, and both the Minnesotans and the Austrians were able to understand the tour.

In terms of sheer numbers, the animal barn tours on the St. Paul campus are the most popular. Almost 2,000 preschool and elementary grade children visit the barns annually. (One such group will be featured in an upcoming segment of "Matrix," the television program about the University.) These tours are usually scheduled in the spring, when it's not as cold for the youngsters to be outside and when most animal babies are born.

TOM FOLEY

Any time during a tour is a good time to answer a question.

Besides the four existing tours, tours can be individually arranged to focus on a certain area of campus, certain equipment, or certain facilities. Groups have been as small as one and as large as several busloads.

Members of the Kansei (Japan) Small Business Institute toured the University's heating plant this summer. The University's 1944 graduates (all colleges) and the 1954 pharmacy graduates took specially arranged tours this past year as well. Virtually any interest can be accommodated.

Goodwill ambassadors

The heart and sole of the tour program are the student guides. For many, they will be the first contact a prospective student has with the University. Averaging $12 a week, they're not in it for the money. Guides usually hold down another job, maintain respectable grade point averages, and participate in organized student activities as well. Let's meet two of them.

Lori Crever, a junior, is majoring in speech communication. She grew up in Hugo, Minnesota, and graduated from Mahtomedi High School. In her senior year she won the Minnesota Junior Miss Scholarship Pageant and did a lot of traveling around the state, was frequently interviewed on radio and television, and represented the state in national competition. The experience taught her that "Minnesota has a lot to offer, and education is definitely a part of it," she said.

Kent Bosch, also a junior, is majoring in agricultural economics. He was raised on a farm outside Montevideo, Minnesota. Although both his parents are University graduates, Kent chose the University more because of his own connections with it than their influence. He attended state Future Farmers of America conventions held each spring on the St. Paul campus. Through state fair livestock judging he gained exposure to University animal science professors and extension specialists.

"I really knew so much [about the University] that it was easy to grasp on and love it the first day," he said. Participating in 4H for 10 years taught him how to speak in front of peers. "That's not a lot of experience in front of strangers, but it sure helps," he said.

Students don't have to have such extensive public speaking experience to be tour guides. In fact, one applicant said he wanted to be a guide because he thought talking to tour groups might help him overcome his shyness in talking to individuals. Taylor agreed, and watched him turn into a polished tour leader.

The training of guides is getting more thorough all the time. Preparation includes sit-down sessions, prac-

Background on campus buildings is presented in the second session; memorizing it is the homework assignment for the next several sessions. To get the routes down, the new guides take a tour together. The next step is describing the buildings while they are standing still—a practice presentation that may be videotaped, Taylor said. Then they switch to the real thing: first accompanying an experienced guide on a tour, then giving a tour themselves with the veteran along, and finally doing the tour with Taylor in the group.

It's clear from talking with Crever and Bosch, however, that there are some things that simply can't be taught, things that come through because of the people they are. Learning the buildings is only half of it; learning how to work with a group must come with practice.

"Especially for my major," says Crever, "it's teaching me discipline. You've got an audience, you've got to be on—speak articulately, look them in the eye, be aware of their needs. Are they from a big or small town? Are they from in state or out of state? Do they want to live in a dorm or an apartment? Were they in extracurricular activities in high school that they want to continue in college?" She snaps her fingers, click, click, click. "You've got to be so aware."

Both students say they strive to make one-to-one, individual connections with their groups. "People want to get under your skin a little bit, too," said Crever.

One thing Bosch emphasizes is "the personalness of the campus. Walking down the street, it's really nice to say hi to people I know, stop and chat for a few minutes, show that it's really possible to get to know people on a first-name basis around here."

He also gets a kick out of using humor to teach. When his charges are preschoolers and they're visiting the animal barns, Bosch stumps them with the question, "Where does chocolate milk come from?" The kids always point to the brown cows first, and when he tells them that's not right, they point to the black and white ones next. What's appealing about doing these tours, he says, is the "chance to try to help people understand animal agriculture. There's a lot of satisfaction in teaching a little guy where his milk and meat come from."

Clearing up misperceptions more serious than those about the source of chocolate milk is something these two are especially attuned to. No matter what level the student, "they always have the worst stories about the U," said Crever. "I try to give them the inside scoop as a student—provide basic information and some kind of guidelines, too, about fitting in here.... It's rewarding at the end when they look at you and say 'Thanks! This has answered a lot of questions.'"

The campus has some wonderful ambassadors in its tour guides, and the effects of their work are being felt now. "I think it's developed an extra amount of pride for me in the University," Crever said. "It's something I'm really proud to be part of."

Says Bosch, "I get personal satisfaction from the feeling that I actually helped somebody understand something better and talking them into coming here. When I see them the next year on campus, I just grin from ear to ear." □

TOM FOLEY

Sandy Tauer has no trouble holding the attention of some pint-size tourists starting out to visit the animal barns on the St. Paul campus.

TOM FOLEY

Campus tours are coordinated by Lenora Taylor (standing in suit) and given by these student guides (clockwise): Nancy Neil (next to Taylor), Kent Bosch, Andy Schneider, Jim Schwarz, Bob Harrington, Terry Nintemann, Julie Robinson, and Lori Crever.

Dorothy Day's *Catholic Worker*: A Study in Advocacy Journalism

By Deane Morrison

It is much easier to be a pacifist today than in the days just before World War II, when the echoes of marching jackboots struck fear in the hearts of Americans and united the country against Hitler. Tuning the American war machine also helped boost the United States out of the Great Depression, fueling resentment against pacifists, who were seen as

Dorothy Day in the 1970s

an economic as well as a political threat. Probably no one was more scorned than the leader of the pacifist Catholic Worker movement, Dorothy Day.

"It's hard to imagine the courage it took to espouse absolute pacifism in those days," said University journalism professor Nancy Roberts, who has just finished a study of Day and the movement's monthly newspaper, also called the *Catholic Worker*. Day edited the paper from its beginning in 1933 until her death in 1980. She lived in voluntary poverty in a small New York tenement that became the paper's editorial office. The paper championed personal activism to achieve social justice, criticizing the church only when it appeared not to live up to its teachings. Violence, even when directed against a great evil, was condemned—a stance that prompted street beatings of some Catholic Worker salespeople during the height of the war fever.

Roberts's book, *Dorothy Day and the "Catholic Worker,"* (State University of New York Press, 1984), seeks to address questions ignored by previous writers. "For example, what was it like in the '30s to be a recent Catholic convert, a socialist, a single parent, and a woman leading a radical movement in a church that was very conservative in the area of sex roles?" Roberts said. Day had been a secular radical with communist and socialist friends for many years before joining the Catholic Church in 1927. She was quite conscious of the distrust between the church and secular radicals, striving always to back up her social view with church doctrine or tradition. She found support for her pacifism, for instance, in Gospel accounts of early Christians.

Day kept firm control of the paper but tended to downplay the significance of a woman in that role. She did little to encourage women to write for the Worker, apparently feeling that male writers would give the paper more clout. And though she forged her own career and sympathized with women's lot in life, she never embraced feminism. She thought feminism was almost selfish, given the overwhelming poverty of so many; her concern was for the poor as a class rather than women as a class. Day also seemed to think that the feminist revolution of the '60s was largely a movement for sexual license, Roberts said.

Day was careful to keep the Worker, a lay publication, from treading on the authority of church officials. During the 1930s and '40s she wrote many letters to her bishop's office to explain her positions. She often bolstered her opinions by informing the bishop that Peter Maurin, the paper's cofounder, agreed with her.

"Day was a convert, but Maurin was French-born, with impeccable Catholic credentials," Roberts said. "His support gave her confidence." Maurin also harbored a mild anticlericalism, but Day wouldn't allow any of it to seep into the Worker's editorials, keeping the paper's message focused on issues of peace and social justice. She once remarked that if the cardinal asked her to stop publishing, she would—but she would then move "across the river" and resume publishing outside his jurisdiction. She meant not to defy the church but to find some way to carry on her work.

Roberts said that her book breaks new ground by analyzing Day's writing and the editorial content of the paper, which remained consistent for 50 years. Day was an advocacy journalist: her best work displayed a great concern for peace and social justice. She personalized oppressed people, even the deranged, by writing profiles of them as individuals. She also was an outstanding labor reporter, capable of incisive reviews and political commentary. In the 1930s, Day was one of two reporters allowed to interview striking General Motors workers in a Flint, Mich., plant. A 1954 article traced the history of foreign involvement in Southeast Asia, warning against American meddling.

"Day got a lot of flak for a piece she did on the Cuban revolution," Roberts said. "She traveled there and concluded that although the violence of the revolution was abhorrent, Castro was for the workers, and that was good." She had already come out against the Korean War and McCarthyism and had been jailed for refusing to participate in mass air raid drills in New York.

Her activities did not endear her to J. Edgar Hoover, who thrice recommended to the U.S. attorney general that the Catholic Worker movement be prosecuted on grounds of sedition. The FBI had some trouble keeping its files on Day in order, though; material collected in the 1950s confused her with a friend who operated a shelter for the poor. It listed Day as a Russian emigrant and her New York soup kitchen as a dance studio and front for communists.

Hoover's animosity serves to underscore the influence Day and the Worker wielded. "It has probably been the most influential alternative publication in American history," said Roberts. "Everyone in the Catholic left during the '60s came through the Catholic Worker movement." Day's spiritual children include Michael Harrington, whose book *The Other America* inspired President Kennedy to push for antipoverty measures, activist priests Daniel and Philip Berrigan, and Trappist author Thomas Merton. Roberts said that the Catholic Church would be very different today without Dorothy Day, citing last year's pastoral letter from American

***The Lord's Supper 1951*, a wood engraving by Fritz Eichenberg. Powerful illustrations strengthened the impact of the *Catholic Worker*.**

bishops that condemned nuclear war and credited her role in the peace movement.

"Day lived in the same squalor as many poor people—bedbugs, lice, filth, everything," said Roberts. "She didn't require anyone to live as she did, but wanted people to become personally involved with the poor in their own way. She never thought of it as doing the poor a good turn, but as finding one's own salvation through the work. Her life was seamless—there was no difference between what she practiced and what she preached."

Roberts said that Day would probably turn over in her grave if she knew about the current movement to have her canonized. Day wanted no part of any suggestion that she was a saint, much less an official declaration by the church. She felt that being placed on a pedestal would make her example appear unreachable, discouraging others from taking her message to heart. □

How To Spot A Superleader

By Harvey Meyer

If any institution needs a superleader as its chief executive, it's a large university such as the University of Minnesota, says Charles Manz, an assistant professor in the School of Management.

Manz defines a superleader as someone having the knack of drawing out the leadership qualities in all of us so that we end up inspiring, rewarding, and leading ourselves. The many independent thinkers at a university would have a far better association with a president who solicits advice and delegates responsibility than with one who is authoritarian and centralizes decision making, he said.

With the University now searching for a replacement to President C. Peter Magrath, Manz said he hoped those involved in the presidential search would keep in mind a superleader's qualities. "It's not only desirable to be a superleader at a large organization such as a university, but just about necessary," said Manz, who is coauthoring a book on superleadership with Henry Sims, Jr., a Pennsylvania State University professor of organizational behavior.

President Reagan is a good example of someone who sometimes exhibits superleadership, Manz said. Reagan instills optimism in people and delegates responsibility, two characteristics of superleadership.

Few people are better known for making use of their deputies than the president is, said Manz. Reagan is also a torchbearer of optimism, even in the darkest of moments, he said.

Soon after Reagan was shot three and a half years ago outside the Hilton Hotel in Washington, D.C., he lifted the worried public's spirits with a string of one-liners from his hospital bed. "It seemed he was consoling people when it should have been the other way around," Manz recalled. "What should have been a negative situation, he turned into a positive thing. He was the model of optimism."

Modeling, it turns out, is the first step toward becoming a superleader, Manz says. "It's been said that actions speak louder than words. In this case, that old adage is especially true. By displaying systematic self-leadership practice in your behavior, for example, by setting goals for yourself, purposefully making your work naturally enjoyable, and seeking out opportunities rather than shrinking from obstacles, you are serving as an effective model and a stimulus for others," says Manz, whose book, *The Art of Self Leadership*, was published in 1983.

The next step in Manz's and Sims' superleadership formula is to encourage and instruct people to learn self-leadership skills. "One useful approach in accomplishing this is to ask appropriate questions," Manz says. "Do you have any goals in your efforts? How well do you think you did, and how do you feel about that? What aspects of your work do you enjoy? How could you make it more enjoyable?"

Finally, when people start applying self-leadership techniques, a superleader offers suggestions and feedback, he said. "In particular, positive reinforcement of self-leadership effort is crucial: 'I'm glad to see you setting goals for yourself; this should help you better accomplish what you set out to do,' or 'Your outlook has really improved. I can tell that opportunities rather than obstacles are your primary motivations now.' "

Sims views superleadership this way: "We usually think of a leader as someone who says, 'Come on, let's go.' But a superleader tries to get others to say, 'Come on *self*, let's go.' "

Everybody is a promising superleader, according to Manz. "You don't have to be a star or charismatic to be a superleader. Superleadership can be learned, so at least everybody has a chance to become one or more of one."

Where Manz and Sims have seen self-leadership taken hold, it has been like a "religious witnessing," Manz said.

At a small manufacturing plant in the South, Manz and Sims observed self-managed work groups at the company take problems into their own hands. The groups, which had access to almost all nonpersonnel information, often established their own rewards and reprimands, helped determine how production goals would be met, and chose their own job assignments and work schedules.

Minnesota Mining and Manufacturing (3M) is a top-notch example of a company giving self-leadership a try, Manz says. "It lets people innovate, work outside their boxes. And much of the reason 3M is successful is because it displays many of the elements of superleadership—providing autonomy, role models, and an environment conducive to superleadership.

"When workers are given autonomy and then given the skills to deal with that autonomy, great things can happen," Manz says. "One thing that's important is to give employees the opportunity to try things and even to let them fail."

Manz says an armada of superleaders heading up businesses across the United States may give the nation an edge over other countries. But superleadership, he said, need not be confined to the workplace. It has applications in politics, at home, in schools—everywhere.

If and when the United States and the Soviet Union sit down for arms talks, a superleader would draw on the minds of many to craft a possible solution. Could be, says Manz, that the solution is one we haven't yet heard.

At home, superleader mom or dad will let the kids develop self-leadership skills. That means, for example, nudging youngsters to take initiative and consoling them if they flub up. Says Sims, "What we need to do with children is to allow them to grow up and tie their own shoelaces. When they get older, they have to make decisions on drugs, a work ethic, sexuality, friends. We can either facilitate that self-management process or we can stand in their way and impose our values on them. But, inevitably, that will lead to trouble."

What you don't do with superleadership skills, Manz said, is strictly adhere to them under all circumstances. "For instance, when you're dealing with nuclear reactors, I don't think it's appropriate to let people fail. The logic is you should apply superleadership where it's most appropriate."

Manz and Sims plan to publish their book on superleadership, complete with illustrations of superleaders and superleadership companies in the United States, in early 1986. □

VIVIAN CHERRY

A 1962 breadline outside the Catholic Worker building

Students Need Faculty Help To Take the Rhodes to Oxford

By Paul Dienhart

Of all the scholarships American students can hope to attain, the Rhodes surely carries the biggest myth and the most prestige. The reason is Oxford University.

The colleges at Oxford go back over 700 years. (Its New College was founded in 1379.) Alumni include Dr. Samuel Johnson, Percy Bysshe Shelley, and T. E. Lawrence (of Arabia).

"The enormous legacy of the past can still be felt in the rhythms of daily life at Oxford," said Robert Kudrle, a professor at the Humphrey Institute of Public Affairs who attended Oxford's Merton College in '65 and '66. "Just the physical presence of the buildings is a great heritage. Even now it's possible to recognize the Oxford portrayed in 'Brideshead Revisited.'"

Kudrle is among seven University faculty members who went to Oxford as Rhodes Scholars. The others are English professor and Classical Civilization chair Thomas Clayton, Humphrey Institute director Harlan Cleveland, physiology assistant professor Gordon Kepner, law professor Fred Morrison, agriculture and applied economics assistant professor C.F. Runge, and anatomy professor and Graduate School associate dean Judson Sheridan.

Unfortunately, the University's record for alumni Rhodes Scholars isn't nearly as good as its ability to attract Rhodes Scholars as faculty. Lately, the University has been averaging about one successful Rhodes Scholar candidate every ten years. The scholar for the '80s has yet to appear.

Nobody regrets this record more than the Rhodes Scholars among the faculty. They know what the students are missing.

Oxford changed Kudrle's life. Faced with the prospect of law school, the alternative of Oxford seemed "endlessly exciting," Kudrle said. He studied economics, a subject he'd had little knowledge of as a Harvard undergraduate. He never did go to law school, but built on his Oxford study for a career in economics. His wife is also a graduate of Oxford.

Every couple of years Kudrle returns to visit Oxford and has a meal with the dons, or distinguished faculty members. "It never ceases to amaze me how rarified the atmosphere is there. English academics are a breed apart, some very hothouse flowers indeed. Many American academics go out of their way to be considered ordinary people. The English impulse is the opposite."

Some of the traditional academic buildings as seen from downtown Oxford

Kudrle remembers a party for new students given by his tutor, a brilliant economist. "I was talking to him towards the end of the party when a woman stopped to thank him for the invitation. She said she'd had a lovely time and hoped to be invited again. She, as I later found out, was his wife."

Dame Helen Gardner, Oxford's first female Merton professor of English literature, taught Thomas Clayton when he attended Oxford in the 1950s. He remembers her as a powerful presence who could be very kind to hardworking students, but harshly sardonic when faced with what she felt was unjustified ignorance. An American scholar once referred to her as "the most formidable academic man in England."

"You'll find outstanding individuals at Oxford," Clayton said. "And that's been the case for 700 to 800 years."

The Oxford method

Cardinal Newman said that Oxford was a place where students educated themselves. One hundred years later, that's still true.

The Oxford student's world centers on his or her particular college. The student is literally in residence at the college and lives day by day with students in a diverse range of disciplines. The student common room is the center for debating societies, dramatic groups, athletic clubs, and a lot of conversation. It is a mixing that makes for a broad education.

"Conversation is an art in Britain in general, and Oxford is a verbal culture at a multiple power," Clayton said.

"It's very intimidating the first time you have a meal with your tutor at high table and realize you have to sustain a polished conversation for several hours," Kudrle said.

Tutorials are the mainstay of an Oxford education. Typically, students are given lists of recommended reading. Each week they must demonstrate what they are learning by writing an essay. It's up to the student whether to spend one hour or 80 hours on the essay. The motivation to work hard comes from knowing that you will be reading the essay to your tutor, who will then discuss it with you one-to-one. There are lectures at Oxford, but nobody is required to attend. Learning is primarily a product of reading, writing, and conversation.

Since learning is not tied to the lecture hall, Oxford students are encouraged to get out into the world. The three terms are only eight weeks in length, interspersed by two six-week "vacations" and the long summer break from June to early October. It is assumed that students will spend at least half of their vacations reading from the book list and studying. That study might well be at a library in France or Italy because it is considered desirable for students to acquaint themselves with the wider world. The Rhodes' generous allowance provides funds sufficient for this method of study by travel.

"One great advantage of Oxford is that students are allowed to pace their instruction," law professor Morrison said. "There are no daily classroom exercises to disrupt long and continuous trains of thought. You can sit a whole day and consider a particular problem. Thought can be organized into a comprehensive whole. You don't get that chance if your world is broken into 50-minute chunks. Oxford gave me the leisure to sit back and think."

Rhodes scholars usually attend Oxford for two years, completing what in England are the last years of the British three-year bachelor degree program. Most American graduate schools will give credit for Oxford work. "The rigorous preparatory schools in England mean Oxford freshmen have a great deal more academic background than American freshmen, but somewhat less than American seniors," said Morrison, who received one year of law school credit for his two years at Oxford's Exeter College.

Rhodes Scholars

Oxford is not for everybody. Students in a hurry to go into business or complete graduate school might find Oxford a detour from the fast track. That doesn't stop an average of 40 Minnesota candidates a year from applying for the state's two nominations. The state winners go to district competition where they compete with the top two finishers from five other states for the final four district spots. America sends 32 Rhodes Scholars a year to England, the largest contingent of any of the 17 countries in the Rhodes program. Since 1976, when the competition opened to women, about one third of the U.S. delegation has been women.

"Many American academics go out of their way to be considered ordinary people. The English impulse is the opposite."

Basic qualifications for the scholarship are that candidates be under 24, have a bachelor's degree by the time the scholarship would start, and be unmarried. (Clayton insists there would have been two more University of Minnesota Rhodes Scholars in recent years if two excellent prospective applicants hadn't decided to get married at the end of their senior years.)

The Rhodes pays all educational expenses for at least two years, travel to and from Oxford, and a yearly allowance of 3,810 pounds ($4,950). Kudrle said his allowance made him feel rich. "The Rhodes Scholars weren't all the best-looking or most sophisticated guys," he said, "but we never had any trouble finding girls who wanted to go out with an exotic, well-heeled Yank."

The popular impression that Rhodes Scholars must be great athletes might be a result of standouts like Byron "Whizzer" White, U.S. Supreme Court justice and former professional football player; Pete Dawkins, brigadier general and a Heisman Trophy winner; and Bill Bradley, former New York Knicks star now a U.S. senator. Indeed, there is a requirement of "physical vigor," but these days that can be satisfied, for example, by a healthy involvement in intramural sports.

Cecil Rhodes, in his 1902 will, stated that he was looking for no "mere bookworms" but people demonstrating leadership ability and potential for a lifetime of involvement in world affairs. Rhodes was a great empire builder and made a fortune in African diamond mines while still a student at Oxford. He opened his scholarship to English "dominions and colonies" with the intention of extending British rule throughout the world, including "the ultimate recovery of the United States of America as an integral part of the British Empire."

Although it hasn't all worked out as Rhodes intended, he succeeded in creating a unique scholarship. Academic achievement alone is not enough to win a Rhodes. "As a rule you need a good mind to get through Oxford," Clayton said, "but the scholarship is not as interested in turning out professional academics as people who, as Rhodes put it, 'are the best men for the world's fight.' Or perhaps a better phrase these days would be 'the best persons for the world's peace.' " Characteristics of scholarship candidates as spelled out in Rhodes' will include truthfulness, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, and fellowship.

An essential quality for winning a Rhodes, most would agree, is ability to communicate and to think on one's feet. Grades, resumes, and letters of endorsement help, but the final choices come down to a grueling interview that is legendary.

"The rule for the interview is that no question is inappropriate," Kudrle said. "I don't think anything can help prepare you for that interview." Kudrle, who had written his senior thesis on Nigeria and had read Matthew Arnold on educational reform in Victorian England, was asked what Arnold's views implied for Nigeria's public policy. "There may be a good reason why I don't remember my answer," he said. "A Rhodes interview is like getting on a ride at Valleyfair. All you can do is keep in mind that it's of finite length and eventually will be over."

Oxford blues

Among the University's 57,000 students there must be some excellent Rhodes candidates. Surely, with a pool so large, the University could produce a winning candidate more often than once every ten years or so. The former Rhodes Scholars among the faculty think so. But to improve the record, students are going to need more help from the faculty.

Clayton didn't even know what a Rhodes scholarship was when the late Norman DeWitt, then chair of the University's classics department, said "Clayton, why don't you apply for a Rhodes?" A senior with a double major in English and Latin, Clayton was a member of the University's 1953 College Bowl team that was rolling over squads from Notre Dame and Amherst. After DeWitt's suggestion he had one frantic week to put together his application materials.

"Conversation is an art in Britain in general, and Oxford is a verbal culture at a multiple power."

Likewise, Morrison credits his adviser at the University of Kansas with encouraging him to apply for a Rhodes. "Probably seven out of ten students apply for a Rhodes only because some professor suggests it," Clayton said.

It's not that Minnesota professors are not interested in outstanding students. "We're a research faculty," Morrison explained, "and a lot of us see graduate education as the highest calling. I think many faculty members aren't aware that there are any alternatives."

Waiting until the student is a senior is almost too late to spot a successful Rhodes candidate. Because the University starts fall quarter later than most schools, a Rhodes candidate has only a few weeks to assemble application materials before the mid-October deadline.

"Get in touch with potential Rhodes candidates at any time," Clayton advises. In the mid-1970s he spotted Clay Jenkinson, the University's last successful Rhodes candidate. He is now an English professor at Pomona College in California, which is run on the Oxford model, and has been assistant to the American Secretary for the Rhodes Scholarships. (Virtually all former Rhodes Scholars are involved in the Rhodes program, sitting on interview committees or working with applicants.)

University students have to compete with Minnesotans who attend Ivy League schools but choose to compete in the relatively easier territory of their home state. Kudrle, who as a Harvard student didn't need anybody to explain to him what a Rhodes was, conducted an informal study that shows public universities are underrepresented by Rhodes Scholars.

Small classes and one-to-one communication with professors tend to give Ivy League students an advantage. All the more reason to spot possible University candidates early. A University student doesn't naturally fall into the kind of experiences that help Rhodes candidates.

"Successful candidates tend to come from units with small classes where faculty get to know the students," Morrison said. "An apparent problem our candidates have is the absence of strong letters of recommendation from anybody higher than a teaching assistant."

Perry Blackshear, a University alumnus who graduated from Oxford's Trinity College in 1971, had a special advantage as a Rhodes candidate. His father is the University mechanical engineering professor of the same name. Young Perry got to know professors very well as an undergraduate while helping to develop a drug infusion pump. He is now an assistant professor of medicine at Harvard.

The University is gearing up to promote the Rhodes and other international scholarships. This spring some qualified juniors will get letters suggesting they consider the Rhodes program. Faculty teaching honors courses are being contacted.

Direct mailings about two other British scholarships also are being sent. Institute of Technology and biological sciences students who might be good candidates for the Churchill Scholarship will receive a letter about this one- to three-year program for science students at Cambridge. Students with excellent academic records but less strong leadership or "physical vigor" qualities will get information about a Marshall Scholarship, a two- to three-year program at any British university of the student's choice.

The scholarship programs fit with both the goals of fostering high-ability students and emphasizing international education. "For this reason, we're in a much better position now than a few years ago to identify candidates," said Lesley Cafarelli, who is conducting the international scholarship effort from the Office of Educational Development.

Students or faculty who are interested in more information about the Rhodes program, the Churchill, or the Marshall should visit 105 Walter Library or call (612) 373-5819. □

CAMPUS NEWS

Magrath Farewell Stresses Excellence

University President C. Peter Magrath bid farewell to the state last month by saying the University must remain resolute in its quest for excellence and resist what he called "fragmentation."

Magrath, in Crookston for his last Board of Regents meeting before leaving to become president of the University of Missouri, said excellence must continue as a "guiding star in the University's constellation." And he said the University's commitment to planning and priority setting—repeatedly emphasized during his tenure—should remain uppermost in the minds of the regents.

The University can neither afford complacency nor rest upon its laurels, he said. "Instead, it must be persistent, indeed relentless, in its pursuit of excellence."

Magrath recalled that the state's fiscal crunch in the early 1980s created an "avalanche of retrenchments" and put the University on the brink of bankruptcy. He called actions during that period "my single greatest disappointment over the past 10 years."

Particularly disheartening, Magrath said, was a lack of public outcry at a time "when the University lost more [state] funds than any other tax-assisted unit. "Silence, in this case, was not golden," he said. "As it was, there were too many hushed voices."

Magrath criticized some constituencies for pursuing special interests at the expense of the entire University. "In the end, such fragmentation destroys both the University as a whole and the particular interest that a group seeks to further."

In concluding remarks, he said, "When I took the presidential oath 10 years ago, I expressed the personal dream that it might someday be said: 'Peter Magrath left the University of Minnesota a better place than he found it.' My continuing dream is that the same thing will be said of my successor." □

Regents OK Funding Request

The University's funding requests to the state legislature for the next biennium were adopted by the Board of Regents in September.

The request for capital improvements was $125 million, and the operating budget request represented about a $142 million increase over the current biennium.

About $98 million of the capital improvement items was requested for the first year of the biennnium, highlighted by a proposed $46.5 million electrical engineering-computer

science building on the Minneapolis campus. University President C. Peter Magrath described the capital request as "solid and very well justified."

University officials expressed concern that $84 million of the capital funding requests had already received funding commitments from the legislature, leaving few dollars for new projects. Underscoring that concern is Gov. Rudy Perpich's proposal to avoid a 1986 legislative session, thereby eliminating the possibility of a 1986 bonding bill.

Magrath said the University's operating budget may face tough going in the legislature. "This will not be an easy request to sell," he said. "It's a very tough environment."

The proposed 16 percent increase in the biennial operating budget is the smallest percentage increase requested since 1969. If passed, it would mean 102 new academic positions and 149 new civil service positions at the University. The largest item in the operating budget is $46 million for proposed faculty salary increases, 7 percent each year of the biennium. □

U·P·D·A·T·E

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Editor
Maureen Smith
Associate Editor
Paul Dienhart
Copy Editor
Pamela LaVigne
Photographer
Tom Foley

Update is published 10 times a year to inform readers about news, challenges, achievements, and people associated with the University of Minnesota.

Six issues a year are directed to faculty and staff of the five-campus University system, exploring topics of specific interest to those groups.

Four issues a year address subjects of broader interest and are also sent to alumni and other friends of the University as a cooperative effort of University Relations, the Minnesota Alumni Association, and the University of Minnesota Foundation.

Update welcomes ideas and letters from all readers. Write to *Update*, 6 Morrill Hall, 100 Church Street S.E., Minneapolis, Minnesota 55455, or call (612) 373-2126.

The opinions expressed in *Update* do not necessarily reflect the official policies of the Board of Regents or the University administration.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, religion, color, sex, national origin, handicap, age, or veteran status.

Stanley Sahlstrom

Sahlstrom Resigns as UMC Provost

Provost Stanley Sahlstrom announced last month that he will resign as provost, effective June 30, 1985. He was the founding provost of the Crookston campus (UMC).

"I've been very fortunate to have had the opportunity to provide leadership to a new college with a new mission but under the umbrella of a great land-grant university," Sahlstrom said. "The college is now well established and is providing remarkable service to northwestern Minnesota and to the people of the state."

After a leave of absence, Sahlstrom will look for other areas of service to the University and the state. A national search is being conducted for his successor.

Sahlstrom joined the University in 1965 as director of what was then a technical institute. As a college, UMC opened its doors to freshmen in fall 1966.

"Stan Sahlstrom is 'Mr. Provost' to me, to the University of Minnesota at Crookston, and to the Red River Valley," University President C. Peter Magrath said. "He will be missed as UMC's founding and guiding provost, but his marvelous educational accomplishments will endure. And so, too, will the superb contributions that his hardworking partner, Mil Sahlstrom, brought to northwestern Minnesota and the University of Minnesota."

Prior to coming to Crookston, Sahlstrom was assistant to the president and director of field services at St. Cloud State College. A native Minnesotan, he received B.S. (with distinction), M.S., and Ph.D. degrees from the University of Minnesota. □

UMD Revamps Its Colleges

The Duluth campus (UMD) began the academic year with a reorganized collegiate structure, approved by the regents in August.

The College of Letters and Science has been split into two colleges, the College of Science and Engineering and the College of Letters and Social Sciences. The School of Social Development is being integrated into the College of Education, under the new name the College of Education and Human Service Professions.

The six-unit structure of UMD also includes three units that remain the same as before: the School of Business and Economics, the School of Fine Arts, and the School of Medicine.

Provost Robert Heller said the new units "can more closely fit the description of communities of scholars" and also have "greater uniformity of size, which leads to greater administrative efficiency."

Students will remain under their old collegiate unit during the 1984-85 academic year. Until they graduate, they will follow the requirements of the catalog under which they entered. But the new units may mean changes in upper division rates in 1985-86 for students whose majors move from one unit to another.

The new College of Science and Engineering, with George Rapp, Jr., as dean, has 24 percent of the UMD faculty and 26 percent of the student body. The College of Letters and Social Sciences, whose dean will be named by the regents this month, has 23 percent of the faculty and 30 percent of the students. The College of Education and Human Service Professions has 20 percent of the faculty and 20 percent of the students; Larry Bright is dean.

The School of Business and Economics, with David Vose as dean, has 10 percent of the faculty and 11 percent of the students. Phillip Coffman is dean of the School of Fine Arts, which has 10 percent of the faculty and 8 percent of the students. The School of Medicine, with Paul Royce as dean, has 11 percent of the faculty and 4 percent of the students. □

WE'LL LET YOU KNOW

We'll Let You Know

Question: I have a personal problem, and I'm told there's somewhere at the University I can go for help. How does the service work?

Answer: The Personal Resources Program (PRP) is a free, confidential counseling program for civil service and bargaining unit employees who work 50 percent time or more. The goal is "to provide employees with professional help in identifying personal problems in an atmosphere of mutual respect and understanding."

PRP counselors are sometimes able to work through a problem with an employee in one or two sessions, but in most cases a referral is made. "We have one of the best referral banks in the country," said program director David Johnson. Convenience, cost, insurance coverage, and quality of service are all taken into account in making referrals.

The PRP office recently moved from an off-campus location to B-4 Morrill Hall on the Minneapolis campus. Johnson does most of the counseling himself. Mardi Pearson, a licensed psychologist, is a part-time counselor who works Wednesdays. The telephone number is (612) 376-2545.

The University has contracts with mental health centers or other agencies to provide similar services on the coordinate campuses. The numbers are:

- Duluth—(218) 727-8762, ext. 317
- Waseca—(507) 451-2630 and (800) 722-0590
- Morris and Crookston—(218) 236-1494 (collect) and (218) 233-1163

If appointments are made during work time, employees may use sick time or vacation time to cover them.

The primary concerns of those who came to PRP in the summer of 1984 were job or career problems (36 percent); emotional problems such as depression or anxiety (26 percent); marriage and other interpersonal problems (22 percent); chemical dependency (9 percent); and financial, legal, and practical problems (8 percent). Half of those who came to talk about job-related problems were supervisors seeking advice on how to intervene to help a troubled employee.

Johnson said he has noticed that there have been more job and career problems in the past year or two. "With retrenchment and less movement within the University, people are feeling more pressure on the job," he said.

In an outside evaluation of PRP, 100 percent of the clients who were surveyed agreed that, after they called, "an appointment was set up for as soon as I wanted." More than 90 percent of all clients were seen within five working days of their call, and the median time between call and appointment was only two days.

The evaluation also found that clients "feel an extremely high level of confidence" in the counselors, and a few weeks after their last appointment most people (86 percent) reported that their personal problem was either resolved or getting better.

If you have a question about how things work at the University, or why things are the way they are, send it to Update at University Relations, 6 Morrill Hall, Minneapolis, or call (612) 373-7507. Each month we'll choose a question that seems to be of wide interest and try to find someone who can answer it.

LOOKING BACK

. . .30 years ago

Minnesota's Quiz Bowlers beat Georgetown University 265 to 140 in a "battle of the brains" November 22, 1953, and started a record-setting 12-game winning streak. The victory against Georgetown followed a season-opening tie and a second contest that ended in confusion.

In the November 15 game, the radio broadcast ended with Georgetown the declared winner, but a replaying of the tape established that Georgetown had been given 10 points for a wrong answer and that Minnesota was the real winner.

At least twice during the game, Minnesota coach J.B. Wolf jumped to his feet shouting that there had been a mistake in the scoring. Wolf tried to signal KSTP announcer Bob Boyle that the score was wrong and that Allen Ludden in New York should be told of the mistake, but each time Wolf was hushed because the game was in progress. The outcome of the game wasn't determined until almost two hours after the taped radio show was over.

The two teams agreed to a rematch, and Minnesota won 265 to 140 after Georgetown got off to a 65 to 0 lead.

In the 12-game winning streak, one of the sweetest victories was January 13 against a combined team from Brown University and Pembroke College, which had defeated the Minnesota Quiz Bowlers the year before. Minnesota trailed throughout the game but moved ahead at the end when Chuck Mohlke correctly identified all five Nobel Prize winners in literature from America (Pearl Buck, T.S. Eliot, Sinclair Lewis, Ernest Hemingway, and William Faulkner).

Each time the team won, the Murphy Hall auditorium (capacity 238) filled up a little more. During the next-to-last game in Murphy, 300 people jammed in, filling seats and aisles. Although many felt Murphy had become lucky for the team, it was decided to move to the new Mayo Memorial Auditorium.

In the only contest in the gleaming new Mayo building, the team lost 185 to 175 to Oberlin College. Whether because of the change in location, the jinx of game 13, or the strength of the Oberlin team, the streak had ended.

. . .10 years ago

On November 26, 1973, during the season's first staying snowfall, the University inaugurated C. Peter Magrath as its 11th president. In full academic costume, Magrath and a procession of about 150 academic leaders and state officials walked from Walter Library to Northrop Auditorium. Governor Wendell Anderson introduced Magrath and presented him with the University's ceremonial mace. □

PEOPLE

Crookston: Marilyn Grave-Shubert, assistant professor in the hospitality and home economics division and director of the UMC Children's Center, will present a paper at the annual conference of the National Association for the Education of Young Children, held this month in Los Angeles.

■ Assistant professor of communication Alice Moorhead received her doctor of arts degree from the University of Michigan. Her thesis is entitled "The Rhetorical Design and Function of the Proposal."

■ Harvey Peterson, associate professor of animal science, was elected president of the UMC Faculty Association. Associate professor of arts and sciences Paul Holm was elected vice president; Ken Myers, instructor in home economics, was elected secretary; and Jon Rogelstad, instructor in mathematics and computers, was elected treasurer.

■ Senior library assistant Krista Proulx received the Personal Service Award at the UMC Alumni Recognition banquet.

■ JoAnn Westberg, residential life secretary, was honored for her lengthy service in the American Red Cross by the Crookston Kiwanis Club, which presented her with a Special Person Award.

Duluth: Larry Bright, dean of the College of Education and Human Service Professions, was one of 20 U.S. delegates in Bangkok, Thailand, for the recent world assembly of the International Council on Education for Teaching. He and Vernon L. Simula, associate dean of the college, presented a paper entitled "The Potential of Interactive Learning Technologies."

■ J. Lance Cavanaugh, former director of the annual fund and executive secretary-treasurer of the University of Nevada-Reno Foundation, is UMD's new director of development. He also has been executive director of the Southwest State University Foundation and director of university relations and alumni affairs at Southwest State.

■ Paul Junk, professor of economics, will spend the current academic year teaching and consulting at Gadjah Mada University in Indonesia. His appointment is part of a three-year project of the Midwest Universities Consortium for International Activities and the government of Indonesia.

■ Edward Knych, associate professor of pharmacology, has received a two-year $83,937 grant from the National Institute on Alcohol Abuse and Alcoholism to study the effects of alcohol on hypertension.

■ Ruth Myers, codirector of American Indian programs in the UMD School of Medicine and director of UMD's American Indian Learning and Resource Center, has been elected president of the Minnesota State Board of Education. She has been a member of the board since 1975.

Morris: William Campbell, coordinator of UMM's Academic Assistance Program, and Linda Reeves, instructor of biology and coordinator of the science division greenhouse project, are coauthors of a booklet, *How To Be a Smart Kid*. The booklet will be used in the Academic Assistance Center and is for sale at the campus bookstore.

■ Economics faculty member Changhee Chae presented his paper "A Control-Theoretic Analysis of External Borrowing by LDCs" at the 18th International Atlantic Economic Conference. His participation in the conference, which took place October 11 through 14 in Montreal, Canada, was supported partially by the Office of International Programs Development Grant Program.

■ Associate professor of history Harold Hinds participated in the "Seminar on Political Communication" held last summer in Managua, Nicaragua.

■ Art history professor Frederick Peterson has received a grant from the University's Small Grants Program to assist him in research during a spring quarter visit to museums in Paris and Rome in 1985.

■ English faculty members John Reinhard and Richard Grant received a grant from the West Central Minnesota Regional Arts Council to sponsor a one-day workshop and reading entitled "Writing from Experience."

Twin Cities: Patrick Borich, professor and associate director of extension, personnel, and staff development, became director of the University of Minnesota Agricultural Extension Service in October. He has taught extensively and is well known for his approach to extension education.

■ Professor of agricultural engineering Arnold Flikke has received the Distinguished Service Award of the National Food and Energy Council. He was noted for his work on the use of electricity in production agriculture.

■ Professor of chemistry Paul G. Gassman has received the American Chemical Society's 1985 James Flack Norris Award in physical organic chemistry. A document nominating Gassman for the award noted his numerous contributions to physical organic chemistry, citing in particular his impact on such diverse fields as synthesis, catalysis, and carcinogenesis.

■ John Howe, professor of history and American studies, was reappointed to the College Board for the year beginning July 1, 1984. Howe again will serve as a member of the board's History and Social Sciences Advisory Committee, whose work in 1984-85 includes education projects devoted to high school teachers.

■ Manfred Meier, director of the University Neuropsychology Laboratory and recently appointed director of the Health Psychology Clinic, has been elected to the board of trustees, American Board of Professional Psychology, Inc., for the years 1984 to 1987. Meier also was elected director of the University of Minnesota Psychology Internship Consortium and president-elect of the Division of Clinical Neuropsychology, American Psychological Association.

■ Michael Patton, international programs specialist in the Agricultural Extension Service, has been named the 1984 recipient of the Gunnar and Alva Myrdal Award for outstanding contributions to the improvement of human services delivery through evaluation research and practice.

■ Assistant professor of social work Jean K. Quam has been named to Moorhead State University's board of visitors. Quam, who received MSU's 1984 Outstanding Young Alum Award, will work with 16 other professionals on the board, which is charged with improving the university's services to students and the community.

■ Associate professor of engineering Terrence W. Simon has been awarded an Amoco Foundation Engineering Faculty Grant to support his research activities over the next three years. This program is directed at outstanding engineering faculty members at engineering schools throughout the country.

Waseca: Senior accounts assistant Arlene Bosacker of the Business Office received the Civil Service Award for summer quarter from the UMW Civil Service Association.

■ Professor of animal health W. Clough Cullen presented a paper on "Comparison of Calcium Tungstate and Rare Earth Screens" at the American Veterinary Medical Association meeting in New Orleans. He also chaired the meeting of the Association of Animal Technician Educators, of which he is president.

■ Assistant professor of agricultural business William Nelson presented a paper on "Training and Education Management for Directors, Employees, and Members: The Minnesota Experience" at the National Institute on Cooperative Education held in August at Montana State University. □

RESEARCH BRIEFS

Civic Carp Says 'We Care'

Motorists who leave Minnesota's interstate highways to travel the smaller state roads won't see just a landscape of small towns and farms. They'll see giant prairie chickens and nightmarishly large carp.

Fortunately, these monstrosities aren't genetic mutations on the rampage, they're just oversized roadside sculptures. They're the kind of sculpture that art history professor Karal Ann Marling was seeking in the summer of 1983 when she drove to Baudette, Bemidji, and many other Minnesota burgs in between in search of what she calls roadside colossi.

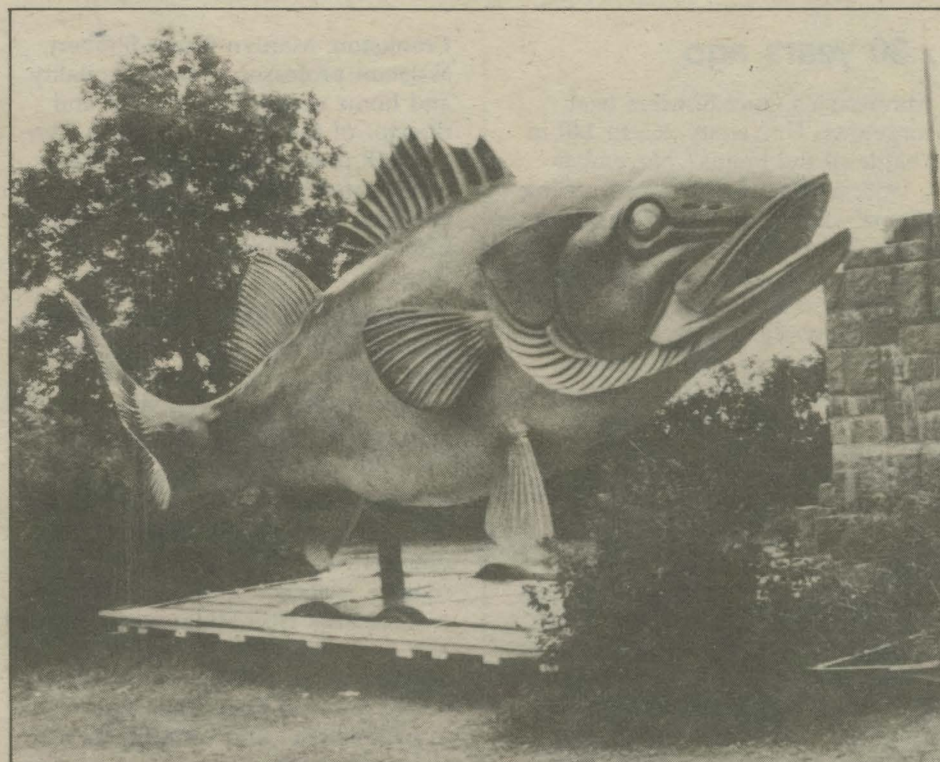
The photographic results of Marling's research, along with her analysis of the phenomenon of roadside sculpture, make up her new book, *The Colossus of Roads: Myth and Symbol Along the American Highway*, which was released this fall by University of Minnesota Press.

Roadside sculpture is everywhere in the United States, said Marling, usually a commercial matter of large hamburger men and mice, tied to restaurants and amusement parks. But in Minnesota and the neighboring north central states of Wisconsin, Iowa, and North and South Dakota, roadside sculptures "...transcend commerce and are oftentimes just plain local civic monuments." Marling said.

Giant concrete loons and 50-foot fiberglass Jolly Green Giants may not seem like standard civic monuments, but Marling believes that to Long Lake and Blue Earth, Minnesota, they are what bronze statues of Confederate war veterans are to small Southern towns.

If this manifestation of civic pride seems tempered by more than the usual amount of humor, well, that's what makes roadside colossi peculiarly Midwestern, Marling suggests. "It's not in the character of Minnesotans or Midwesterners to make a big noise about themselves and say they are terrific," Marling said. "But because the statue is nice and in a pleasant environment—although they always laugh at it a bit—they still know it's nice. I think that's why the themes are often deliberately a little bit humorous—it allows towns to express a pride they would feel strange expressing directly."

A fan of roadside sculptures and other "oddities" some of her fellow citizens would label tacky or kitsch, Marling detests the interstate system and all that it stands for. "The interstate highways are boring— they are sterile, swept clean," she said. "They remind me of empty roads in Soviet Russia—they have a sinister quality to them."


LIZ HARRISON

A giant walleye in Garrison, Minnesota

Marling, who has a joint appointment in the American studies department, approaches art history differently than many of her colleagues. "I'm interested in popular culture," she said, "in what real honest-to-God human beings think and produce, why they do it, and how the rest of us react to it. That's one thing an art historian can do. Another thing an art historian can do is to worry about the *Mona Lisa*. And there are plenty of people who are worried about that." □

UNIVERSITY OF MINNESOTA

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INSIDE

Courting Top Students

The University is using new approaches to beat out the competition for top high school graduates.

Cover

Campus Tours

Your college-bound kid and your out-of-town relatives are invited to visit—free.

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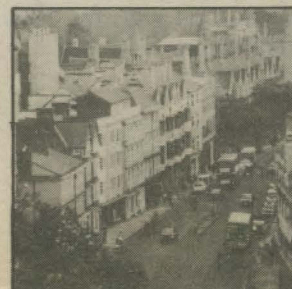
The Rhodes to Oxford

What happens to high-ability students *after* they leave the University? Some of them should be thinking about the Rhodes.



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