REPORT

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January 1982

Payroll People Work Long Hours Putting Raises Into Paychecks

by Maureen Smith
Editor of *Report*

Whenever payroll manager Helen Pladsen interviews job applicants, she asks if they are willing to work overtime. She knows it's better to let people know in advance what they are getting in for.

But even with the warnings, nobody was quite prepared for the long hours they would be working this winter. Beginning early in December and continuing for at least three months, all 14 payroll employees have been working until 10 p.m. three evenings a week and working on Saturdays.

"We've never had anything like this before," Pladsen said. Thirty thousand faculty and staff members have been waiting for salary increases since last July. Now that those increases have finally been authorized, getting them onto people's paychecks is an immense task.

Retroactive increases present the biggest problem, because they have to be figured manually. People who have left the University, or who have taken time off without pay, or who have been docked in pay for any reason all require individual checking. "We'll have six, seven, eight months of changes to check," Pladsen said.

Say that a staff member took off a few days without pay in August. In computing the rate of pay, it makes a difference whether those days were in the first half of the month, when there were 10 working days in the pay period, or the second half, when there were 11.

"We pay on a daily rate," Pladsen said. "If all we had to do was multiply hours by the new rate, it would be easy. The hourly rate would always be the same."

People talk about the University's antiquated payroll system, and plans are under way to modernize it. But Pladsen said that as long as the payroll is on a semimonthly current basis, the problems will persist. "Unless that's changed, we can come up with a very modern system, and it's not going to alleviate the problem we're faced with today."

"People want to point to the computer and blame every problem on the computer, and that's unfair," said personnel services manager Roger Forrester. "We have an extremely complex system for paying people, and it's very difficult to program the computer. We often have more exceptions than anything else."

Plans to move the University to a biweekly payroll were put on hold a little over a year ago. The plan had strong support in some quarters, strong opposition in others.

The most controversial part of the plan was to pay civil service employees on a delayed basis. In an interview in late 1979, Forrester said a delayed payroll was needed to eliminate inaccuracies. Because payroll information has to be submitted before the end of the pay period, departments make assumptions about the hours that staff members will work, and those assumptions often turn out to be wrong.

The problem was that in the transition from a current to a delayed payroll, employees would have received one check that was smaller than usual, and many of them protested. The issue is still unresolved.

"Now we are regrouping and doing some new planning," Forrester said. "It is interesting that right now we are seeing vividly some of the weaknesses of the current system. Our intent is still to have an improved system."

Tom Foley

Helen Pladsen: "I'm a firm believer that I will never ask the staff to do something I can't or won't do myself....They're really a good bunch of people. Their morale is high. They think they can do it, and they want to prove they can do it."

A good bunch

In the crunch of working 14-hour days, Pladsen thinks the payroll staff has a couple of things going for it. For one thing, she thinks the staff is the best she has ever worked with in her almost 20

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On the Inside

Threat of Fiscal Exigency Looms

by Maureen Smith
Editor of *Report*

Governor Al Quie's veto of a legislative package of budget cuts and tax increases leaves the University's financial future uncertain.

Quie's plan for dealing with the state budget deficit includes a cut of $63.7 million for the University in the next year and a half. The bill that he vetoed, worked out in a legislative conference committee at the end of the special session, called for a cut of $19.6 million. The regular session of the legislature begins January 12.

Neither story would be a happy one—a $19.6 million cut or a $63.7 million cut—but University people agreed that the larger cut would be crippling.

One phrase—financial exigency—was heard again and again in legisative testimony and at campus meetings throughout December. At some point, which Vice President Stanley Kegler said was "just a hair beyond $20 million," the budget cut would be so deep that a state of financial exigency would have to be declared and tenured faculty members laid off.

A declaration of financial exigency would be "a catastrophe" and would lead to "the virtual blacklisting of the University as an academic marketplace," said Richard Purple, professor of physiology and vice chair of the University Senate. It isn't just that some tenured faculty members would be laid off, but many of the best faculty members would leave the University and promising young scholars would stay away.

Kegler and other University officials have said that painful but possible budget cuts up to $12 million could be made before an emergency would have to be declared. With some added revenue from tuition, a reduction in state funding of $20 million could be accommodated.

Because even the most favorable scenarios now include budget cuts of $12 million, plans are under way to take those cuts.

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Compass Points Scientist in New Research Direction

by Maureen Smith
Editor of *Report*

Subir Banerjee didn't have any idea what he was starting when he signed up to teach a class a few years ago on William Gilbert's work on the magnetic compass.

The class, offered through the Honors Program in the College of Liberal Arts, was a change of pace for Banerjee, a professor of geophysics. He thought students would be interested in the work of Gilbert, physician to Queen Elizabeth I. Gilbert discovered in 1600 that the earth as a whole behaves as a magnet. People earlier believed that a compass needle was drawn to some mythical magnetic mountains in the north.

As a result of the interest sparked in that class, Banerjee found a new direction for his own research. "I was happy with Gilbert," he said. "It was the students who pointed me to earlier sources." Students in the class looked for early European and Chinese references to the magnetic compass, and Banerjee went to work on Arabic sources.

He thinks he has uncovered some material that could change the way people view the development of the magnetic compass across cultures. The old story was that the Chinese were the first to discover the compass, that they gave it to Arab sailors, and that the Arab sailors gave it to Italians. "When I started, that story was in my mind," Banerjee said. "It had never been researched. I just thought I'd find the connection."

Now Banerjee isn't so sure that the compass was borrowed from one culture to another. He thinks it more likely that the first Arabic scientific compass was an independent discovery.

The Chinese had a compass way back in the first century, Banerjee said, but it was not a useful scientific compass. It was simply south-pointing and was not used for finding other directions. It was not until the 12th or even the 13th century that the Chinese had true compasses, he said, and Europeans and Arabs may have had them at about the same time.

Banerjee, who had to take an intensive course in Arabic before he could begin the study, is working with a manuscript describing the compass of Sultan al-Ashraf I of Yemen in the late 13th century. This Yemeni manuscript was sent to him by someone who found it in Cairo.

What impressed Banerjee about Ashraf was that "he takes a great deal of care to describe the construction of the instrument, to point out sources of error," and to point out "that the tip and the eye of the needle *seek* true north and true south but do not point to them exactly." Banerjee knew he was reading the observations of a real scientist. "I was very excited, because this is 1295 or 1296, at least 100 to 150 years before such deviations were appreciated in Europe."

A 15th-century compass that Banerjee had studied earlier turned out to be disappointing because the writer, an Arab master mariner, knew that compass north is not the same as true geographic north, "but he thought this was a defect in the needle and didn't think it was a real observation."

The primary direction for both Ashraf and the Arab mariner was north, not south as in the Chinese compasses.

One reason Banerjee does not believe the Arabs borrowed their compasses from the Chinese is that the Chinese compasses had 24 cardinal directions and the Arabic and European compasses had 32. "It seems to me that we are talking about different traditions," he said. "If somebody says something has been borrowed, they should show much more similarity."

There may be a connection between the Arabic and European compasses, he said, but there is no evidence to show which was first. "We spend too much time establishing primacy, getting bogged down with who had something first. What I'm looking at is how did the Arabic compass evolve."

Scholars too often become advocates for the cultures they study and then jump to favorable conclusions, Banerjee said. "I am very careful that I don't do this. I don't think yet that the Arabs gave the compass to the others because I don't see any evidence." But without any evidence of borrowing in the other direction, he said, "we should at least give them the benefit of the doubt that they did their own thing."

Evidence of a link may still be discovered, Banerjee said. "As in every other scientific endeavor, I must be ready to change my mind if something new turns up. We have to be careful, because absence of evidence is not evidence of absence."

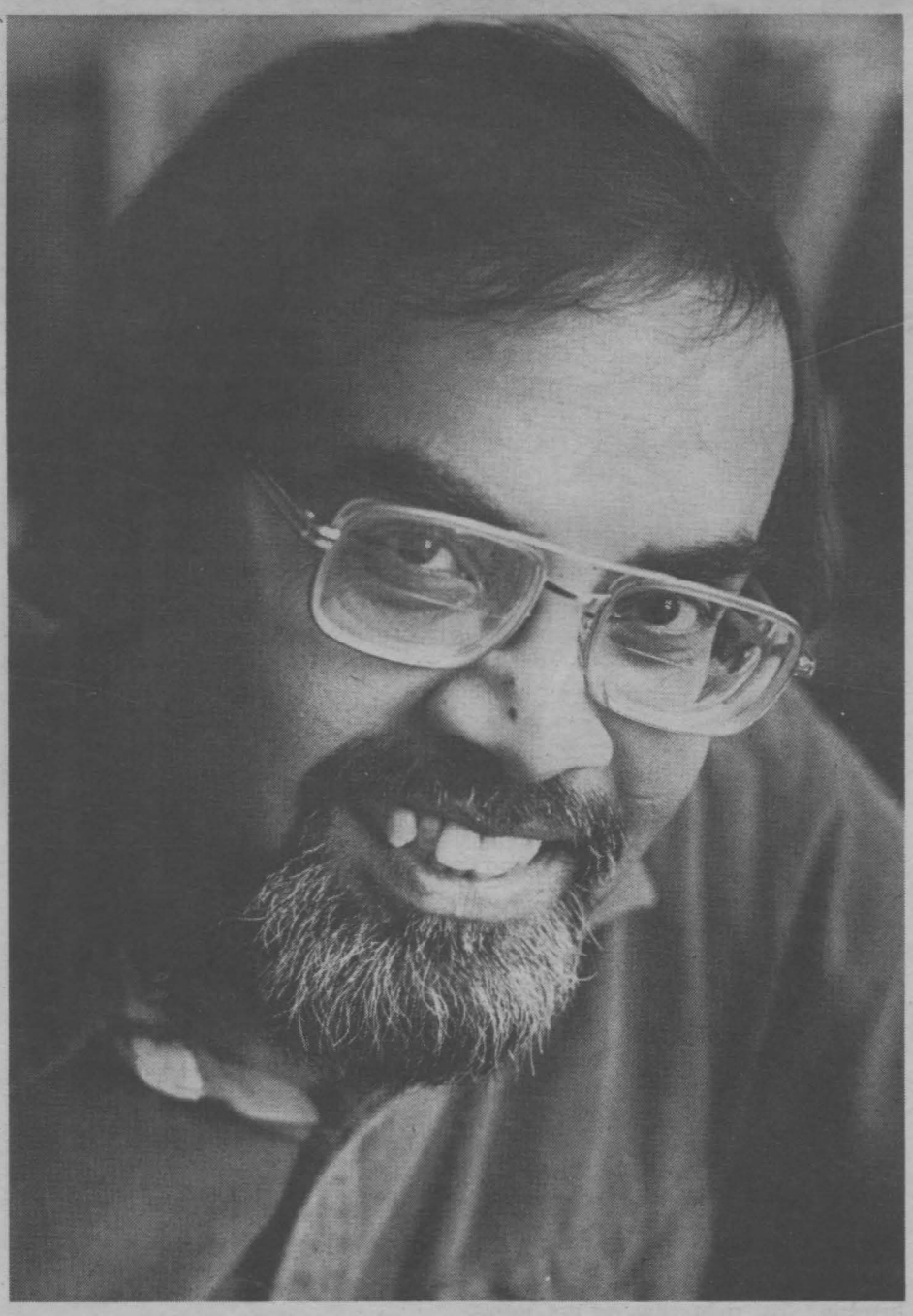
As a geophysicist, Banerjee has found some resistance to his working in the history of science. When he applied for a grant from the National Science Foundation, members of the review panel called his proposal the best in a long time from a scientist but judged that he did not have the background to work in the history of science. "They broke my heart by damning with faint praise," he said. (But it was the one reviewer who was most favorable to the proposal who discovered the Ashraf manuscript in Cairo and sent it to Banerjee.)

"I often wonder how I would review a proposal from a historian to do research in geophysics," Banerjee said. But Roger Stuewer, coordinator of the program in the history of science and technology in the Institute of Technology, has encouraged Banerjee in his research and tells him that the trend is for more work in the history of science to be done by scientists. I. A. Sabra of Harvard, who is perhaps the doyen of Islamic science in the United States, has been a strong supporter of Banerjee's work. Banerjee calls Sabra his "thesis adviser."

Banerjee derives satisfaction from remembering that it was a group of bright students who pointed him in a new research direction. "People say we must do research because it helps teaching," he said. "What I find very exciting is that in this case it was teaching that gave rise to research."

An unexpected personal reward for Banerjee has come from learning more about Islamic culture. "I'm not a Muslim," he said. "If anything, when you grow up in India as a Hindu you are told mostly negative things about the Islamic civilization. It has given me a great deal of personal satisfaction to be suddenly discovering my other heritage. We Indians are part Hindu and part Muslim in terms of our heritage. My research has been opening doors for me that I wouldn't normally go into." □

Tom Foley



D'Andrea and His 'Portrait' Featured in PBS Documentary

by Judith Raunig-Graham
University News Service Writer

Academicians don't often see a mantle of celebrity settling on their shoulders, but humanities professor—and playwright—Paul D'Andrea may feel the weight this winter.

Last year D'Andrea's *A Full Length Portrait of America* was staged and shared first prize at the Actors Theatre of Louisville New American Plays Festival. Now the play will be excerpted and D'Andrea will be interviewed in an hour-long Public Broadcasting Service documentary on the festival that will air nationwide January 27.

Members of the PBS staff interviewed D'Andrea during rehearsals of *Portrait*, on opening night, and at the airport and even flew a crew to Minneapolis, where they filmed him playing soccer with his children at his south Minneapolis home.

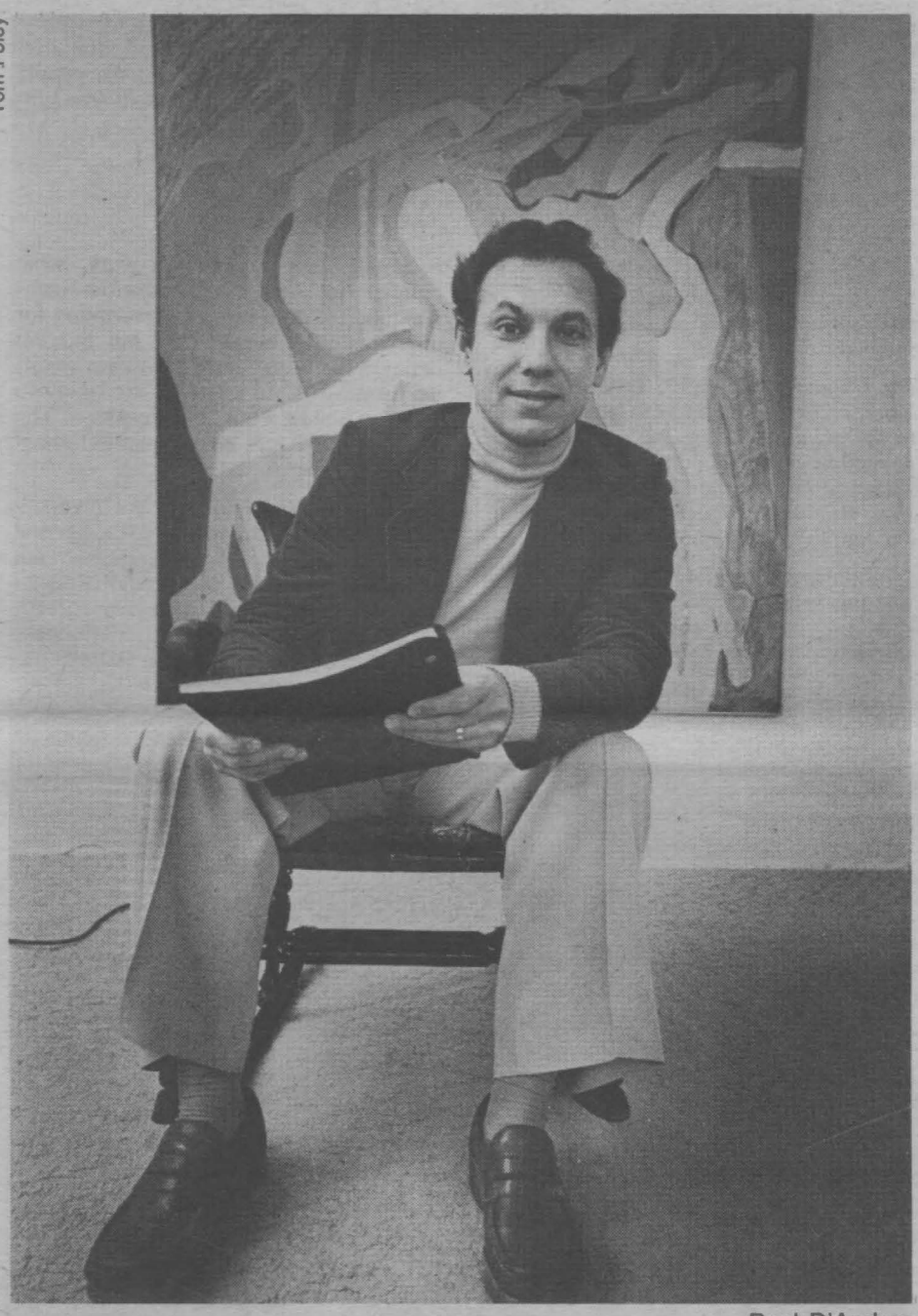
Approximately 350 professional guests attend the festival, including critics from *Time*, *Newsweek*, the New York *Times*, the Los Angeles *Times*, and papers in England, Italy, France, Germany, South America, and Africa. All the television networks and Hollywood studios are represented. Two plays that later won the Pulitzer Prize were first staged there.

"When I saw the finished documentary I was overwhelmed," D'Andrea said. "The producer had compressed into color footage all the experiences I'd lived through during production [of the play] and during the festival. It was astonishing to have that come back at me in a documentary. It depicts the mounting of a play very well."

A Full Length Portrait of America has a cast of six, but centers on an older black couple at Preservation Hall, the famed jazz emporium in New Orleans. The woman, who is 75, announces that she is going to have a baby that night. Then the hall is attacked by a 40-ton orange bulldozer that is in the process of leveling the United States.

"I am quite consciously going against the general tendency in American theater of diagnosing ills," D'Andrea said. "This play doesn't do that. It treats an unusual and wonderful achievement."

Tom Foley



Paul D'Andrea

The theme of *Portrait* is that peculiarly American resources can be brought together to release creative energy that is needed in society, he said.

"I think that people are tired of endless diagnosis of social ills and are looking for a creative dimension in many forms of art. People are eager for something of significance and are tired of failed relations, which has been the norm."

Portrait shared the $3,000 first prize with Ken Jenkins's *Swop* at the festival, which is considered by many critics to be the most prestigious theater festival in the country. It also is the best-attended theater festival in the world.

Featured with D'Andrea on the PBS documentary, "Write On: The Fifth Annual Louisville Festival," are three other contemporary American playwrights: Jenkins, Wendy Kesselman, and William Mastrosimone.

But the documentary, which will air in the Twin Cities on channel 2 at 9 p.m., is only one of several measures of the success D'Andrea is currently enjoying.

Portrait goes into a five-week run at the Julian Theatre in San Francisco January 22. A play he is currently writing, *Philip and Felicity*, will be staged on campus in the Experimental Theatre at Rarig Center at 8 p.m. February 1 and 2 and at 5:30 p.m. February 3. It will be directed by graduate student Toni Nebel.

Lumbuh Yard, a play D'Andrea wrote for radio, was recently published in the University's *Fall-Out* magazine. It will be broadcast over KSJN radio in April.

Finally, Samuel French, considered one of the theatrical world's most significant publishers, recently published D'Andrea's *The Trouble With Europe*. The publisher doesn't accept a play unless it has had a successful production history, and publication by French ensures that a play will be produced regularly.

The Trouble With Europe was staged at the Mark Taper Forum Theatre in Los Angeles in 1979 and at the Phoenix Theatre in New York in 1980. Approximately 9,000 persons saw those productions, D'Andrea said. Many notables have been connected with the Phoenix, a major off-Broadway theater, including Ellis Rabb, Tyrone Guthrie, Hal Prince, John Houseman, and Meryl Streep.

It was with the staging of *The Trouble With Europe* that D'Andrea made his real breakthrough as a playwright. He wrote about 14 plays over the past 14 years, but only three others had been produced. The first one, staged at Hull House Theatre in Chicago in 1968, was his second play, *They Reach for His Gun*. Two radio plays were broadcast over National Public Radio and the BBC in the mid-1970s.

To date D'Andrea's work has not been mounted in the Twin Cities, but he says there is interest now that he has had some success.

D'Andrea credits the Humanities Program with stimulating and fostering his creativity. A lot of ideas come from reading related to his teaching, he said. "I teach inherently interesting courses in which we talk about a wide range of ideas. This department has a track record of nurturing creativity. We've had both Saul Bellow and John Berryman here."

It takes D'Andrea about three years to write a major play, which, he says, is long by most playwriting standards.

"I put a lot of conceptual material and images into a play and then have to boil a lot of that out and simplify the dramatic effect," D'Andrea said. "It's a process that takes all the energy you can give it." □

REPORT

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New School of Economics Gives Public High Marks

by **William Hoffman**
Associate Editor of *Report*

It is a simple matter to dismiss the public as a fool when you disagree with this or that opinion poll. But in the area of economics, the public is far wiser than the experts have allowed.

That's the view of a new school of economists, including several University faculty members, that is advancing a revolutionary theory about how the economy works. Called "rational expectations," the theory is winning adherents in academic and financial circles and represents perhaps the boldest challenge to contemporary economic thinking.

One of those economists is Twin Cities campus professor Thomas Sargent. Sargent and Robert Lucas of the University of Chicago are editors of *Rational Expectations and Econometric Practice* published last fall by the University of Minnesota Press. The book is the first collection of research papers on the subject—a "bandwagon" designed to provide a framework for a theory that is, at bottom, remarkably simple.

Giving people credit

Rational expectations assumes that people behave in their own best interests when they make decisions about how to spend their money. Now there's nothing new or grandiose in that notion. Indeed, it goes all the way back to Adam Smith. Yet through the 1960s and '70s, proponents argue, government economic policy depended on people *failing* to act in their own interests.

Next, rational expectations assumes that people make economic decisions only after having taken into account available forecasts. That is to say, they form their expectations rationally and they do not repeat their mistakes.

Rational expectations economists contend that the recent decade of economic "stagflation"—high inflation, high unemployment, and low productivity—was a result, in part, of people having learned from their mistakes of the 1960s. Those mistakes included the failure of organized labor to anticipate the consequences of government policies to expand the economy. While consumers and business firms seemed to have more money to spend—because government had either cut taxes or increased the supply of money—labor was locked into long-term wage contracts and suffered a decline in real wages.

Once labor began to shorten contract periods and link wages to the cost-of-living index, government expansionary policies ultimately failed.

Put simply, the idea of rational expectations is that if people see a surge in the money supply or a tax cut coming, they will act in their own best interest: Labor, expecting the demand for consumer goods to rise (people find themselves with more dollars than before), will press for higher wages. Business firms, perceiving the rise in demand, will be willing to pay them, but will also raise prices.

When the "extra money" arrives, its intended effects of boosting productivity and lowering unemployment will already have been counteracted by higher wages and prices. Instead, the economy becomes increasingly inflationary.

During the early 1960s, when the ideas of British economist John Maynard Keynes were put into practice, government economists were able to stimulate the demand side of the economy and produce growth. By the early 1970s, Keynes's prescription had crossed political boundaries. "We're all Keynesians now," Richard Nixon remarked.

Then business people, labor leaders, workers, investors, and consumers got on to the government's game, and their expectations of an economy that was overspending and overborrowing were not so rosy. Once their expectations changed, so did the economy—for the worse.

"People recognize the truth and stop making the same mistakes," Sargent said. "When they do, they eliminate the planned effects of the policy."

Government policies based on deception or "trickery" are likely to be ineffective over the long run, Sargent said. The government cannot fool most of the people most of the time, to paraphrase Abe Lincoln.

What to do?

If Keynesian policies don't work, what policies do? Rational expectations theorists don't have a precise prescription for our current economic ills, but Sargent believes that "only stable policies, familiar to most of our citizens, are likely to produce stable, beneficial results." The government should be very careful about "untried experiments."

Sargent and Neil Wallace, a University colleague and fellow adviser to the Federal Reserve Bank of Minneapolis, do not think that the world of rational expectations requires a rigid monetary theory, only that the growth of the money supply must reflect some long-term strategy familiar to the public.

In fiscal policy, however, rational expectations theorists see nothing quite so pleasing as a balanced budget. But Ronald Reagan's preoccupation with the supply side of the economy is bringing to grief his promise of a balanced budget in 1984.

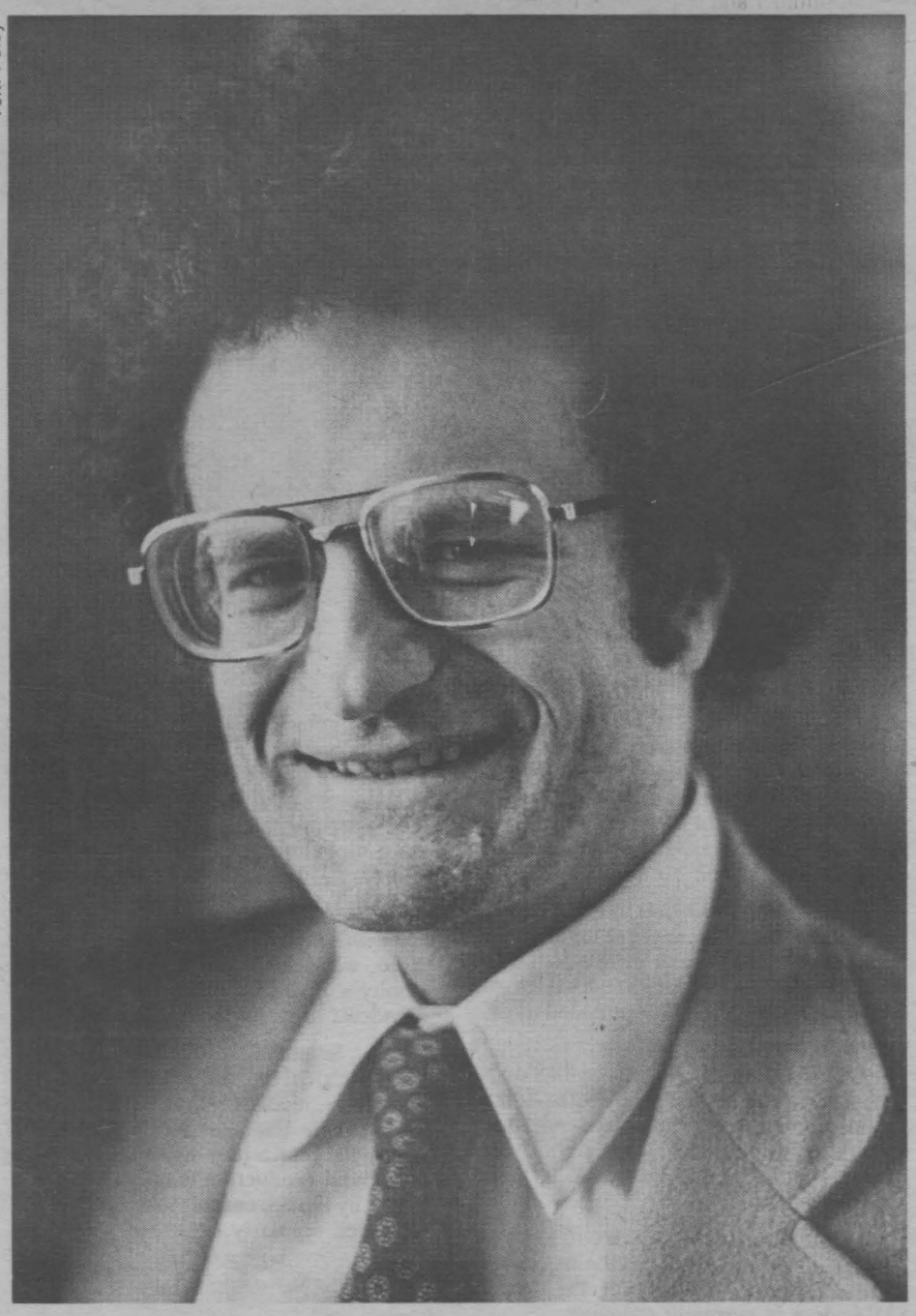
Supply-side economics, which counts on large tax cuts to stimulate investment, which in turn is supposed to boost productivity and lower inflation, "isn't trickery. It's wishful thinking," Sargent said. While it is true that taxes "distort incentives," it doesn't necessarily follow that lowering taxes will boost productivity and lower inflation, especially if tax cuts create a deficit.

In a newspaper article, Robert Lucas asked rhetorically: "Is the general principle being advanced that taxes must always be reduced, independent of the effect on the deficit, because all taxes have disincentive effects?"

According to Sargent and Wallace, there is little evidence that taxes have reached such levels that they are undermining investment and fueling inflation. "I don't think most tax rates are at that point," Wallace said. There are all kinds of incentives to invest, he said.

President Reagan's policy announcements "are not internally consistent," Sargent said. "He wants to reduce taxes, increase defense spending, and balance the budget at the same time." These goals are not compatible under the present circumstances, he said.

Tom Foley



Thomas Sargent

Gold bugs

Supply-side guru and White House consultant Arthur B. Laffer recently called for a return to the gold standard, citing Sargent's own research findings as evidence that such a move would stop inflation.

In a study of four hyperinflations following World War I, Sargent observed that German, Hungarian, Austrian, and Polish currencies, which were not on the gold standard, "stabilized" only after excessive government borrowing ceased and the budgets were brought into balance. Increases in economic output and employment followed.

Laffer suggested that a return to the gold standard, in which money is wholly or partially backed by gold, would produce similar results in the United States, which went off the gold standard completely in 1970. But Sargent believes that a sound fiscal policy is the key to a stable currency.

"In order to make a domestic currency freely convertible into gold, or into any foreign money for that matter, it is necessary that the government run a fiscal policy capable of supporting its promise to convert its debt," Sargent wrote in a related article.

"What backs the promise is not only the valuable stocks of gold, physical assets, and private claims that the government holds, but also the intention to set future taxes high enough relative to government expenditures."

In other words, a currency need not be based on gold to be as good as gold. Once it is good as gold, converting it is little more than a formality.

A return to the gold standard now could be chaotic. "This country couldn't go back to gold right now if it wanted to," Sargent said. Without an appropriate fiscal policy—a balanced budget—"our gold supplies would soon be exhausted and there

would be a run on the dollar.''

According to Sargent, there are two main sources of inflation, a ''good'' one and a ''bad'' one. The bad one is ''the persistent government deficit.'' It is possible to eliminate the deficit by either raising revenues or cutting expenditures, ''and rational expectations theory is neutral as to how it gets done,'' he said.

The good one, and one the government ''doesn't necessarily want to change,'' is electronic innovation in the financial industry—electronic funds transfer and computerized bookkeeping. These innovations ''have resulted in less money needed to carry on a given transaction. This leads to a reduced demand for money, which in effect increases supply,'' Sargent said. It is a good type of inflation ''in that it makes payment mechanisms more efficient.''

Models and critics

Macroeconomists, who study the operations of the nation's economy as a whole, rely on econometric models to forecast economic trends. These models are masses of mathematical equations that seek to portray all the workings of the economy.

Through the 1970s, the models performed dismally. Forecasts based on them sometimes were so wide of the mark that they were worse than useless, according to Lucas.

The kinds of theories used in forecasting ''haven't been very good,'' Wallace said. Lucas and Sargent go further: they say that econometric models, as they are presently constructed, are of no use in guiding policymakers.

Individuals are constantly changing their expectations in response to a changing economic environment, and the current models fail to take this into account. Lucas and Sargent hope that their book will be useful for economists who are interested in constructing new econometric models.

Rational expectations is not without its critics. One of them is Walter Heller, Regents' Professor of Economics who was head of the Council of Economic Advisers under Presidents Kennedy and Johnson.

Heller engineered the 1964 tax cut that brought years of economic growth and low unemployment and narrowed the gap in the federal budget as rising national income produced more tax revenues. As a result, the prestige of Keynesian doctrine soared.

Rational expectations is a brilliant intellectual exercise by brilliant faculty, Heller said. ''The fundamental question is whether people have the economic understanding and information to respond in the way that they [rational expectations theorists] suggest.'' It imputes a perceptiveness that people have never shown before, he said.

The theory has a long way to go before it can be translated into useful policy that ''can stand up on the firing line,'' he said.

Sargent, Wallace, Lucas, and company might not entirely disagree with the latter remark. Economic theories do not become orthodox overnight, and rational expectations is not 10 years old. Nearly 30 years elapsed between the publication of Keynes's *The General Theory of Employment, Interest, and Money* and the Heller-directed economic boom of the 1960s. □

World's Largest Underground Energy Storage Project Begins

by Jeanne Hanson
University News Service Writer

Engineers and geologists on the Twin Cities campus are creating an underground heat storage bubble to test the feasibility of saving summer waste heat for use in colder months.

In the first stage of the largest experiment of its kind, water heated to 212 degrees was just pumped 820 feet underground into a thick layer of slow-moving, well-insulated watery sand called an aquifer. Some 80 percent of the heat should be recovered when the water is withdrawn.

Because nearly three fourths of all major American cities lie over aquifers of some kind, this method of storage of heat energy has great potential for solar and district heating, said engineer James O'Gara, director of the aquifer project. Smaller projects using cool water have begun in Stony Brook, New York, and with warmer water in Bethel, Alaska, at Auburn University in Alabama, and in several European and Far Eastern countries. Minnesota's is the only attempt to test the feasibility of injecting heat in summer and retrieving it for use in winter.

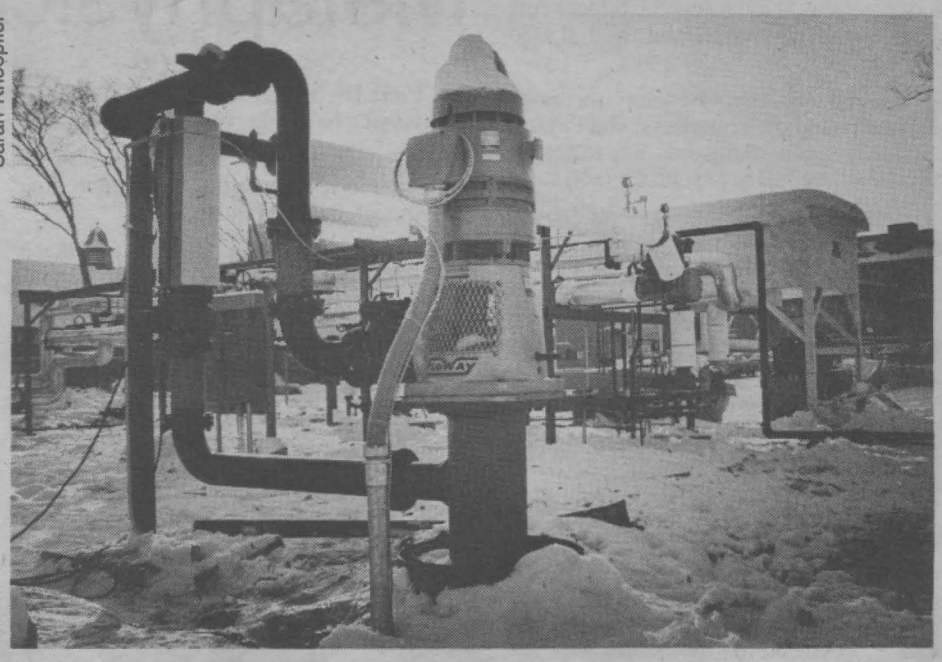
In the first stage of the experiment, 54-degree water is being withdrawn from the aquifer, heated to 212 degrees, and then injected into the aquifer at a second pump site 800 feet away. Although the project is designed to test the feasibility of utilizing waste heat, the temperature of the water used in the experimental stages is being raised by conventional heaters.

In eight-day cycles, the water will be recovered and the heat removed by a heat exchanger between the wells. This massive pipe system extracts and measures the heat both before and after it is stored in the aquifer.

Eventually project engineers hope to pump water heated to 302 degrees into the ground at the rate of 300 gallons per minute and withdraw it 180 days later, creating a 5-megawatt thermopower system. At that point, O'Gara said, the University will decide whether to ask the federal Department of Energy to fund a full-scale demonstration of the summer-to-winter heating system that could eventually save 30 percent of the raw energy costs for the St. Paul campus.

The pilot project, which has received nearly $2 million from the energy department's Battelle Pacific Northwest Laboratory, should be paying for itself by 1985 or 1986, O'Gara said. The technology should then be transferable to utility companies, large solar energy concerns, and other large users across the country where slow aquifers of the right porosity are found.

Sarah Knoepfler



Heated water is being pumped underground at the corner of Fitch and Gortner Avenues on the St. Paul campus. The equipment includes an eight-foot-high pump and a heat exchanger (a pipe system about the size of two rooms).

The Minnesota project is being done in stages so that environmental conditions can be monitored carefully, O'Gara said. The first heat bubble is expected to be hourglass shaped and cover an area 40 feet in diameter within the thousands of square miles of the Franconia-Ironton-Galesville aquifer, which extends into four states. A slatted screen on the injection cylinder is drawing clean water from and returning it to the aquifer, without contaminating it with materials from the layers of glacial drift, shale, sandstone, dolomite, quartz, and less-pure water it passes through. Nine monitoring wells are being used to check water quality at points in the aquifer near the storage site and at water supply sites some 800 feet apart.

The pumping will not drain the aquifer of a single gallon of its extraordinarily clean water. ''What comes out goes back in. Only heat is added,'' O'Gara said.

The heat bubble should be stable, he said. Like a thermos bottle, it is well insulated within a ''sandwich'' of clay layers. Any change in temperature, pressure, or flow rate will register immediately on displays and alarms at the surface. These devices will be monitored constantly by teams from the Minnesota Geological Survey under Matt Walton and the U.S. Geological Survey under Robert Miller. Information about such changes would be transmitted to the Minnesota Pollution Control Agency, Department of Health, and Department of Natural Resources, which are regulating the project.

Probably the most complicated problem of water chemistry in the project is under study by Steve Eisenreich, professor of civil engineering, and Tom Holm, visiting professor in the department. They are looking at the possibility that grains of the sandstone and other rock particles permeating the aquifer will dissolve from the heat and form new minerals such as calcite, dolomite, and muscovite. These minerals might then clog the aquifer in the well area. As the water is brought up and cooled within the heat exchanger, these minerals could also form scales there and interfere with operations.

One of Eisenreich's graduate students has begun heat treatments of rock grains from the storage area. Groundwater sampling is also beginning. Soon, the slight movement of heat and water within the aquifer should be measurable too.

But potential problems do not compare to groundwater contamination by toxic chemicals in other areas, Eisenreich said. This aquifer was chosen out of many under the Twin Cities area because it lies very deep and moves very slowly. Only one well in the area reaches it, O'Gara said, so that pumping has not changed water pressures, which can increase the flow rate of aquifers.

''The worst case is that this aquifer might get plugged in one small area, wasting the months of drilling,'' Eisenreich said.

''In this project, any contaminants would be discovered and easily pumped out. Every precaution is being taken,'' said Brad Sielaff, soil scientist at the Minnesota Pollution Control Agency. □

CAPSULE

■ A bill passed by the special session of the Minnesota Legislature included a budget cut of $19.6 million for the University, but Governor Al Quie said the budget cuts should be larger and vetoed the bill (see story on page 1).

■ The regents approved salary increases for faculty and staff members, and Payroll employees are working overtime to get the raises onto people's paychecks (see story on page 1).

■ Selective divestment of holdings in companies that do business in South Africa has meant that in two years the University has foregone financial gains of at least $500,000 by not investing in 15 companies that have not signed the Sullivan Principles, Vice President Frederick Bohen told the regents. Despite the loss, Bohen called the regents' policy "fundamentally sound" and recommended that the board stick with it.

■ The University Hospitals governing board last month called for a 30-day reevaluation of the financing plan for the $175 million hospital renewal project. Al Hanser, chairman of the board, said the move "in no way signifies any lessening of our commitment" to the project.

■ No progress has been made toward a satisfactory contract for the Gophers to play football in the new domed stadium, President C. Peter Magrath told the regents. He said the current fiscal situation makes him more sure that he would not recommend going to the dome if it will cost the University money. If no agreement is reached by March 1, the team will play in Memorial Stadium next year.

■ A five-month-old boy received a kidney from his father in a transplant operation December 9 at University Hospitals and is "doing very well," said John Najarian, chief of surgery. Philip John ("P.J.") Streunse is believed to be the youngest child to receive a kidney from a living adult donor. The kidney will shrink for a while and then grow with the child.

■ The University Senate voted 71-50 last month in favor of a resolution presented by John Turner, a senator from the College of Liberal Arts. The key clauses are that the new vice president for health sciences not be a member of the budget executive and that the vice president report to the vice president for academic affairs on academic matters.

■ President Magrath stressed the need for student financial aid and research funds in testimony last month at the U.S. House of Representatives Budget Committee field hearing in Minneapolis. Research funds were relatively well protected in the first round of federal budget cuts, he said, but he is worried about the second round.

Roger Jones: Physicist as Metaphysician

by Paul Dienhart
University News Service Writer

It is Roger Jones's stated intention to "restore to respectability the ancient profession of metaphysician."

A good metaphysician is hard to find these days. Subjects like the nature of being and the problems of ultimate reality are a bit broad for today's professional specialties.

There was no indication that Jones's career would take this turn when he earned a Ph.D. in physics in 1961. He began research in experimental high-energy and elementary-particle physics at the Laboratorio di Frascati in Italy and at Brookhaven National Laboratory in Upton, New York.

It was not until he joined the faculty on the University's Twin Cities campus that Jones's metaphysical tendencies were revealed. The first subtle indication was when he helped found the Experimental College in 1970. For eight years this unit helped students who didn't fit the bounds of traditional majors plan degrees that stretched across several fields of study.

Then Jones began work on a book, *Physics as Metaphor*, which will be published by the University of Minnesota Press this spring. Not a science text, it is blatantly metaphysical.

"As a practicing physicist," Jones writes, "I had always been vaguely embarrassed by a kind of illusory quality in science and had often felt somehow part of a swindle on the human race."

Jones's problem with traditional scientific thought and education is that it ignores the creative role of human consciousness. Instead, there is the assumption that truth comes solely from an objective understanding of the physical world.

"I think that, like many people who are drawn to study science, I had a spiritual motivation, a sense of awe about nature," Jones said in an interview. "In the course of graduate school and research in physics, I began to feel I was missing something. My initial inspiration for studying physics had something to do with trying to understand the reason for being. But questions like 'What am I? What is my purpose? What is the meaning of the universe?' are judged irrelevant. Science education amounts to an indoctrination against asking these questions."

Eliminating these questions is one reason science works so effectively, Jones said. The experimental method is to limit variables. Then, ideally, the results of discrete experiments are used to build a more comprehensive view of nature. But Jones argues that this process of putting things back together is seldom completed: "What has made science so successful has given us a very narrow view of life."

Perhaps that sense of something missing is most apparent in physics, the most materialistic of the sciences. At any rate, a number of famous physicists from Einstein to Heisenberg to Oppenheimer have injected religious considerations into scientific research.

Jones's book expands those materialistic considerations to create metaphors for human experience. Concepts like space, time, and matter are explored from the perspective of what our being and existence feel like to us.

The nature of this inquiry is subjective, so first Jones undertakes to show that objectivity in the sciences is a myth. His aim is not to downgrade the work of scientists, but to reestablish the importance of human consciousness and imagination in the world we live in.

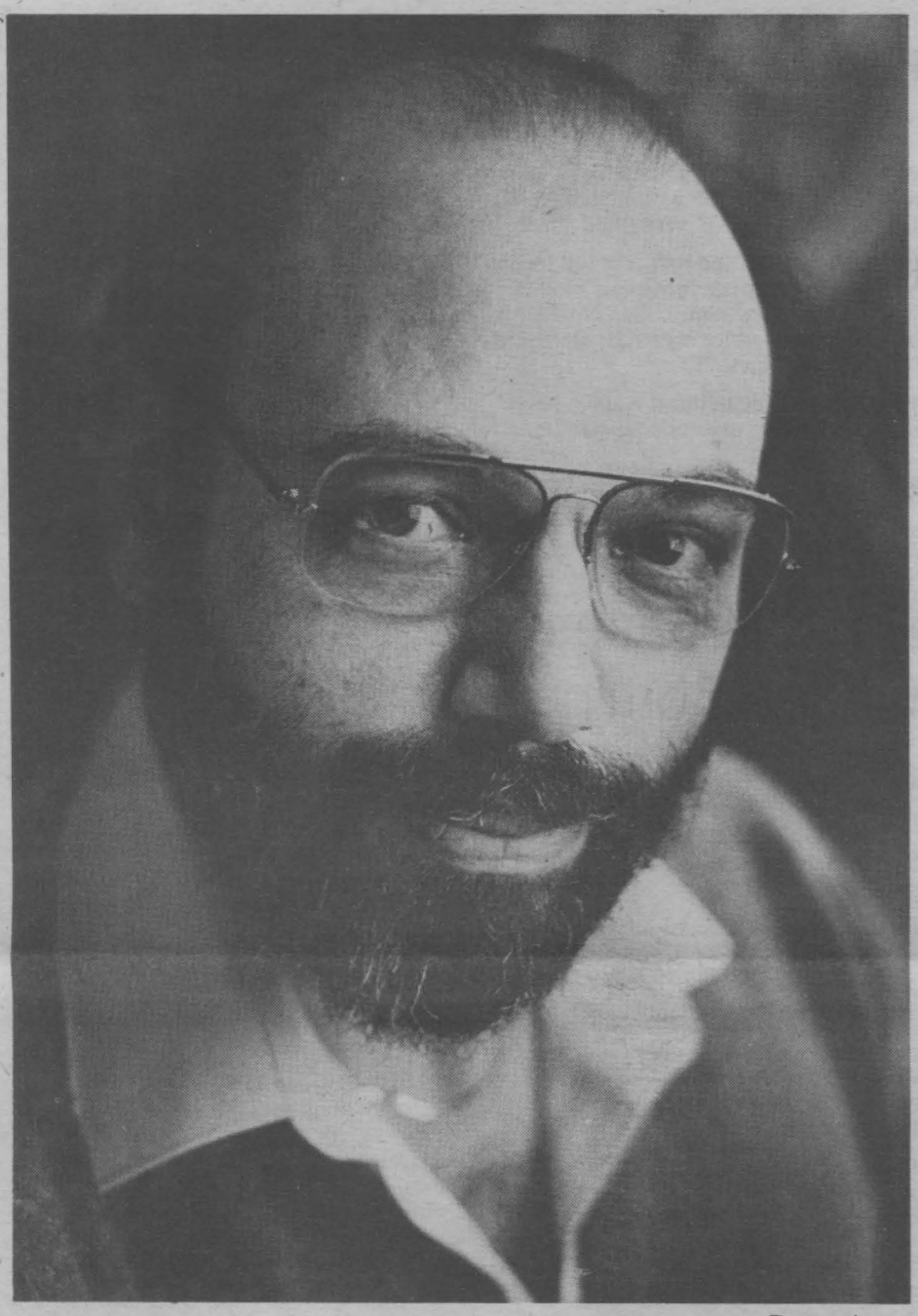
"We are not cool observers of the world, but its passionate creators," he writes.

Some of the most abstract physical principles leave the stamp of human consciousness on physical "reality." Werner Heisenberg's uncertainty principle states

Mike Norman

Physical descriptions of space, time, matter, and numbers usually avoid considering the connection of humans to the world. Roger Jones attempts to show in his new book, *Physics as Metaphor,* that physical science contains artistic expressions that can give human existence purpose and meaning. The illustration, from the book, is by Mike Norman.

Tom Foley



Roger Jones

that it is impossible to determine the position of an atom without disturbing it so violently that its whereabouts an instant later will be completely unknown. And the ultimate constituent of matter, the quark, is a figment of the mind. Appropriately, its name comes from James Joyce's *Finnegan's Wake*.

"Science's claim to objectivity rests ultimately on its ability to make exact and reproducible measurements," Jones writes. But even measurement is subjective, if it is taken far enough, Jones states, citing the uncertainty principle.

"Wait a minute," Jones anticipates his critics saying, "physics works so what do we care about these philosophical distinctions?" He replies that science works because it predicts according to a system set up by the human mind. Causal laws constitute a "stacked deck," a mental creation that is as much a work of art as of science.

It is the tendency to view science as the repository of objective truth—something that the human mind can learn but not create—that leads to the neat division of science and the humanities, what British novelist and scientist C. P. Snow dubbed "the two cultures." And try as he might, Snow could not convince himself that the culture with objective truth on its side was not superior.

"We tend to accept the scientific view," Jones said. "We think of the inner world as subjective and much less valuable than the real world. It has made us give up our experiences as invalid and think about the external world as something that has a higher level of meaning."

The delusion is making the separation of the two cultures, Jones said. Science does not exist apart from the mind, and our experiences of reality do not exist apart from dream, myth, art, our psychological and spiritual states, and our creative imaginations. "We shall find new life in science when it stops masquerading as an objective body of knowledge and reveals its subjective nature," Jones said.

For example, the standard scientific view of time is that it is a steady, relentless flow against which principles of cause and effect take place, Jones said. We apply that view to our lives by giving time causal properties. Life becomes a linear movement toward shifting goals. The Western notion, at least until recently, is that our collective motion is toward "progress."

In medieval times, people thought of time as cyclic, an accumulation of experiences repeated in variations, Jones said. Time, the passage through life, was more like being on a ship at sea than on a train on a track.

Because science is concerned with predicting things, it makes causal time more important than the other ways people can experience time, Jones said. "We pretend to understand our experience of time in terms of science's linear progression. This is not an explanation at all, but simply one description of time. Science really can't explain what time is, so it rejects the question.

"The contributions of science are many and great, but I think we are reaching a point where we are beginning to realize that a strictly objective view of the world is inadequate. It leaves out too much of what people need in the way of meaning and purpose and value."

Jones suggests that science courses should pay more attention to the philosophical and historical aspects of scientific discovery: The connections between science and other areas of study should be made more apparent. Some scientific publications should indicate the personal motivations or subjective considerations of the scientists. And, although it would be difficult, the idea of human consciousness should somehow enter physics research, perhaps by collaborations between physicists and psychologists. A psychologist is already using a physics model to describe the way memory works.

"I'm not saying throw up your hands and take the world as a subjective illusion," Jones said. "But we should consider our human participation in creating our view of reality. I think accepting responsibility for our own creative part in the cosmos will restore life to science and restore meaning to our lives." □

Language Bank Offers Help in 46 Languages

by William Hoffman
Associate Editor of *Report*

Two Vietnamese people board a bus. They can't speak English and don't know for sure how to get where they're going. The driver doesn't know where to drop them off. He stops at a phone booth and calls the bus company office. The office calls the language bank at the Minnesota International Center on the Twin Cities campus. A volunteer interpreter is found and the crisis is resolved via the telephone.

The language bank, which was established years ago, recently was expanded into a 24-hour emergency service. Calls for assistance are handled at the center during office hours and by First Call for Help, a United Way agency, on evenings and weekends.

The bank does handle real emergencies, but more frequently it handles everyday problems like the predicament of the Vietnamese people on the bus.

According to center staff member Janna Wallin, who supervises the service, 182 volunteers are available by telephone to help anybody who speaks one of 46 languages. Besides the more familiar foreign languages, they include Bengali, Ponapean (a Micronesian language), Fijian, and Telegu (a language spoken in southern India).

Metropolitan police have been provided with a list of three informative sentences in each of the 46 languages, enabling them to identify the language skill needed: *Koj puas xav kom kuv pab koj dab tsi?* (Hmong for "Do you need assistance or help?"); *Téség várni, intészkedni fogunk egy fordítót találni* (Hungarian for "Please wait. I will make arrangements for a translator."); *Lo siento, pero demorará un poco más* (Spanish for "I'm sorry, it will take a little longer").

The service is used by area hospitals and clinics, corporations, and individuals and receives about 30 requests for language assistance a month. Most of the recent requests have come from hospitals that are treating Vietnamese, Hmong, and Laotian refugees, Wallin said.

Among the more unusual requests was the woman who had an old manuscript written on palm leaves from Java. A member of the Indonesian Student Association was sent to interpret them. And there was the case of the policeman who had an authentic samurai sword with an inscription on it and wanted it translated from Japanese.

Within a few minutes one day, the service found an Ethiopian to assist a fellow national with a housing problem and a speaker of Arabic to communicate with a Saudi Arabian woman in childbirth. In another instance, a Japanese woman recovering from a kidney transplant at University Hospitals required assistance to understand the guidelines for post-transplant care. And so on.

Quelle bonne idée! (French for "What a good idea!") □

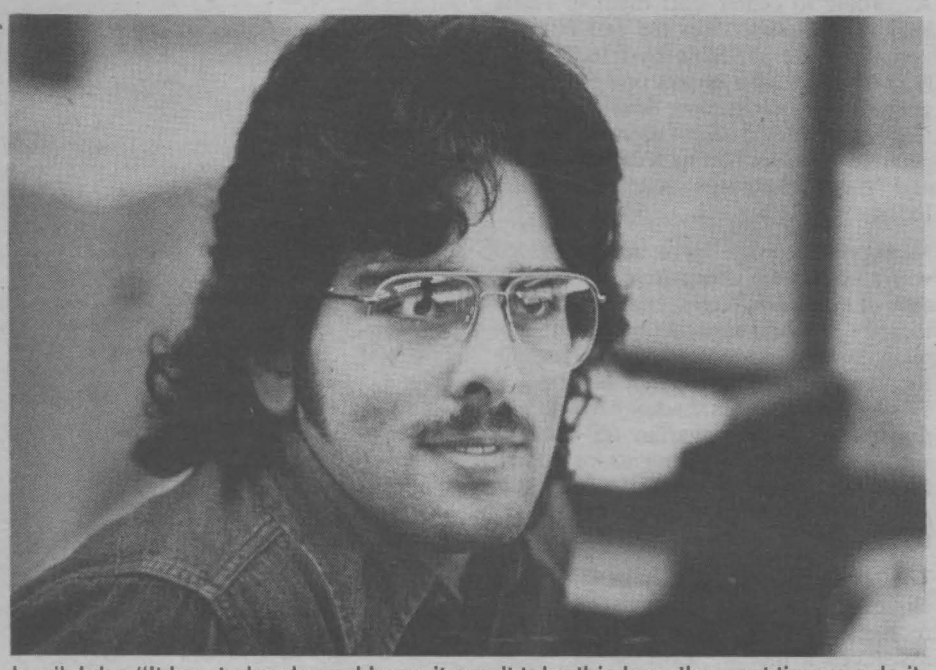
Tom Foley

Betsy Leverty: "It's difficult. I find myself tired. It eliminates your social life. But everyone's in good humor considering that they're all unsure of how long it's going to last."

Tom Foley

Jill Becker: "It's going to be difficult to stay accurate, but it's a challenge. I'm kind of enjoying it."

Tom Foley



Jamil Jabr: "It has to be done. I hope it won't take this long the next time we do it. Part of the agreement in taking the job was that there would be overtime. Now that it's here you can't really complain about it."

Payroll People

(continued from page 1)

years at Payroll. "This is the most comfortable I've ever felt with a staff," she said. "The morale is very good."

For another thing, the staff is at full force. "It's just a good thing we're fully staffed," Pladsen said. "This November is the first time we've been fully staffed in two or three years."

Turnover in the department is always high, because of the overtime demands and other pressures. "There are the irate phone calls, and the daily deadlines," Pladsen said. "If you don't meet the deadlines, there's no payroll." Even when overtime work isn't required, she said, employees often find that they are unable to take the pressure. "It gets known very quickly whether someone is cut out for the job."

Can the people now on the job take it for the next three months when heavy overtime is demanded? "I really think that they will," Pladsen said. "They're a good bunch of people. They think they can do it, and they want to prove they can do it." Still, she said, "some of them have just been here barely a month."

Pladsen herself is working the same hours as her staff. "I am a firm believer that I never will ask the staff to do something I can't or won't do myself." One thing Pladsen didn't mention is that as a supervisor she receives no overtime pay.

Good morale was reflected in the comments of payroll employees who were interviewed. "Everyone's in good humor," said assistant manager Betsy Leverty. "There's no use complaining. We're all in it," said Dianne Petersen. "As of right now, everybody's spirits are high," said Sue Sobania. "If they keep up that way, we're going to do just fine."

All holiday leaves were cancelled, and the overtime hours in December meant that people were missing out on some of their usual activities. They seemed to be taking it in stride. "My husband can do the Christmas shopping, so I'm lucky," said Kathy Lindquist.

But Pladsen and Forrester are aware that people's tempers might be frayed and their productivity and accuracy may suffer by March. "We're going to keep a close eye on things," Forrester said. "I'm going to check to see how much the productivity goes down" in the evening hours, Pladsen said.

As the long hours take their toll, Pladsen said, staff members may sometimes give snappy answers to people who call with questions. "It won't be intentional, but it will happen."

Pay Increases Finally Coming

By now, just about everybody at the University must know how much of a salary increase to expect and when to expect it.

For anyone who doesn't know, here is a summary.

Salary increases for civil service employees in schedules B and C and Teamsters will show up on January 15 paychecks. Raises will be paid February 15 for faculty members and February 28 for teaching assistants. Increases will come March 15 for civil service employees in Schedule A, employees on the Management Salary Plan, and administrators.

Increases are retroactive to July 1, 1981. All retroactive increases will be paid in separate checks in mid-March, probably March 17. Employees who have left the University since July 1 are eligible for back pay and should get in touch with their departments.

Faculty salary increases will average 10 percent, exclusive of fringe benefits. All faculty members are receiving a minimum increase of 4 percent up to a maximum of $1,400. The remaining funds, amounting to about 6 percent, are being used for individual merit-based increases. Salary scales for graduate assistants will be raised 7.14 percent.

The pay plan for civil service employees in schedule A (professional) calls for increases of 8.25 percent retroactive to July 2, 6 percent next July 1, and 3 percent on January 1, 1983. All are conversion increases, with both individual salaries and ranges increased. In addition, some funds will be available for performance increases January 1, 1982, and January 1, 1983.

Employees in schedule B (trades) will receive increases of 8 percent or 51 cents an hour, whichever is greater, plus 19 cents an hour. They will receive two other increases during the biennium: conversion increases of 6 percent July 1, 1982, and 3 percent January 1, 1983.

Salary increases for schedule C (clerical and technical) will be 8 percent or 51 cents an hour, whichever is greater, plus 7 cents an hour. An in-range adjustment of 2.5 or 3 percent in January will replace the performance system; increases will be given to most employees but could be withheld for poor performance, and employees at the top of their range will receive a lump sum. Three other increases in the biennium will be cost-of-living raises July 1, 1982, and January 1, 1983, and another in-range adjustment January 1, 1983. □

The academic side

Another staff that is now working overtime is in the academic personnel systems office, which processes all academic payroll documents. "We're working long days, too, but not as long as in Payroll," said Annette Brandes, who heads the staff.

When the University's new payroll/personnel system was "put in a holding pattern a year ago last September," it was broken into three segments, said Richard Heydinger, assistant to the vice president for academic affairs. The first phase, a new academic personnel system, is now ready.

"It's an on-line data base that has been streamlined in many ways," Heydinger said. "We're ready to go any time." But with everyone working on the salary increases and retroactive pay, the new system will probably have to wait until April.

The new system, which will feed into the payroll system, "is much more tailored to

the needs of faculty members than the current system, which is really a civil service system," Heydinger said. The system includes the capability to pay on any schedule. "We could pay nine-month salaries over twelve months, or anything we wanted to do. The system doesn't care." But Heydinger stressed that at this time no changes are being made in the payroll system itself. "We are giving information to the payroll system as it currently exists."

Heydinger gave credit to Pladsen, Brandes, and Sarah Wasserman in the academic affairs office for their work on academic salary increases. "They have just broken their backs to get this thing together as fast as possible. They're doing a superb job in all of this. It's important that the people who are doing the work get the credit for it."

Brandes agreed that her staff of six is working hard. "Right now we've put in some overtime, and after the holidays we anticipate that we will be working 12-hour days or 16-hour days through the month of January."

But she said the heaviest load has fallen on Payroll. "Those people over there have done an outstanding job. I hope the University gives them some recognition." □

Tom Foley

Dianne Petersen: "When you're here it's not bad. When you're home it's bad. You try to think what you've done in the past week, and all you can think of is work. We all knew it was coming. There's no use complaining. We're all in it."

Tom Foley

Sue Sobania: "I'm sure as it goes along we'll get a lot more tired. As of right now, everybody's spirits are high. If they keep up that way, we're going to do just fine."

Fiscal Exigency

(continued from page 1)

Any cuts that can be made before July 1, 1982, will ease the burden of cuts in the next academic year.

Vice President Kenneth Keller outlined the administration's plans for a $12 million cut at a joint meeting of the Senate Consultative Committee (SCC) and the Senate Finance Committee December 17. The cuts would be $5.4 million in administrative and support units, $1.3 or $1.5 million at the coordinate campuses, $1.8 million in state specials, and about $3.5 million in academic programs on the Twin Cities campus.

The idea was "to hit as hard as we could conceivably hit on administrative and support services," Keller said. "I believe these cuts are going to be very painful. At the level of cuts we're talking in support services, a year from now I think you'll be saying we need to get some of those back."

(At an earlier meeting with the same two committees, Vice President Frederick Bohen said that custodial services, which now cost the University $8.5 million a year, will be cut sharply. He said the goal will be to "protect the cleanliness of laboratories and teaching space," but faculty and administrative offices will be cleaned less frequently. "We may have to empty our own wastebaskets," Bohen said.

Between 10 and 15 percent of the custodial work is now performed by student employees, and Bohen said he has directed that no more than 10 or 15 percent of the layoffs be among students.)

Estimates are that the cuts in administrative and support services will result in laying off 500 employees, Keller said.

"I know it's prudent to start making savings," Purple said, "but I'm a little uneasy when I hear talk of 500 people being fired. I am concerned about hasty action. We're sitting comfortably in a nice room. Every time we make a wrong decision we may be costing people their jobs unnecessarily."

"People are going to be affected," said chemistry professor Robert Brasted. "We can't sit on our duffs any longer."

On the cuts in academic programs, Keller said it is "not unreasonable that we might be able to save as much as $3.5 million," although he added that "I consider that to be on the high side." Cuts will be based on programmatic decisions and will not be across the board, he said.

Cuts would average about 10 percent in support services and less than 2 percent in academic programs on the Twin Cities campus, Keller said. The proposed cuts for the coordinate campuses, at about 5 percent, represent a weighted average of their academic and support budgets.

Budget cuts of $12 million, if put into effect in 1982-83, would represent a reduction of $6 million in the base and another $6 million that could be recovered on a one-year basis. "All of our burden is eased to the extent that we have additional savings this year," Keller said.

The committees talked about freezes on hiring and freezes on travel for the rest of the 1981-82 academic year. Another possibility identified by Keller would be to hold back $750,000 in equipment replacement money, although he said there is "enormous need" for the new equipment. Also, he said, the administration has not yet distributed the $350,000 that represents 2.5 percent of the indirect cost money the University receives on research grants.

"These are things we have struggled to get from the legislature, and we would not want to give anyone the sense they are low priority," Keller said. But he said "there's perhaps $1 million there, soft money but recurring."

Educational Development Program grants, Graduate School research funds, and grants for international programs were also discussed as possible areas for cuts. "These are things that are difficult to talk about," Brasted said. "Losing people's jobs is hard to talk about, too," said history professor John Howe.

Purple passed along a comment from a faculty colleague that "people and their positions are more important than golf courses, and the University has two."

"As you know, we've had no success in selling the land we put up for sale last year," Keller said. And he said the regents have generally felt that land represents the long-term capital of the University and should not be sold to cover operating costs. "Aside from the use to which the land is put, it is a capital asset," Keller said. Selling some land may have made sense last year to cover a one-year cut, he said, but the cuts being proposed would be cuts in the budget base. "I think we should leave land alone," Brasted said.

If the University comes to the point of declaring financial exigency, SCC members made it clear that they intend to be included in the decision. "The SCC would go into constant conversation with the president and would be talking with other committees," said Patricia Swan, professor of food science and nutrition.

Declaring a financial emergency always means examining alternatives, Swan said. When an emergency is declared, officials of the institution are saying that in their best judgment there is no acceptable solution short of laying off tenured faculty members. But Swan said there are always implicit alternatives. "Do you fire every teaching assistant, do you fire every secretary, do you fire every custodial person, do you sell all your land before you fire tenured faculty?" Howe put it this way: "Do you grind down every other part of the budget to dust?"

Swan and Marcia Eaton, professor of philosophy, urged that a few members of the two committees start working closely with the administrative staff members and looking at the numbers. "Repeatedly the administration has said that if the legislature cuts us by more than $20 million we'll have to declare a financial emergency," Eaton said. Faculty members need more information to make an independent judgment, she said. Eaton's motion carried.

Swan and Howe recently visited the University of Washington, which also faced cuts in its state funding and which declared a financial emergency and then pulled back from the declaration. In their talks with faculty leaders, Howe said, they kept hearing the same advice. "The people at Washington told us, 'You'd be foolish if you don't get ready for it, even if you never have to use it.' If we sit here and refuse to use those words, we're fooling ourselves a hundred times over." □

Architects Need New Ideas for Old Districts

by William Hoffman
Associate Editor of *Report*

Like a fashion gallery, a historic urban neighborhood displays a variety of styles. It is a showcase of the art of building in America. But it has limitations, and not all contemporary architects recognize them.

Most urban districts constructed in the 19th and early 20th centuries reflect a succession of complementary styles. Then, as the modern movement picked up steam, urban design took a turn for the worse.

Garth Rockcastle, assistant professor of architecture on the Twin Cities campus, believes that architecture is a "unique, strong, individual expression," yet the context in which the architect works—the existing buildings and spaces—should not be ignored. The challenge for architects is to design "exciting but sympathetic" new buildings in historic or traditional urban districts, he said.

To assist architects with that challenge, Rockcastle, a professional colleague, and 21 University architecture students spent 10 weeks analyzing architectural styles in St. Paul's historic Hill District. The result is *Informing Design: Architectural Concepts in Traditional Neighborhoods* recently published by Old Town Restorations, Inc., of St. Paul.

"The collision between the dogma of modern architecture (or the architect's vision of modern life, modern space, and modern materials) and the traditional city has produced some of the most fractured and disconcerting environments of the 20th century," Rockcastle writes in the introduction.

Traditional architecture was concerned about the interrelationships of buildings and urban spaces. It elaborated on architectural themes of the existing city. By contrast, most modern architecture "was conceived as separate from and superior, or even antithetical, to the existing or traditional city," he writes.

Modernists attempted to achieve "a more pure and honest expression of a building's function and materials," something that would be "emblematic" of its own time. But in rejecting outright traditional modes of expression, the modernist severely limited the ability of architectural styles to flow easily from one historic period to the next, according to Rockcastle.

"We are beginning to see that there are primary rules in architecture—as its own expressive system—just as there are in other areas of artistic expression," Rockcastle said in an interview.

The "language" of architecture is much more evident in traditional than in modern design. "The way a building expresses its relationship to the ground or the way it greets the sky is usually far more elaborate in traditional architecture than in modern architecture," Rockcastle said. "Exterior surfaces of traditional buildings symbolically convey the presence of windows, doors, and special features more expressively than most modern exterior surfaces."

Architecture should be "creative and unique" *and* "sympathetic to trends," he said. The modern movement has had little regard "for what society views as architecture—what the proper modes of architectural expression are in a given area."

The time has come for the profession to break down "the hierarchical superstructure of images" and allow democratic alternatives. "We don't lose anything by borrowing appropriately expressive ideas," he said.

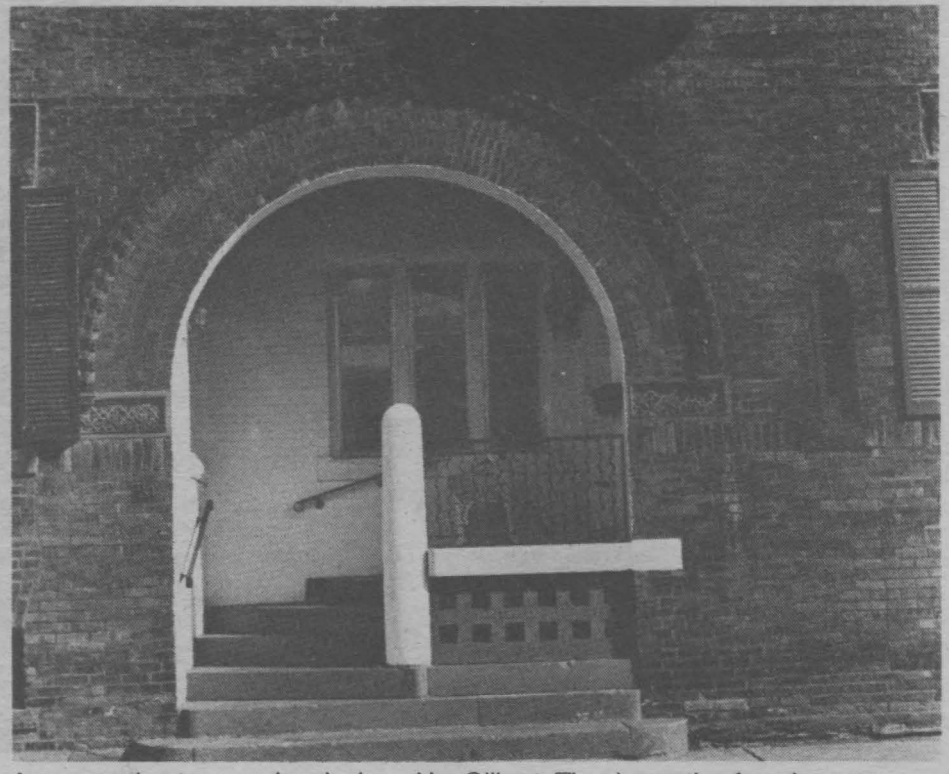
Actually, the Hill District is an exceptional neighborhood in that it "combines many of the virtues of both modern and traditional forms of urbanism," he said. In brief, it is a model of successful transition between historical periods.

Although architects are not yet adequately sensitive to concepts of a traditional neighborhood, "they are coming around," he said. "Most people still address the issue in superficial ways—an arch over a window or the use of similar materials—but the principles are lacking."

Rockcastle hopes his book will be useful in clarifying the principles to professionals, students, and people who live in historic districts "so that they will gain new insight into the structure they live in and those around them," he said. □

An attached entryway, a vestibule-like space that prepares one for entering the sanctum of the house.

A flush entryway designed by Cass Gilbert. The idea of transition is celebrated in a highly expressive arch.



A recessed entryway also designed by Gilbert. The decorative facade conveys a sense of ceremony.

Westerman Leaves for Pittsburgh

by Ralph Heussner
University News Service Writer

John Westerman, general director of University Hospitals, has resigned to become president of Allegheny Health, Education and Research Corporation in Pittsburgh effective February 1.

Westerman has served as general director since 1966. When he was appointed to the position at the age of 32 he was the youngest director of a university-owned hospital in the history of the United States.

"It has never been my intention to become the longest-tenured university hospital director in the country," he said when he submitted his resignation in late October. "While the pinnacle for clinical chiefs may be to become chairman of a department such as medicine or surgery here in Minnesota, it is not the pinnacle in health management."

Allegheny consists of several subsidiaries, including a research arm, a diagnostic clinic, and a 720-bed hospital. Westerman said Allegheny "plays a major role in health delivery in western Pennsylvania. They'd like to move from [being] a regional provider to becoming recognized as a national institution."

Westerman, a native of Minneapolis, received three degrees from the University of Minnesota: a bachelor of laws in 1954, a bachelor of business administration in 1958, and a master of hospital administration in 1960.

After serving in the U.S. Air Force from 1954 to 1958, Westerman joined the staff of University Hospitals as an administrative assistant. In 1961, he became assistant administrator of Strong Memorial Hospital at the University of Rochester (New York). He returned to the University of Minnesota as a research associate in 1964.

In addition to managing the hospitals and clinics, Westerman has served as an associate professor in the program in hospital and health care management in the School of Public Health and has been associated with the Center for Health Services Research. He said he hopes to maintain these academic ties.

"I have been fortunate in being associated with extraordinarily gifted management and medical staff," Westerman said of his 15 years at Minnesota. University of Minnesota Hospitals are, "by most criteria, among the two or three strongest university hospitals in the country," he said.

While the institution has developed a reputation as being primarily an acute care, referral center, Westerman said, "we have much more going on here than tertiary care. We're also a mental health and rehabilitation center and the second largest clinic operation in the state."

Looking toward the future, Westerman said university hospitals need to diversify their services "to take advantage of other health delivery opportunities" such as health promotion and preventive medicine programs. □

Program Will Aid Troubled Youth in South Minneapolis

A $243,000 grant to help troubled young people in south Minneapolis has been awarded to General College and the Minneapolis Public Schools.

The money will support The Connection, a new program that will begin in February out of offices at South High School. It is meant to "prevent kids from getting lost in the cracks of the system," according to Andrew Nelson, who developed the program and is its executive director.

The grant was awarded by Act Together, a private nonprofit corporation in Washington that receives funds from the U.S. Departments of Justice and Labor.

Between 150 and 250 young people who are considered "high risk" will be served through the program, Nelson said. Among those expected to participate are teenage parents, high school dropouts, youth from low-income and single-parent families, those who speak English as a second language, and those who have been in trouble with the law.

The program is meant to provide a single resource for young people who need help with problems from chemical dependency to unemployment, Nelson said. Participants will be helped to learn skills necessary for independent living. Employment will be emphasized and the business community around South High School will be asked to help program participants find jobs, he said.

University students majoring in social work and psychology will serve as interns for the program, which is scheduled to operate until May 1983.

Competition for the grant was stiff, Nelson said. Act Together received some 600 applications for funds and awarded 15 grants across the country. Nelson said he expects the Minneapolis program to be a model for other agencies. □

PEOPLE

Crookston: Robert Johnson, assistant professor of biology, has been named to the Crookston City Planning Commission, which studies and makes recommendations to the City Council on residential, commercial, and industrial development.

■ Provost Stanley Sahlstrom was appointed to the Minnesota Committee for Employer Support of the Guard and Reserve, representing northwestern Minnesota.

Duluth: Provost Robert Heller was elected chairman of the Council of Scientific Society Presidents, which helps set national science policy and activities.

■ Thomas Wegren, associate professor of music, will present his New York piano debut at Carnegie Hall on February 27. He will perform works by Chopin, Schubert, Beethoven, Liszt, Ravel, Brahms, and Ginastera.

Morris: Wilbert Ahern, professor of history and director of the West Central Historical Research Center, served as a consultant recently in an evaluation of the Minnesota Iron Range Historical Research Center.

■ Miles Cox, associate professor of psychology and director of the Morris Drug Information Center, is coauthor of an article entitled "Therapists' Recommendations of Abstinence or Controlled Drinking as Treatment Goals: Significance of Alcoholics' Sex, Social Class and Pre-Treatment Drinking Behavior" in the *Journal of Studies of Alcohol*, 1981 edition.

■ G. Scott Schleifer, director of the Student Counseling Service, was the commentator in an interview on Christmas depression broadcast in December by KBMO radio in Benson, Minnesota.

Twin Cities: W. Forrest Bear, professor of agricultural education, served as an assistant superintendent of the national FFA agricultural mechanics contest, held in conjunction with the 54th national FFA convention in Kansas City, Missouri, in November. He was also elected superintendent for the national contest for 1982, '83, and '84.

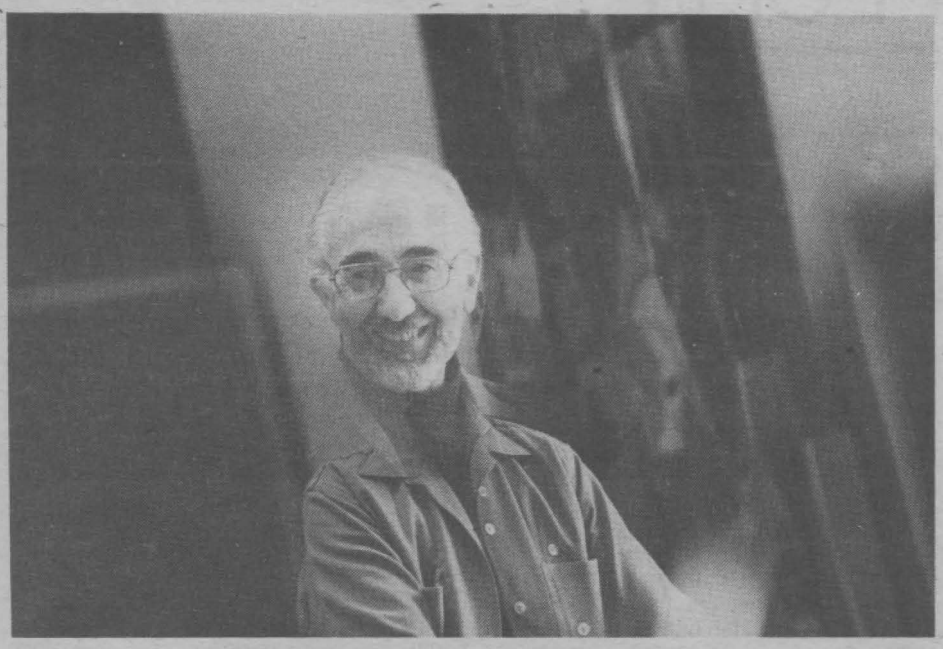
■ Larry Lasky, assistant director of the laboratory data division in the Department of Laboratory Medicine and Pathology, is the 1981-82 winner of the C. J. Watson Award from the Minnesota Medical Foundation. The award, given for outstanding research by a graduate clinical fellow or resident at the University, was presented for Lasky's blood cell studies that could lead to advances in bone marrow transplantation.

■ Leslie Martens has been appointed chairman of the Department of Health Ecology and T. Michael Speidel has been named head of the Department of Orthodontics in the School of Dentistry. Martens has been associate chairman since 1972. Speidel joined the faculty in 1964.

■ Rudolph Vecoli, director of the Immigration History Research Center, presented a paper at the Louis Adamic symposium held in Ljubljana, Yugoslavia, in September, and was honored at a city hall ceremony for the contributions of the center to the study of Slovene immigration to America. William Beyer, a doctoral candidate in American studies, also presented a paper at the conference.

■ John Westerman, general director of University Hospitals, has been named chairman of the national Accrediting Commission on Education for Health Services Administration.

Tom Foley



Portrait of the artist: Louis Safer's image, captured in a mirror by photographer Tom Foley, has some of the qualities of his portraits of his colleagues.

Safer Captures GC Colleagues With Pen and Ink

by Maureen Smith
Editor of *Report*

Two or three years ago, when General College (GC) faculty members in Nicholson Hall thought the building was to be renovated, some of them got the idea that they would like a directory of faculty photographs on one of the walls. Louis Safer, professor of general arts, went to work taking photographs of his colleagues.

The renovation never happened. "The regents visited, and somehow they were assured that the building was in a bad state of repair and they shouldn't throw good money after bad," Safer said.

Safer still had his photographs. "One day I started fooling around, sketching how I perceived each of the faculty members and the disciplines they represent," he said. When he had completed 20 portraits, he had them framed and hung in GC's main office, a place where faculty members gathered.

Other portraits were added as they were completed, and faculty members began to watch to see who would be next, "who's going to be victimized next," Safer said. Students started coming around to see if they could identify their teachers and figure out the symbolism of the portraits.

"It sort of opened up the lines of communication a little more," Safer said. "There was a good humor about the whole thing, nothing maliciously intended."

Safer returned this fall from a year's leave during which he worked on retinal imagery paintings, depicting the images one gets when the eyes are closed. "Instead of looking out on the environment, you close your eyes and get your subject matter within," he said. "That was a fun project."

A 1973 Safer portrait of the late John Berryman, poet and University professor, was chosen last winter to hang in the National Portrait Gallery of the Smithsonian Institution in Washington, D.C. Since then, people have been thinking they'd like Safer to do their portraits, and he has accepted three commissions.

Although he has been busy with other projects, Safer discovered when he returned from his leave that people were still talking about the portraits of his GC colleagues. Some still hang in the GC office, but most have been purchased by the subjects. Safer sold them for $35 each.

"It started as a lark, but it ended up that almost everyone wanted their own portraits," Safer said. "By and large, I think people enjoyed them." □

April Knutson, a teacher of writing and literature, impressed Safer as "regal in appearance and command." He portrayed her as Nefertiti, an Egyptian queen. The quote from John Keats—"Beauty is truth, truth beauty"—seemed appropriate, Safer said.

Gordon Kingsley, counselor-psychologist, is portrayed as a king on a chessboard. "He has to be very careful with his moves," Safer said. The ray of sunshine through the clouds reflects Safer's view that Kingsley is "always very calm under the most stressful circumstances."

Leslie King, counselor-psychologist, is shown as "the torero who has to deal with some pretty sizable problems." Even though he may often be faced with "the horns of a dilemma," King is portrayed with "a peaceful happy expression on his face."

Patrick Kroll, a faculty member in business studies, is "our resident financier," Safer said. "The monetary market is rent asunder, so I put a couple of Band-Aids on the dollar bill."

Scientist William Schwabacher, who plays violin in a quartet with Safer, is characterized by his versatility. The portrait reflects his own work in spectroscopy (the study of light) and his wide-ranging interests as represented by the names Faraday, Newton, Einstein, Rutherford, Mozart, Haydn, Beethoven, and Bach.

Social scientist Nathan Smith is shown as a smiling Buddha. "I put him in a Buddha setting because of his equanimity," Safer said. "He has the little mark of wisdom on his forehead. Behind the smile is a sharp and stinging wit."

REPORT

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February 1982

When Layoffs Hit, Seniority Counts

Tom Foley

Employees who have received layoff notices were performing valuable work for the University. One of them is Sarah Knoepfler, junior photographer at University Relations, whose photographs have appeared in *Report*. "It's been a good job for me," Knoepfler said. "I didn't want to be laid off, but maybe it was time for me to move on. I've learned a lot, and I'm way ahead of where I was two years ago when I started. Being laid off might be a turning point in my life."

by Maureen Smith
Editor of *Report*

When times were good, most people at the University didn't pay much attention to seniority units, layoff lists, and bumping rights. The rules were too complicated and too infrequently used to be clear in people's minds.

People are learning fast. "We seem to be learning something new with every additional day—all of us, both employees and management," said John Loza, personnel services manager.

The worst retrenchment ever to hit the University has already resulted in layoffs and will result in more. At least 400 employees are expected to lose their jobs. "The layoffs will probably occur over a period of time," said Vice President Nils Hasselmo. Some people received notices soon after the January regents' meeting, others will be laid off July 1.

The largest number of layoffs has been among custodial workers, who are represented by the Teamsters union. In general, the least senior employees have been laid off, but the contract has provisions for bumping if someone with more seniority is laid off.

Among employees covered by the civil service rules, the picture is more complex. Departments are not required to choose their least senior employees for layoff, and they are often faced with difficult decisions about how much weight to give to seniority and how much weight to other values. One consideration is that more senior employees who are laid off may then exercise bumping rights.

If a position is to be abolished, Loza said, it would usually be wise for the department to reassign work and place the least senior employee in the position to be cut. In this way, the department can avoid "the turmoil caused by bumping" and the "potential for lingering hard feelings caused by one employee bumping another."

Loza acknowledged that departments will be faced with hard choices. "The rank order of value of people is rarely going to be equal to the rank order of their seniority," he said. "The rules do not include any performance judgments in the layoff procedure with the exception of choosing between two people who have identical seniority."

At the same time, Loza said, "I don't think this procedure can go on without some thought to performance. The people who are left still have to manage the work. You can afford to keep some marginal employees when you have a full staff, but when you start to get down to skeleton crews you get very concerned about the performance of those remaining."

The dilemma is that "if you lay off the poor performer, that person may bump anyway," Loza said. "I wouldn't give any advice."

How bumping works

Seniority and bumping rights are based only on service within a department and within a classification. Employees retain seniority in each of the classes in which they have previously worked. Someone who is a secretary for three years and then a senior secretary for two years in the same department would have three years of seniority as a secretary and two as a senior secretary.

If the senior secretary's job were eliminated and there were secretaries in the department with less than three years of seniority, the senior secretary would have bumping rights over the secretary with the least seniority. It should be noted that the rights are only to the position held by the least senior employee in the classification, not to all jobs held by employees with less seniority than the person doing the bumping.

An employee with seniority may bump "the least senior or probationary employee who is performing essentially the same duties within the same class and department." If that is not possible, the employee may bump into a position "if qualified to perform the work even though the duties are not essentially the same."

In deciding whether job duties are essentially the same or whether an employee with seniority is qualified to perform the work, a liberal interpretation is encouraged. Loza said it should be pointed out that the question is not "who is best qualified for the position, but only whether the person being laid off meets the minimum qualifications for the position."

Probationary employees do not have seniority, but once they pass probation their seniority will date back to their entry into the class. Probationary employees have bumping rights back into any previous classification in which they worked and passed probation.

A probationary employee who has moved from one department to another can bump back into the former position in the old department. Except for that one instance, employees are not able to bump from one department into a former department.

Temporary employees have no seniority. "When their job ends, they go away," Loza said. Some recent layoffs were unrelated to retrenchment but resulted when research projects came to an end.

But temporary employees can be bumped. Someone with seniority who bumps into a temporary position will continue to accumulate seniority, but "they're obviously in a position that's going to come to an end," Loza said. "They might be laid off again, but at least they buy some time."

In order to understand the rules it is necessary to be clear on what constitutes a "department." If a unit is officially called a department, there's no problem. If it is called a program, center, school, institute, division, or anything else, employees may be confused and unsure about their rights. Loza recommended that employees ask their supervisors first and then call Personnel at 373-1936 "if there is any question whatsoever regarding the makeup of your seniority unit."

(continued on page 9)

On the Inside

Budget Cut by $25.6 Million

The state budget-balancing bill that has now become law includes a cut of about $25.6 million for the University, $19.6 million from the base and an estimated $6 million from the salary supplement for next year.

President C. Peter Magrath said at a meeting of the Senate Consultative Committee (SCC) January 14 that University officials "hardly welcome" a $25.6 million cut, but he said, "It's our judgment that with a lot of adjustment and some real pain we can preserve the central functions of the University."

At least 400 jobs will be lost at the University and tuition may go up 15 percent by summer as a result of the cut.

At the regents' meeting January 8, before the amount of the cut was known, Magrath outlined for the board the steps that would be taken to accommodate a cut of between $20.4 million and $22.9 million. Most of those planned cuts will now go into effect, and some additional money will have to be found.

Salary increases for this year, retroactive to July 1, are not affected by the cut. "I would like to make it absolutely plain that we are moving ahead with salary adjustments for faculty and civil service staff at the levels previously announced," Magrath told the SCC. The first group of employees received their increases January 15.

Salary money available for increases next

(continued on page 5)

CAPSULE

■ The budget bill that has now become law includes a cut of about $25.6 million for the University, $19.6 million from the base and an estimated $6 million from the salary supplement for next year (see story on page 1).

■ Layoff notices have already gone to some employees, and layoffs probably will occur over a period of time. In cases in which layoffs are not based on seniority, more senior employees have bumping rights (see story on page 1).

■ A document on academic program priorities was to be presented to the regents this month. Vice President Kenneth Keller told the Finance Committee of the University Senate that between 15 and 25 programs will be phased out or will receive reduced funding. He said his expectation is that the savings from these cuts will exceed $2.5 million and that some money will be available for investment in programs that have been chosen for development.

■ An independent review of the hospital renewal project by Robert Derzon, a nationally known health care consultant, is now in process (see story on page 11).

■ The regular session of the Minnesota Legislature is expected to be short. "This is nominally the capital budget year, but I feel very, very uncomfortable going there and asking for buildings," faculty lobbyist Peter Robinson told the Senate Consultative Committee (SCC). President C. Peter Magrath said the University will respond to requests for testimony and will state its building needs if asked.

A presentation on faculty salaries should be made to the legislature even if the chances of a supplemental appropriation are slim or nil, Robinson said. The SCC passed a motion to that effect.

■ Students from Third World countries are in "almost unlimited supply" and could fill empty seats as other enrollment falls, international student adviser Josef Mestenhauser told the SCC, but a growing number of such students will create pressures as well as opportunities. Carol Pazandak, assistant to President Magrath, is chairing a committee to look at the issues.

■ Gopher basketball player Mark Hall was admitted to General College following a temporary injunction issued by U.S. District Judge Miles Lord. Hall had asked for an injunction to allow him to enroll in a degree-granting program and be eligible to compete with the basketball team.

History professor John Howe said at an SCC meeting that the "Mark Hall caper" is of concern to many faculty members. He said the issues include the role of intercollegiate athletics at the University and the role of the courts in deciding who is to be admitted to academic programs.

■ Shirley Raynes, who had been chair of the Civil Service Committee, has resigned from the committee. Jerome Larson, last year's chair, has been elected to take over as chair for the rest of her term, until September.

Tom Foley

Can women always tell the difference between friendly gestures and sexual harassment?

Sexual Harassment: It's Happening Here

by Maureen Smith
Editor of *Report*

The faculty member liked to liven up his lectures with jokes about women as sex objects. The men in the class usually laughed, but some of the women felt uncomfortable.

The secretary hated to go to work in the morning, because she never knew when one of the men in the office might pinch her playfully or make sexual jokes. Her boss wasn't a problem, but when she talked to him about it his only response was to laugh.

The student stopped by after class to talk to her professor about the ideas he had presented in his lecture. When he stared openly at her breasts, she became flustered and forgot what she wanted to say.

Which of these women were being subjected to sexual harassment? Probably all of them. The environment in which they worked or studied was being poisoned for them.

In its most blatant forms—unwanted sexual advances, or requests for sexual favors in exchange for a good grade or a promotion—sexual harassment is easy to recognize, if not always easy for the victims to deal with. Subtler forms of harassment are more pervasive, and more confusing.

Do teachers and supervisors have to guard against any gestures of warmth and closeness in their professional relationships? Is one person's affectionate hug another person's sexual harassment?

"I think every woman can tell the difference between a spontaneous affectionate display and something that's sexually motivated," said Betty Robinett, assistant vice president for academic affairs, who is serving as the entry level officer for complaints of sexual harassment against academic staff.

Sexual harassment is another form of discrimination, said Lillian Williams, the University's equal opportunity officer. The most common experience is the harassment of a woman student or staff member by a man in a position of power. Men as well as women might be harassed, Williams said, but "all of the complaints that I've had have been from women."

It's happening here

Sexual harassment is happening at the University of Minnesota, Robinett said. People always want to know how many cases there are, and her response is that "if there's one, that's one too many. We don't want it at this institution. We want people to be able to come to campus, go to their classes, do their work without any of this unpleasantness."

In her role as the entry level officer, Robinett has worked with six or seven cases in the past few months. She knows there are others that haven't been reported. "I'm getting a feeling that there's a heck of a lot more of this going on than I would have believed in an academic environment," she said.

Karen Sando, a principal secretary in the Agricultural Extension Service, said that women at the University started telling her about their problems with sexual harassment when she was named as the civil service representative on the Sexual Harassment Board. "I felt like I was running a mini counseling service," she said.

"I've been a secretary for 20 years, and I thought when I came to the University that I wouldn't have to deal with the problem," Sando said. "In private industry I left jobs after great personal anguish."

Robinett said most of the cases she has worked with have been student complaints against faculty members. "We want to clean up the environment so that there's nothing that makes a person uncomfortable about coming to class or to work," she said.

Physics professor Phyllis Freier, who is chairing the Sexual Harassment Board, said she has been surprised to learn of the extent of the problem. "If I'm surprised, I think most faculty people don't know it's a serious matter," she said. "The problem is one of education."

The University as an institution has taken a strong stand against sexual harassment. "Sexual harassment has no place in our University, and we must oppose such conduct and abuse of authority," President C. Peter Magrath said in a September 1980 letter that was unusual in that it was addressed to all members of the University community on a single subject.

"Beyond our personal commitment, we should also note that sexual harassment violates the state Human Rights Act and Title VII of the Civil Rights Act of 1964," Magrath said. "Furthermore, a June 6, 1980, ruling by the Minnesota Supreme Court in the case of Continental Can Company v. State of Minnesota makes it clear that employers are responsible for the harassing behavior of their employees if they know, or have reason to know, of such behavior and fail to take timely and appropriate action."

A policy statement on sexual harassment was approved by the University Senate April 16, 1981. In an introductory paragraph, the policy calls sexual harassment "reprehensible" and says that it "subverts the mission of the University and threatens the careers of students, faculty, and staff."

What people can do

Although a strong stand has been taken, people who think they are being harassed may not always know what they can do about it.

The policy on sexual harassment applies to everyone at the University, but responsibility for administering the policy varies depending on who is harassing whom. Robinett said she and Williams have been working closely together to ensure that procedures and sanctions are consistently applied.

If a student has a complaint against another student, the case would be handled under the Student Conduct Code. A student with a complaint against a faculty member would follow the academic procedure and would probably start with Robinett. A student employee who is being harassed by a supervisor would follow the procedures in the civil service rules, even if the supervisor is a faculty member.

Whenever a civil service staff member is involved, either as a claimant or a respondent, the case is most appropriately handled under the civil service rules, but civil service people with complaints against faculty members also have access to the academic procedure. Faculty members with complaints against other faculty members would follow the academic procedure.

In short, the handling of a case depends on the status of the respondent, with the exception that civil service people with grievances against faculty members always have the right to bring cases under their own rules.

Most often, formal grievances are not filed. "Many times people just want to talk to someone," Williams said. "If they don't want to file formal charges, they can certainly ask to talk to someone informally. Sometimes the problem can be resolved with a phone call."

"People can call me any time and can make it clear that they have to see me

immediately," Robinett said. "My secretary knows what to do if they say they have to see me immediately on a personal problem. No one has to know they've been in here."

Students and faculty members would typically talk to Robinett and civil service staff members to Williams, but both women said they will talk to anyone who comes to them with a concern.

The first step for a civil service employee would usually be to talk to her supervisor, although that might be difficult if the supervisor is doing the harassing. Sometimes all that is needed is for women to let their teachers or supervisors know that certain behavior is offensive to them.

Robinett said a frequently expressed fear of male faculty members is that they may be falsely accused or threatened with blackmail. She said she thinks the likelihood of false charges or blackmail threats is less than people fear, and she said one surprising pattern has been that "once you get a complaint against a person, there are others. It's very unusual that there's only one complaint against a person."

In any case, Robinett said, the procedures have been set up to protect everyone, including protection against false allegations.

Changing behavior

The Sexual Harassment Board, which was established to handle formal grievances, has not had any business so far. Freier and Robinett will be happy if formal grievances never need to be filed.

"We try to resolve the problems," Robinett said. "The goal in all of this is to change behavior. I'm always delighted when we get a resolution that shows change of behavior. Our goal is certainly not one of vindictiveness. When the behavior is changed, the woman can go on with her work."

But if behavior doesn't change, Robinett said, sanctions will be applied. "The sanctions could go all the way up to removal for cause. Or if it's a case of real rape, we could take it to the police and ask for criminal charges."

Everyone benefits when offensive behavior is changed. "If the behavior doesn't change," Robinett said, "the institution will make it clear that this is not the kind of behavior we condone or will permit." □

Discovery of Natural Algicide Could Lead to Cleaner Lakes

by Paul Dienhart
University News Service Writer

A group of scientists on the Twin Cities campus has discovered a chemical produced by a species of algae that kills other algae, according to an article in the January 22 issue of *Science* magazine.

The discovery offers the potential for ridding lakes of the overabundance of algae that can rob water of dissolved oxygen vital to other aquatic life and can ruin recreation with its odor and unsightly scum. Finding a way to produce the chemical economically and testing its effectiveness and environmental safety will take an estimated five to seven years.

The freshwater blue-green algae *Scytonema hofmanni* produces a chemical that kills other green and blue-green algae. "We've isolated the compound, characterized its chemical structure, and looked at its effectiveness under laboratory conditions," said Florence Gleason, who directed the research at the Gray Freshwater Biological Institute.

Gleason and her colleagues are now trying to find ways to produce large amounts of the chemical economically, either by chemical synthesis or by finding an organism that produces more of the chemical.

"The method we're currently using to extract the chemical from the alga is quite expensive," Gleason said. "People have asked me already if we could put the chemical in their lakes. Right now, we can't afford to treat even a small pond."

Gleason likened the process of developing the algicide to penicillin research. "Penicillin was discovered before World War II, but it wasn't until a great effort was made during the war years that a way was found to produce large quantities of the antibiotic. The first few milligrams of penicillin were too expensive to use on anybody. It's the same sort of idea here. What we've found has the potential to develop into a practical algicide, but first we have to find a way to produce it cheaply and do all the tests to make sure it's effective and environmentally sound."

Gleason estimates it may take three to four years to find a practical production method, and another two to three years for testing the algicide in lakes.

"It may turn out to be ineffective in lakes," she said. "All our tests have been in the lab, and there is a possibility that the chemical might be easily broken down by bacteria in lakes."

Like penicillin, the natural algicide was discovered when its ability to clear organisms from a Petri plate was observed in the laboratory. The discovery of the algicide was made in the summer of 1978 by Charles Mason, who was working with Gleason at the time and is currently on the faculty of Gustavus Adolphus College in St. Peter, Minnesota.

After setting up a great number of Petri plates with different combinations of algae, Mason found that the *Scytonema hofmanni* killed every alga grown near it.

This particular alga grows slowly, and its natural algicide might help it compete with faster growing species, Gleason said. "Out there in the algae world, if you can't grow very fast you need some mechanism for keeping your space clear or other species will grow right over you," she said.

This observation could help solve the puzzle of algal succession. "One species of algae is usually predominant in the spring, then gives way to a succession of dominant species occurring throughout the summer," Gleason said. "Nobody knows quite why this succession occurs. There is no rational way to predict it, except by what happened in previous years. There are lots of theories on why one particular alga will grow in a lake and another won't. Our discovery fits with the theory that some algae produce chemicals that kill other species of algae."

The discovery of the chemical structure of the natural algicide will give scientists a new way of studying freshwater algae. "It contains chlorine, which is associated with salt water organisms," Gleason said. "Nobody ever thought to look at freshwater species to see if they too produce chlorine compounds. Scientists get into a certain basic way of thinking, and the thinking for many years has been that these types of compounds are produced only by marine organisms. This is one of the first papers to show that freshwater organisms can also do this."

Besides Gleason and Mason, the authors of the paper are: Kent Edwards, a chemist from the H.B. Fuller chemical company in St. Paul, and Joseph Pignatello, Robert Carlson, and John Wood of the Gray Freshwater Biological Institute. □

Tom Foley

Florence Gleason

REPORT

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An Irishman's Observations on the 'Humble Potato'

by William Hoffman
Associate Editor of *Report*

It was the 23rd of June, the night before the feast of St. John the Baptist, and on Ireland's southern coast a boy was heading for the potato fields to join his pals.

They were only too eager to help the farmers build bonfires on the edges of the fields and watch the smoke waft over the plants. Their ancestors believed smoke had a protective effect on the potato plant, and if that notion was no longer firmly held, the farmers still had to get rid of the dead foliage lying about.

In the middle of the 19th century, Ireland had paid a dear price for failure of the potato crop. As a boy, building bonfires on "St. John's night," Vincent Hegarty probably didn't know precisely how great a price. But today, as a professor of food science and nutrition on the Twin Cities campus, he has taken it upon himself to find out.

The result was "An Irishman's Observations on the Potato: Its Historical and Nutritional Significance," one of a series of six public lectures sponsored by the College of Home Economics.

The "humble potato," as Hegarty calls it, is not really so humble at all. Over the centuries it has become a primary staple in many parts of the Western world, and with good reason. The potato is highly nutritious food.

The potato is native to the Andes mountains of Peru, where it was cultivated by the Incas. It was introduced into Ireland by none other than Sir Walter Raleigh, and by the 19th century that country had become dependent on it.

The daily diet of an average Irish laboring man consisted of 10 pounds of potatoes—about 30 medium sized potatoes—plus milk. The potatoes were "boiled in their jackets" and sometimes mixed with a little onion, salt, or lard, Hegarty said.

All in all, it was a wholesome if bland diet. Indeed, it was probably more wholesome than what many Americans eat today. A potato has only slightly more calories than an apple, and is high in iron, thiamine, and vitamin C, Hegarty said. The milk furnished protein and calcium.

The potato was the ideal food for a rapidly expanding population, provided the crop did not fail. It enabled the Irish to produce great quantities of food rather cheaply from small plots of ground. The yield from one acre was incredibly high, averaging 73 pounds per day every day of the year, he said.

But the Irish were courting disaster, for the potato of the mid-19th century—before disease-resistance was bred into it—was singularly liable to failure. A severe blight struck in the fall of 1845.

According to Hegarty, on the eve of the famine the population of Ireland reached an all-time high of more than 8 million people, compared to less than 5 million today. By the end of the famine, which raged from 1845 to 1850, about a million people had died from starvation and disease and another million had left the country, many of them for the United States.

The appalling devastation wrought by the famine can be traced in large part to the system of land ownership and tenant farming, according to Hegarty. The system resembles that of some Central and South American countries today, he said.

Landlords, many of them absentee, allowed their land to be subdivided to a dangerous degree, which encouraged the crowding of more and more people on less and less land. Tenant farmers who could not pay their rent were sent packing, sometimes at the point of a gun.

Ironically, at the very moment Ireland was starving, it was exporting food to England, Hegarty said. According to one account, wheat, oats, cattle, pigs, eggs, and butter sailed away. These were the products that served as rent for the tenant farmers and kept them from being evicted, which was a virtual death sentence.

Ireland was made part of the United Kingdom by the Act of Union of 1800, but the British government's handling of the famine left a lingering resentment. Indeed, the seeds of active resistance to British rule were sown in its wake, Hegarty said. Resistance organizations "originated in post-famine Ireland because of the failed attempts by government to control the famine," Hegarty said.

Although governments of the middle 19th century weren't equipped to deal with

U Scientists Refine Hypertension Test

by Ralph Heussner
University News Service Writer

Scientists on the Twin Cities campus have refined a simple and reliable blood test that can diagnose the most common form of high blood pressure, essential or primary hypertension. The test may also enable clinicians to predict which children will grow up to have the disease that affects one in seven American adults.

The laboratory test takes less than an hour and may someday become part of routine physical checks, according to John Eaton, Medical School professor of laboratory medicine and pathology and head of the nine-month study. The research team included geneticists John Mahoney and John McSwigan and physical anthropologist Nina Etkin.

The test detects differences in the way red blood cells absorb sodium. In hypertensive patients, the cell membranes tend to be more permeable or "leakier" than in normal individuals, according to the scientists.

"We can discriminate between people suffering from essential hypertension [elevated blood pressure not caused by disease] and secondary hypertension [a form of the disorder usually resulting from infection or disease]," Eaton said. "Making this distinction is often a very difficult thing to do clinically. In certain cases, it might be possible to avoid slightly risky diagnostic procedures by using our test."

Simply put, high blood pressure prematurely ages the body's circulatory system. Arteries constrict and force the heart to work harder to circulate blood through the body. This stress on the heart and blood vessels may cause heart attacks, strokes, and kidney failure. While there is no way to prevent hypertension, it can be controlled through medication, diet, and changes in lifestyle.

Eaton said the ability to forecast onset of the disease may be the more important discovery "because hypertension is certainly aggravated by high salt intake over a period of years. If young people who are prone to the disease could be advised not to consume large amounts of salt, it might help prevent the disorder."

Scientists have long suspected a genetic component in essential hypertension. Eaton said that his study of more than 200 patients at University Hospitals shows that about half of the children with a hypertensive parent will also have "leaky" red blood cell membranes.

The Minnesota researchers emphasized that they are not the first to notice abnormalities in sodium transfer in hypertensive patients. "But we have developed perhaps the simplest and most reliable technique to look at it," Eaton said.

In previous studies at other medical centers, doctors found that when they pumped the element lithium into red cells and then placed the cells in a sodium solution, there was greater permeability in the red cells of individuals with high blood pressure. This process required one or two days, however.

"We felt that the underlying abnormality was the greater permeability to sodium," Eaton said.

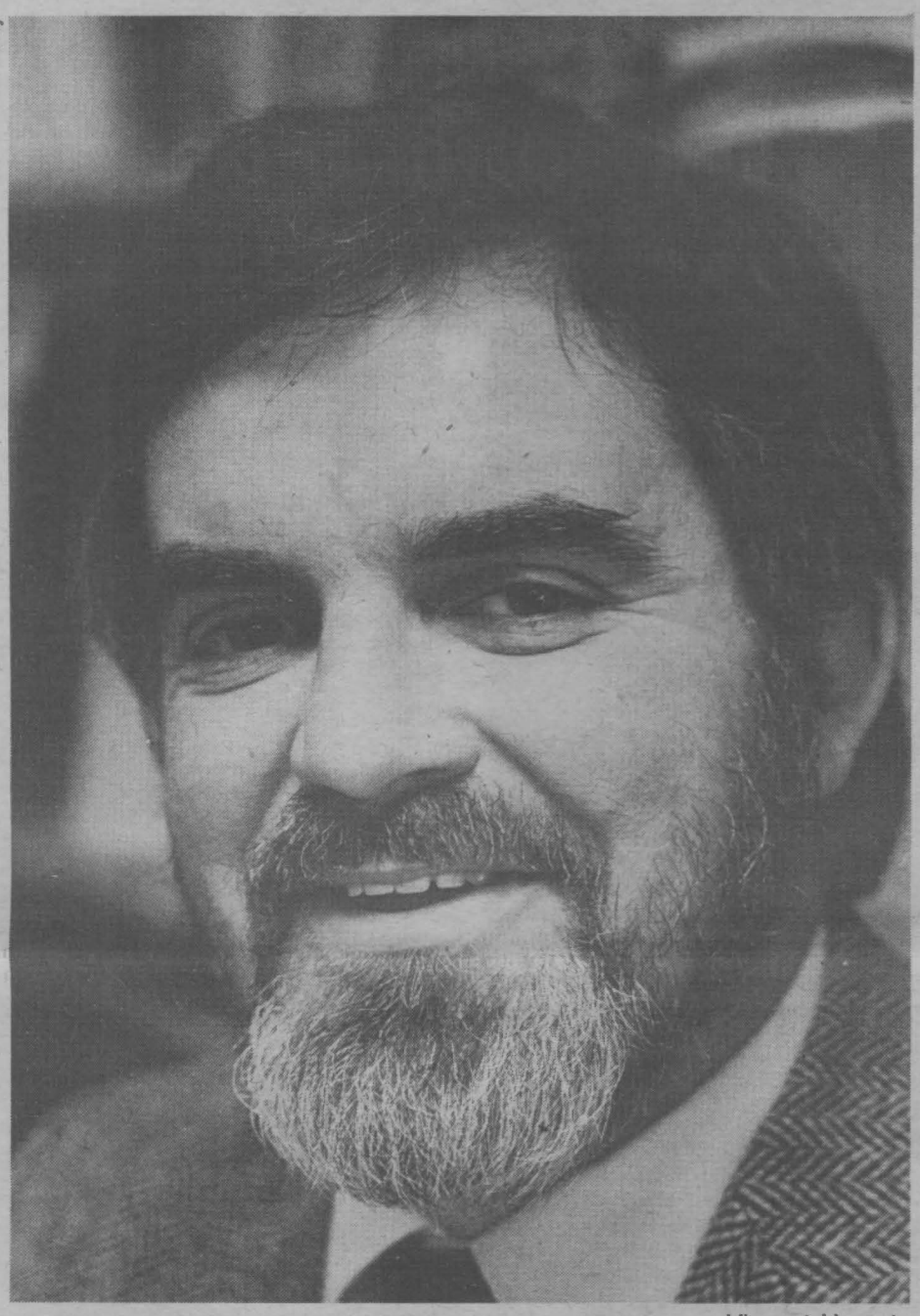
While effective in diagnosing hypertension in Caucasians, the test fails to differentiate between normal and abnormal red cells in hypertensive black patients. "It looks like an entirely different disorder," Eaton said. Hypertension is two to three times more common among blacks than in the general population.

The Minnesota scientists say they still cannot answer the basic question of what causes hypertension, nor can they explain why red blood cells in hypertensive patients are leakier than in normal individuals. "What we're working on might help unravel the precise genetic basis of hypertension," Eaton said. □

Tom Foley

The eviction of tenant farmers and their families was commonplace during the Irish potato famine. Many erected shelters along the roadsides and in ditches. From the *Illustrated London News,* December 1848.

Tom Foley



Vincent Hegarty

natural disaster on such a scale, Hegarty noted that the British government attempts were strikingly inept. Its chief ministers were saddled with an economic philosophy: rigid laissez-faire capitalism. Relief for the starving Irish could best be carried out by the open market, and their fate must be left "to the operation of natural causes," as a leading British minister put it.

When the government did distribute some corn meal, which it had reluctantly purchased from the United States, the Irish were so wary of it that many refused to eat it. "They didn't trust their rulers," Hegarty said.

Few visible traces of the great famine remain in Ireland, he said, but the problem of hunger in the world has scarcely diminished. "Hunger causes political, social, and economic problems. Look at Poland."

At an international conference on aid to developing countries held in Cancun, Mexico, last fall, President Reagan urged the leaders of such countries to rely more on the marketplace to solve their food problems.

But the free marketplace has its limitations in providing emergency relief, and Hegarty stressed that the system of nonintervention by government failed miserably in Ireland during the famine.

Relief efforts should involve helping poor countries to find appropriate alternatives to their staple crops so that they don't become entirely dependent on them, he said. Any such alternative foods "have to be acceptable to the people."

Over the years, Irish farmers have become disillusioned with growing potatoes, Hegarty said. "Ireland is a member of the Common Market, and other crops have proved more profitable."

Today, Ireland imports potatoes from the Netherlands and from Cyprus. But potatoes are still grown in some places on the Emerald Isle, and it's a fair guess that Irish boys still help to build bonfires next to the potato fields on St. John's night. □

Budget Cuts

(continued from page 1)

year will be reduced. The amounts for faculty and civil service increases will be kept separate, Magrath said, and funds will not be "bled away" from the faculty to cover mandated civil service increases.

Because faculty increases are not mandated by law, Magrath said, there are the options—all bad—of paying lower increases (maybe 5 percent), retrenching and reallocating, or raising tuition. Retrenchment in the civil service salary base will probably be needed to cover civil service raises.

Budget cuts outlined for the regents last month include reductions of $5 million to $7 million in administrative and support units, $2.5 million in state specials, $3.5 million in academic programs on the Twin Cities campus, and $1 million to $1.5 million in total budgets on the coordinate campuses.

Immediate cuts in administrative and support units will mean the loss of at least 200 jobs and the elimination of at least 20 administrative positions, Magrath said.

Layoff notices went to 63 custodial workers in late January. The first word had been that 120 custodial workers would be laid off, but almost half of the cut was handled through attrition. Student jobs that were open at the beginning of winter quarter were left unfilled, with the result that it was not necessary to lay off any student custodians.

All academic positions on state funds, except those for graduate or undergraduate assistants, are subject to control for the rest of this fiscal year. Jobs may not be filled unless it can be shown that failure to do so would have serious academic consequences for many students. Searches for academic positions in 1982-83 can continue if consistent with a unit's program priorities.

Civil service jobs on state funds are also subject to central control. Exceptions may be granted by the appropriate vice president where critical need is established.

No newsletters or magazines may be published beginning spring quarter without explicit permission from a central review body. Procedures for the review had not been established by late January.

Some $775,000 in funds for indirect cost recovery and equipment replacement, normally distributed to academic units over the course of a year, will be withheld. An overall goal is to save $1 million in funds for academic units this year in order to ease the burden of next year's cuts.

Service charges will be increased for fleet services, flight services, technical service shops, biomedical graphics, Concerts and Lectures, University Gallery, and computer services to outside users. Bus service on the Twin Cities campus will be reduced by 7.5 percent.

The University Relations budget will be cut 15 percent, the Police Department budget 8.5 percent, and the Personnel Department budget 8 percent.

Funding for libraries on the Twin Cities campus will be cut more than 3 percent. Some specialized units will be consolidated in a single location. Acquisition funds will be protected.

The Measurement Services Center and Student Life Studies will be phased out. Tenured and career employees will be "reassigned to priority areas."

Educational Development Program grant money will be reduced 50 percent for the remainder of the biennium. The staffs of the Educational Development Center and University College will be combined.

Specific plans on cuts in the state special appropriations, the Twin Cities campus academic program, and the coordinate campus budgets were to be presented to the regents this month. The board was to vote on a tuition increase as well.

"If at all possible, we should not increase tuition during the current school year," Magrath said at the January regents' meeting. Students make their financial plans at the beginning of a school year and are not able to change them drastically midstream, he said. At that time the proposal was to increase tuition 13 percent beginning in the summer.

"If the budget cuts go deeper than expected, then we are obviously going to have to reexamine additional reductions in University budgets and additional tuition," Magrath said.

Rose Johnson, a student representative to the board, said the projected tuition increase would have serious consequences. "You are talking about students' very livelihood—how they are going to buy food and pay rent, especially when financial aid has been decreased so," she said.

Regent David Lebedoff said that while the pain of tuition increases is readily apparent, "the cuts in the academic programs are far more harmful in the long run."

Kenneth Keller, vice president for academic affairs, said that many of the administrative and support cuts the University has been forced to make seem invisible, but affect the quality of the education a student gets. Position cuts from the library system will affect students, as will the elimination of the Measurement Services Center, which evaluates courses, and cuts in the budget of Media Resources, which prepares educational filmstrips and other classroom needs.

"The most tragic thing about what we're doing is the people cuts," he said. □

Tom Foley

Paul Eide shows the drunken father puppet to Wentworth Quast.

Puppets Show Children How To Cope With Stress

by Paul Dienhart
University News Service Writer

At first glance, it appears to be a cross between a Muppet movie and a television soap opera: puppets portray a drunken father, a tearful daughter, and a wise grandfather.

In fact, it is a video play that teaches children how to cope with the stress of having an alcoholic parent.

"Nobody can make you feel bad or upset unless you want to feel that way. You make yourself upset by the way you think," says the grandfather, who speaks in the voice of Professor Wentworth Quast, a child psychologist in the School of Public Health. "The funny thing is, the puppet looks just like my 93-year-old father," Quast said.

Two years ago Quast got the idea of making a videotape to teach children the principles of rational emotive training, a technique for coping with stress devised by psychologist Albert Ellis. Ellis assumes that what we feel depends on what we think. "It's not events that make us angry, unhappy, afraid, or guilty, it's how we perceive these events," Quast said. "We upset ourselves."

While trying to find the best way to get these ideas across to children as young as five or six, Quast chanced upon Paul Eide, a filmmaker in Media Resources. Eide was a natural collaborator for the project: he is an experienced puppet maker and puppeteer.

"When I began to work on the project I thought I must test out this theory," Eide said. "When I'm feeling irritated I stop to see what's actually bothering me. It's usually something as horrible as itchy long underwear. It's like what Mark Twain once said, 'My life is filled with terrible misfortunes, most of which never happened.' "

Eide made six puppets, built the stage, and directed the camera and puppeteering for a scenario written by Quast and psychology graduate student Josh Martin. The resulting 20-minute videotape, "Knowing, Feeling, Growing," has two parts. The first half teaches children how to be less upset by stress in general. The second half concentrates on the stress of having an alcoholic parent.

In one scene, after the father returns home drunk, the daughter wonders if it is her fault that her father drinks and what she should be doing to make her father change. Her grandfather helps her realize that her father won't change until he wants to and that she isn't responsible for his drinking. Instead of moping, she and her brother decide to organize a trip to the zoo, where their father was supposed to take them.

"The film talks about thoughts as harmful or helpful," Quast said. "Harmful thoughts are often unrealistic—thoughts like 'Adults should always be perfect' or 'I should always get what I want.' If children are able to identify the harmful thoughts behind their hurt feelings, they're in a position to substitute helpful thoughts.

"If you're very upset when you make a mistake, maybe it's because you expect yourself to be perfect. It would be better to realize that making mistakes is part of being a person, then do something to avoid making the same mistake in the future."

The video play introduces four to eight classroom sessions on the coping method. Quast and Martin have written a teachers' manual that outlines discussion and homework in identifying feelings, discovering the thoughts behind those feelings, and changing faulty thinking. Quast has seen young children not only master this self-counseling technique, but teach it to their families.

The next step is testing the effectiveness of the video play and classroom training in the Robbinsdale school system, Quast said.

The techniques will work for any stressful situation, Quast said. He decided to concentrate on children of alcoholic parents because there is evidence that they suffer from stress that can lead them to become emotionally disturbed or chemically dependent. It has long been the impression that these children are a high-risk group for problems, and Quast is the first to confirm this with scientific data in a paper he has submitted for publication.

Personality inventories of 50 children of alcoholic parents being treated at the Hazelden treatment center in Center City, Minnesota, show "significant psychological, social, and emotional problems," Quast found. The younger children in the study seemed to be the most adversely affected. Quast followed that study by training 18 of the children to use rational emotive techniques.

"We're hoping to provide the coping skills to prevent future psychological problems," Quast said. "The new revolution in psychology is the emphasis on prevention. Ninety-five percent of the federal money still goes to treating existing psychological problems, but there's a trend to preventing these problems in high-risk groups."

The federal program to control teenage abuse of drugs and alcohol recently shifted from concentrating on the dangers of the chemicals, Quast said. "Rather than promoting the bad effects of drugs and alcohol, we're promoting health. We're trying to help people change their quality of life so they don't have the need to muck around with booze and drugs."

Children of alcoholics, obese people, American Indians, the elderly—any group of people likely to be in stressful situations—can benefit from preventive psychology like rational emotive training, Quast said.

"Now that I'm getting ready to retire I find that I'm in the most exciting part of my career," Quast said. When he moves to his farm in northern Wisconsin in June, he plans to continue his work in coping with stress at the Red Cliff Indian Reservation. He has already formed a women's support group there.

He also hopes to return to campus to work on other film projects with Paul Eide. "The next one we'd like to do would be a version for American Indian children," Quast said. "I think we can base the techniques on a myth told by a tribal elder." □

Tom Foley

The puppet family

Director Creates Stars Out of Wood and Rubber

by Paul Dienhart
University News Service Writer

Paul Eide came to the University as a puppeteer, spent the next 16 years as a filmmaker for Media Resources, and now has combined his two vocations in a videotape that uses puppets to teach children how to cope with the stress of having an alcoholic parent.

"I was hired as a freelancer to make a couple of puppets for a civil defense commercial for farmers," Eide said. "Something on how many straw bales to pile around your cow in case of nuclear attack. I think the commercial actually was shown a couple times around 1 a.m. Unfortunately, not too many farmers stay up that late."

While he was working on the commercial, a filmmaking position happened to open up. "We had a good time making the commercial even if we didn't quite believe in it, and I was asked to take the filmmaker position," Eide said.

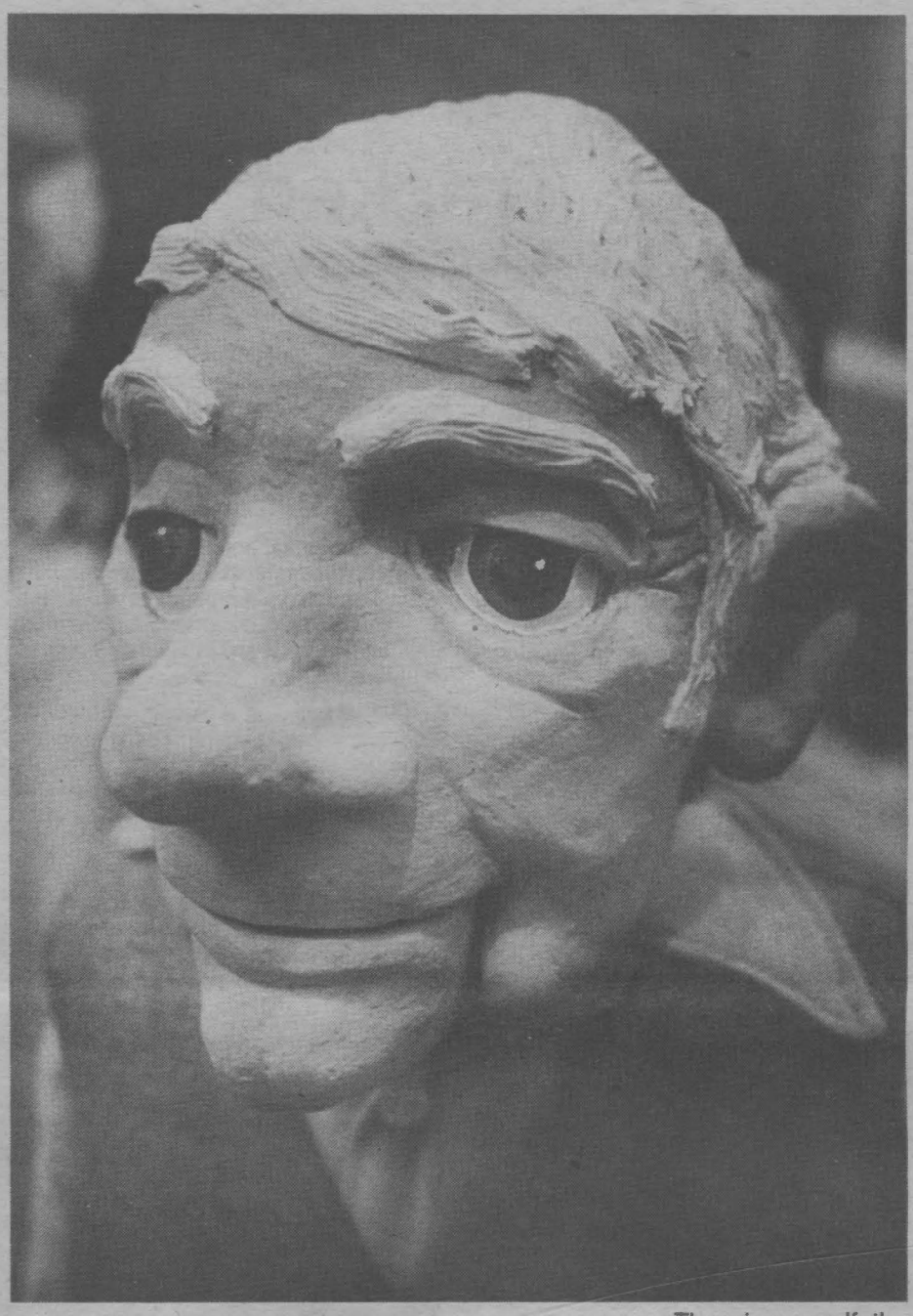
He continued his interest in puppeteering and is once again president of the Twin Cities Puppeteers.

"I had been wanting to experiment with building rod puppets, and when Dr. [Wentworth] Quast came up with the idea for this project I thought here's my chance to have his project pay for my materials," Eide said. He did all the construction on his own time, spending weekends at his workbench.

The six puppets he constructed are much more sophisticated than is usual. (In the heat of a live show a puppeteer often has to fling a puppet to the floor to bring the next character on stage.) A control mechanism that went through five evolutions makes the puppets' heads swivel and nod, while a trigger moves the jaws. All this can be done with one hand. The other hand controls the rods that move the puppets' arms. The puppets are heavy enough that Eide designed body harnesses for the puppeteers to support them. "Otherwise I'm afraid the puppets would slowly sink during the course of a scene," he said.

"My chief difficulty was giving the puppets the lifelike quality the Muppets seem to create so easily," Eide said. "I watched Sesame Street for some tips, and, of course, I've always paid close attention to Miss Piggy."

Tom Foley



The wise grandfather

Tom Foley

Paul Eide and his cast of puppets

After making "skulls" fitted with control mechanisms, Eide sculpted faces out of rubber, then baked the heads in an oven to harden the features. Only one of the heads came out slightly overdone—a blister here and there that could be taken as an adolescent's skin blemish. Eide felt the realistic detail of the rubber faces was needed to satisfy children raised on sophisticated television productions.

Eide also found that the sets had to be more elaborate for a televised version of a puppet show. He built a camera platform that allowed the camera to roll back and forth with the movements of the puppets.

The budget—grants from the University's Center for Educational Development and office of Alcohol and Other Drug Abuse Programming—was sufficient to cover the cost of materials. Media Resources employees Ernie Steck and Nancy Johnson provided voices for two of the puppets. And Eide convinced public health professor Wentworth Quast, originator of the project, to lend his New England accent to the role of the wise grandfather.

The script broke into 28 blocks of shooting. Eide helped with the puppeteering and shared the camera operation with Steck. Two of Eide's friends from the Twin Cities Puppeteers, June Hendricks and Jay Goede, operated the other puppets.

The 20-minute show took a lot of hard work over the course of two years, but Eide expects the next production to be faster and better. "We learned a lot, and we'll do twice as well next time," he said. "Working on my own time didn't bother me at all. I gained some valuable experience as a filmmaker, and I finally got a chance to get back to what I wanted to do when I was hired for the job." □

On the Trail of the Tiger: Bengals Tracked in the Wild

by William Hoffman
Associate Editor of *Report*

Collaring cats might seem to be an unusual activity for a scientist, but Dave Smith rather likes it. The collars he uses are equipped with radio transmitters, and the cats he collars are Bengal tigers.

Smith, a graduate student in the Department of Entomology, Fisheries, and Wildlife on the Twin Cities campus, just finished a field study of the tigers in Nepal's Royal Chitawan National Park. The study was supported by the Smithsonian Institution and the World Wildlife Fund as part of a continuing effort to ensure that the magnificent, endangered cat has a future in the wild.

The University was chosen to participate in the study because of its advanced radio telemetry program, according to Peter Jordan, associate professor of wildlife and Smith's adviser. The University's Cedar Creek Natural History Area is a national proving ground for telemetric techniques, he said.

Smithsonian officials initially contacted Donald Siniff, professor of ecology and behavioral biology, who gave the project to graduate student Mel Sunquist. When Sunquist left the project after a time, Smith took over.

In the course of several years, Sunquist, Smith, and a Nepalese colleague fitted two dozen of the park's approximately 100 tigers—some of them more than once—with collars that contained small battery-operated transmitters. The scientists then used a radio receiver and antenna to learn about the tigers' dispersal patterns and territorial behavior, information that is central to managing the Chitawan and its wildlife.

Capturing cats

The tiger is a solitary animal and generally avoids contact with humans, so capturing it takes a little finesse. Fortunately, Smith's Nepalese guides, shikaris, know all the tricks.

A baiting site is chosen and a deer or buffalo is tied there to lure a tiger. After the kill, the tiger drags its prey to nearby deep cover to eat it.

The shikaris, mounted on elephants, then drive the cat into a wide-mouthed funnel of white cloth already strung through the brush like a three-foot-high fence. Tigers ordinarily will not jump over it.

Smith, perched in a tree at the neck of the funnel, waits for the tiger to show. When it does, he fires a tranquilizing dart at it and then follows it. If his shot was true, the animal is somewhere nearby in a deep sleep.

Smith has several hours to collar and tag the tiger. First, he soaks its striped fur with water to bring its temperature down, for the tranquilizer can cause hyperthermia. Then he weighs it and checks its physical condition.

He fits the cat with a plastic radio collar that weighs about a pound. Then he tattoos a number in the tiger's earflap. Finally, Smith holds up the cat's head so that the pattern of its facial stripes can be recorded. Each tiger has a unique pattern and so can be identified on sight.

The research team waits until the drug wears off and the cat can make off on its own. A tiger often will return to the bait the same night, according to Smith: the drug produces amnesia while the animal is under its influence.

Territorial imperatives

The tiger is usually thought of as a solitary, nocturnal creature, unlike the lion. "Actually, tigers have a highly developed social organization, even if they are not highly social," Smith said. "They communicate very well with each other."

A female tiger's territory includes the resources it needs—cover, security, and prey—to raise its young, he said.

The critical interest of the male tiger is the female and, being polygamous, he is likely to include in his territory the territories of several females—as many as seven, Smith said.

A female tiger always stays in her prime habitat, where she can raise her young, but young males tend to be more footloose, wandering into marginal habitats and making many contacts with females along the way, according to Smith.

A male's territory encompasses several female territories and never overlaps with the territory of another male. But a female's domain can intrude into that of a second male, creating "an unstable situation," Smith said. Male tigers sometimes get into fights over a female and leave one another maimed and unable to hunt, he said.

Tigers wounded in fights or by bullets occasionally turn into man eaters. "They may start with livestock and initially kill a human out of fear," Smith said. Man eating is not natural because it is not something a tiger learns from its mother, "but once a tiger turns into a man eater, there's no going back," he said.

One of the animals collared was later discovered to be a man eater and to have associated with a young female, which it taught to kill humans, Smith said. But such behavior is exceedingly rare.

Man-eating tigers are not so rare in some areas. In a region of Bangladesh, humans provide an estimated 1 percent of the tigers' food. People who wander into the forests in search of wood and other resources are easy prey, Smith said.

Save the tiger

The batteries in the tigers' radio collars last from two to three years, Smith said. That is enough time to get a pretty good idea of their specific territorial boundaries.

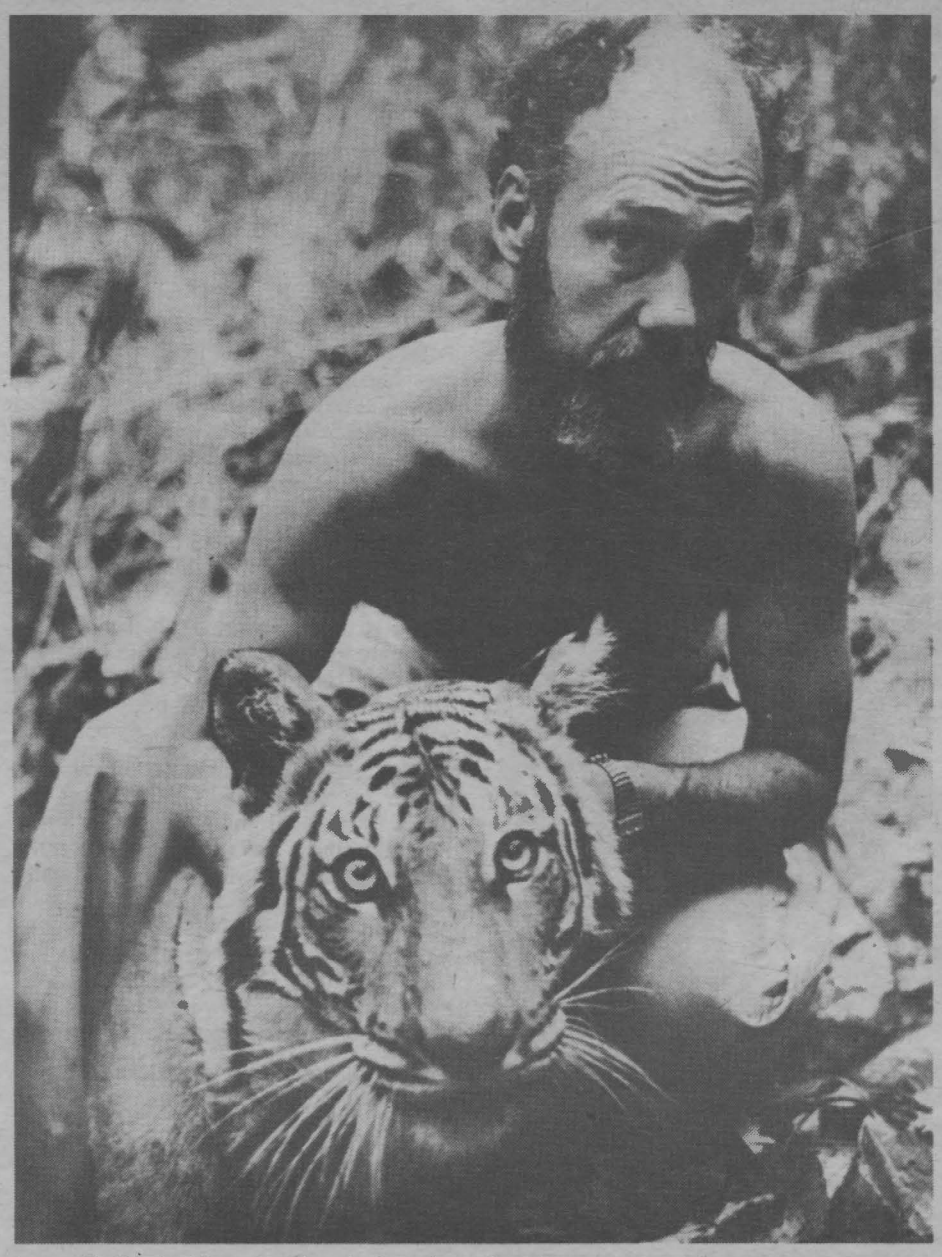
Collared tigers are tracked from elephants, from vehicles, or from airplanes. Airplanes are preferred because radio tracking can be carried out from distances of up to 25 miles, but Smith did not always have access to a plane. Reception is limited to several miles in open grassland and less than a mile in dense forest, Smith said.

In the course of his study, Smith learned that there are about 30 breeding animals in the Chitawan Park and about 50 in the park region, which is isolated from other tiger-populated regions. One of the reasons Smith is urging that the park be expanded is to maintain a minimum breeding population. A small gene pool can cause physical problems, he said.

Smith recommends that the protected tiger habitat be expanded beyond the park boundaries to include what is now a deer hunting preserve, a forest area that is being carefully harvested, another forest area in which local wood-gathering is allowed once a year, and buffer grasslands.

"In Asia, the high human population means that we must devise multiple-use programs that will protect the wildlife habitat and still permit people to use natural resources," Smith said.

One of the advantages of protecting the tiger's habitat is that, being "the top carnivore," it needs the most territory. If



Dave Smith holds up a tiger's head so that its pattern of facial stripes can be recorded. Each tiger has a unique pattern and can be identified on sight.

the tiger is protected, then a wide variety of other animals are automatically protected, Smith said.

Moreover, the forests and game preserves provide a protective watershed for the serious problems of soil erosion in Nepal, he said.

But the soundest reason for protecting the tiger's habitat is simply to save the tiger. In 1969, the International Union for Conservation of Nature and Natural Resources declared the tiger an endangered species and called on all nations with tigers to protect them. What big game hunting did to the tiger in the 19th century, grazing livestock and deforestation was doing in the 20th: the tiger's habitat was diminishing.

Today, there are about 5,000 tigers in the wild worldwide, about 3,000 of them on the Indian subcontinent, according to Smith. Through the work of Smith and wildlife ecologists like him—some of whom are from countries that have tigers and who have been trained in the United States—dwindling populations are being stabilized. In some areas the decline has even been reversed. And unlike many other land mammals, the tiger is just beginning to be studied scientifically. □

Tom Foley

"I have no real fear of tigers, but I have great respect for them," Dave Smith said.

Enrollment of 56,091 Is Record for Winter

A record 56,091 students are attending classes this winter, making the quarter the 12th consecutive one in which enrollment has increased from the year before.

Figures released by Admissions and Records show enrollment increased by just under 1 percent this quarter, with 458 more students on the five campuses this winter than last.

The Twin Cities campus increased by 327 students for a total enrollment of 44,942. There are 24,985 men and 19,957 women attending classes. More students—16,919—are enrolled in the College of Liberal Arts than in any other unit. Enrollment in the Institute of Technology increased by 329 students and 162 more students are enrolled in the Graduate School this winter.

Other increases on the Twin Cities campus were in the College of Education, General College, and the College of Home Economics. Enrollment in the College of Education increased by 121 students for a total of 1,888, and General College's enrollment increased by 30 students to 3,211. Enrollment in the College of Home Economics increased to 1,286—29 more students than last winter.

There was little fluctuation in enrollments at other campuses. Duluth campus enrollment grew by 63 students to 7,203. At Morris, the student population grew from 1,551 students last winter to 1,619 this year. There was almost no change at Crookston or Waseca: Crookston's enrollment decreased by one student, and Waseca's increased by one student.

"Once again it is clear that the citizens of our state value higher education and see the University of Minnesota as a unique educational resource," said President C. Peter Magrath.

Magrath called January a record-setting month because of the continued increase in enrollment in the face of "the single largest funding cut" in the University's history.

"Our dilemma is equally clear," he said. "It becomes increasingly difficult to educate record numbers of students at the high quality that they and our state expect with fewer funds." □

Layoff Policy

(continued from page 1)

Even when the rules are clearly understood, employees may find them unfair as they are applied in specific cases. For example, a superior employee who is reclassified several times may end up with less seniority than employees who are newer to the department but who have stayed in one class.

"No matter what kind of seniority system you design, you will have individual situations that appear to be totally illogical," Loza said. "I haven't seen a system that can be implemented on a large scale that would be fair to everyone."

Salary cuts

Employees who bump into lower classifications may or may not end up with their salaries reduced. The rule is that the employee shall be paid no more than the maximum for the salary range in the new (lower) class. Within that limitation, it is up to the department whether to maintain the old salary or reduce it.

What if a department reduces an employee's hours and thus reduces the pay? Will an employee who quits instead of accepting such a reduction be eligible for the University's layoff benefits or for unemployment compensation from the state? It depends on the extent of the reduction.

Within the University, Loza said, any reduction from 100 percent time down to 75 percent time is not considered a layoff and people have no rights to the layoff list. But employees who are cut to less than 75 percent time are eligible for layoff benefits.

Jack Weidenbach, a supervisor in the benefits branch of the Minnesota Department of Economic Security, said that "normally, if the employer changes the working conditions so that there is a substantial effect on wages, the employee is eligible for unemployment benefits." How much of a reduction is regarded as substantial? "There is no set rule, but it might be between 10 and 20 percent," Weidenbach said.

"If my hours and my pay were cut in half, I'd probably be judged to have quit with good cause," he said.

Unemployment eligibility

In deciding whether to accept a layoff or whether to exercise bumping rights, employees may want to know whether they can choose not to bump and still be eligible for unemployment compensation. It depends on the individual situation.

Refusal of a job offer is grounds for disqualification, but it is not necessarily clear that someone who has chosen not to bump has refused a job offer. Some departments might spell out the options, others might simply tell people they are being laid off and leave it to them to find out about their bumping rights. In the second case, Loza said, "you could argue that it's not a job offer. I have seen decisions go both ways."

If unemployment officials learn that an applicant has refused a job offer, they are required to pursue the matter. But Weidenbach said that "normally we ask the reason for separation from the last job. If people say they were laid off, we wouldn't question them further."

The way people are usually disqualified is that their former employer protests their claim. Harold Bernard, director of Employee Benefits, said that the University will protest if a job offer has been made.

Both Loza and Weidenbach stressed that cases are judged on their individual merits and the outcome cannot be guaranteed in advance. "I don't want to be cast as making unemployment compensation eligibility decisions in advance, because we don't make them," Loza said. "We would want to avoid prejudging an issue before it comes up, but we want to give people as much information as they deserve in order to make a decision," said Weidenbach.

Maximum unemployment benefits are $177 a week for 26 weeks. Benefits are computed on the basis of the average weekly wage during the year before the claim is filed. Anyone who has earned an average of $170 or more will receive 50 percent of that amount, up to the maximum of $177.

Total unemployment benefits for University employees are paid by the University. "We're basically self-insured. We do not pay into a fund as most other employers do," Loza said. The need to pay unemployment benefits for a large number of employees "probably will require us to make a bigger initial cut than at first would appear necessary," he said.

Layoff list

Within the University, the primary benefit offered to employees who have been laid off is placement on the layoff list. People are automatically placed on the list at the time of layoff, and then letters are sent to ask if they want to stay on the list.

Seniority credit for purposes of the layoff list is based on the person's total University service. Seniority is still by classification, but it can be earned in more than one department.

An employee on the layoff list must be recalled when a vacancy occurs in the department and classification from which the layoff occurred, provided that the employee is qualified to perform the work.

Employees on the layoff list will be rehired in seniority order in positions for which they apply, ahead of all other applicants, except for recalled employees, if the vacancy is in a previously held classification and they are qualified to perform the work. Employees on the layoff list compete on an equal basis with current employees for positions in other classifications.

An employee on the layoff list has the right to refuse the first position that is offered but must accept the second or be removed from the list. If an employee turns down a job offer and continues to collect unemployment benefits, the University will protest.

It is up to the employees to keep track of job postings, Loza said, but "if we suspect that someone is trying to ride out their unemployment and has no interest in working, they may well hear from us. We would be particularly looking at situations where we know we have vacancies and we haven't seen people applying for them."

No jobs are now open for custodial workers, he said. "I'd be surprised if we ever see a day where there are no clerical vacancies, but I've been surprised around here before." □

Coping With 'Cabin Fever': Advice From the Frozen North

by Jeanne Hanson
University News Service Writer

Dissatisfied at home, restless, bored, irritable, stuck in your routine, frustrated, impatient, depressed, useless, sluggish, moody, angry, or lonesome?

These feelings—listed in order of frequency—are the most commonly reported symptoms of "cabin fever," that cooped-up feeling that can hit during long spells of winter weather.

Minnesota—where coping with cold weather is a way of life—can offer help to the rest of the frozen country in one of the most unusual winters on record. A recent research project has turned up many methods Minnesotans use to cope with cabin fever, and has found who is most prone to it and why.

Paul Rosenblatt, professor of family social science on the Twin Cities campus, and his colleagues interviewed a sample of Minnesotans ranging in age from 17 to 80. They found that cabin fever hits at least half of Minnesota's population during a given winter. Families with young children, the elderly, the unemployed, and those who are sick or caring for a sick person are hit especially hard, he said.

"For people who are widows or widowers, Sunday can be a very heavy day," he said. "That used to be a family togetherness day."

Getting out—no matter how cold it is—is the most common way people cope with cabin fever, he said. Escaping from family members, especially children, even if only for a brief shopping trip, is helpful since cabin fever can quickly move from an individual problem to a relationship problem, he said.

Breaking one's routine and keeping busy were the next most common coping methods mentioned by the respondents. Planning a party, calling a friend on the phone, exercising, even doing more home chores apparently help. Winter hobbies were often cited too, everything from sewing to furniture refinishing to cross country skiing. People who enjoy winter sports are less likely to get cabin fever, Rosenblatt said.

Also mentioned as helpful were reading, watching television, visiting a friend, and taking a trip, Rosenblatt said.

Anticipating cabin fever can lead to other solutions too, he said. "You see it in your kids and you try to get them organized to do something so they're not so mopey and inert or irritable," he said. For school vacations, school "snow days," and weekends, parents should plan excursions and have a supply of games and library books on hand.

In the community as a whole, arts and other entertainment events should be scheduled specifically for winter. Planning more services for the elderly on Sundays, instead of only on weekdays, is a good idea, Rosenblatt said.

And, he added, cities with a domed stadium or covered sports arena should consider opening it up for families occasionally during the winter so children could play on the grass and the parents could jog.

The darker the day, the deeper the cabin fever, it seems. In Anchorage, Alaska, for example, where winter sunshine hours are especially short, there is a special clinic for cabin fever sufferers, Rosenblatt said. And calls to social service agencies in Minneapolis and St. Paul often peak on dark days when the barometer reading is low.

People vary in how they react to cabin fever, Rosenblatt said. Some tend to become confused and bewildered, others blame themselves for a spouse's cabin fever. Some become extremely inert, and others almost "throw the davenport through the living room window," Rosenblatt said. One respondent said that, as a child, she'd been beaten on "days like this."

But most people can help themselves cope pretty well, Rosenblatt said. One interviewee coped with cabin fever by dreaming of owning a cabin even farther north.

"You can get the view that we're all passive victims of our problems and that we need psychotherapists to bail us out," Rosenblatt said. "But what was clear in the cabin fever interviews was that people really do help themselves and that everybody had solutions to cabin fever." □

Supporters, Foes Surprised by Faculty Union Vote Results

by Paul Dienhart
University News Service Writer

Supporters and foes alike were surprised at the strong vote against faculty unionization on the Twin Cities campus. Sixty-three percent of the vote was for no bargaining agent when votes were counted December 29.

Unlike a previous collective bargaining election in 1978, there seemed to be no protest that the election was unfair.

The state Bureau of Mediation Services counted 166 votes for representation by the American Association of University Professors (AAUP), 518 votes for representation by the University of Minnesota Education Association (UMEA), and 1,166 votes for no agent. Eighty-five percent of the eligible voters participated.

The election was for all Twin Cities campus faculty members with the exception of those in the Law School and the health sciences units, who voted earlier not to be a part of any collective bargaining system at the University.

"Frankly, I was surprised the vote was as strong as it was," said Phillips Shively, a political science professor who formed an anti-union group, the Faculty Governance Caucus. "Just before the ballots went out [President C. Peter] Magrath announced the possibility of $57 million in budget cuts because of the state's financial crisis. I think the rational arguments we made against unionization must have won out over the emotionalism."

Shively said a major issue in his group's campaign was their finding that unionized campuses did not pay faculty better than nonunionized campuses. "I think the desire for better salaries was the biggest motivation for joining a union," Shively said.

During the last legislative session, University administrators asked for a 17 percent raise for the faculty this year. They argued that faculty salaries lost a great deal of purchasing power in the 1970s, and that the University was beginning to lose faculty members to industry and to other universities. Instead, the legislature passed a bill that gave the University faculty the average raise approved for unionized faculty at state universities and community colleges. That came to 8 percent for this fiscal year, but the University raised it to 10 percent by reallocating funds internally.

"After the next biennium, when the legislature again leaves the University faculty to last, I think we'll be ready for another collective bargaining election," said Michael Metcalf, a history professor who is spokesperson for UMEA. "The UMEA certainly is not going away. We were encouraged by the experience, if not by the results. Our active membership doubled during the election campaign."

Metcalf also said he was pleased that many faculty now seem to realize they have to become actively involved in the legislative process.

In November, just before the end of the collective bargaining campaign, some faculty members formed a legislative lobbying and campaign contribution group with the support of the Faculty Governance Caucus and the AAUP. Metcalf said he does not expect UMEA to join this group because it already has a legislative committee, but he expects that individual UMEA members will get involved.

The new lobbying group is separate from the University administration, said Bruce Overmier, a psychology professor who is president of AAUP. "We may have overlapping goals, but not necessarily identical goals," he said. "We'll keep the administration informed of our activities, but there will be no formal coordination."

Overmier said that the AAUP will support the faculty's choice not to unionize. "I'm just pleased that the faculty finally had an opportunity to express their feelings on the governance system," he said.

The 1978 Twin Cities campus collective bargaining election was generally regarded as an empty exercise because one of the proposed bargaining agents was virtually defunct. By the time of the election, nearly all the members of the University of Minnesota Federation of Teachers (UMFT) had switched allegiance to UMEA, but the state said it was too late to change the ballots. There were 1,032 votes for no representation, 617 votes for AAUP, and 86 votes for UMFT.

Faculty members at the Waseca and Duluth campuses are unionized. Both belong to the University of Minnesota Duluth Education Association (UMDEA). Faculty members at the Crookston campus have voted against unionization, and those at Morris have not yet had a collective bargaining election. □

Grant May Take Edge Off Industry's Lure

In an effort to neutralize the lure of high salaries private industry offers scientists and engineers, the Atlantic Richfield Foundation has given the University of Minnesota $125,000 to support selected graduate students and junior faculty members in geology and geophysics.

The fellowships—being provided to departments at 30 universities throughout the country—are intended to encourage interest in teaching careers in science and engineering by providing support for those preparing for such careers.

The four-year program includes $5 million in fellowships in chemical engineering, chemistry, metallurgy, petroleum engineering, mechanical engineering, electrical engineering, computer science, and botany as well as geology and geophysics. □

Magrath Calls for New Study of Hospital Renewal Project

by Ralph Heussner
University News Service Writer

President C. Peter Magrath has announced an independent review and assessment of University Hospitals' $154 million renewal project by a nationally known health care consultant.

"I have concluded that it would be wise to get an additional opinion regarding the basic assumptions underlying the project in light of the state of Minnesota's current fiscal situation and, in particular, because of the possible fiscal impact of proposed changes in federal health care policy and legislation," Magrath said.

Robert Derzon, vice president of Lewin and Associates, a Washington-based consulting firm, is expected to complete the study in time for review by the Board of Regents at the March board meeting. Derzon has served as administrator of the federal Health Care Financing Administration and as a hospital administrator at the University of California at San Francisco.

"Mr. Derzon has been asked to analyze our hospital project in light of the most likely trends in demand for hospital-based health services and federal financing for health care, and the impact of these trends on University Hospitals in the 1980s and 1990s," Magrath said. "Essentially, we will be asking Mr. Derzon to assess the validity of the basic health care assumptions used throughout the renewal process."

Commenting on the president's call for an independent review, Lyle French, vice president for health sciences, said, "While I have every confidence in the studies that have confirmed the feasibility of the project on a number of occasions, there are assumptions about the future economy and health care legislation that invite further review. I am pleased the president has taken this opportunity to call upon the assistance of an individual with the background and national stature of Mr. Derzon. This is in keeping with our commitment to the Metropolitan Health Board and the legislature to ensure a feasible and prudent project."

Ernst & Whinney, a financial accounting firm, has completed two studies of the hospital project's feasibility, concluding both times that University Hospitals will have sufficient revenue and cash flow to meet operating expenses and debt requirements. But in its latest report, presented to the regents January 7, the firm noted that future legislation could affect the project. Some health care analysts expect President Ronald Reagan to propose new limitations on Medicare and Medicaid payments. Reimbursements from these programs account for about 35.8 percent of University Hospitals' revenues.

Present plans call for the construction of a nine-story facility on East River Road that would replace 425 of the existing 719 beds in the hospital complex. The new building would also contain the majority of ancillary services such as emergency and operating rooms.

Hospital officials announced in early January plans to trim the size of the new "Unit J" by deferring construction of the tenth floor with a net reduction of 95 beds. The bed cut would not affect the overall licensed capacity of 719 beds. Hospital officials noted, however, that a final decision on the number of beds will depend on health care demand, market forces, and the approval of the Metropolitan Health Board. □

PEOPLE

Crookston: Wendell Johnson, associate professor of biology, and W. Daniel Svedarsky, associate professor of natural resources, have been elected to an advisory group of the Northwest Regional Development Commission, its Natural Resources Committee.

■ "Academic Contracts," an article by Anthony Kuznik, assistant provost for student affairs, will appear in the February issue of the *American Technical Education Association Journal*.

■ Provost Stanley Sahlstrom led the goal-setting and personal motivation workshop at the Rural Leadership Conference in Thief River Falls in January.

■ Twyla Treanor, court reporting instructor, was reelected to the Minnesota Office Education Association Postsecondary Executive Board of Directors.

Duluth: Former regent Richard Griggs was honored in January at the dedication of the R. L. Griggs Career Room at the Virginia Public Library. The room houses a collection of memorabilia from Griggs's business, University, and big-game hunting activities.

■ Odin Langsjoen, associate professor of dental hygiene, has been elected president of the American College of Dentists.

■ George Rapp, dean of the College of Letters and Science, received a $305,000 Environmental Protection Agency grant to continue research on the effects of acid precipitation on 200 to 300 lakes in Minnesota, Wisconsin, Ontario, and Manitoba.

■ Uwe Stuecher, associate professor of special education, received a First Class Medal of Merit from Ecuador's minister of education for his continuing work with Ecuadorian children with mental and physical disabilities. Three Fulbright-Hays Senior Lecturer grants have allowed Stuecher to work in Ecuador.

Morris: C. Frederick Farrell, Jr., professor of French, delivered a paper on "Marguerite Yourcenar's Essays: The Work That Is; The Work That Might Haye Been," at the Modern Language Association national convention in New York in December. He wrote the paper with Edith Farrell.

■ Joseph Latterell, professor of chemistry, has negotiated a three-year agreement with the Agricultural Research Service for research to separate, identify, and quantify liquids and complex ions in municipal wastewater sludge and effluent being spread on land for crop production.

■ A scene design by Tap Payne, assistant professor of theater arts, has been selected for inclusion in the U.S. Institute for Theatre Technology's Second Biennial Scenography Exposition. The design is from the UMM production "Land of the Dragon."

■ Fred Peterson, professor of art history, wrote "Vernacular Building and Victorian Architecture: Midwestern American Farm Homes," published in the *Journal of Interdisciplinary History*.

Twin Cities: Three faculty members have received research grants from the Robert Wood Johnson Foundation. Mitzi Duxbury, professor of nursing, will study how reducing sleep disruption in high-risk infants affects growth; G. Scott Giebink, associate professor of pediatrics, will evaluate medical treatment in chronic otitis media with effusion; and Daniel Kohen, instructor in pediatrics, will study ways to reduce the frequency and severity of asthma attacks in children.

■ Faculty members named Fellows of the American Association for the Advancement of Science in January are Phyllis Freier, professor of physics; Paul Gassman, professor of chemistry; Allen Goldman, professor of physics; Benjamin Liu, professor of mechanical engineering; Jack Oppenheimer, professor of medicine; Ruth Pitt, assistant professor of social, psychological, and philosophical foundations of education; Philip Salapatek, professor of child development; Leon Singer, professor of biochemistry; and E. John Staba, professor of pharmacy. Fellows are members "whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished."

■ Photographs by studio arts professor Gary Hallman were shown at Perihelion Galleries in Lincoln Center for the Arts in Milwaukee last month. Hallman is an internationally recognized photographer and is well known for his large silver prints on mural paper.

■ Clinton Hewitt, assistant vice president for physical planning, presented a paper, "Campus Renewal in the 1980s—The New Voyage of the *Beagle*," at the seventh annual Conference on Higher Education in Tucson, Arizona, in December.

■ George Wright, professor of English, has won, for the second time, the William Riley Parker Prize from the Modern Language Association of America. The award is given annually for the outstanding article published in the association's journal. Wright's article was "Hendiadys and *Hamlet*."

■ Harold Chase, professor of political science, died of a heart attack January 12 in San Diego, where he was on leave to teach at the University of California. He had taught at the University since 1957 and was acting vice president for academic administration in 1973-74. During the Carter administration he served as deputy assistant secretary of defense.

Waseca: Prabhu Rawate, assistant professor of related education, has been invited to present a paper on "Amaranth: The Crop for Solving the World Protein Shortage" at the Fourth International Conference on Resource-Conserving, Environmentally Sound Agricultural Alternatives to be held at MIT next fall.

3M Gives $1.2 Million to U Research Centers

3M has given $1.2 million to two Institute of Technology research centers.

The major portion—$1 million—will go to the Microelectronic and Information Sciences Center (MEIS) for basic research over a two-year period, and the financial support will be considered for renewal in 1983. The remaining $200,000 will help fund the Computer Aided Design/Computer Aided Manufacture Center (CAD/CAM).

Lewis W. Lehr, 3M board chairman and chief executive officer, said the financial support recognized that the University and companies such as 3M have common interests, including "complementary strengths in technological areas."

He spoke of an industry awareness of "the need to replenish the stock of basic research ideas and a belief that universities probably are best equipped to carry out this task in a cost-effective way.

"Closer interaction of this kind between academic institutions and industry can help the United States in its efforts to maintain a competitive world position," Lehr said, commending the University and the institute for "taking the initiative and assuming a leadership role in this activity."

"Naturally, the entire University community appreciates 3M's vote of confidence," said President C. Peter Magrath. "It is precisely this type of commitment that is so essential to advancing Minnesota's status as a high-technology leader."

Scientists from 3M's Electronic and Information Technologies Sector will collaborate in MEIS programs that already involve extensive participation of research personnel at Control Data, Honeywell, and Sperry Univac, according to Robert M. Hexter, director of the center. MEIS was established two years ago with the cooperation and support of the three companies as a major center of research in microelectronics—the science of adding more electronic circuitry to computer chips—and in the information sciences—the design of computer systems and software.

"We look forward to active, side-by-side collaboration between University of Minnesota faculty members and 3M research personnel, particularly in areas that have to do with the basic sciences underlying such critical requirements as the design and packaging of the high-density integrated circuits of the future," Hexter said.

The one-year, $200,000 contribution to the CAD/CAM Center, a part of the mechanical engineering department, will be funneled into undergraduate education and the purchase of equipment for computer graphics and robotics.

This award represents intitial funding for mechanical engineering's work in integrated design and manufacturing, which is part of the productivity center being built in the department. □

Artificial Organs: Marriage of Medicine and Mechanics

by Jeanne Hanson
University News Service Writer

In Max Donath's lab on the Twin Cities campus, three moving curtains of laser light sweep the room as an experimental subject passes through.

In another laboratory, cadaver wrists are fitted with light-emitting diodes and manipulated back and forth as their movements are analyzed by computer.

In a third lab, blood courses through smooth tubes of different widths, its reactions carefully measured.

The purpose of these engineering experiments is the development of artificial substitutes for the live organs used in transplant operations.

"In transplants, the organ works well, but it may be rejected. With artificial organs, the organ is not rejected, but it may not work well," said Vice President Kenneth Keller, a chemical engineer whose work on the fluid mechanics of blood will play a role in the development of successful artificial organs.

Engineers have been working on artificial organs for only about 10 years, according to Professor Arthur Erdman, a bioengineer in the mechanical engineering department. "Our role is to make sure the measurements are right, and of the correct parts of the organ or joint," he said.

Engineers talk about the kinematics and kinetics of joints: the patterns of their movement, the forces they exert, the work extracted from them, and the stresses they absorb. They discuss the fluid mechanics of blood, the way it flows in tubes of different sizes, how it reacts to contact with various materials.

The first offspring of this marriage of medicine and mechanics at the University of Minnesota is the infusion pump developed in 1970. The pump, once implanted, functions as an artificial gland, dispensing drugs into the bloodstream just as glands secrete hormones.

Beyond the pump lie artificial legs that will dance and play soccer and artificial spines, wrists, jaws, ankles, and fingers that will bring greater freedom of movement to the handicapped and to those who suffer from scoliosis, a common spine disorder.

Eventually, researchers hope to arrive at what may be an ideal solution: a hybrid organ, part mechanical and part biological.

Donath's lab is a jumble of laser tubes and scanning equipment, artificial legs, and notes on computer programs that may instruct the artificial legs of the future. A computer screen creates a stick figure in precise movement.

Donath, a professor of mechanical engineering, is analyzing the way we walk. The computer program he and students Jane MacFarlane and Sabri Eken are writing can detail different walking styles based on the age, weight, and sex of the walker.

The strides of experimental subjects along laser-scanned paths in the laboratory will be used to refine the program. To record them, lasers sweep through the room at different angles, creating three moving curtains of light. As the subjects walk through these sheets of low-powered light, their movements are characterized mathematically. Donath and MacFarlane are patenting the system through the University.

Donath's goal is a computerized artificial leg. A tiny microprocessor will tell the leg to walk in a style appropriate to the wearer, be it a middle-aged, heavyset man or a tall and slender young woman. It will stimulate the muscles that still work in a handicapped leg.

"Our pie-in-the-sky dream is to help paralyzed people walk, play soccer, dance, and water ski," he said. Leg models now on the market are crude and don't last long, and at least 2 million people could benefit from an improved artificial leg, Donath said.

Arthur Erdman's lab is crowded with his projects on artificial spines, wrists, jaws, ankles, and fingers. In one corner there is a small pile of brochures on the spinal wrench Erdman invented with orthopedic surgery professor Jack Mayfield, along with beginning notes on a spinal compression rod, a cooperative project with 3M. The rod will be used to reinforce a curved spine. Without correction, severe spinal curvature can compress the lungs and impede the heart's pumping.

Another corner houses the material for Erdman's wrist experiments—a freezer of wrists from cadavers. With light-emitting diodes between the bone segments and on both sides of the joint, the wrists are manipulated for computer filming and analysis of their motion. Reconstructive surgery on wrist ligaments and tendons has already benefitted from Erdman and Mayfield's findings. In several years, they hope to have an artificial wrist of steel, titanium, and plastic.

On Erdman's desk lies a plaster model of a human jaw, like those in an orthodontist's office. It is used in computer analysis of chewing. Erdman and John Schulte, an occlusion specialist in the School of Dentistry, are also beginning to use it to test the accuracy of dental articulators, the apparatus used by dentists and orthodontists to make bridges and to design plans for orthodontic work. Erdman is also launching tests of ankle and finger joints now on the market in the hope of designing new ones based on engineering improvements.

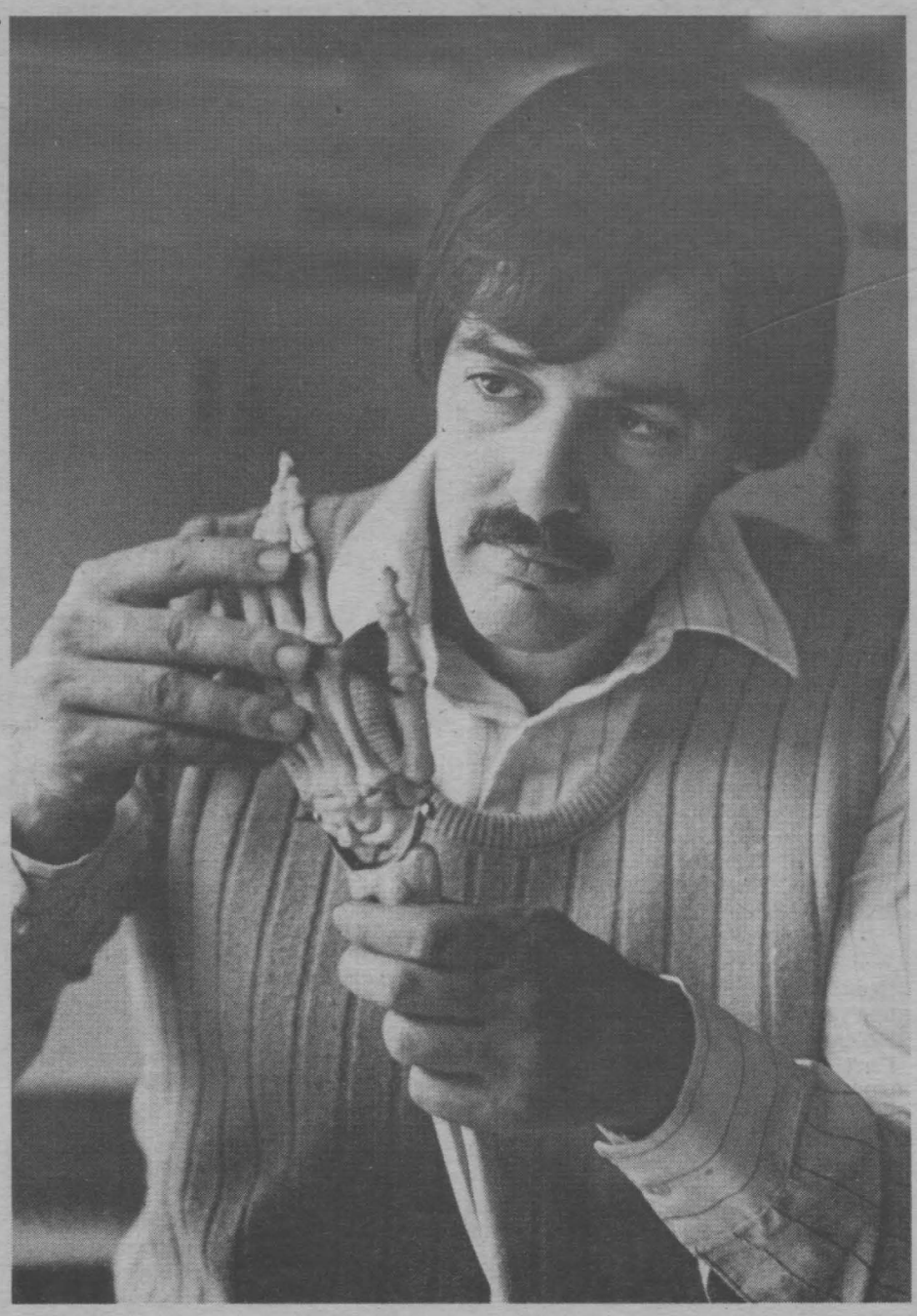
Keller, a professor of chemical engineering and materials science, is working on the fluid mechanics of blood in internal organs. Blood is altered by almost any synthetic material, a fact that has serious consequences for the development of artificial organs. Keller is also studying the way chemicals diffuse in blood and how blood passes through different porous materials.

So far, only some of an organ's functions can be duplicated, Keller said, partly because no one yet understands all the functions of any one organ. Neither can scientists reproduce the smallness and efficiency of many blood vessels or copy the movement of body chemicals between areas of different concentrations. Enzymes cannot be synthesized. And researchers have not yet found a material that does not somehow alter blood, by changing its absorption of sodium and potassium, for example, or by causing it to clot.

The future belongs neither to totally artificial organs nor to transplanted ones, but to hybrids, Keller said. In a hybrid, natural cells could be placed in a synthetic covering inside the body. Blood would move in and out of the hybrid organ through a porous material; the material would allow the blood to move freely but block the body chemicals that attack transplanted cells.

Hybrid versions of the pancreas, liver, and thyroid are among the possibilities, Keller said. But in spite of technical advances and high hopes for the future, in an area as challenging as developing artificial organs, Keller does not dream of bionic people. "Humility is more successful," he said. □

Tom Foley



Arthur Erdman

REPORT

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of the University of Minnesota

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Budget Cuts Tied to Academic Planning

by Maureen Smith
Editor of *Report*

For more than two years, academic units at the University have been engaged in a planning process, setting goals and priorities. The idea was to prepare for the projected decline in enrollment beginning in the mid-1980s.

Then came the state fiscal crisis of 1981-82 and the resulting $26.6 million hole in the University's budget. University administrators and the faculty and student leaders they consulted were faced with a choice: whether to speed up the planning process and make changes faster than anticipated, or whether to subject all academic units to another round of across-the-board cuts.

Patricia Swan, chair of the Senate Finance Committee, told the University Senate February 18 that the decision to make budget cuts based on planning—even though there was not really enough time to do it right—was better than "allowing two years of planning to go down the drain" and imposing an across-the-board cut that would put the University "on the road to becoming mediocre right through and through."

A draft document on academic program priorities, listing almost 100 programs in which money is to be saved, was made public at the February regents' meeting. The programs that would be reduced, reorganized, or eliminated amount to about 5 percent of the University's academic programs.

In a departure from the usual process, the document was given to the regents at the same time it was distributed to the rest of the University community. The plan will be discussed widely within the University over the next few months and will be the basis of the 1982-84 budgets, said Vice President Kenneth Keller.

"The regents will not be acting in March on this list of budget priorities," Keller told the senate in February. "The two-year budget plan goes to the regents in May, to be acted on in June." Conversations are continuing between the budget executive and the collegiate units on the planned cuts for each unit, he said.

Price tags have not yet been assigned to the proposed changes, but the overall goal is to cut $3.5 million in academic programs on the Twin Cities campus, of which $1 million is to be recovered centrally and $2.5 million is to be tied to the planning process. Some of the $1.3 million in cuts on the coordinate campuses will also be in academic programs.

Cuts of $6.9 million in support services on the Twin Cities campus and $2.5 million in state special appropriations are also planned, and a 15 percent tuition surcharge has been proposed (see story on page 11).

Shock waves

Understandably, the listing of programs to be reduced has sent some shock waves through the University community, especially in those programs that are on the "hit list."

Programs that would be eliminated over the next several years under the plan include the Library School, South Asian studies, the pharmacy baccalaureate program, and undergraduate metallurgy on the Twin Cities campus and, on the Duluth campus, home economics, the geography department, and the history master's program.

Wesley Simonton, director of the Library School, said at the senate meeting that elimination of the school would be irreversible and would end "50 years of service to the University and the state."

In a time that is frequently referred to as the age of information, it seems strange that a major university would close its library school, journalism professor George Hage said.

Proposals to reduce or reorganize programs have also caused unhappiness among the people in the affected units and their constituents. One proposal that appears to be of particular concern to legislators is the proposed reduction of agricultural engineering.

"Will there still be an agricultural engineering degree of prestige offered at the University of Minnesota?" Representative Wendell Erickson asked at a meeting of the Education Division of the House Appropriations Committee.

"If you will take it only as my opinion and not as my guarantee, my answer is that there will be, certainly at the graduate level and probably at the undergraduate level," Keller said. "We have invited the department to tell us how they might do things differently to save money. We'd like them to work more closely with mechanical engineering."

Good programs are being cut, Keller said. "We do not have the luxury of saying we will keep you if you are worthwhile." If a cut is not made in one area, it must be made in another.

"It's a difficult choice, not one we welcome," Keller told legislators. "We've said before that these are damaging cuts. I can't apologize now for the fact that they are damaging."

Roberta Humphreys, associate professor of astronomy, said at the University Senate meeting that programs listed among those to be cut have been damaged in the process, even if the plans later change after more information is provided. The astronomy program is listed among those to be reorganized.

Keller acknowledged the problem. "It's an awkward process," he said, but the awkwardness is the inevitable result of making proposals public while there is still time for discussion and reconsideration. "I don't know of any way to do it that's between secret and public," he said.

Painful choices

Different stories are told about who is behind the proposed cuts. Central officers say they are following the priorities of the colleges; deans may say that choices were

(continued on page 12)

Tom Foley

Pat Swan

On the Inside

Mondale Steps Up Pace, Assails Education Cuts

by William Hoffman
Associate Editor of *Report*

One day last January, Walter Mondale was in a hurry. He negotiated an icy sidewalk deftly, like a native Minnesotan, even though he has lived in Washington, D.C., for the past 18 years. The man who has been "thinking about" a bid for the 1984 Democratic presidential nomination was almost running.

"How did this one get away from us?" he asked an aide from his political action committee, without getting an answer. Mondale was already 30 minutes late for a speaking engagement on the Twin Cities campus. "It's humiliating and disrespectful. I just don't like it."

Following his arrival and introduction, Mondale apologized for being "inexcusably late, but since I was once a student at the University, I realize that most of you will get over this very quickly."

A Distinguished University Fellow, Mondale holds a joint appointment in the Law School and the Humphrey Institute of Public Affairs. "I try to be in the Humphrey tradition," he told his audience. "He was never on time for a meeting in 35 years."

It was the same line he'd used earlier in the day after arriving late to lecture a class in public affairs. But then, tardiness is the natural and inevitable consequence of a packed schedule, and Mondale has been gradually picking up steam since he stepped down as this country's 42nd vice president little more than a year ago. By Labor Day, he'll be going at full throttle, campaigning for Democratic candidates in this year's congressional elections and collecting a number of political IOUs to boot.

In the past year, Mondale toured Europe several times and visited Israel, Japan, China, and South Korea, checking in with government leaders at every stop.

Currently, he is crisscrossing the country, with stops in North Carolina, New York City, Alabama, Texas, California, Oregon, Washington, New Hampshire, Vermont, Georgia, and Florida. He should have ample opportunity to invoke the line about his mentor's lack of punctuality.

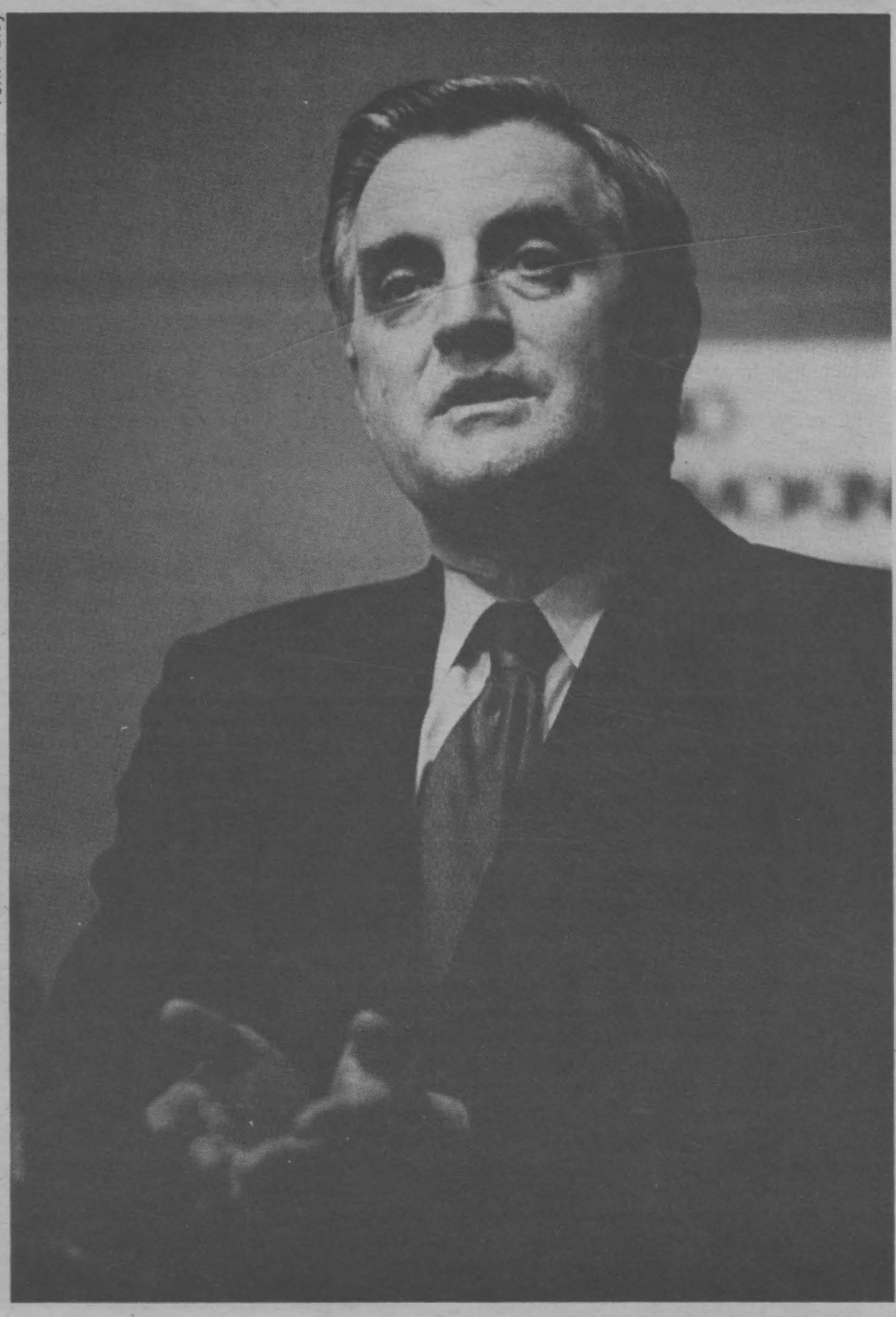
Robbing the future

When Mondale hits the campaign trail this fall, he will indict the Reagan administration for, among other things, "robbing the future."

Recently, the higher education community organized to fight proposed federal cutbacks in student assistance—specifically in Pell Grants (federal grants for the poorest college students), college work-study, graduate fellowships, and guaranteed student loans—at a time of rapidly rising tuition.

The head of the American Council on Education, a coordinating body that represents nearly every major college and higher education association in the country, said that the magnitude of proposed reductions "compels the conclusion that this administration is seeking to abandon the long-term bipartisan federal commit-

Tom Foley



Walter Mondale speaking in McNeal Hall

Magrath Says Federal Cuts May Lead to Technology Gap

by Elizabeth Petrangelo
University News Service Director

Cuts in federal budgets that support research are short-sighted and may result in a long-term gap in American know-how, President C. Peter Magrath told members of a congressional committee in Washington last month.

Despite the fact that advances in science and technology have been given much attention in the mass media, "the blunt fact is that these presentations are heralding research and development that is several years old," Magrath said.

Magrath testified before the House Committee on Science and Technology, the group that sets authorization for the National Science Foundation, the National Aeronautics and Space Administration, and other nonmilitary science programs. The committee has been conducting a series of hearings on financial troubles for U.S. science and technology.

"We are bragging about our past in science and technology while our present and future are in serious doubt," Magrath said. U.S. expenditures on research are now being compared publicly with research support in Germany, Japan, and the Soviet Union, he said, but the cue has not been taken.

Magrath warned that failure to support basic research could lead this country into a quiet "cultural revolution" similar to that experienced by China, where "science...was a disaster area, and for years they failed even to keep up with other scientific activities around the world."

It is unlikely that individual states will take over for the federal government in paying for research programs, Magrath said, citing Minnesota as a state where severe difficulties have already meant cutbacks in research institutions. "We are now dismantling programs and services that our state is going to regret losing after it's too late," he said.

Passing responsibility for research support onto individual states will also mean a shift from broad research programs that cut across fields to a fragmented, gee-whiz approach to research, he said.

"Shifting research sponsorship from the federal government to the private sector and the state governments almost inevitably will lead to an overemphasis on applied research with immediate economic development implications and less communication among the nation's researchers," he said.

Even at the federal level, however, the tendency to support quick and dramatic projects has grown, he said. Research in the social and behavioral sciences and the humanities has lost financial support because "these are the areas where you get the flak from constituents who wonder why in the world their taxes are being spent for projects they see as flaky," he said.

But research in these areas may provide answers to some of the most severe problems the country faces, including the problems of urban America, economic troubles, productivity, family issues, and the slipping quality of life.

Ignorance of the social sciences kept the United States in the disastrous Southeast Asian conflict, he said. "We are now watching huge investments in military hard science, and, at the same time, we are struggling to keep an already inadequate budget for international education efforts that just might eliminate or reduce the need for all that hardware," he said.

One of the biggest problems facing the country is the general economic muddle, Magrath said. "Even those most directly identified with it admit that we know very little from economic or behavioral research, and the characterization of it as a 'riverboat gamble' has summed it up well. We don't even know enough to understand the odds," he said.

Magrath urged the committee members to look beyond pressure from constituents to the long-term needs of the country. "If it works out that America loses its scientific strength, our constituents will be unforgiving and they will be right," he said. □

ment to equal opportunity in higher education."

Mondale couldn't agree more. "They're wrecking it," he said in an interview. "That's part of what I call robbing the future."

Neither does Reagan's proposal to send federal student assistance programs back to the states bode well for the goal of equal opportunity. "There's a strong argument that the poor and disadvantaged were not given equal opportunity in education, and that is why the problem required national attention in the first place."

Cutbacks in funding for non-defense-related research mean that many university researchers are getting fewer federal dollars and that fewer projects are being funded. Moreover, a bill that would divert hundreds of millions of dollars from basic scientific research in universities into small technological businesses is making headway in Congress.

"There's no question that the major responsibility for funding basic scientific and medical research rests with the federal government," Mondale said. "This research is vitally important to our future. The cuts are costing us tremendously."

State governments and businesses can help in funding research, but they tend to favor projects that are more practical, Mondale said. Indeed, as universities become increasingly national and international in the scope of their activities, it becomes more difficult to generate local and state interest and support, he said.

One of the areas that has been hardest hit is science education. The Congressional Research Office indicated recently that science and technical education in the United States trails that of Japan and the Soviet Union, and that this situation presents a threat to national security due to the lack of qualified personnel for specific jobs. Nonetheless, funds for science education have been slashed.

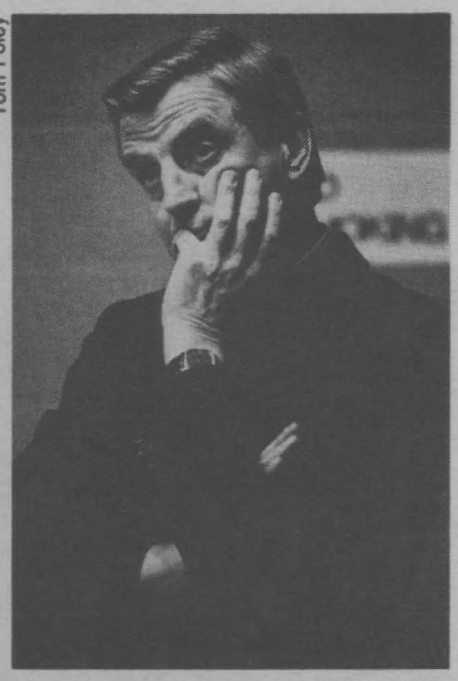
"There's a paucity of science teachers in our schools," Mondale said. "Business is competing for them.

"A lot of people I've talked to say the standards of graduating science students is getting to be scary. Part of it is that we don't have the teachers around anymore. They're all working for others," he said.

Many educational administrators fear that a decline in student financial aid coupled with rising tuition will make public higher education available only to those who can afford it and that it will tend to become elitist, but Mondale says he "can't think of a dilemma less necessary."

"There's a need for both excellence and access," he said. "It's not so much a matter of being able to afford to provide for both, it's that we can't afford not to. The past 10 or 15 years I think we've been properly concerned about access. A lot of exciting things have happened. We have a higher percentage of minorities in colleges and universities. More women are showing up in professional schools.

"I think now we should not retreat for a moment on access, but we should get pretty tough on standards again. It's a very competitive world people are going into, and, unlike 20 years ago, the United States has to huff and puff to keep up. We're not going to do it unless we have good education, and that education has to be tough stuff so that when we finally finish our educational careers we're the best," Mondale said.



Tom Foley

Scholars and spies

In the corridors of the U.S. State Department, the Central Intelligence Agency, and several top universities, a battle is raging. The Reagan administration has been trying to clamp down on the research activities of visiting foreign scholars, fearing that technological secrets will end up in the hands of America's adversaries.

Admiral Bobby R. Inman of the CIA warned that indiscriminate publication of research results in fields such as computer science, electronics, crop projections, and manufacturing procedures "could affect the national security in a harmful way," according to a report in the *Chronicle of Higher Education*.

But a number of university presidents, including President C. Peter Magrath, have resisted attempts by some government officials to restrict scientific publication and the activities of foreign scholars and graduate students at U.S. universities. At least one government official has joined them.

In January the National Academy of Sciences, which oversees the federally financed exchange programs that bring foreign scholars to the United States, suspended its practice of forwarding State Department guidelines to universities hosting foreign scholars.

Frank Press, president of the academy and science adviser to President Carter, said censoring the publication of scientific data would be a step backwards. "It's the price we have to pay for a free society," he said.

Mondale believes the problem is being mishandled by the administration. "If a foreign academic is really a spy, we shouldn't let him in the country at all," he said. "We have plenty of ways to keep him out."

Mondale said the government should be working with the universities "rather than just dumping the rules on them." They should be looking at the problem "in a sophisticated way, consistent with academic freedom and national security considerations."

Many foreign academics visiting U.S. universities "are here because they know more about something than we do," Mondale said. "The greatest asset in national security and economic development that this nation has is the massive dividend of academic freedom. We have to be very careful about that." □

Job-Listing Service, Other Help Offered to Laid-Off Employees

by Maureen Smith
Editor of *Report*

A job-listing service, a two-day workshop on how to find a job, and personal counseling will be offered beginning this month to employees who have been laid off and are seeking work outside the University.

All civil service and bargaining unit employees who have received layoff notices are eligible. The program is not designed for student or academic employees.

"The major emphasis is to provide help with a job search," said Patti Dion of Human Resources Development, who is heading the program. "People will be eligible from the time they are notified of layoff up through the whole time they have layoff rights, which could be as long as a year."

The first workshop, for custodians, was given the first week in March. "We're planning on running them weekly as long as the need is there," Dion said.

Workshops will cover such topics as how to write a resume, how to develop effective interviewing skills, and how to survey the job market. Groups will be kept small to give people a chance to practice their interviewing skills.

Each participant will be given an opportunity for an individual assessment of strengths and skills and will be helped in designing a strategy for a job search. Dion and Francine Morgan will lead the workshops.

After the workshops, if participants wish, they may attend support groups. A group of eight to twelve people might meet at least three times, two weeks apart.

"People can come to their group and say, 'This is what I did, this is where I've been, these are the problems I've had,' " Dion said. "Or someone might say, 'I applied for a job and I don't think it would be right for me, but, Fred, maybe you'd like to check it out.' "

The job-listing service will be coordinated by Rozanne McIntyre and Rozilind Carter. A letter from President C. Peter Magrath has been sent to many companies in the Twin Cities area, asking for information on their vacancies and on their application process. "We will be posting that information in a room on the first floor of the Administrative Services Center," Dion said.

"I'm not going to pretend that we will know about all the openings," she said. "We're not hoping that people will rely only on us, but this will be another place where they can come."

Personal counseling will be offered to people who are having emotional problems because of the layoff. David Johnson of the Personal Resources Program will be the counselor.

Participation in the program is voluntary, and people may choose to use any of the services without taking part in others. "You don't have to attend the workshop in order to use the job-listing service, or you can go to a workshop and not join a support group," Dion said. "It's completely up to the wish of the participants."

Dion received a number of calls after a preliminary announcement about the program appeared in *Brief*, the University's weekly internal bulletin. "I think there's real interest out there," she said.

"I'm glad that the University has chosen to support this program. I think it will provide a real service." □

LETTER

To the editor:

The story in the January 1982 issue about the superior efforts of the Payroll Department was excellent. I thank you for publishing it. I wish you would also extend your recognition of excellence to another group of people. To date no mention has been made in print about the extremely difficult conditions under which staff members at the department level have been performing payroll related tasks.

We have had extra deadlines to meet every two weeks. Overtime work has become the norm rather than the exception. Regular tasks have been subordinated to working on the retroactive situation. This has caused other problems. New procedures have been introduced with instructions that were not always understandable—another burden. I could go on and on, but my point is that along with the accolades of praise being bestowed on the Payroll Department and the Academic Personnel Systems Office, a word of gratitude or acknowledgment should be directed to the departmental staff.

The delayed salary payment has caused hardships throughout the University system. Critics of the University and the staff should be told that we were presented with a formidable task and we met the challenge and won!

Barbara R. Stephens Foster
Executive Assistant
General College

REPORT

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Versatile Riedel Still 'Goes His Own Way'

by Judith Raunig-Graham
University News Service Writer

In 1938 the streets of Germany were clogged with army tanks and trucks as the Nazi regime geared for war. Johannes Riedel was 25 years old, a student at the University of Berlin, and an anti-Nazi. His father was a German soldier, but his girlfriend, Sophie, was Jewish. He had helped several Jewish friends cross the border.

Riedel figured if he stayed in Germany his politics would land him in a concentration camp or in the army, where he might be shot in the back. There was only one thing to do: get out.

"At a certain stage in your life you look back in a different way," said Riedel, a professor of music on the Twin Cities campus. "Today, I'm really amazed at what one can do and how one can realize one's dreams. But I was a maverick—a person who goes his own way."

Born in Neustadt, Poland, Riedel knew he couldn't get into the United States because the quota for Polish immigrants was low. Sophie had a brother in Ecuador, so emigration there seemed logical.

Riedel secured a passport by telling officials he wanted to join his British fiancee in London. He arrived in Harrow with little money and no connections but discovered the International Voluntary Service for Peace, a group that maintained camps for refugees, and worked with them for six months. He dug ditches and worked in the mines as he tried to find a way to get Sophie and her parents out of Germany. With his passport about to expire, he sailed for South America on the British ship *Orduna*.

The trip was "a fantastic adventure." The sea was rough and many passengers were seasick, but Riedel ate porridge and drank Chilean wine and never got sick. When the *Orduna* docked in Havana, it was taken over by geese, hens, roosters, and babies. Despite the cacophony, he tried to study Spanish.

On Christmas Eve the ship docked at Salinas, Ecuador, and Riedel began the 13-hour trip to Guayaquil, only 50 miles away. At last in his adopted home, Riedel checked into a hotel and discovered during the night that his neighbors were cocaine smugglers.

In four weeks Riedel could communicate in Spanish and had discovered the European community in the city of 350,000 inhabitants. Soon he was giving piano concerts that were broadcast weekly over local radio stations, and he landed a job teaching music to would-be elementary school teachers. He became profesor de música Juan Riedel.

Meanwhile, Sophie worked to free her father from the prison at Buchenwald. Finally she obtained his release and, with her parents, followed Riedel to Ecuador, where they were married in 1939.

"Ecuador was a country where you could forge your own destiny and shape your life with absolute freedom," Riedel said. "What I got there was a feeling for the Americas and for roots and ancient cultures. I began to collect Ecuadorian music and arrange it for choral groups I founded."

Today, Riedel is one of a handful of persons throughout the world with enough knowledge of Ecuadorian music to teach about it.

By the time the war was over, Riedel had realized that he wanted to continue his studies. Because of class barriers he had little desire to return to Europe, so he opted instead for the United States.

"Life was good in Ecuador, but I had come to the end of my professional growth there. There were no possibilities for me to expand on the work I had done in Germany," he said.

On Christmas Eve 1948, exactly 10 years after he had fled to Ecuador, Riedel left for the United States. He enrolled at the University of Southern California in Los Angeles, where he earned his doctoral degree in musicology in 1953.

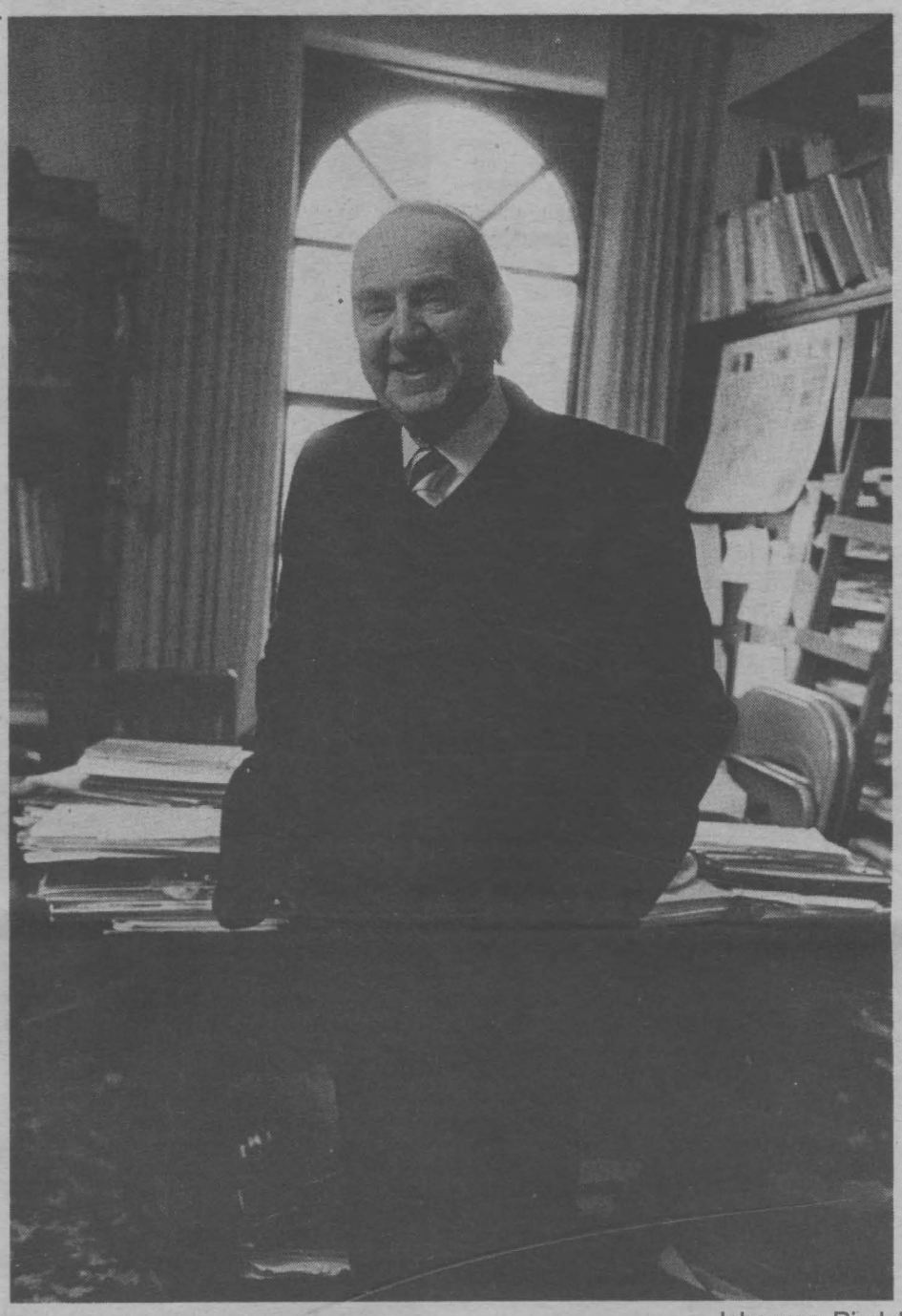
Although the California climate was appealing, teaching jobs were scarce there. When an offer came from the University of Minnesota, he accepted with alacrity. A year later, the man who had been living without a nationality for so long became an American citizen.

If one had to define Riedel's career at the University in one word, that word would surely be *versatile*. He initiated programs in church music and American music. He has taught courses on subjects ranging from Beethoven's symphonies to polyphonic notation.

"So many of his efforts were pioneer efforts," recalled Roy Schuessler, retired School of Music chairman. "I have never known a man who was active in a greater variety of areas reaching out in many directions from the University. He worked with various ethnic groups and helped them develop programs of their own."

According to current chairman Lloyd Ultan, Riedel is "an extremely versatile scholar. He has lively interests in many diverse areas of scholarly pursuit and an insatiable appetite for learning. He also is an extremely enthusiastic teacher and is highly respected by his peers."

Tom Foley



Johannes Riedel

When Riedel first taught a course on the American composer Charles Ives, the University was the only institution outside New York where students could learn about Ives. The Ives festivals he organized in the early 1970s exposed hundreds of Minnesotans and Europeans to the composer's music for the first time. One of the festivals was filmed by a West German television crew.

It is probably the American courses he teaches for which Riedel is known best. One of his former students, Tom Foley, who is now the photographer for the Department of University Relations, compared Riedel to Ives.

"He is a very American musical scholar in the same sense that Charles Ives is a very American composer," Foley said. "They're both eclectic. Riedel's teaching and scholarship encompass many styles of music rather than just one, as do the compositions of Ives."

Riedel believes that one ought to adapt to and be interested in the roots of the culture in which one lives. Indeed, he sees his interest in local culture as almost a patriotic duty, and students remember his fondness for wearing red, white, and blue shirts.

"In a land-grant university, we have to take into account what is best for the state," Riedel said. "We have to consider the religious fibers and ethnicity of the state and the social aspects of this particular state. You cannot insist you are a specialist and sit on it. It's a typical American attitude to think that American music

is not as important as that of the great masters.''

Riedel's course on American popular music and a 10-part series on music in Minnesota have been presented locally on public television.

Ultan agrees that American music is an important area of study that is not readily available to music students throughout the country because so many educational programs emphasize the European tradition. Riedel says his interest in seeing students concentrate on music of their own culture stems from a practical consideration: source materials are readily available.

As he approaches retirement, Riedel is grateful to the University for allowing him to become an interdisciplinarian. ''It was possible for me to teach courses that had to do with all historical aspects of European, American, and Latin American music,'' he said. ''I learned a great deal about the interconnections—the tissues that bind all of these areas together.''

His ability to tie things together is an aspect of his teaching admired by students. Foley recalled that Riedel made a lot of comparisons ''that you wouldn't expect.''

Another former student, Steve Savre, who now works at Schmitt Music in Minneapolis, remembers the Latin American and American music classes he took from Riedel with enthusiasm.

''Class with him was so enjoyable it was almost not a class,'' Savre said. ''It was more like his own living room with 50 people there whom he was entertaining. He was so animated and an excellent lecturer. He never used notes. He just talked for three hours. He obviously loved his topic and was excited about what he taught. He always had that little twinkle in his eye.''

Contact with students ''is the exciting thing about teaching,'' Riedel said. ''In the early years of my career it was an opportunity to become acquainted with Americans. I got very much involved in shaping the careers and lives of young Americans, and all my publications are a result of my teaching. There must be interaction between professor and student, and the professor must be willing to listen and learn from the student.''

Riedel returned to Germany last fall during a leave of absence to lecture on Chicano, Ecuadorian, and ragtime music. In Munich, he was asked to do two hour-long radio broadcasts on Ecuadorian music.

After he retires in the spring of 1983, Riedel hopes to do more broadcast work. David Sleeper, a producer with University Media Resources who has worked with him on several occasions, suggested that Riedel's enthusiasm and sense of humor make him an ideal television personality. ''He is like a ringmaster in the way he gets people to open up,'' Sleeper said.

Wherever the future takes him, Riedel's hope is that some of the courses he initiated be continued. Ultan acknowledges the importance of the American music courses, but says it will be impossible to replace Riedel. □

Lions Telethon for Hearing Aims To Raise Money, Awareness

by Lynette Lamb Gollmar
University Relations Writer

Helen Keller once said that the loss of hearing is in many ways a more profound loss than the loss of sight, a loss that more severely impairs communication.

Michael Paparella, chairman and professor of otolaryngology on the Twin Cities campus, probably would agree. ''Hearing problems are exceedingly common, debilitating, and traumatic, and yet the public is not really aware of them,'' he said.

Minnesotans are likely to be much more aware of hearing problems after the statewide Lions Telethon for Hearing March 27 to 28 (on KSTP-TV in the Twin Cities). The telethon is being held to raise the money needed to complete the Lions International Hearing Center on the eighth floor of the Phillips-Wangensteen Building.

Lions International adopted hearing as a major cause in 1972. So far, the major product of that commitment is the hearing center. Although the clinic, administrative offices, and classrooms are finished, approximately $1 million is still needed to finance completion of the research space and teaching laboratories.

Telethon-raised funds will be used to complete immunology, temporal bone, and histochemistry labs, a light microscopy study area, some faculty offices, and a residents' room. Hearing aid research and otophysiology labs may be included too.

But the Lions—and other supporters—are counting on the telethon to raise awareness as well as money. According to figures cited by Paparella, 16 million Americans have hearing problems serious enough to warrant diagnosis, treatment, and rehabilitation, and 95 percent of children under the age of five experience ear infections. Some 90 million Americans suffer from dizziness or vertigo, for which ear trouble is nearly always to blame.

Yet ear research receives the smallest amount of funding of any category of disease listed by the National Institutes of Health, Paparella said. There are a number of explanations for this discrepancy, according to hearing center staff:

''A hearing ailment isn't visible. The severe impairment is not immediately obvious like blindness or the loss of a leg,'' said Diane Beitz of the otolaryngology department staff. Offered Timothy Jung, assistant professor of otolaryngology, ''The temporal bone is the hardest bone in the body, making it extremely difficult to study.'' And temporal bone bank coordinator Marilyn Matheny made a disconcerting observation: ''Hearing loss is accepted as a natural part of aging.''

Center personnel do not accept hearing loss as natural any time, and the goal of the center's research, teaching, and service missions is that someday others won't have to accept it either. ''After all, hearing loss can be corrected more frequently than many other disabilities,'' Matheny said.

The hearing center clinic treats everything from common ear infections to more exotic problems like Ménière's syndrome. Because center doctors regularly apply their research findings to their patients' ailments, many specialists send unusual or difficult cases to the center.

Research is considered important for students as well as staff doctors. All residents are required to complete research, as well as a master's or doctoral degree.

The two main research interests are otitis media (ear infections) and the mechanisms of hearing loss, Paparella said.

Otitis media is the second most common childhood ailment (after the common cold) and can have ''slow, insidious effects'' on the ear, according to Jung. Hearing center researchers are attempting to determine its cause, and eventually find out how to prevent and treat it.

The research on mechanisms of hearing loss is concerned with how nerve damage can cause deafness—through noise, genetic characteristics, drugs, and other means. Research teams involve almost a dozen specialties, including anatomy, chemistry, and physiology as well as otolaryngology.

The Lions' backing of the center's work takes many forms. Minnesota is part of the Lions 5M district (which also includes Ontario and Manitoba) that supports the center and is producing the telethon. Local clubs will raise money through events that range from the traditional pancake breakfast to a not-so-traditional roller skating marathon at Rosedale shopping center.

Featured on the telethon will be composer/singer Paul Williams, ventriloquist Shari Lewis, singer Connie Stevens, and Sesame Street host Bob McGrath. In addition, approximately 15 Minnesota performers will be selected from auditions. The telethon will be aired in Duluth, Rochester, Mankato, Alexandria/Walker, and the Twin Cities. □

Tom Foley

Students used to long registration lines were ''amazed'' and ''impressed'' as they began signing up for spring quarter classes last month. Computers are being used in the registration process on the Twin Cities campus for the first time. Now students spend about five minutes in the registration centers at Fraser and Coffey Halls instead of an hour. Bruce Kendall, registration center manager, said the system ''performed flawlessly'' during the first few days of registration, which continued through March 12.

Injured Birds Restored for Flights to Freedom

by Ralph Heussner
University News Service Writer

With a few powerful flaps of its expansive wings, the eagle was in full flight, soaring over the Mississippi River toward freedom.

A shivering crowd of 200 huddled on the icy bluffs above Prescott, Wisconsin, straining to see the bird's course. "It makes you feel as though your own soul has been set free," philosophized a young woman. "Just beautiful!"

The release in January of three American bald eagles and two red-tailed hawks marked the culmination of months of care by veterinarians, students, and volunteers of the raptor rehabilitation and research program on the Twin Cities campus.

Although it was Saturday, the veterinarians were back in the laboratory by mid-afternoon to examine toxic lead levels of 155 dead Canadian geese found at the Lac qui Parle Wildlife Refuge. In an era of pollution, pesticides, and careless human acts, their work is seemingly endless.

The story of the Raptor Rehabilitation Clinic began 10 years ago when three baby owls fell out of a tree. A veterinary student happened to be riding by on horseback and saw a farmer with the nestful of injured owlets. She agreed to care for the birds and sought the help of Gary Duke, a professor of animal physiology in the College of Veterinary Medicine. "My work was in poultry, primarily turkeys, but I've loved wild birds all of my life," Duke said.

Little was then known about the surgical treatment of owls, and Duke launched what he envisioned to be a limited research effort. But he needed more than three birds, so he contacted the state Department of Natural Resources (DNR), Como Zoo, and the Bell Museum of Natural History for assistance in locating injured raptors. (*Raptor* is from the Latin *raptus*, one who seizes.) Their response was helpful, but it also signaled an alarming problem. In less than three months, they sent some 30 injured owls, hawks, and falcons to the University for surgical care.

In 1981 the raptor program treated 409 injured birds, including 39 American bald eagles. Approximately 45 percent of the birds are eventually returned to the wild; about 20 to 25 percent are rehabilitated but remain in captivity—in research or breeding programs—because of permanently injured wings or feet. About 30 percent of the birds do not survive.

"We don't like to lose any bird—every one is precious—but one of the things that we've learned is that some cases are hopeless," Duke said. "We've gone from a point where no bird was euthanized when it came in to euthanizing about 7 or 8 percent. That's an unfortunate step, but it places less of a demand on our time, which we can then devote to saving the birds who have a chance."

About the same time the owls showed up, so did Patrick Redig, a second-year veterinary student and avid falconer. He volunteered to help build cages and perches and care for the ailing owls, and soon he became part of the research and treatment effort. Today Redig and Duke serve as co-directors of the raptor program.

Early problems

Before the veterinarians could refine surgical techniques, they had to master the use of anesthetics. Duke recalled their first attempt at surgery on a red-tailed hawk: "We began about 7 p.m. and struggled for nearly five hours. At first we couldn't get the bird anesthetized to a deep enough level to do the surgery. Then it would be so deeply anesthetized that it would lose respiration and require oxygen. The bird finally died around midnight.

"We lost our first three birds to anesthesia," Duke said.

Duke and Redig became pioneers in the emerging science of wild bird medicine, and their first professional paper dealt with appropriate doses of anesthetic in raptors.

"Our first mistake early on was assuming that turkeys were one kind of bird and hawks and owls were another kind of bird," Duke said. "We've since learned that hawks and owls are not the same, and not all hawks and not all owls are the same. There are six or seven species of hawks and about the same number in owls. And each requires a different anesthetic technique. Owls are much more sensitive to the anesthetic. You must give them half or less than half of what you give the hawks to reach the same level of anesthesia.

"We've come a long way since the injectable anesthetic. Today we are able to use gas, which is much more effective."

Postoperative recovery presented a second challenge: the birds experienced severe spasms as the anesthetic wore off. To counter the side effects, the researchers experimented with tranquilizers and found that Valium, more commonly used in human beings, reduced postanesthetic trauma.

As word of the raptor clinic spread, its patient population increased dramatically. Biology teachers, DNR workers, Audubon Society members, cross country skiers, and others were referring injured raptors at the rate of 50 a year through 1974. Duke's spare time research project became a large-scale clinical practice.

"At that point, we really weren't into rehabilitation," Duke said. "We were just kind of doing things as they came along. But by 1974, we needed to make a decision: we either had to get into a rehabilitation program or tell people to stop bringing us their birds."

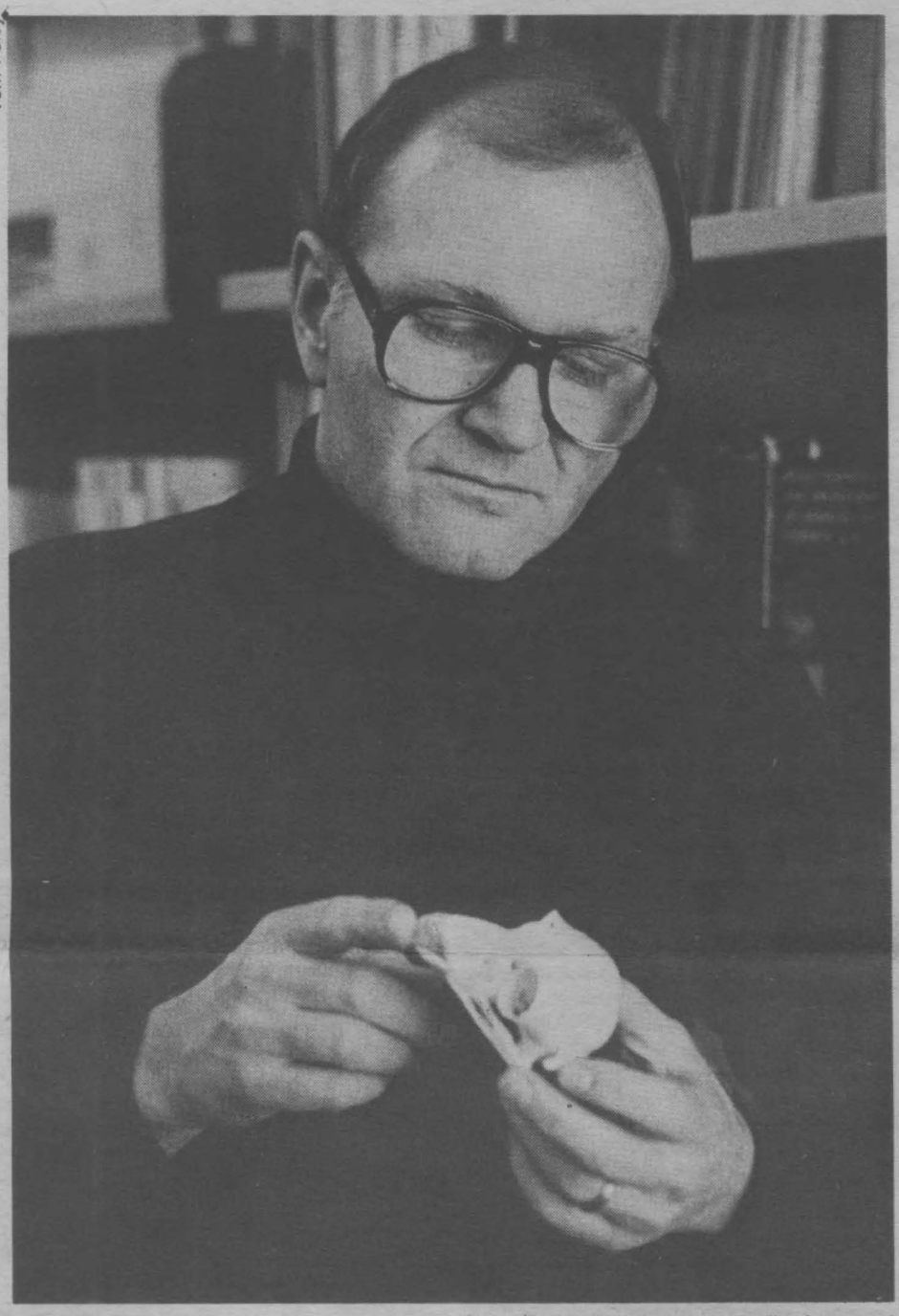
A grant from the Mardag Foundation and matching funds from the veterinary college enabled Redig to stay on full time after he completed his degree in 1974.

Redig turned his attention to improving surgical techniques and postoperative care. Steel pins inserted in the bones to immobilize fractures during healing often disrupted and inflamed joints, resulting in an arthritic condition or infection. "Once we had surgically repaired the bird we still faced a long period of physical therapy to get the bird back to full mobility," Redig said. New pinning techniques and improved materials have since reduced the incidence of arthritis. As a result,

Tom Foley

A bald eagle scheduled for surgery struggles with technician Mark Martell after it is removed from its cage.

Tom Foley



Gary Duke holding the skull of an owl

the period of convalescence has been shortened.

Breaking point

"We are just about to the point of being overwhelmed," Duke said. "I think we reached our limit last year with 409 birds. Although our ordinary surgical time has been reduced from two hours to about 30 minutes, there is a limit to what we can do."

The raptor clinic's dramatic success is responsible for the increased number of patients. Two years ago, the U.S. Fish and Wildlife Service for the Great Lakes Region designated the University of Minnesota as the official rehabilitation clinic for bald eagles that require extended care. Eagles have also come from as far away as Washington and Florida.

"With 39 eagles last year, it may look like there ought to be more eagles around," Duke said. "But you must remember that we are getting the bulk of the injured eagles from all over the country. They are still an endangered species."

Of the 39, 10 suffered from trapping-related injuries—they lost toes or legs as a result of being caught in steel traps. "Trapping injuries are toughies because the bird invariably ends up losing the limb below the point of the trap injury," Duke said. "The mortality rate is very high. A bird comes in with only a trapped toe and yet may eventually die, probably because it struggled in the trap. During the struggle, they become exhausted and suffer from exposure. Then the bird is picked up by a human being and brought in to the clinic, and that must be a terrifying experience. All of these stresses, combined with the injury, result in a high mortality rate."

Redig testified before the Minnesota Legislature on behalf of a 1981 law that bans exposed bait in or near traps. To date, the law has had little impact on the eagle patient population. Part of the problem, according to Duke, is the difficulty in educating trappers about the law and in enforcing it. An additional problem is the scavenger nature of hawks and eagles. While they may be tempted by exposed bait such as meat on an animal carcass, the raptors are also curious birds and have been known to grab even marshmallow bait.

"The trapper is not trying to capture an eagle intentionally," Duke said. "He knows it's illegal and he can't sell the bird. He wants the coyote or fox for its coat." Professional trappers advise covering bait and traps or placing them in burrows where eagles can't see them, Duke said.

Some eagles have been admitted to the clinic with lead poisoning; four poisoned American bald eagles have been treated in the past year. Two lived and two died, and researchers recently launched a two-year study funded by the Blandin Foundation to find out why.

During the winter, eagles often feed on dead and dying waterfowl, some the victims of hunters using lead gunshot who were unable to locate fallen birds in thick marshland. But the eagles, with their keen eyesight, have no difficulty in spotting a possible meal.

"We're interested in learning whether this ingestion of lead makes the eagles less able to fight infectious disease," Duke said.

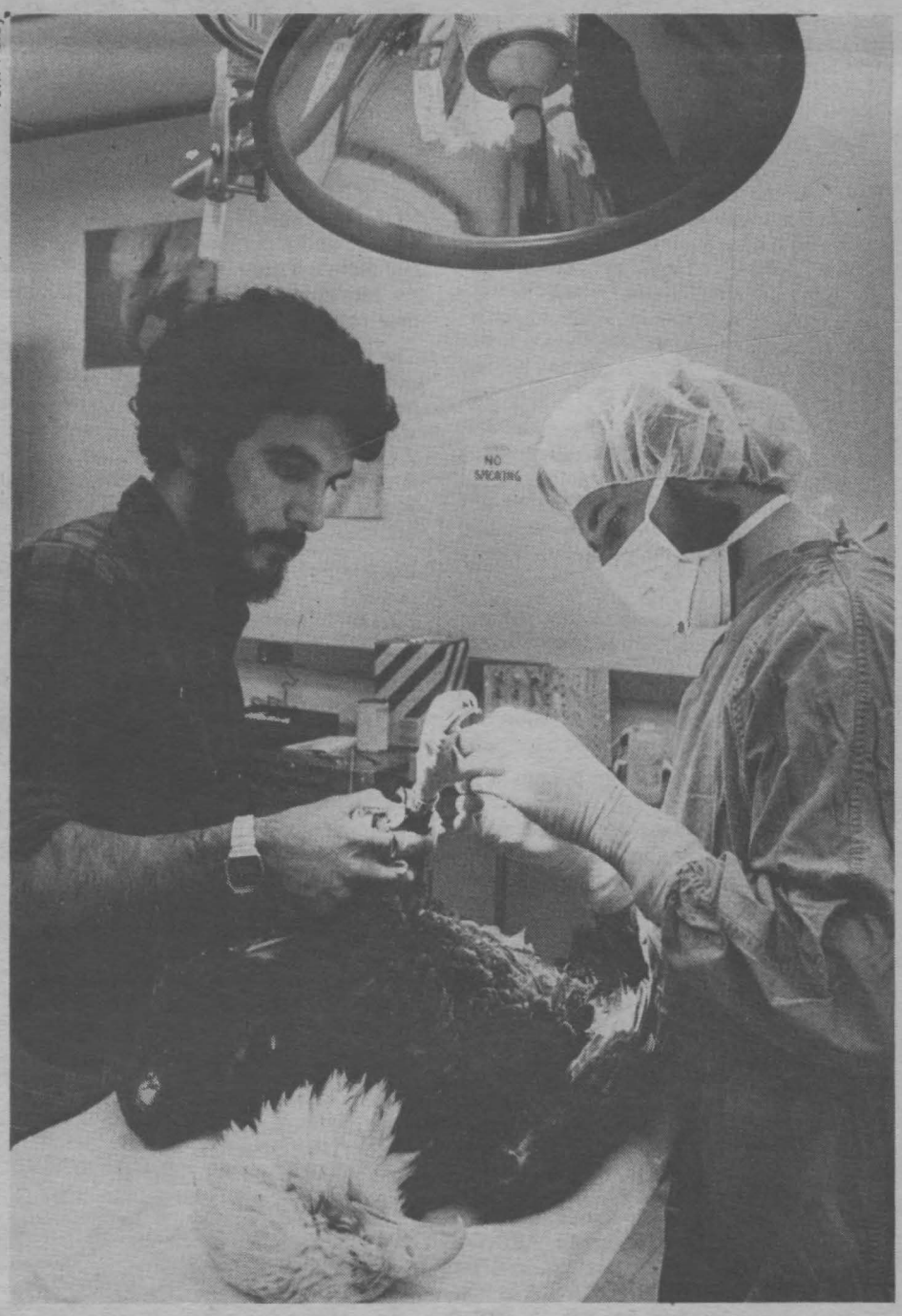
More than half of the 70 or so eagles treated in the past two years had lead levels approaching what would be toxic to domestic dogs and cats. "One of the first things we must do in this study is establish a toxic level of lead in eagles," Duke said.

In 1976, the U.S. Fish and Wildlife Service launched a program to ban lead shot. The agency planned to phase in nontoxic steel shot, starting on the eastern seaboard and gradually extending to other migratory bird flyways across the country. The regulations sparked strong resistance among hunters who claimed the more expensive steel shot was less effective and damaged gun barrels. The sportsmen filed lawsuits and began an intensive lobbying effort. The ban on lead shot withstood the hunters' challenge until 1979, when a rider to the Interior Department's appropriations bill gave states an opportunity to withdraw from the federal program.

Minnesota presently requires steel shot only in certain areas of the state. Results of the raptor clinic study could have an impact on state laws affecting waterfowl management, Duke said. "The state De-

(continued on page 11)

Tom Foley



Veterinarian Patrick Redig (right) and technician Mark Martell examine an eagle's foot that may require amputation. The procedure was postponed because the infection appeared to be clearing up.

CAPSULE

■ A draft document on academic program priorities, listing almost 100 programs in which money is to be saved, was made public at the February regents' meeting (see story on page 1).

■ A tax on the real income of faculty members has been financing University programs for the past 10 years, political science professor Robert Holt said at a University Senate meeting February 18. He proposed that the University set a policy objective to return salaries to the 1972 level by giving annual increases above the cost of living. "I think your suggestion is excellent," President C. Peter Magrath said.

■ Malcolm Moos, president of the University from 1967 to 1974, was found dead at his cabin on Ten Mile Lake in northern Minnesota January 28. In a tribute to Moos at a senate forum that day, President Magrath said he believes Moos will be remembered—as Moos said in 1976 that he hoped to be—as someone "committed to the rule of reason, who resisted, as best he could, the volcano of violence that erupted on our campuses and in our society in the last decade."

■ A 15 percent surcharge will be added to tuition this summer as part of the package to make up for a $26.6 million hole in the University's budget (see story on page 11).

■ A statistical model would predict a loss of 1,000 students next year because of the proposed tuition increase, Vice President Kenneth Keller told legislators last month, but some variables are unknown. Enrollment tends to increase in a time of recession when there are no jobs, he said, but cutbacks in federal student aid may be "an overriding variable even more than tuition."

■ A job-listing service, a two-day workshop on how to find a job, and personal counseling will be offered beginning this month to employees who have been laid off and want help in a job search (see story on page 3).

■ Cuts in federal budgets that support research may result in a long-term gap in American know-how, President Magrath told members of the House Committee on Science and Technology in Washington last month (see story on page 2).

■ A switch to the semester system at all campuses of the University in 1984-85 is being considered. Donald Vesley, chair of the Twin Cities Campus Calendar Committee, said the committee had been looking at an early-start quarter system for 1983-84, but many faculty members opposed the splitting of winter quarter as educationally unsound and said they would favor an early-start calendar if it were linked to a move to semesters. The committee, augmented with members from the coordinate campuses and the Senate Committee on Educational Policy, will make a preliminary report to the University Senate in the spring.

■ The academic progress of athletes is under study by the Twin Cities Assembly Committee on Intercollegiate Athletics (ACIA), chair Charles Walcott told the assembly. Walcott said the ACIA is also investigating but has not yet confirmed rumors of harassment of faculty members by coaches.

Antarctic Researchers Trade Tales With Sabo

by Jeanne Hanson
University News Service Writer

In a free-wheeling conversation that ranged from oil and gas resources off the shores of Antarctica to the taste of krill on crackers, from the ecosystem of the seal to shower facilities and continued civilian control of the Antarctic continent, about 30 researchers and South Pole aficionados met in February with Representative Martin Sabo.

Sabo, who had just returned from a tour of National Science Foundation (NSF) Antarctic research outposts, is a member of the House Appropriations subcommittee that deals with NSF. The agency funds much University research, including all of its Antarctic projects. The meeting was held at Sabo's request.

Sabo clearly had enjoyed the tour—one highlight was a drink with 1,000-year-old ice cubes left over from a scientific core sample—and was interested in hearing more about research projects and in sharing polar experiences. In response to a question, he said he sensed "fairly strong support" for the program among his congressional colleagues. He said that NSF had done "quite well this year in the budget cuts compared to others" and that his colleagues will now look to him more for views on the Antarctic program.

"I think we should be there, and I hope we keep it under civilian control," he said. But there is a need for "more leadership at the national level" to set goals and coordinate research, he said.

The Antarctic research program costs $70 million a year, he said, though "if we did no science there, the State Department would want us to be down there anyway." Astronomer Edward Ney, Regents' Professor of Physics and Astronomy, said that in that case the costs would still run about $60 million.

But the conversation turned more often to research projects and Antarctic oddities than to money.

Geologist John Splettstoesser of the Minnesota Geological Survey, who had seen Sabo at the pole, is looking for oil, gas, and other resources in Antarctica. His group's visits to sections of Antarctica never before seen have caused maps to be redrawn. He noted that the continent is now known to have lakes that are not frozen between the deep ice sheet and the bedrock, and it has fossils of amphibious dinosaurs. The lakes have been detected but not yet reached by drill.

Tom Foley

Martin Sabo at a meeting on Antarctic research

Neither have offshore areas, promising for fossil fuels, been drilled. "If somebody finds something, it'll be a big bandwagon" since the international Antarctic Treaty doesn't clarify ownership, Splettstoesser said.

A more immediate resource was brought up by Donald Siniff, professor of ecology and behavioral biology. Krill harvesting in Antarctica could begin by May under a treaty that will provide for sharing the resource. This tiny crustacean is the base of the polar food chain. Higher in protein than peanut butter, "it's not green if you harvest when the krills' stomachs are emptying" and "is pretty good on Ritz crackers," Siniff said. He also works with electrical engineer Larry Kuechle to study seal acoustics and to track seals and fish under the ice through telemetry.

Antarctica is "the last place where we can look at undisturbed ecosystems," Siniff said. "The biological environment is extremely rich, and the freezing and thawing holds nutrients in a way we don't understand very well."

The space sciences were represented by Laurence Cahill, professor of physics, Space Science Center director Russell Hobbie, Urs Frick, who works with planetary physicist Robert Pepin, and others. On the "blue ice" of Antarctica, a "bonanza area for meteorites" has been found, Frick said. Formed at the origin of the solar system about 4.5 billion years ago, some of them fell a million years ago on ice that has not melted substantially since then.

David Parmelee, chairman of the Field Biology Program, and the graduate students who work with him had still other Antarctic accounts. Pam Pietz, who has done field work on the skua—a bird that migrates from Antarctica to the Arctic and back—talked about the inundation of tourists at Palmer, the Antarctic station nearest the penguin colonies. "The skuas go hang out at the ships and aren't doing what they're supposed to," Pietz said.

Parmelee and Sabo both described tourists arriving on the Lindblad Explorer ships, decked out in red coats and sliding in rubber boats toward the penguins. Though it is good for Antarctica to have people appreciate it, attending to these outside groups cuts into research time considerably, another graduate student said.

No one owns Antarctica, but countries from Japan to South Africa have toeholds there. Though the scientists get along very well, the treaty suspends but does not resolve conflict over Antarctic resources, Sabo said. □

For Faculty and Staff, Mills II May Beat IRA

by Maureen Smith
Editor of *Report*

You can hardly pick up a newspaper these days without reading about the advantages of an individual retirement account (IRA). Financial columnists say you'd be foolish not to invest in an IRA, news writers report on the public response since the tax law was changed in January, banks and investment companies are running ads to let people know about the deals they are offering.

People at the University have another opportunity that may be even better. Tax-deferred annuities are available to faculty and staff members under a program known as the Mills II plan.

All the public interest in IRAs is understandable, according to Harold Bernard, director of the Employee Benefits Department. "Prior to 1982, the general public has not had access to a plan like our Mills II," he said. The tax breaks offered under the Mills bill were limited to people who work for certain educational and nonprofit institutions. Now something similar is offered to people in the private sector.

"We've had some favored tax treatment for a lot of years," Bernard said. "Now, on a much more limited basis, something is available to the general public."

Both a Mills II account and an IRA have the same goal—to provide additional retirement income. Both allow people to defer paying federal taxes on a portion of their income until after retirement, when they will presumably be in a lower income tax bracket. One difference under current law is that state taxes may be deferred for a Mills II account but not for one of the new IRAs.

The University has been offering tax-deferred annuities since 1962 in accordance with Section 403(b), as amended by Section 415, of the Internal Revenue Code. This portion of the code is known as the Mills bill. At the University, for easy reference, the provisions of the bill have been separated into two sections, Mills I for the faculty retirement plan and Mills II for the purchase of optional retirement annuities.

(Mills II is a term used only at the University. In a discussion with a tax consultant or an Internal Revenue Service agent, it would be more meaningful to refer to Section 403(b).)

For University people, one advantage of Mills II over an IRA is the convenience of investing through a payroll deduction plan. Because it is not expected that many people would find an IRA more attractive, the University is not planning to offer payroll deductions for IRAs.

"With Mills II you sign a salary reduction agreement, and the University will take that amount and turn it over to an insurance company to purchase an annuity," Bernard said. "When you get your W2 form, the amount that shows is reduced by that amount. You can forget all about it when you file your tax return. If you have an IRA you're going to have to file for the amount of money you put into the IRA."

One quirk of the University's system is that the salary reductions are taken only during the 9-month academic year, in the 18 pay periods from September 16 through June 15. Bernard says the University hopes eventually to change the system so that people on 12-month appointments will have their salary reductions spread over 12 months, but there are no immediate plans for the change. "It really doesn't make sense to do it the way we're doing it," he said.

Putting money into a Mills II account does not reduce take-home pay by the same amount that is invested. Say, for example, that you decide to invest $1,800 a year and you are in a 33 percent tax bracket for state and federal taxes combined. Your investment would be $100 for each of the 18 pay periods, but your take-home pay would be reduced by just $66.67 a paycheck. You would be investing $1,800 a year at a cost to you of $1,200. But the tax will be paid later, when the money is withdrawn. Although the salary is reduced for federal and state income tax purposes, the gross amount is used in computing contributions to Social Security and the basic retirement plan.

The minimum contribution to a Mills II account is $10 a pay period. The maximum is determined by a complicated formula based on salary, years of service, and the amount of tax-deferred contributions in previous years. "For most people the limitations are not a problem," Bernard said. "The amount they can afford to put into the plan is less than the maximum allowed by law."

In almost all cases, the IRA limit of $2,000 a year is lower than the limit for Mills II. And anyone who is participating in Mills II and wants to invest more than the limit can invest $2,000 in an IRA as well.

Another advantage of Mills II is that there is not a penalty for withdrawing the money before retirement. Money can be drawn out at any time and will be taxed as ordinary income. If money that has been invested in an IRA is drawn out before age 59.5, it will not only be taxed as ordinary income but a 10 percent penalty will be imposed (except in the event of death or disability).

Although there is no penalty for early withdrawal from a Mills II account, Bernard cautioned that the tax consequences would make early withdrawal unwise in most cases. If you are putting money into Mills II now and you want it five years from now for a down payment on a house, you will have to add it to the amount of your regular taxable income in that year, when your income will presumably be higher than it is in 1982.

"It only hurts you if you defer the tax to a time when you are in a higher tax bracket," Bernard said.

On the other hand, he said, it might make sense to use Mills II money to, for example, go back to school. If you are withdrawing the money in a year in which you have no other income, the tax deferral will turn out to your advantage.

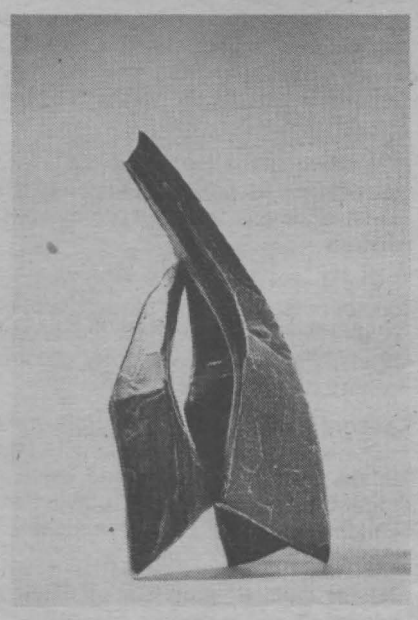
Bernard said he believes the return on a Mills II investment is competitive with those now being offered for IRAs. Mills II offers the options of investing in fixed dollar annuities, variable annuities, or some combination of the two. The fixed rate investments are now earning 13.5 percent on new money. Money that went in prior to July 1, 1980, is earning 9 percent. The rates are subject to change, either up or down, but they are governed by the same market forces as other investments and Bernard believes they will remain competitive.

In recent years the return on fixed and variable investments under the Mills II plan has been about the same.

Annuities are the only investment now available under Mills II, but a subcommittee of the Senate Committee on Faculty Affairs is investigating additional options. Richard Goldstein, professor of mechanical engineering, is chairing the subcommittee. Faculty and staff members who have ideas about other options they would like to see added should contact either Goldstein or Bernard.

Under both Mills II and the IRA, the idea is to provide retirement income. If an IRA is not set up as an annuity, the money must be withdrawn at a rate that is based on the person's expected lifetime. People who want to build up an estate that can be passed on to their children or their favorite charity must use another vehicle.

An annuity program should be only one part of a person's financial plan, Bernard said. "You have your retirement plan, your Social Security, your personal savings. This should be viewed as one part of that package." □



Tom Foley

In February, the 102 faculty members who have won the Morse-Amoco Award for undergraduate teaching excellence since the program began in 1965 received a cast-bronze sculpture created by Katherine E. Nash, professor emeritus of studio arts and herself an award recipient. The sculpture was commissioned by James H. Werntz, former chairman of the Committee on Liberal Education, and was cast by Andrew Guzik of J.A.M. Studios in Minneapolis. Production costs were underwritten with private funds made available through the University of Minnesota Foundation.

"I wanted it to convey the feeling of reaching—the effort it takes to be a good teacher—and I had the idea of the redwood tree," Nash said. "Those big trees grow up and from their roots they send up little children. Those sprouts that come from the roots are like children in the classroom. A teacher hopes that students will grow from what they learn, from the ideas the teacher provides."

Indian Mental Health Project Builds on Community Strengths

by Shahla Rahman
UMD News Writer

Promotion of mental health among area American Indians is the focus of a project under way at the School of Social Development on the Duluth campus.

The Mental Health Services to Rural American Indians Project seeks to promote mental health through spiritual well-being—the sense of competence and self-esteem fostered by control over one's own destiny. Project director Eva Olson, an American Indian and an instructor in social development, said this philosophy translates into a program in which community strengths rather than weaknesses are the key to developing services.

The project is designed to reduce dependence on non-Indian agencies and personnel by giving Indian organizations the resources they need to plan and develop their own programs.

Project staff work with an advisory board to determine Indian mental health needs, train students to help provide those services, and hold workshops for Indian people. The eight-member advisory board is composed of two delegates who hold key positions in health or social services at each of the four participating reservations: Mille Lacs, Nett Lake, Fond du Lac, and Grand Portage. They are involved in all aspects of the project, including curriculum development, selection of students, and field projects.

"We have been working very closely with the reservations to determine which services are being provided and which are currently lacking," Olson said.

Among the needs identified by the board is training those who provide health and social services to identify mental health problems and develop skills in crisis intervention. There is a higher rate of suicide, homicide, alcohol abuse, arrests, and automobile accidents and a shorter life expectancy among American Indians than in the population at large, Olson said.

"There is a great need for Indian personnel who are trained to provide services to the reservations," she said. "There is a lot of strength in the Indian culture and we hope through this program to decrease the dependence of the Indian community on outside sources by reinforcing community structure."

Seven graduate and five undergraduate students are studying American Indian social policy and mental health and participate in field projects at the four reservations.

Alton ("Sonny") Smart, a graduate student from the Bad River Reservation, is updating a comprehensive health plan with the health director of the Mille Lacs Reservation. Smart is at the reservation two days a week to survey current services and talk to the health director about future needs. A community program assistant from Mille Lacs acts as a liaison between Smart and the people on the reservation.

The project provides for community program assistants on each reservation. "Where we have students out in the field, these assistants work with our students. On other reservations, they work independently to determine reservation mental health needs," Olson said.

The third part of the project is workshops to further train students and help Indian people help themselves. A workshop cosponsored by the Fond du Lac Reservation called "Return to the Good Life of the Indian" brought more than 500 Indians to the campus during the winter. Indian spiritual leaders and medicine men talked about incorporating traditional values and lifestyles into modern life.

"The overwhelming response to this workshop shows that Indian people are looking for guidance from spiritual leaders," Olson said. Emphasis was on Indians examining the options available to them, she said.

"Historically, outside agencies have been the ones determining Indian needs—needs that sometimes have been hard to comprehend," Olson said. "The whole idea of this project is to get Indian people involved in their own policymaking. This is unique because of the emphasis on community involvement, planning, and implementation.

"We are doing something *with* Indian people rather than *to* them, and in getting the reservation people involved we hope that what we begin will continue long after the project is over."

The five-year project is funded through the National Institute of Mental Health with support from the School of Social Development. □

Ken Moran

Eva Olson (center), director of the Indian mental health project, confers with students enrolled in the community-directed program.

Children With Kidney Disease Now Have Their Own Story

by William Hoffman
Associate Editor of *Report*

Anybody looking at Mike would think he's just a plain, ordinary kid. And he is, except that he's got kidney disease.

"Once a month on Thursday I am excused from school after lunch to go to see my doctor," Mike said. "My doctor has to check often to see how well my kidneys are working.

"Right now they are only doing part of their job. Even though I don't really feel sick, I have to take medicine every day to help them," he said.

Mike's story is the subject of "Someone Special," a booklet about a boy with kidney disease. He is a fictional character, but many of his experiences are shared in real life by the more than 1,200 patients per year that visit the kidney disease clinic of the Department of Pediatrics on the Twin Cities campus.

"Someone Special" is the first attempt to explain what kidney disease is and what it does in language that children can understand. It is part of a pediatric nephrology educational project aimed at young patients, their parents, and their peers funded, in part, by the Minnesota Medical Foundation.

"We thought the book would be helpful in introducing patients to the subject," said Thomas Nevins, assistant professor of pediatrics.

"The shortcoming of other books is that a doctor or nurse tells of the problem, but it is not known how much the child comprehends," said Marshall Hoff, one of the editors of the booklet.

According to Hoff, area libraries and schools have shown considerable interest in the booklet, which could serve as a model for stories about other chronic childhood diseases told by characters who experience them.

Norine Odland, professor of elementary education and a project consultant, said that up until now there hasn't been anything in children's literature that deals with the problems of kidney disease, though there have been books published on childhood cancer and diabetes.

"The concern was that there should be a book that reaches not only those kids who have kidney disease, but also those who haven't so that they can understand something about it," she said. "It is important that others be informed about why a child may be gone every Thursday."

One of Odland's former graduate students, Phyllis Haensel, wrote the book. "I think the text is remarkably fine," Odland said.

Haensel worked closely with the medical staff to learn about the disease so that she could convey an accurate understanding of it through the character of Mike. According to Nevins, Haensel succeeded in finding the right vocabulary and in making Mike "a good general model."

Nevins and Hoff are waiting to see how the booklet is reviewed. Then they will have it evaluated using various educational tests. "We hope to expose our patients and kids in the classroom to the book and then evaluate the results," Nevins said. If the booklet proves to be a helpful teaching tool, then the same approach could be taken with other chronic diseases.

The incidence of kidney failure in children under the age of 15 is one in 1 million, or about 200 to 225 children per year in the United States, Nevins said. That's a relatively small number, but the number of children with some form of chronic disease is growing. "This serves to underscore the need for children to acquire an understanding of their disease," he said.

In the past, educating a child about his or her disease was largely the task of the parents, "but many parents are themselves scared and aren't much help to their child," Nevins said. "We all deny disease, but this scares the child."

Telling children about their disease through a fictional character who shares it might make it easier to live with. At the end of his story, Mike observes: "Even though I don't know if I'll get sick again or stay well, I feel fine now. The nephrologist says that I'm taking good care of myself and as long as I keep taking my medicine I can do anything I want.

"That's why no one can tell that I'm not just a plain ordinary kid." □

Raptor Clinic

(continued from page 7)

partment of Natural Resources requires a good reason to change their regulations,'' Duke said. ''What we're doing may provide a source of information that could determine changes in the management of game animals.''

The number of birds included in the study will depend on the number submitted to the clinic, Duke said. Minnesota presently has about 230 nesting pairs of American bald eagles and annually produces an estimated 200 to 500 ''immature'' eagles —birds under five years who have not grown white feathers on their heads.

''Our sampling of wildlife injuries is biased by what people find near a road or a hiking trail,'' Duke said. ''Many more injured birds are never found, so we're not really sure of what is happening out there. We still get a few birds that have been shot, but the problem is not as bad as it used to be.''

Future directions

Duke now spends much of his time administering the program while Redig serves as chief clinician and rehabilitator. Barbara Walker coordinates public education efforts, addressing more than a hundred groups a year.

''I never envisioned that we would be involved in this to such an extent, although I had always hoped I could spend some time in research on birds of prey,'' Duke said. ''It has turned into a major effort.''

They hope to establish a network of foster homes for injured raptors. Following surgery and a few days of postoperative care, the birds would be placed with volunteers who had some veterinary training with raptors. ''They could recognize problems before they become critical and require intensive care,'' Duke said. ''Often birds get minor injuries or sore feet in captivity. This can lead to serious infections without proper treatment, but a trained volunteer would be able to handle this type of problem.''

Plans are also in the offing to establish a national network of six regional centers that could help in rehabilitation of wounded raptors. They would be based in universities and in ''backyard operations'' run by birdlovers trained to handle traumatic injuries.

During one hour in Duke's office, the phone rang twice. One call was a request from a civic group for an education program, and the other was from a game officer in Nebraska who had found an injured eagle along the Missouri River. Arrangements were made to ship the bird to the University. ''We'll be prepared when it gets here,'' Duke told the game official.

''Although we're stretched thin, we're not turning anyone away,'' Duke said. □

Regents Approve Summer Tuition Hike

by Elizabeth Petrangelo
University News Service Director

A 15 percent surcharge will be tacked onto tuition this summer as part of a package meant to make up for the $26.6 million hole in the University's 1981-83 budget, the Board of Regents decided in February.

The board laid over until this month's meeting a decision on whether to extend the 15 percent surcharge through the rest of the biennium on top of an already-planned 10 percent increase in tuition that would take effect in the fall.

The administration proposal is to extend the 15 percent surcharge but to drop a 3 percent surcharge for library acquisitions and equipment replacement. The overall result would be that students would pay 22 percent more in tuition next year than this year.

President C. Peter Magrath told the board that without a temporary tuition increase of 15 percent over the course of the biennium, academic programs would have to be ''dismantled'' still further. ''There are no choices, in my opinion,'' he said.

Several regents said they had not expected to take a vote on the surcharge issue until March and were not comfortable doing so without looking at other options. But Magrath said there are few options available beyond new, deeper cuts in academic programs.

''If we don't deal with part of this problem with a tuition increase,'' he said, ''instead of reduction of some programs, we'll be talking about elimination of programs.''

Regent Mary Schertler said she intended to vote against a biennium-long 15 percent surcharge in light of the fact that a regular 10 percent tuition increase is already contemplated for the fall. The cumulative effect of both increases would be too great for many students to cope with, she said.

''I would find it very sad if that was the reason a student could not go to this system,'' she said.

At the January meeting, the administration recommended a 13 percent tuition surcharge, but that figure was based on a ''best guess'' that the cuts in the University's budget would not exceed $20 million. Since that meeting, the legislature approved a final budget-cutting bill to deal with the state's fiscal emergency, a bill that eliminated $19.6 million from the base and $7 million from the appropriation earmarked for salaries.

Rose Johnson, a student representative to the board, said students are opposed to the added surcharge because it would go to support staff salaries. ''Students simply can't afford that increase, and we oppose a further increase to pay for faculty salary increases,'' she said.

Magrath argued that since 78 percent of costs at the University are people costs, at some point all sectors end up paying for salaries.

''As much as each of us would like to say that there are areas that could be excluded from this process, that's just not true,'' said Wenda Moore, chairman of the board. ''The students are going to have to participate as well as the faculty and civil service and all of us.''

Regent David Lebedoff said that cuts in programs have been so deep already there is no choice but to raise tuition. ''It is not true that we serve the students only by keeping tuition down,'' he said. ''We also serve them by keeping quality up. We're getting too close to endangering the quality that we offer students.'' □

PEOPLE

Crookston: Emily Behm, chairperson of home and family services, was appointed Crookston representative to the All-University Council on Aging.

■ Colleen De Martin, instructor in home and family services, will be listed in *Outstanding Young Women of America* for 1981.

■ Lowell Larson, director of institutional advancement, was selected one of 10 Outstanding Young Minnesotans by the Minnesota Jaycees.

■ Provost Stanley Sahlstrom was elected to the board of directors of the Minnesota Agri-Growth Council.

Duluth: Leif Brush, associate professor of art, received a $6,000 grant from the Jerome Foundation of St. Paul in support of a new ''teleconstructs spacework'' to be performed in the New York City area with satellite transmission to Duluth. The foundation cited Brush for the work he has done with sound in the environment.

■ Burton Galaway, associate professor of social development, has been awarded a Senior Fellowship of approximately $30,000 from the New Zealand National Research Advisory Council. On August 1 Galaway will begin a year of research in Wellington for the New Zealand Department of Justice.

Morris: Academic Dean Elizabeth Blake attended the annual meeting of the Association of American Colleges and the American Conference of Academic Deans in January in Boston. The conference theme was ''Literacy for the Contemporary World.''

■ Three faculty members have received a grant from the College of Liberal Arts Small Grants Program for an interdisciplinary printing project. James Gremmels, associate professor of English, Jennifred Nellis, assistant professor of art, and Janet Norton, English instructor, will produce a catalog of woodcut prints selected from national entries by a jury of art students.

■ Liselotte Gumpel, professor of German, delivered a lecture at Stuttgart University in December and conferred with Winfred Woesler, director of Droste Research Institute at Münster University. The center is named after 19th-century poet Annette Von Droste-Hulshoff, on whom Gumpel is doing research.

Twin Cities: Two Japanese educators will share an appointment as Visiting Control Data Corporation Professor of Computer Science spring quarter. Sabura Tsuji, professor of control engineering at Osaka University, and Masahiko Yachida, research fellow in control engineering, will teach a graduate-level computer science course in robotics and advanced automation.

■ Donald Van Hulzen has been named interim general director of University of Minnesota Hospitals and Clinics; he has been senior associate director since 1971.

■ Bror Troedsson, a retired faculty member in physical medicine and rehabilitation, died of an apparent heart attack January 23 at the age of 78 at his home in Minnetonka. He was on the faculty of the Medical School from 1954 until his retirement in 1974 and was considered a pioneer in rehabilitation medicine. He was also chief of rehabilitation at the Veterans Administration Medical Center at Fort Snelling from 1954 to 1975.

Waseca: Myron Guthrie, assistant professor of agronomy, was awarded the professional designation of certified crop scientist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils.

■ Nan Wilhelmson, chairperson of home and family services, will be project director for a $160,146 grant from the W. K. Kellogg Foundation that will fund the Rural Family Life Center. Patrice Abbe is project coordinator of the center.

Program Cuts

(continued from page 1)

forced on them. And everyone may be telling the truth.

Deans and college faculties did not offer up programs to be sacrificed, but—when pressed—colleges identified those programs that were of lower priority than others.

Terms like "important," "very important," and "utmost importance" appeared in the collegiate priority statements, Swan observed in her report to the University Senate. "There were no terms like 'not very important,' 'less important,' or 'we don't care about this.' " An inference could be made that programs not mentioned were of lower priority, she said.

In meetings between unit heads and the vice president to whom they report, Swan said, people "were required to talk about priorities right down to the lowest one." No matter how reluctant they were to give anything up, deans were forced to rank their priorities.

In the earlier stages of the planning process, Swan said, "it seems that consultation with the faculty had been pretty good." But when it came to listing low priorities, the consultation may have broken down.

"Consulting on high priorities is hard, but it's not nearly as hard as consulting on low priorities," Swan said. "When the deans were forced to make explicit the priorities that were low, it was difficult for them to go back to the units and consult. In some units there was reasonably good consultation about low priorities. In many units there wasn't."

Swan said that "where low priorities were reached without consultation, the concern is that perhaps the information was not complete enough." The committee is now trying to determine how criteria were applied.

"Our sense is that the priorities in the units are at least grossly the way the units see them," she said. "We haven't had people come to us and say, 'We have priorities that are much lower than these.' "

A danger is that as dollars are assigned to proposed changes, units may pull back from their program decisions and across-the-board retrenchment may occur again, Swan said. "We would not like to see that."

The choices are painful and the process imperfect, but Swan said that a consistent theme expressed in the committee through four changes of membership has been that "the University should take programmatic reallocation seriously."

A flagship bias?

At the hearing of the Education Division of the House Appropriations Committee February 18, legislators heard complaints that the coordinate campuses—specifically Duluth and Waseca—have been treated unfairly in the budget process.

"We perceive a very strong flagship bias in the central administration," said Richard Lichty, president-elect of the University of Minnesota Duluth Education Association, the union that represents faculty members at both Duluth and Waseca. He said the two campuses are "by far the lowest funded" in the University system.

"A disproportionate share of the state's resources are going to the Twin Cities campus," said Thomas Bacig of the Duluth faculty. "The reason we come to you is that you listen and respond to evidence. The regents and the central administration do not. We don't think the cut is equitable and fair, and it's going to make worse a situation that's already unfair."

Funding per student is lower at Duluth than at the Twin Cities or Morris, Bacig said, and Kathryn Hanna of the Waseca faculty said $250 less per student is spent at Waseca than at its sister campus in Crookston.

Vice President Stanley Kegler said the funding disparity between Crookston and Waseca has resulted because "Crookston started earlier and peaked earlier. Waseca started later, and its enrollment has continued to grow."

Funding per student has increased by 40 percent in real dollars at Duluth in a time when it has decreased by 0.5 percent in the Twin Cities, Keller said.

Different kinds of programs have different costs, Keller said, but a meaningful comparison would be between the College of Liberal Arts on the Twin Cities campus and the College of Letters and Science in Duluth. Keller and Bacig had different figures for this comparison—one showing Duluth higher, one showing the Twin Cities higher—but in both cases the cost per student was within $100 on the two campuses.

Keller said he believes the budget cuts, while hitting all campuses hard, have been fairly distributed. Percentage cuts on the coordinate campuses will be slightly lower than on the Twin Cities campus, he said.

Intercollege task forces

Most of the priority decisions have been made within colleges and campuses, but in the examination of these priorities four issues emerged that "span college boundaries and have significant impact on the way in which programs and services are offered at the University," the draft document says.

Task forces are being appointed to study each of these issues "with the expressed purpose of reviewing program scope and recommending program or service consolidation."

A task force on composition and writing is to "examine the feasibility of establishing a single, undergraduate composition and writing program on the Twin Cities campus." The review will encompass the composition program within the Department of English in the College of Liberal Arts (CLA), the remedial composition program in General College (GC), and the technical writing program within the Department of Rhetoric in the College of Agriculture.

Another task force is to examine the feasibility of establishing a single location on the Twin Cities campus where returning students with special program needs could investigate the variety of academic program opportunities available. This review will include counseling services offered by Continuing Education and Extension, University College's University Without Walls and Inter-College Program, GC's bachelor of applied studies and bachelor of general studies programs, and the individually designed interdepartmental major.

A third task force will "examine the scope and variety of programs offered across the University in the areas of social work and social development for overlap and possible consolidation." The review will include programs offered through the School of Social Development at Duluth, Family Social Science and the Center for Youth Development and Research in the College of Home Economics, the School of Social Work within CLA, and the human services generalist program in GC.

A task force on remedial programs will examine the variety of remedial programs offered in support of mathematics, composition, and communications "with the expressed purpose of coordinating these programs under the leadership of General College." This will include programs offered by GC, the HELP Center, the School of Mathematics in the Institute of Technology, and the Office of Minority and Special Student Affairs.

Task force members will be drawn almost entirely from the affected units, Keller said. The idea is to bring people together to find ways of consolidating their programs, not to impose an external judgment, he said.

Separation pay

The draft document also includes a proposal for separation pay, phased retirement, and early retirement options for tenured faculty members in programs or program components that are designated for curtailment or termination.

The separation pay option could include the payment of full salary for two years, the payment of partial salary over a longer period of time, or the payment of a lump sum.

The two retirement options, phased and early retirement, are already available in somewhat modified form to the faculty in general. Phased retirement is a partial leave without salary during a specified period of time, but with full accumulation of retirement benefits and continuation of health insurance benefits. To qualify, a faculty member must be at least 52 years old and must agree to take full retirement no later than 10 years after starting the phased retirement.

Early retirement is now available to faculty members at age 62. In order to encourage early retirement in areas designated for curtailment or termination, the University would, on a negotiated basis, make available to individuals 62 and older an income equal to the estimated annuity that would have been available at age 65. In recognition of the reduced Social Security benefit available, an additional supplemental annual payment of $2,000 would be made, reduced proportionately for each month the retiree is over age 62.

All of the options would be voluntary. "Under no circumstances should a faculty member be pressured to elect one of these options," the document says.

Dodging the bullet

In good times, the University would not be talking about offering separation pay to tenured faculty members or closing its library school or the geography and home economics departments at Duluth. Nobody is happy about the cuts that are proposed.

"We were very anxious to avoid a declaration of financial exigency," Keller told legislators in February. "Our reduction package is intended to avoid that."

"Many of us perhaps think we've dodged the bullet. We on the Senate Consultative Committee are not at all sure that we have," committee chair Douglas Pratt said at the February 18 senate meeting.

The state's financial troubles are not over, and the effect of tuition increases on enrollment is unknown. The threat of financial exigency may rise again, Pratt said. "It's not clear that we're out of the woods yet." □

REPORT

A Publication for Faculty and Staff
of the University of Minnesota

July 1982

Tom Foley

Elizabeth Doherty: "If you can't afford us 40 hours a week, you reduce the number of hours. Fewer dollars buy fewer goods and services, and we're the service."

Civil Service Salary Increases Cut to 5%

by Maureen Smith
Editor of *Report*

All civil service employees will be receiving a 5 percent salary increase this month. As things now stand, they won't see another raise for at least a year.

The original pay plan, announced before the University got caught in the state budget crunch, called for more and bigger increases for staff members. Not surprisingly, some people aren't very happy about the change.

Other people think that a 5 percent increase isn't so bad in these hard economic times, especially if the alternative was massive layoffs.

Over the biennium, employees will be receiving an average increase of about 17 percent—an amount that compensation manager John Erickson said is "not huge, but not terrible." The trouble is that people had been expecting more.

Faculty members will also receive an average increase of about 17 percent in the two-year period. Erickson said it would be incorrect "to assume that civil service employees over the past 10 years have been treated poorly vis-à-vis faculty." But he said he does not like the idea of comparing faculty and staff salary plans. "They're based on entirely different principles, labor markets, and funding."

President C. Peter Magrath said in June that the central administration and the regents continue to have a strong concern about salaries, both faculty and civil service.

The Civil Service Committee has been working on a proposal to increase employees' hourly wages next January and then give them some time off the payroll. People wouldn't receive any more money, because the money isn't there, but they would work fewer hours or fewer days. The proposal is expected to go to the regents in July or September.

The proposal to reduce the work week originated with a group of employees on the St. Paul campus, who led a petition drive and collected 357 signatures. "If you can't afford us 40 hours a week, you reduce the number of hours," said Elizabeth Doherty, a senior secretary in the College of Agriculture. "Fewer dollars buy fewer goods and services, and we're the service."

Jerome Larson, chair of the Civil Service Committee, said in a presentation to the regents in May that employee morale is being "devastated" by shrinking salary increases, layoffs, and increased work loads.

All of these concerns were reflected in a comment by Craig Olson, senior library assistant in the Law Library. "They're laying people off, they're giving less money than they promised, and they're expecting the same amount of work or more," he said. "If they're giving us less than they promised, they should compensate us. One way is time."

But giving employees time off the payroll isn't necessarily as easy as it sounds. "The biggest problem is that it cannot be applied uniformly throughout the University," Erickson said. A 37.5-hour week might work fine in some departments, he said, but not in others: for example, not at University Hospitals where all hours of the day are now covered with three eight-hour shifts.

Another problem, Erickson said, is that "whatever we do is a permanent change. We have to roll it forward into future bienniums." The obvious question is whether the University could reduce its work week and still provide the same services.

With the work force and the salary increases shrinking, Doherty said, maybe the University can't expect to provide all the same services. "They can't expect you to do two people's work. People are very loyal to the departments they work in and the faculty members they work for, but they're killing themselves as well as fooling themselves if they think they can keep doing all the work."

If the work week cannot be reduced, Doherty suggested, another possibility would be to give employees a few weeks off the payroll during slack times in their departments.

An extended time without pay "would pose problems for people with their personal budgeting," Larson said. "One day per pay period might be better for some people."

(continued on page 3)

Plans for Scaled-Down Hospital Building Presented

by Elizabeth Petrangelo
University News Service Director

Scaled-down plans for a new University Hospitals building 37 percent smaller than previously proposed were presented by hospital representatives to the Board of Regents June 11.

If the regents accept one portion of the plan this month, construction on the section of the building to house the therapeutic radiology department could begin by October.

The revised plans for the new building include eight floors, 264,000 net square feet, and 432 beds. Earlier plans called for ten floors, 420,420 net square feet, and 520 beds.

Plans were adjusted downward after a report by Robert Derzon, a Washington health care consultant, questioned the financial feasibility of the project because of current economic conditions. Total cost of the project had been estimated at $154 million.

After the Derzon report was made, President C. Peter Magrath appointed a committee to redesign and reduce the scope of the project. Harry Atwood, chair of the study committee, said the new, smaller building will cost $125 million.

"Even with the reduction in size and scope, the renewal project remains a major and expensive project," Atwood told the board. "Yet as Robert Derzon reported, University Hospitals must be replaced."

Top priority for space in the new building has been given to acute-care areas and diagnostic and treatment units that provide direct service to inpatients, said David Preston, associate vice president for health sciences. Fewer offices and less conference space are included in the revised plans for the building, which will be linked to the old Mayo complex, the Masonic Cancer Center, and Unit K-E.

The building will have a rectangular base of three floors, with ground level on the second floor and a small amount of mechanical space below the first floor. Floors four and six through eight will hold inpatient care units, including intensive care units and inpatient beds.

The highest priority for new construction is the therapeutic radiology department, which is an important part of the cancer programs at University Hospitals, Atwood said. During the past year, 702 patients received more than 14,200 radiation therapy treatments, and the volume of treatments is expected to increase.

Present equipment needs to be replaced, but some of the new equipment cannot be installed in the current facility because of space limitations or the need to shut down old equipment while new is being installed.

Therapeutic radiology will be on the lowest level of the building, connected to the Masonic hospital where most patients requiring radiation therapy will be housed, and can be built first, Atwood said.

No firm recommendation on a method of financing the total project has been made yet, and the possibility of private investors is still being considered, he said. □

On the Inside

Tom Foley

Mulford Q. Sibley

Sibley Points Students to a Vision of the Whole

by Maureen Smith
Editor of *Report*

Ask a few people to name the University faculty member who has been the most controversial in the past 20 or 30 years, the one who has most often been mentioned as an example of a campus radical. Then ask them to name the faculty member who has been most admired and loved by students.

Don't be surprised if you hear the same answer: Mulford Q. Sibley, professor of political science and American studies on the Twin Cities campus.

When Sibley retired this spring after 34 years on the faculty, an olive tree was planted in his honor—an olive tree "for a man of peace, who has taught us about peace," one student said.

Sibley's values—his pacifism, his socialism, his Quaker faith—are deeply held. His respect for people with other views, and for students with questions, is equally deep.

"I don't think I have ever knowingly said to a student that a question is silly, even if it is," Sibley said at his last seminar, in an interview conducted by his colleague Gayle Graham Yates. "You can always rephrase a question so that it reflects a serious concern."

Sibley's students agree. "I've never known anyone who has been so learned, with such an incredible grasp of the material, who at the same time has treated students so seriously," John Plomondon said. "That's the thing that has impressed me most."

"He really cares about all his students, and it shows," said Annette Van Dyke. "I have appreciated his humanitarianism, and the way he encourages intellectual curiosity. It's true that he never belittles students."

A question of values

Nobody who is as gentle and courteous as Mulford Sibley would stir up controversy by his manner. The controversy has come because of his views. But he has never tried to push those views on his students.

"My idea would be not that they would take my values but that they would consider all value systems and consciously select those values that they deem to be right," Sibley said in an interview for *Report*. "Some of the values might be traditional, some might be against tradition. Tradition is not all wrong, but a custom is not to be accepted simply because it's a custom. I don't think we ought to make custom sacred. It ought to be subjected to rational criticism."

People might wonder how Mulford Sibley, who grew up in Oklahoma in a Republican and Methodist family, came to his radical views. It's something he sometimes puzzles over himself. "I don't know why I resisted some values and accepted others. I grew up in a state with strict segregation laws. Nobody ever criticized segregation as far as I knew. Yet from the very beginning I recall criticizing it. That's just one example.

"Family values play a role, but they may not be exemplified in the same way. All my relatives were Republicans except one who stuck out like a sore thumb—he was a Democrat. Why I became a socialist, I don't know."

Sibley consistently refuses to force his values on others. For example: "I think abortion is an outrage. As a pacifist I find it obnoxious and repugnant. But that does not mean I favor a law prohibiting abortion under all circumstances." Americans with their puritan heritage have too often held that "what is morally wrong must be made legally punishable," he said.

In his personal life, Sibley is something of a puritan himself. "I often seem to have a conscience about petty matters, a certain rigidity," he said. "My wife says that I don't know how to relax."

Sibley and his wife Marjorie celebrated their 40th anniversary this spring, and the marriage has been one of the joys of his life. "I don't know if it's been perfect, but it has seemed that way to me," he said. "I don't know how I deserve it. It's probably just the grace of God. I don't know what I'd do without my wife. I'd probably just collapse."

A utopian thinker

When he isn't being called a dangerous radical, Sibley might be accused of being a naive idealist, a utopian thinker. The utopian label is not one that he would object to.

"We cannot be rational as human beings unless we have a utopia, explicit or implicit, which may never be realized," he said. "I literally believe the biblical statement: 'Where there is no vision, the people perish.'

"Give us a vision of the whole. Without that vision, we have no guidance as to where we think we should go or what we think we should do. A utopia is indispensable. Far from being a luxury, it is a necessity."

Sibley's own utopia would include a socialist economy. "I'm a democratic socialist," he said. "I think socialism rightly interpreted is essential if we're going to have democracy in an industrial age. By socialism I mean a system in which the productive elements are directed and controlled by the community for the benefit of the whole population and not for the benefit of the few.

"There are all sorts of problems you have to wrestle with—the problem of bureaucracy for one—but I don't see how you can do without social planning. Instead of abandoning planning we should expand it. Instead of abandoning the notion of a welfare society we should expand it."

Sibley said his turn toward socialism may have been influenced by his experience in the Depression. "My personal experience was not horrible, but I saw so much that was horrible around me. That left a deep impression on my mind. I increasingly believed that mere liberalism was not adequate.

"I would call what we're going through now only a little less bad than the Great Depression of the '30s. I don't think we've seen the end of it either."

As bad as things are, Sibley said, "there may be hope even in this terrible economic situation. It may shock people out of their accustomed complacency."

A greater source of hope for Sibley has been people's readiness to sign petitions for a nuclear freeze. "I find this remarkable. It wouldn't have happened a few years ago. It may lead to other more hopeful things."

A man of peace

Sibley's pacifism has been one of the primary commitments of his life. He became aware of the peace issue in childhood, when he was about 10, and became a pacifist in college. It was the peace issue that drew Mulford and Marjorie Sibley together in 1941, after Pearl Harbor, when both of them were opposed to the war and all their friends were for it. It was the peace issue that first attracted him to the Quaker religion.

World War II was a real test for a pacifist. During the Vietnam war Sibley's students often told him that they would have fought against Hitler. His answer was that evil

means are never justified, no matter what: the end does not justify the means.

Another reason Sibley opposes militarism is that the military swallows up such a huge chunk of the nation's resources. "We'd be just as safe if we cut the military budget by 50 percent, maybe safer," he said.

"I've sometimes wondered how to spend $100 billion, which would be half of the military budget. It's amazing how far it will go for education, health, and welfare. It goes very, very far for these other things. We have to decide where our priorities are."

In a ceremony June 2, students and colleagues planted a tree as a memorial to Sibley. "It seemed to us wonderfully symbolic that it be an olive tree for a man of peace, a man who has taught us about peace," said Ralph Neubeck, Jr. "Then it seemed ironic that the kind of tree that survives in this climate is a Russian olive."

The Sibley tree is by the Mississippi River, behind the Science Classroom Building and north of the Washington Avenue bridge. "We wanted it to be by the river, and we wanted to see it when we come to campus," Neubeck said.

A Quaker saint

It would be impossible to separate Sibley's teaching style or his political views from his deep spirituality. "I see politics and religion as very closely related," he said. "The objects of our ultimate concern and our devotion to them are obviously going to affect our actions in the political domain."

All people are religious, he said, "if you take a broad definition such as Tillich's, that religion is one's ultimate concern. In these terms religiousness is ubiquitous in human beings. We're always seeking an object of ultimate concern. We may never find it.

"It would be as easy to get rid of religion, the search for an ultimate concern, as to imagine a human being without a nose."

Sibley avoids creeds and doctrines—"even to talk about God seems to limit Her," he said—but he sees in religious faith "an aspiration for integration, for wholeness, so that lesser things are subordinated to important things." And he said that "one of the core elements in a religion is a sense of awe at the mystery of things."

Sibley has been called a Quaker saint, but he would surely deny it. He hesitated for years to become a Quaker because "so much is demanded of a Quaker," and he said that "in any religious faith, one of the problems is hypocrisy. One purports to be something one never is, completely. This leads to a sense of guilt."

At the same time, he said, religious faith "enables us to bear the sense of guilt and reach a conviction that we are absolved. At least we have an opportunity for new starts."

A crowd of people

Not many faculty members, when they retire, have such a crowd of people turn up for their last seminar. The crowd at Sibley's included President C. Peter Magrath, Dean Fred Lukermann, political activist Marv Davidov, faculty colleagues, students and former students, people wearing "Mulford" buttons. Not often are television cameras on hand for such an occasion.

If you knew Sibley only by his controversial reputation, you wouldn't understand it. Or if you wandered into one of his classrooms and stayed only long enough to observe his diffident manner and never got caught up in the substance, you would be mystified. Why have students chosen this professor to cherish, why has he touched so many lives, why is this man so famous?

Sibley, who never sought publicity, might ask the same question. He appreciated all the tributes that were paid him at the end of his career at Minnesota, but he kept saying he didn't deserve them.

"To think that you would sit here for an hour or an hour and a half and listen to this," he said to the surprise visitors at his last seminar. "I can't get over it." □

Editor's note: Quotes from two interviews were interspersed in this article—the interview conducted by Gayle Graham Yates at Sibley's last seminar, and an interview by the writer.

Staff Salaries

(continued from page 1)

Every proposal has disadvantages, Larson said, but "University departments seem to want to preserve the hours of service they offer, for students and the public, and they're trying to do it with fewer people. That's a problem for employees.

"We're trying to get the University to acknowledge that we can't do everything we've done in the past. It's unreasonable to expect employee morale to stay up if salary increases fall below inflation."

An interesting twist to the salary situation, Larson said, is that clerical workers might not have fared as well as had been expected under the original pay plan, which called for cost-of-living raises in July and January. The rate of inflation has moderated considerably, and in fact the Consumer Price Index (CPI) for the Twin Cities area fell between February and April, the first decrease in 17 years.

Cost-of-living raises for clerical workers under the original plan, based on the CPI, would have been 24 cents an hour—less than 5 percent for anyone earning more than $4.80 an hour. But Larson said it is still likely that the old plan would have delivered more over the course of the year.

Larson said the committee has heard from a few employees who have said that a 5 percent increase "is okay with them given the state of the economy and the bind the University was in."

Employees at the Morris and Crookston campuses have expressed their willingness to go along with the 5 percent increase. Larson said there may be two reasons for this. Because of the wage standards in those areas and the depressed farm economy, campus salaries look pretty good. And because the campus communities themselves are smaller, employees have felt the impact of layoffs more. "They are willing to give up their increases in order to protect people," Larson said.

Even on the Twin Cities campus, nobody has been saying that more layoffs would be preferable to the reduced salary increases. "I don't want the person next to me laid off so I can get 12 percent," Doherty said.

Avoiding layoffs was one of the primary concerns when the Civil Service Committee originally gave its endorsement to the revised pay plan. The endorsement angered some employees. Olson said the committee is not representative. "They tend to be supervisory personnel, pretty atypical. I'm angry. It's not just the amount of money, but the idea that civil service people have so little input into the budgeting process."

Larson said the committee had very little time to make its recommendation. "In retrospect I think we should have anticipated that the money appropriated by the state would fall short" and started to consider the options, he said.

The committee reconsidered its endorsement after hearing some strong protests from employees in late April and holding an open hearing in early May. By then the employees on the St. Paul campus had suggested the reduced work week, and Larson said "it began to make sense to us that that was a reasonable thing to look at."

At the May regents' meeting in Morris, Larson spoke in favor of a 3 percent reduction in work hours. "Jerry Larson represented us very well at the Board of Regents meeting," Doherty said.

In drawing up a revised pay plan after the amount of the state shortfall was known, Erickson said the compensation people knew that any method that was chosen to deal with the problem would have negative consequences. "The key thing we felt was important was that some principles ought to be used in selecting the method," he said.

Five principles were agreed upon, and endorsed by the Civil Service Committee. Even though many people have been unhappy with the revised pay plan, Erickson said, most people have agreed with the principles.

The five principles are that the revised pay plan should deal directly with the source of the budget problem, should minimize layoffs, should balance the civil service salary budget, should not take away salary or fringe benefits that employees currently earn, and should apply equally to all unrepresented employees.

Saving jobs was the primary goal, Erickson said. "We wanted to avoid layoffs at all costs." The people in Personnel may be especially aware of the painful consequences of layoffs because "we work with a lot of laid-off employees," Erickson said. "Also, we've had layoffs in our own department," said Jean Sugnet, senior compensation representative. Unless people know some of the employees who have been laid off, she said, "you can see those numbers and there's an almost clinical anonymity."

But Erickson and Sugnet are not surprised that many people are unhappy with the revised pay plan. When all the choices are bad, Erickson said, it isn't easy to reach consensus. "There's no such thing as one negative approach being liked equally by all people." □

Tom Foley

Craig Olson: "I'm angry. It's not just the amount of money, but the idea that civil service people have so little input into the budgeting process."

REPORT

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Tom Foley

David Mata (left), Jeanette Lopez, and Rene Charles in front of a wall mural on the west side of St. Paul

La Rama Students Committed to Health Care for Hispanics

by Paul Dienhart
University News Service Writer

The national news magazines recently announced that advertisers have discovered the Hispanic consumer. There are some 15 million Hispanics in the United States, making them the largest minority group west of the Mississippi River. Advertisers, noting that Hispanics outnumber blacks in 11 of the 15 largest markets, are now using billboards in Spanish.

Hispanic consumers of health care are still waiting to be discovered. As a group they tend to get poorer medical attention than the rest of the population. The health care they do receive might be described as generic: there have been few serious efforts to adapt health care to the special needs of Hispanic communities.

Carlos Carballo, a medical student on the Twin Cities campus, became interested in medicine while he was working at a clinic in the Chicano barrio of Davis, California. The clinic was staffed by student volunteers from the University of California and was open only on Saturdays, but its staff saw more patients in one day than the nearby federally funded clinic saw in a week. Nobody at the federal clinic spoke Spanish.

"Good intentions don't count for much if you're operating from ignorance," Carballo said. "It might be as simple as speaking the language of the people you serve."

On the theory that the best providers of health care to Hispanics are likely to be Hispanic themselves, Carballo and 40 other Hispanic students in the health sciences are members of a group called La Rama. In just a few years, Minnesota's La Rama has developed the reputation of being one of the top groups in the country for helping members through the grind of medical school, recruiting Hispanic students, and educating the community about health needs of Hispanics.

But the most remarkable thing about the group may be the members' intense commitment to serving Hispanic people. A medical career in a barrio or migrant camp is hardly the dream job of the typical medical student.

La Rama president Jeanette Lopez answers immediately when asked why she is studying medicine: "Anger." She is not belligerent, simply stating a fact. "I was born and raised in a semi-rural part of central California that is 50 percent Chicano. My father is a truck driver and my mother is a cannery worker. Both of them used to be farm workers. The poor health care just got to me, it made me angry."

She remembers having black eyes and a bruised nose from a piece of cannery machinery hitting her in the face. After she had been dizzy for three days, her parents sent her to the company doctor—a last resort for many Chicanos. "The clinic was crammed with people and the doctor was treating them like cows," Lopez remembers. "I felt like saying, 'Hey, who do you think you're talking to?' "

Communication problems with doctors, the cost of medical care, and a cultural ethic that demands tolerance of physical pain all contribute to the reluctance of Hispanics to seek medical help—assuming that help is readily available. The life span of Hispanics is 10 years less than the average for all Americans.

Hispanics are the largest minority group in Minnesota. The only completed study regarding the health of Minnesota Hispanics, conducted in Ramsey County in 1980, found that 36 percent of the Hispanic population was below the federal poverty level, compared with 21 percent of the national Hispanic population and 6 percent of all Ramsey County residents. More than half of the Hispanic adults had no educational diploma, and 34 percent required translation for effective communication.

Although economically, educationally, and culturally ill-equipped to seek medical care, the Hispanics had a disproportionate need for care. The study, which looked only at mental health needs, found that 52 percent of the Hispanics interviewed suffered from emotional stress, chemical dependency, or mental illness.

A big family

Rene Charles was in high school when his older sister died. Misdiagnosed by an overworked doctor who treated her for a heart attack when she actually had a brain hemorrhage, she died within 72 hours after she became ill. At 19, Charles became chairman of the board of the new migrant workers' clinic in Orange Cove, California. Under his leadership it was used as a model by the National Migrant Health Center in Washington, D.C.

Now Charles is a freshman medical student on the Twin Cities campus. This spring, while they were taking a full schedule of medical classes, he and fellow La Rama members Carballo and David Mata taught a course on Chicano health issues. They designed the course, wrote an instruction manual, and arranged for weekly talks by nationally prominent speakers. They paid the speakers' travel expenses out of their teaching assistant salaries and donated the remainder of their pay—about $1,400—to a La Rama scholarship endowment for Minnesota Hispanics who want to study health sciences at the University. They intend to offer the course again next year.

"These are very unusual students," said John Kelly, professor of family practice and community health, who served as faculty adviser for the course. "I've never heard of medical students taking the time to organize a course. It's rare to find a group as active, bright, and motivated as the people in La Rama.

"They did a magnificent job with the course. The lectures could make a book that would be of value to anyone providing health care to Hispanic people."

Students in the course learned, for example, about a folk medicine that is still popular with many Chicanos in the Southwest. Knowledge of traditional beliefs could help a doctor explain an illness and treatment in terms patients can understand.

Mata and some other La Rama members are working with Kelly on research on nutrition and alcoholism among the Hispanic elderly on the west side of St. Paul.

"We came to medical school committed to providing better health care to the people in our communities," Carballo said. "But medical school is tough. It's crazy! It's easy to become absorbed in surviving the courses and forget about what we planned to do after we finished school. Medical

Tom Foley

school is like a fraternity in some ways. There is pressure to conform to certain kinds of behavior and values—not necessarily bad values, but not the reasons I chose to study medicine.''

Charles has noticed that some of the Hispanic applicants to medical school are already beginning to separate themselves in subtle ways from their home communities. ''They will say something like, 'I've worked with them.' As if 'them' weren't their own people. We can't afford to lose perspective on where we came from. La Rama helps us keep that perspective.''

La Rama provides support for career motivation, for studying, and even for emotional health. ''I always thought I could manage by myself,'' said Angela Dargas. ''But in medical school you really need support. The system can bombard you with how stupid you are. It's easy to lose confidence when you're working hard and barely passing.''

La Rama members often study in groups, and new members are assigned a ''big brother'' and a ''big sister'' to help them through their first couple of years in medical school. ''My big brother will call me before a quiz,'' Lopez said. ''I'll wake up and grab the phone and his voice will say: 'Are you sleeping? You'd better get up and study.'

''My main impression of La Rama is that it's a big family. It's like being surrounded by my uncles and aunts and cousins—just like at home. At Thanksgiving 25 of us got together at Rene's house for a dinner and dance. We even help one another with our personal and financial problems.''

Me, a doctor?

Getting through medical school is tough, but getting *to* medical school may be even more difficult for Hispanics. First there has to be the realization that being a doctor is a possibility. That had been Lopez' secret ambition since she was 12 or 13, but her mother encouraged her to aim for a more realizable goal—to be a lab technician. Until a high school counselor coaxed her to pursue her true ambition she was prepared to go to Chino State College and study to be a technician. Instead, she went to Berkeley for her undergraduate degree, and came to medical school in Minnesota in large part because of La Rama.

''Minnesota has the reputation of being one of the top four or five medical schools for Chicanos,'' Lopez said. Part of that reputation is the strong support group. When Lopez visited Minnesota, La Rama members picked her up at the airport, gave her a tour of the city and campus, and put her up in their homes. Later they helped her fill out the complicated Medical School application form. Now one La Rama member is her roommate and she rides to school with another.

Hispanic students also like the University for its emphasis on clinical education. Medical students here work with patients a year earlier than at most medical schools. Most La Rama members intend to work at family practice clinics, and the immediate need of their communities is practicing doctors. In her hometown of Merced, California, a survey five years ago found 25 doctors per 100,000 residents compared with a state average of 210 doctors per 100,000, Lopez said.

The lack of Hispanic doctors means that there aren't many role models around to get Hispanic students thinking of studying medicine. ''They might think, 'Me, a doctor?' '' Carballo said. '' 'Heck, Quincy is no Chicano.' ''

La Rama members visit high schools around Minnesota and in their hometowns to tell minority students that college and medical school are possibilities to consider. Charles remembers that until a Chicano college student visited his high school he wasn't certain what a university was.

Only one of the 41 La Rama members is a Minnesotan. La Rama sends recruitment letters to Hispanics from all over the country who take the national medical school admissions test. Only two Minnesota Hispanics took the test last year. To encourage state Hispanics to study health sciences at the University, La Rama is setting up a scholarship endowment. The goal is an endowment of $10,000.

The first scholarship of $250 went to Dia Smith, a 1980 graduate of North High School in Minneapolis, who will enter the University in the fall as a pre-veterinary medicine student. Since she graduated she has been working part time and thinking of attending a community college. ''I always wanted to be a veterinarian, but I never thought I'd be able to do it,'' she said. ''La Rama's support has given me the courage to try.''

The number of Hispanic students in the health sciences is relatively high compared to other professional programs around the University. Luis Aguilar, director of the Chicano-Latino Supportive Services Center, credits La Rama for the successful health sciences recruiting.

But Aguilar finds it hard to be very optimistic about the future for Hispanics in professional degree programs. ''Chicanos tend to be nontraditional students,'' he said. ''They may be married with families, older students, without financial support from their families, working full time, or involved in the politics of the Chicano community. It's not surprising that they don't all have straight A averages. These days the grade point average seems to count for everything in getting admitted to professional programs.''

''Chicanos have been on this land a long time,'' Charles said, ''since before the United States became a country. The tragedy is that there is still so much ignorance about Chicano people. Ignorance can develop into animosity, animosity into racism. There's so much to be done it's like a broad, open field. But the possibilities to make a contribution are what make it exciting.''

Charles still shakes his head over Minnesota winters, but he likes the Twin Cites and is leaning toward staying here to practice medicine on St. Paul's west side. If he does, Luis Aguilar may get his wish: ''La Rama is an amazingly creative and committed group of people,'' Aguilar said. ''I guess the best thing I can say is that I'd like to be treated by someone like them. I'd like one of them to be my doctor.'' □

Carlos Carballo examining a patient

Faculty Workload Cited as Regents Approve Budget

by Elizabeth Petrangelo
University News Service Director

An $818 million budget for 1982-83, a 5.3 percent increase over last year, was approved June 11 by the Board of Regents.

The budget includes resources and expenditures from all sources. The $329 million state funds portion of the budget was approved by the board in May.

The total budget includes a 5 percent pay increase for non-bargaining unit civil service employees, negotiated increases for unionized employees, a delayed 6.5 percent pay increase for faculty members, and an average 21.7 percent tuition increase.

The projected 5.3 percent increase is just under the current rate of inflation and, according to University officials, will be almost totally absorbed by salary increases.

The University receives money from several sources: 33 percent of its income is from the state, 13.8 percent from the federal government, 11.5 percent from tuition and fees; 6.1 percent from private sources, 1.9 percent from general income, and 33.7 percent from sales and services, including University Hospitals, dormitories, parking, and athletics.

In response to a question about faculty workload and productivity from Regent Erwin Goldfine, President C. Peter Magrath said those percentages reflect faculty activity.

''In the last year, the University ranked in the top 10 for private support,'' Magrath said. ''We wouldn't raise that kind of money if it weren't for the faculty and what they do.''

Magrath said that over the past two decades, ''there has been an absolute increase in faculty workload.'' In 1960, there were 11.26 students per ranked faculty member. By 1980, that number had changed to 12.53, an 11 percent increase, he said.

A similar increase in productivity can be seen in research activity, Magrath said. The amount of research money brought in per ranked faculty member in 1981 was $28,220, compared to $25,890 in 1974, a 9 percent increase, he said. (The figures are in constant 1981 dollars.)

''As far as I'm concerned the faculty at the University is working very hard and I think the data and this budget show that,'' Magrath said. □

CAPSULE

■ All civil service employees are receiving a 5 percent salary increase this month. Employees had originally expected to receive raises ranging from 9 to 12 percent in 1982-83 (see story on page 1).

■ Scaled-down plans for a new hospital building were presented to the regents last month (see story on page 1).

■ The regents approved a tuition plan that sets amounts for each collegiate unit and moves the University to a modified per-credit method of collecting tuition.

■ A resolution was passed by the regents to prohibit future investment in corporations doing business in South Africa unless equivalent returns are not likely from alternative investments. Regent David Lebedoff, sponsor of the resolution, said the new policy will allow the board to remain fiscally responsible while strongly opposing South Africa's apartheid policies.

■ An early retirement plan for civil service employees has been approved. The policy is intended to encourage early retirements in designated units where such retirements would prevent layoffs or allow recall of laid-off employees. A bonus of one month of salary for each year that retirement precedes age 70, up to a maximum of $10,000, would be paid. Health and dental insurance premiums would be paid until age 70. To be eligible, an employee must be at least 60 years old and have 20 years of service at the University.

■ A draft document on financial emergency was discussed by the University Senate May 20. Leonid Hurwicz said adoption of such a document would mean "agreeing in advance that it is proper to cancel tenure when there is a financial emergency." Marcia Eaton, who chaired the subcommittee that drew up the draft document, said the question is "whether tenure should be protected at all costs" in the event of a financial emergency.

■ The Faculty Senate endorsed a long-range goal to bring faculty salaries to 88 percent of the fall 1979 level in real dollars by fall 1984, 92 percent by fall 1986, 96 percent by fall 1988, and 100 percent by fall 1990. The resolution asks the regents to adopt the goal as their top priority.

■ Faculty opinion is split 50-50 on whether to change to semesters, the Calendar Committee found in its recent survey. Chair Donald Vesley said the committee concluded that sentiment is not strong enough at this time to recommend a change. He said the committee will spend the summer seeking a solution that would accommodate both views.

■ Patricia Swan, professor of food science and nutrition on the Twin Cities campus, was elected chair of the Senate Consultative Committee for 1982-83. English professor Donald Spring from Morris will be vice chair.

■ Neal Vanselow, chancellor of the University of Nebraska Medical Center in Omaha, has been named vice president for health sciences (see story on page 7).

Krueger Sees Trade Barriers As Bane of Third World

by William Hoffman
Associate Editor of *Report*

Crack international economists need plenty of room to maneuver. That's why Anne Krueger is just right for her new job as vice president of the World Bank, where she'll direct research on the economies of its 142 member nations beginning this fall.

Krueger, a professor of economics on the Twin Cities campus, will be the first female vice president in the 36-year history of the international development institution. More than 20 years of teaching and research at the University have won her a solid reputation in international trade and development economics. She'll be on leave of absence from the University for at least three years.

The World Bank, headquartered in Washington, D.C., loans money on terms favorable to borrowers—Third World countries that are seeking to develop their economies. Its president, A. W. Clausen, is a graduate of the University of Minnesota Law School.

Krueger's expertise has been in great demand over the years. She's been a consultant to the Agency for International Development, the U.S. Information Agency, the U.S. Treasury, and the National Science Foundation. She's been a project director for the National Bureau of Economic Research several times, and she has studied the economies of Turkey, Brazil, South Korea, India, and the Upper Midwest.

Indeed, Krueger is something of an economics troubleshooter. More than once she's been called overseas to help figure out why a country's economy is in a mess. More than once she's found that restrictions on trade are at least partly to blame.

Most developing nations have become "enmeshed" in complex trade and payments regulations, according to Krueger. Earnings from foreign exchange "have been regarded as a central concern for purposes of economic growth" in developing nations.

There's no simple answer to why these nations have built up a regulatory apparatus while developed nations are gradually reducing restrictions on trade, "but there's no question that trade regulations are hindering development. It's well documented," Krueger said in an interview.

Part of the problem is undoubtedly political. Economic growth can come about through new industries whose goods are sold on the domestic market, replacing imports, or through new industries whose output is sold on the international market.

High tariffs and trade regulations are imposed primarily to protect domestic industry against "cheaper" imports, but Krueger argues that "export promotion," the second alternative, goes much farther toward promoting economic growth in developing countries.

Recently, Krueger directed a study of 10 countries—Brazil, Chile, Colombia, Indonesia, the Ivory Coast, Pakistan, South Korea, Thailand, Tunisia, and Uruguay. The results showed that policies of promoting export industries (as opposed to limiting imports) tended to produce economic growth and reduce unemployment.

But protectionism is also a phenomenon of the most advanced industrial nations. Although President Reagan campaigned as a "free trader," his record so far is mixed, Krueger said.

The Reagan administration ended the quotas on shoes from Taiwan, but it has imposed quotas on imported sugar and maintained restrictions on imported peanuts, mushrooms, beef, clothespins, and countless other items. It got Japanese officials to agree to "voluntary" quotas on automobiles and is threatening to impose special duties on imported steel.

Krueger believes that policies designed to protect certain industries from foreign competition "are harmful and ill-advised. It's been fairly well shown that the amount of protection is much higher than necessary," she said.

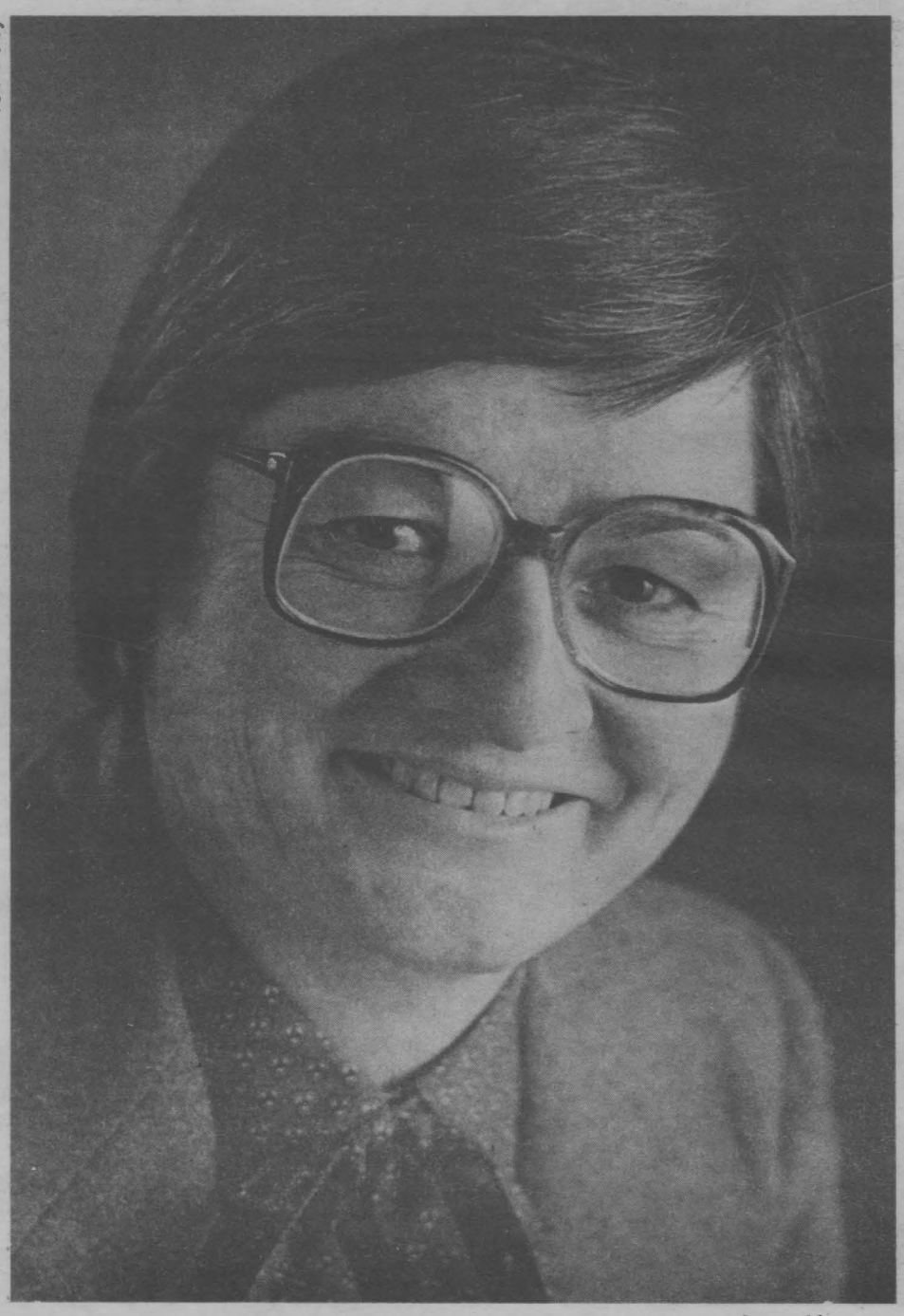
In "Protectionist Pressures, Imports and Employment in the United States," a study she conducted several years ago, Krueger concluded that it is extremely difficult to identify job losses due to import competition.

"While there are hardships involved with any job termination and necessity to relocate either occupationally or geographically, it is not evident that these hardships are most intense when layoffs are 'caused' by one factor, such as import competition, rather than by any other (such as regional relocation, a declining industry, or a poorly managed firm)," Krueger wrote.

In her new job, Krueger said she will guide the World Bank's research efforts in a way that will make clear the economic advantages of less restrictive trade and marketplace incentives.

She will be joined at the bank by her husband, Jim Henderson, also a University economics professor. Henderson will serve as a visiting professor on the bank's economic development team. □

Tom Foley



Anne Krueger

PEOPLE

Crookston: Jim Clauson, head hockey coach, was named Coach of the Year by the Minnesota Community College Hockey Conference.

■ Blake Crosby, assistant director of financial aid, was elected to the Minnesota Association of Financial Aid Administrators executive board.

■ Tillie Gebhardt, secretary in the student affairs office, was named State Commander of the Disabled American Veterans Auxiliary for Minnesota.

■ Becky Rude, instructor in the hotel, restaurant, and institutional management division, was selected as Crookston's Young Career Woman of the Year by the Business and Professional Women's Club.

Duluth: Paul Junk, vice provost for academic administration, is attending the 13th annual Institute for Educational Management sponsored by Harvard University. The institute, from June 27 to July 24, is for senior-level administrators whose responsibilities affect institutional policy and who have potential for high-level managerial authority.

■ Ralph Marsden, professor emeritus of geology, was awarded the S. S. Goldich Medal for distinguished service in furthering knowledge of the geology of the Lake Superior region at the 28th annual meeting of the Institute of Lake Superior Geology in International Falls in May.

■ George O'Brien, associate professor of foreign languages, received a Fulbright Award to attend a seminar on "The Current German Scene" this summer in Bonn and West Berlin.

■ George Rapp, Jr., dean of the College of Letters and Science, has been named president-elect of the Society for Archaeological Sciences.

■ Thomas Wegren, associate professor of music, has been awarded a $1,500 outreach artist-in-residence position at the St. Louis County Heritage and Arts Center. He will give a series of performances in the St. Louis County area.

Morris: Four faculty members have been given single-quarter leaves for the 1982-83 academic year. Van D. Gooch, associate professor of biology, will investigate the role of mitochondria and membranes in circadian biological rhythms. James Gremmels, associate professor of English, will help to produce and write an introduction for the *Recent Poems of Tom Hennen*. John Kearnes, assistant professor of political science, will do research on institutionalized reform and the Minnesota court system. Jennifred Nellis, assistant professor of studio art, will do research in the visual arts in New York, Western Europe, and the British Isles.

Twin Cities: John Adams, head of the geography department, has been named president of the Association of American Geographers.

■ Terry Blom, admissions associate in Prospective Student Services, was recently elected vice president and president-elect of the Minnesota Association of Secondary School Counselors and College Admissions Officers.

■ Ron Berkeland, an instructor in physical medicine and rehabilitation, has been named one of the Ten Outstanding Young Minnesotans by the Minnesota Jaycees.

■ Clyde Christensen, Regents' Professor Emeritus of Plant Pathology, received the E. C. Stakman Award for his contributions to international agriculture. Christensen and his wife now live in Sun City West, Arizona.

■ Robert Einsweiler, director of the Humphrey Institute's master of planning program, has been named head of the American Planning Association.

■ David Feinberg, associate professor of studio arts, will be on leave fall and winter quarters to develop two new courses and to mount a one-man show of his recent work at the Westbroadway Gallery in New York City September 11 through 30.

■ Lyndel King, director of University Gallery, has been appointed to the board of trustees of the Art Museum Association, a nonprofit national art museum service organization headquartered in San Francisco.

■ Barbara Knudson, professor at the Quigley Center of International Studies, has been named to the advisory board of Servicemembers Opportunity Colleges, a national consortium of more than 420 colleges and universities that make educational programs available to military personnel and veterans.

■ William McDonald, Regents' Professor Emeritus of Classical Studies, recently received the Award for Distinguished Archaeological Achievement from the Archaeological Institute of America.

Davis Elected to National Academy of Sciences

Margaret Davis, a professor of ecology and behavioral biology on the Twin Cities campus, has been elected to the National Academy of Sciences.

Election to the academy is one of the highest honors that can be given an American scientist or engineer. The 60 new members elected at the 119th annual meeting of the academy April 27 bring the total membership to 1,386. Members are elected for their achievements in original research.

Davis is a national leader in the field of paleoecology. She developed a technique, now widely adopted, to use fossil pollen to find out how many plants grew at the time the pollen was released. Davis has used this technique to investigate the history of tree migration across the eastern United States in the past 1,500 years.

The National Academy of Sciences, founded in 1863, is a private organization dedicated to the furtherance of science and its use for the general welfare. □

■ Thomas Noonan, professor of history and chair of the Department of Russian and East European Studies, has been awarded a Robinson Visiting Scholarship by the Heberden Coin Room of the Ashmolean Museum at Oxford University to facilitate his research at Oxford next spring.

■ Irving Pflug, professor of food science and nutrition, has received the 1982 Scientific Industries Inc. Sterilization Award. The award committee said that Pflug has raised the art of sterilization in the health field to a science.

■ Dietmar Rose, professor of forest resources, is one of 50 outstanding young American professionals chosen for the W. K. Kellogg Foundation's National Fellowship Program.

■ Wesley Spink, Regents' Professor Emeritus of Medicine and Comparative Medicine, gave an address at Harvard Medical School June 8. The occasion marked the 50th anniversary of his class and the 200th anniversary of Harvard Medical School.

■ Rudolph Vecoli, director of the Immigration History Research Center, has assumed the presidency of the Immigration History Society. In March he participated in an international historical conference in Milan on "The Italians Outside of Italy."

■ The National Heart, Lung, and Blood Institute has awarded $2 million to the Cystic Fibrosis Center for five years of pediatric pulmonary research. Warren Warwick, professor of pediatrics and director of the center, is the principal investigator.

■ Albert Wertheimer, professor of pharmacy, has received the 1982 Research Achievement Award in Economic, Social, and Administrative Sciences presented by the American Pharmaceutical Association Foundation and the Academy of Pharmaceutical Sciences.

Waseca: Provost E. C. Frederick has been named to the technical advisory committee of the Farm and Agricultural Land Task Force of the Governor's Council on Rural Development.

■ Students at Waseca voted Byron Harrison, chair of the Agricultural Production Division, the outstanding faculty member and Annette LeGare, secretarial assistant in Business Affairs, the outstanding civil service employee.

■ A national honors citation was awarded to Bruce McKee, media resource producer, and Joe Nechanicky, senior communications technician, for their work as volunteers on a videotape to be used with "I Can Cope" courses on chronic diseases. The videotape was prepared for the Waseca Division of the American Cancer Society.

Vanselow Named Vice President for Health Sciences

Neal A. Vanselow, chancellor of the University of Nebraska Medical Center in Omaha, has been named vice president for health sciences.

He succeeds Lyle French, who has held the position since it was created in 1970. Vanselow's appointment is effective September 1.

As chancellor of the University of Nebraska Medical Center, Vanselow has overseen the colleges of dentistry, medicine, nursing, and pharmacy, the Graduate College, and the University of Nebraska Hospital and Clinic and Nebraska Psychiatric Institute since 1977.

President C. Peter Magrath called Vanselow "a first-class educator and leader with proven credentials. He comes to Minnesota at a time of transition and opportunity, as we face the need to improve our University Hospitals while simultaneously responding to the changing health care trends of the 1980s."

The Milwaukee native earned A.B., M.D., and M.S. degrees at the University of Michigan and served as an intern at Minneapolis General Hospital (now Hennepin County Medical Center) in 1958 and 1959. Vanselow has held numerous academic and clinical positions at the University of Michigan Medical School in Ann Arbor and in 1974 was named dean of the University of Arizona College of Medicine in Tucson, where he held the rank of professor of internal medicine.

He is a member of Phi Beta Kappa and Alpha Omega Alpha and was president of the Washtenaw County (Michigan) Medical Society in 1973. He has served on the boards of numerous professional and community organizations, including the Boys Club of Omaha, the Easter Seal Society of Nebraska, and the Meyer Children's Rehabilitation Institute. He is currently president of the board of the Creighton-Nebraska Universities Health Foundation, vice president of the Health Planning Council of the Midlands, and vice chairman of the United Way of the Midlands Campaign.

"I have always regarded the University of Minnesota as an outstanding university and the health sciences center, with its long tradition of excellence, among the best in the United States," Vanselow said. "In addition, I have always had a great deal of respect for Lyle French, so it's a particular pleasure to be a part of it."

French announced his intention to resign the vice presidency last July, saying that he had accomplished his goal of building a strong interdisciplinary center. He will return to research and clinical practice within the Department of Neurosurgery at the Medical School. □

Severe Mental Illness Found Even in Simpler Societies

by Barbara Scott Murdock
University News Service Writer

Do complex, stressful societies create mental illness? Would severe mental illness—schizophrenia, manic depression, psychotic depression, psychosis—exist at all in more easygoing cultures?

Some psychiatrists have suggested that it might not, and have even suggested that mental institutions create much of the illness they are meant to treat. They say people in institutions become socialized into being more and more mentally ill.

A simple society with no mental institutions or psychiatrists is a natural cultural experiment for investigation of these ideas. In such a society it is possible to see what course mental illness takes without treatment.

Joseph Westermeyer, professor of psychiatry on the Twin Cities campus, observed isolated traditional villages in Laos for 10 years and concluded that "disabling mental illness is a reality whether or not you have institutions."

Westermeyer, who is both a psychiatrist and an anthropologist, looked at mental illness where there were no psychiatric services, treatment, or medication, where people were accepting of deviant behavior and family ties were close. He found that the degeneration seen in institutionalized patients happens without institutions and that patients stricken with disabling mental illness do not return to health without care and treatment.

"What I wanted to look at in Laos was people who'd never been institutionalized—were they able to cope, to resume their lives [after a disabling mental illness]?" Westermeyer said. Some anthropologists and a World Health Organization study have suggested that psychiatric patients in simpler societies take up their lives more easily after they return from the hospital than do people in more complex societies.

Westermeyer said too that his reason for doing the study "was not just to look at mental illness in Asia, but to look at what will happen as we decrease asylum [space] for these problems."

Tom Foley

Joseph Westermeyer

After the antipsychotic drug thorazine became available in 1955, the number of people in state mental institutions in the United States dropped dramatically—from 559,000 in 1955 to 150,000 in 1978. The availability of thorazine, coupled with a growing perception that many institutions acted more as warehouses than as treatment centers, plus the idea that institutions themselves help to create illness, has led to a trend to depopulate these hospitals. Patients are returned to the community, armed with drugs to control their illness.

The worst aspects of the illness may be under control, but many of these people are not yet ready to function in society, Westermeyer said. They need a gradual reintroduction—facilities where someone else can see that they take their drugs, see their psychiatrists, and get food, clothing, and shelter. Such care is too often more than families can provide and is generally not available in the community. As a result, the number of bag ladies, vagrants, and mentally disabled people living in lonely hotels has burgeoned.

"Bag ladies have always been around," Westermeyer said, "but the numbers were not so great. In New York, San Francisco, Chicago, they are much more prevalent than they were 10 years ago."

Laos, Westermeyer found, has its own bag ladies and vagrants—mentally ill beggars and foragers who have largely lost contact with their families. And the mentally ill who still live with their families constitute a tremendous burden of care. They are often disruptive and abusive, dangerous to themselves and others. They may choose to eat garbage and dead animals instead of normal food, or engage in such embarrassing behavior as going naked in public. Some have delusions; others have wide mood swings, laughing one minute and crying the next.

Laotians label such people insane reluctantly, for the label commits them to tolerating behavior they would otherwise condemn. "Yelling at people is quite un-Lao," Westermeyer said, "but if psychotic people do it, they accept it."

As the illness progresses, Laotian patients lose contact with co-workers, friends, and family, much the way the mentally ill here do. Some families make tremendous efforts to take care of patients, to make sure they are clean, clothed, fed, and sheltered, to retrieve them when they wander into the forests. Even so, many of these people die early from infections, exposure, accidents, or suicide.

Studying mental illness where no modern psychiatric treatments were available gave Westermeyer another insight into major mental disorders: the Laotians told him that violent behavior was most common early in the illness. "As the disorder continued, the tendency to violence waned," he said. An African healer reported a similar observation to another anthropologist.

Although psychiatrists in developed countries have also seen this pattern, they had ascribed it to medication or treatment. "This study showed that it was not just medication or treatment, but a part of the illness," Westermeyer said. "The early stage is very disturbing to patients. They respond with anger, assault, suicide. As time goes on, they accommodate."

The pattern underscores the fact that major mental disorders are, in Westermeyer's words, primarily organic.

In light of this, Westermeyer feels that our society, with the medications and treatments available, can do a pretty good job of handling major mental illness. But there is need for a continuum of care, from the mental hospital to halfway houses and shelters where patients returning to society can continue to get the care they need for recovery.

"Part of the dilemma is how to get back from being disabled to coping. Small steps are important. Going directly from the hospital to home doesn't work," Westermeyer said.

Laotian families find caring for mentally disabled relatives, whether they are mentally ill or senile, very difficult. "The elderly set the house on fire or wander into the river. That's how they die in Laos. Even in Laos it's not easy to stay with them all the time. How much harder [it is] here where the work is away from home. Traffic is another risk we have here. Electricity, gas...," Westermeyer said.

With funding cutbacks affecting mental hospitals and social services, many of the mentally disabled are being cared for completely by their families or let loose in society with no help. Westermeyer feels this approach will benefit neither the patients nor society.

"Just relying on folk and family to deal with these problems won't work," Westermeyer said. "It didn't in Laos. Folk and family didn't help with the seriously mentally ill just as it didn't help with cancer or malaria. If you cut back services for the mentally disabled, you get bag ladies." □

Magrath Receives Honorary Degree From Brown

President C. Peter Magrath received an honorary doctor of laws degree at the 214th commencement of Brown University in Providence, Rhode Island, June 7.

Magrath began his career teaching political science at Brown after earning his doctorate from Cornell University in 1961, and it was at Brown that he developed his taste for university administration. There he rose from instructor to full professor in six years and also served as associate dean of the graduate school. He left Brown in 1968 to become dean of the College of Arts and Sciences at the University of Nebraska.

In the early 1960s Magrath was asked to head a group studying Brown's restrictive rules governing student conduct and living on campus, and he is credited with bringing a new era of openness, responsibility, and self-government to Brown.

The honorary degree cites Magrath for his rapid rise in university administration. He left the University of Nebraska as vice chancellor for academic affairs to become president of the State University of New York at Binghamton in 1972. He became president of the University of Minnesota in September 1974.

"Brown University is proud to have helped nurture you in your service to American higher education," the citation concludes. □

REPORT

A Publication for Faculty and Staff
of the University of Minnesota

September 1982

Project Helps Hmong Refugees Become Commercial Gardeners

by Paul Dienhart
University News Service

They are a people without a country, who left their mountainside farms around northern Laos to fight on the losing side of the war in Indo-China. They are reputed to have been the fiercest, most determined fighters of the Vietnam War, but now some of the large Twin Cities contingent of Hmong refugees are returning to their pre-war heritage: farming.

Karen Gensmer walks a path separating a plot of perfectly spaced lettuce and one of pickle-sized cucumbers. "Just try and find a weed in these fields," she says. "All the weeding is done by hand. They don't have Rototillers or tractors. The Hmong are the most industrious people I've ever met, and I grew up on a Minnesota farm so I know about hard work."

Gensmer is manager of the Hmong Family Farming Project, started this year by the Ramsey County office of the University's Agricultural Extension Service with funding by private foundations. About 50 Hmong families are involved in the program to make them self-sufficient market gardeners. Many more families wished to join, but there wasn't enough donated land for everybody.

"It's the first time such an organized effort was ever tried," says Gensmer. "There have been a few cases where refugees were offered free land, but there were no efforts to help them make their farming successful. We're trying to teach them pretty much an American way of gardening."

Gensmer, who has a background in horticulture from the University, walks the fields several times a week to spot trouble, answer questions, and dispense seeds and pesticides. "How is your garden doing?" she asks Nhia Bee Vang. He smiles and says, "Sun shine too much. Need water."

Lack of rain has been the biggest problem this hot summer, Gensmer says, but the city of Oakdale—where the garden plots are located—is donating a fire truck that serves as a moving water tank.

Essentially everything was donated this first year: seeds, chemicals, tools, and land. The main sponsors are the Northwest Area Foundation and the St. Paul Foundation. There were also grants from the F. R. Bigelow Foundation and the McKnight Foundation. The 26 acres of land were provided by an individual donor and 3M.

The idea is that the program will become self-sustaining. There's some reason for optimism because 80 to 90 percent of the fresh vegetables consumed in the Twin Cities come from out of the state, according to agricultural extension specialists. So, there appears to be a local market for homegrown produce. The Hmong will sell the vegetables from a stand on their Oakdale farmland. There will be a bulk-order telephone system, and negotiations may allow the Hmong to sell produce at the new farmers' market in St. Paul.

Customers should not expect to take advantage of the Hmongs' relative inexperience with American business. "Prices will be competitive with local farmers," Gensmer says. "We'll make sure of that. Teaching marketing skills is just as much a part of the project as teaching gardening skills."

The Hmong have already indicated their preference for American enterprise systems. The original idea for the garden project was sort of a communal farm with each type of vegetable grown in one large plot. The Hmong quickly made it clear that each family wanted its own plot, and the land is now crisscrossed with strings dividing plots containing all sorts of vegetables.

Planting started Memorial Day weekend with great optimism, although final confirmation of the funding had not arrived. Except for the dryness, the season has gone smoothly. The sweet corn was a bit behind schedule because pheasants from a nearby field twice ate the young seedlings.

Most of the Hmong tend the fields evenings and on weekends, after work or school.

Across the field a man is ferrying water with two buckets on a stick balanced across his shoulder. At various spots in the field long twigs support climbing peas. "I'm amazed at their ingenuity in devising alternate technology," Gensmer says.

(continued on page 7)

Sarah Knoepfler

Sarah Knoepfler

Vegetables are for sale at a roadside stand next to the gardens in Oakdale, at the intersection of Stillwater Boulevard and Granada Avenue. The stand is open Tuesdays and Thursdays from 4 to 8 p.m., Saturday from 6 a.m. to noon, and Sunday from 9 a.m. to 2 p.m.

On the Inside

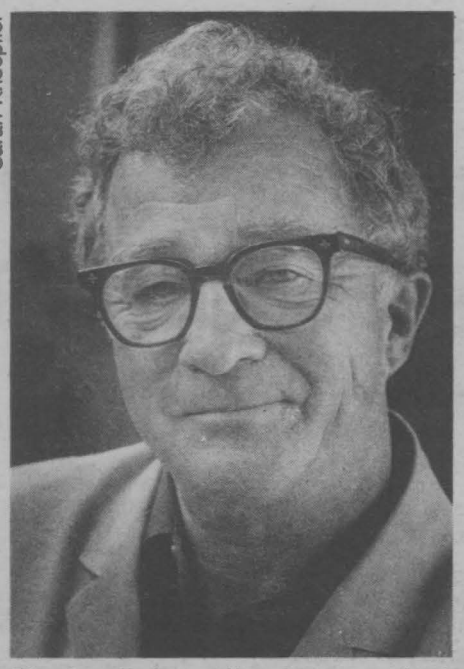
Sarah Knoepfler

Cheryl Streit: "In order to be an effective contributing member, I need to hear from people. You can't get too much information, and I can only do so much in seeking it out."

Sarah Knoepfler

Catherine Ross: "I've been a secretary, but I've also been in a supervisory role. I hope I can look at things from a broad perspective."

Sarah Knoepfler



Charles Bulen: "I've been on both sides of the fence. I've had the system work for me and against me. In general, it's not a bad system, but it can be improved."

Tough Issues Face New Members of Civil Service Committee

by Maureen Smith
Editor of *Report*

When the Civil Service Committee elects officers this month, some of its new members will have to take on big responsibilities.

Three members of the seven-member committee are new. Two others—Nancy Carriar from Duluth and Ardis Thompson from Crookston—have been on the committee for just a year. One new member is still to be named to the slot vacated by Lesley Kleveter. Only the current chair, Jerome Larson, has more than a year of experience.

"It puts the new members in a strange position," said Catherine Ross, an editor in the Management Information Systems Research Center. "Nobody feels experienced enough, but everybody is very willing to work."

Difficult issues are facing the committee this year. The most pressing issue currently is the proposal to revise the pay plan by reducing the work week or giving employees time off the payroll (see story in July *Report*).

Although committee members say they like the idea in principle, many problems have emerged. Among them are the loss of benefits for people who had been on 75 percent appointments, the difficulty in calculating sick leave and vacation days, and the impossibility of covering the work at University Hospitals without spending more money on overtime or added staff.

The committee will decide this month whether or not to take a recommendation for a revised pay plan to the regents.

In interviews with the three new members of the committee, two themes recurred: the need for fairness and equity, and a desire to hear from staff members about their ideas and concerns.

Charles Bulen

"It takes a lot of thinking when you try to make this place fair," said Charles Bulen, senior research shop supervisor in the Rehabilitation Center. "Where do you start and where do you stop?"

Bulen is the committee member with the longest experience at the University. He has been at the University for 27 years and in the Rehabilitation Center for 25.

"I've been on both sides of the fence," he said. "I've had the system work for me and against me. In general it's not a bad system, but it can be improved."

In his shop Bulen builds equipment to help handicapped people in their work or their daily living. "If you can't buy it, we make it," he said. Among the items are posture devices, wheelchair adaptations, exercise apparatus, children's toys. "We want to give people the tools to develop whatever physical abilities they have."

Bulen said he does not have enough experience yet to comment on the issues facing the committee, such as the revised pay plan. "It gets real tough," he said. "There's only so much money appropriated."

He said his interest in joining the committee grew out of a conviction that "you cannot criticize anything unless you work at it or know a little about it. I get mad at people who criticize the system and never get involved.

"I've always tried to figure out who 'they' are who are holding us down. I haven't found them yet."

Catherine Ross

Catherine Ross said she wanted to join the committee because she was "disgruntled with the way things had been handled" when she applied for a reclassification and the process took from May to December.

Another concern, she said, was with the delayed salary increases this year. "I didn't want to see that happen again."

After two months on the committee Ross said she has learned that "things are not as easy as they appear to be." On the pay plan question, she said, "I'm not sure we can win no matter what we do."

Ross, who is now managing editor of the *MIS Quarterly*, started at the University four and a half years ago as a secretary. "I think I have a good mix," she said. "I've been a secretary, but I've also been in a supervisory role. I hope I can look at things from a broad perspective."

Ross was pleased recently when a staff member wrote a letter to the committee suggesting a blood drive on the Twin Cities campus. "We don't get very many letters," she said. "We'd like to hear from more people."

The committee's recent survey of staff opinion on the pay plan and other issues was also encouraging to Ross. "I'm really glad the committee is doing a survey," she said. "That will give us a good idea of what's going on.

"I think the committee is very concerned about people at the University," she said. "The problem is that we represent such a large number of employees. No matter what you do, you're not going to make everybody happy."

Cheryl Streit

When Cheryl Streit was named to the committee, the University's largest group of employees gained a representative. Streit is staffing and recruitment coordinator in the nursing department at University Hospitals.

"The hospital has either never had a representative or at least hasn't for a long time," Streit said. "We have about 4,000 people, and about half of them are nurses.

"I'm close enough to the operation to see how rules and policies affect the people and their lives," she said. "I felt I had the knowledge to contribute positively to the committee, and I knew it would be a really good learning experience for me.

"In order to be an effective contributing member, I need to hear from people. You can't get too much information, and I can only do so much in seeking it out."

Creative ideas are needed in hard financial times, Streit said. "The University has to be fiscally responsible, but sometimes you can come up with solutions that really are feasible. When that happens, everybody wins."

People sometimes have to be reminded of the good things that come from working at the University, she said. "We tend to forget what we have and keep thinking, 'Now what else can we get?' "

Streit said she thinks the committee should represent staff members at all levels within the University. Although she is in a supervisory position, she said, "a supervisor isn't necessarily going to bring in all management viewpoints. The employee isn't always right, but neither is management. You really have to listen to people's concerns.

"I've always been concerned with equity, and that's something I will constantly be looking at," Streit said. □

REPORT

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Merrily Baker: U Is Ready for Second Phase of Women's Sports

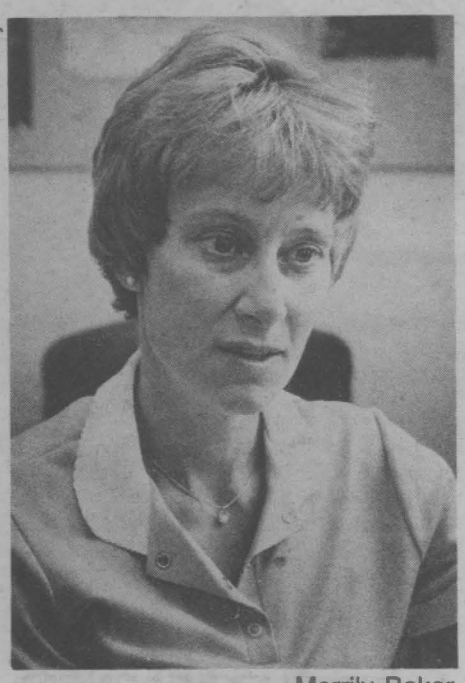
by Pat Kaszuba
University News Service Writer

When Betty Friedan last year proclaimed the beginning of the second stage of the women's movement, she could well have been announcing phase two of women's athletics—emphasis on quality, not just quantity.

"I don't think we'll ever slip back to the point where girls and women shy away from athletic participation," said Merrily Baker, who became director of Women's Intercollegiate Athletics on the Twin Cities campus September 1. "I think their participation has become part of the American culture and I think it's here to stay. What remains to be done now is to ensure that the quality of their experiences and opportunities continues to grow, because they are still far from achieving their maximum."

Baker, 39, who came to the University from Princeton University, where she developed a 17-sport women's program that is considered one of the best in the Ivy League, thinks Minnesota is ready for phase two. "Minnesota's program is very strongly in place and all the ingredients for having it be a very highly successful program are here.

Tom Foley



Merrily Baker

"The program is in a good situation. In terms of financial resources and legislative support, it is already one of the top five in the country. I don't see any reason why its athletic teams can't be too," she said.

But 10 years ago, no one was ready for phase two. And what happened during the past decade could be called "the greening of Merrily Baker," she joked. As one of the founders of the Association for Intercollegiate Athletics for Women (AIAW)—the first organization to sanction championship sports for college women—Baker learned much about the ways of the political world.

"All of us had been operating within our own tiny little pockets where we happened to be living, teaching, and coaching. Then suddenly we were constructing a national association with representatives from virtually every institution of higher education in the country. We had to learn how to make that group operate and how to get them to accomplish what they wanted through the democratic process, which is very tedious and very slow and very imperfect," she said.

But, she said, that imperfect process taught her an important lesson: how to protect her principles and still achieve her goals.

And what Baker learned through her work with the AIAW—most recently as its president—should help her as she guides the University from membership in AIAW to the NCAA this fall. AIAW closed down its operation in June pending the outcome of its federal court suit against the NCAA for allegedly using excess profits from men's sports to give itself unfair advantage over AIAW in women's sports—which would be a violation of antitrust laws.

"I hope that, because I've been involved and know what's going on on both sides of the fence, it will make the transition easier," she said. "I deal very closely with many people in the NCAA. I don't look at the AIAW as a separate child and if someone smacks that child, I'll hate them forever. I'm not that way."

The biggest change Baker sees for the University in the transition is in the recruiting of athletes. "We're going to need a tremendous infusion of money to cover the cost of recruiting. Some institutions are saying it will cost an additional $150,000 a year. I'm not sure what it will mean for Minnesota," she said.

Under AIAW guidelines, off-campus recruiting of women athletes was not allowed. But now that NCAA is the sole governing body of championship women's collegiate sports, coaches and athletic directors are going to find themselves in the same catch-22 that has entrapped their counterparts in men's sports for years, Baker said.

"One could dig one's heels in and say, 'I refuse to go on the road and get involved in that kind of recruiting,' but, if you want to have a successfully competitive program, you've got to play the game," she said. "If others are out recruiting, you have to do the same thing. We're going to have to do the same thing.

"We will now have to reimburse the women who visit campus when we're trying to convince them to come here. Coaches will be on the road more because they will have reimbursement to travel and do recruiting. It will be a different approach for Minnesota."

One of Baker's major concerns is that, as women's athletic programs move into the mainstream, the problems that have plagued men's athletics for years don't surface. "I hope the excitement level can develop without the attached abuses that we sometimes see in men's athletics. I think sometimes pressure to win in some of the men's programs that are highly visible is so strong that we lose sight of the individual student athlete in his role as a student.

"I hope we can preserve that focus for women and at the same time have them be competitively successful. That's a pretty tricky road to walk. But it's one we've tried to take in the development of women's athletics and it is certainly one I will try to take here," Baker said.

The power to decide what direction the University of Minnesota will take as its female athletes begin competing for NCAA championships is one of the main reasons Baker decided to leave her post as associate director of athletics, physical education, and recreation at Princeton. "Every woman administrator wants to run her own show," she said. "Minnesota is one of the places where that is possible.

"I would like to consider myself an appropriately aggressive administrator. I'm not going to put myself on a pedestal, but I'm not going to sit in the corner and suck my thumb either," Baker said. "I'm going to look at everybody at the University—whether in administration or the men's athletic department or wherever—as a colleague.

"The strides made in women's college athletics will not be relinquished because women won't let them be relinquished. I don't want my four-year-old daughter to have to struggle the way I did and the way a lot of others did." □

LETTER

To the editor:

It is with real interest that I read your article [on Hispanics and health care] in the most recent issue of *Report*.

The Medical School at the University of Minnesota is extremely proud of its work with the recruitment and retention of Chicano students throughout the years and I think some of the following information may be of interest to you.

At present, there are 127 medical schools in the United States and the University of Minnesota ranks 11th in the country in the number of Chicanos it has graduated in the last four years.

Four of the seven medical schools in Texas, four of the eight medical schools in California, the University of Colorado Medical School, and the University of Illinois Medical School are the only medical schools in the United States to have graduated more Chicano physicians than the Medical School at the University of Minnesota.

The University of Minnesota ranks 13th in the country in the number of Chicanos presently enrolled.

There are 47 medical schools in the United States which do not have a single Chicano enrolled, and there are 46 medical schools with five or fewer Chicanos enrolled.

Even though there have been only one or two Minnesota Chicanos to have enrolled in this Medical School in the last 10 years, we take pride in the Chicanos who are presently enrolled here and have successfully completed their studies at this Medical School.

W. Albert Sullivan, Jr., M.D.
Associate Dean

CAPSULE

■ A plan to reduce the work week or give employees time off the payroll has been the major topic of discussion at Civil Service Committee meetings this summer, but a number of problems have emerged (see story on page 2).

■ District Judge Miles Lord has ordered the University to pay nearly $2 million to the lawyers who represented Shyamala Rajender in her sex discrimination suit. The University is considering an appeal.

■ Construction of one floor of a new hospital building will begin in October as the result of action by the regents in July. This $3.9 million portion of the proposed $125 million building will house the therapeutic radiology department.

■ A long-range objective to improve faculty salaries, approved by the Faculty Senate in May, was outlined for the regents. The goal is to restore faculty purchasing power to the 1972 level by 1990.

■ A new consulting policy, incorporating an amendment passed by the Faculty Senate in May and a few changes in the preamble, was approved by the regents.

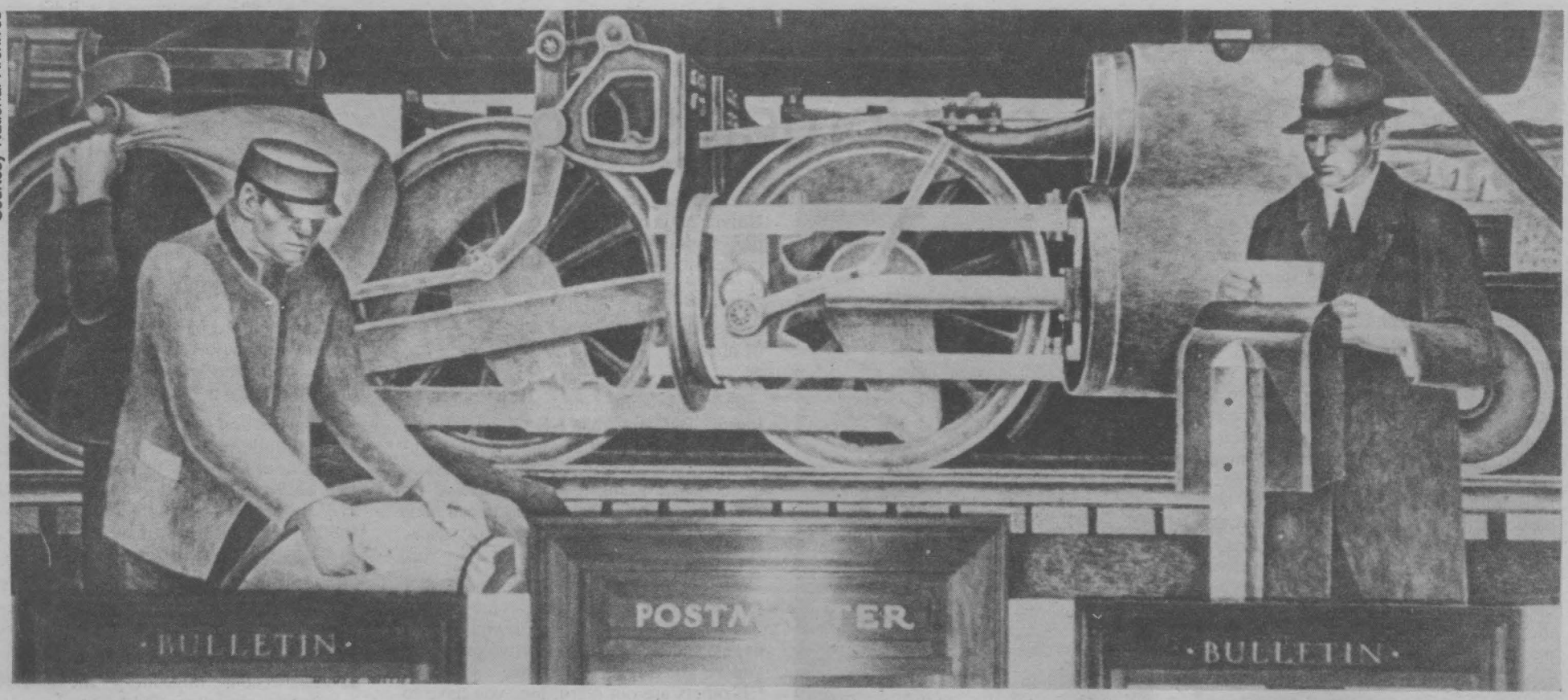
■ William Carey, public relations director at the University of Vermont, was named director of University Relations effective September 1. He will be responsible for overall public relations planning for the five-campus system, and for publications, news, special events, and community relations. He replaces Russell Tall, who resigned earlier this year.

■ A year-long process of considering changes in civil service rules will begin this month. Hearings will probably be in mid-November or December. The goal is to have the revised rules ready for regents' approval in time to go into effect next July 1.

■ Points of tension between faculty and civil service employees will be discussed when the Civil Service Committee (CSC) and the Senate Consultative Committee meet together this fall. CSC chair Jerome Larson said tensions have increased with the "annual tug-of-war for salary increases."

■ The Senate Consultative Committee has sent the report of its Financial Emergency Subcommittee to the Tenure Committee, which is working on a revised tenure code. Professor Donald Spring, a member of the subcommittee, said it is important that the tenure code include "a carefully thought out procedure for declaring a financial emergency." Regents' Professor John Turner agreed. "Authorities should have to wade through the fires of hell in order to get an emergency declared," he said.

■ Health and dental insurance premiums for civil service employees who retire early under the new early retirement plan would be paid until age 65, not age 70 as reported in the July *Report*. An amendment to extend coverage until age 70 was prepared for the regents' consideration but was not voted on.



Courtesy National Archives

Communication by Mail in the Marion, Iowa, post office. The sleek locomotive that "hurtles the mail from country to city" symbolizes faith in the machine, a mural theme endorsed by the government. Artist: Dan Rhodes

Post Office Was Home for 'Mural America'

by William Hoffman
Associate Editor of *Report*

At the height of the Great Depression, a painter sat down to write a letter to President Franklin D. Roosevelt. He seized upon their passing acquaintance to propose a novel idea. What followed is one of the most remarkable chapters in the history of American art.

The painter was George Biddle, and he proposed that the government put artists to work painting murals in government buildings that would express "in living monuments the social ideals that you are struggling to achieve" and that would result in "a vital national expression."

Roosevelt was duly skeptical at first. Biddle's inspiration stemmed from the social ideals of the political left. Moreover, what place did "official art" have in a country founded on the principle of individual freedom and limited government?

But Roosevelt was overhauling the notion of limited government. He told Biddle that he was interested in patronage and referred his letter to the Procurement Division of the Treasury Department, which supervised construction and embellishment of public buildings.

Between 1934 and the outbreak of World War II, mural artists trekked to more than a thousand post offices throughout the country, to places as remote as Kellogg, Idaho; Corning, Iowa; Paris, Arkansas; Safford, Arizona; and Kennebunkport, Maine. In short, they ventured into the heart of small-town America.

They painted murals in local post offices. What they painted—and what they experienced in the process—is told in *Wall-To-Wall America: A Cultural History of Post Office Murals in the Great Depression*, which is being published this fall by University of Minnesota Press.

The book's author is Karal Marling, an associate professor of art history and American studies on the Twin Cities campus. What Marling calls "Mural America" has interested her for a long time. Her father, a staunch supporter of FDR, took her through New Deal buildings in upstate New York where she grew up. Her mother was an art historian.

As a student of Marshall McLuhan in college, she learned that there is no art in isolation, that all art occurs in a social context. Traveling cross country by bus to view post office murals, she came to the conclusion that "art exerts influence in the 20th century in ways that art historians have ignored." The social art of Mural America is a case in point.

"In Mural America, people peered into pictures in post offices earnestly and purposefully and anxiously, looking for the courage to dream," she writes in her book.

"And as they watched, that resonant picture of home began to sparkle with the

Courtesy National Archives

A cheddar factory was the mural subject in the post office in Plymouth, Wisconsin, the *Cheese Center of the World*. The government patron noted that it was "a very nice relief" to see workers with "such pleasant expressions." Artist: Charles Thwaites

promise of a serene and bountiful tomorrow. You couldn't see it clear and plain, but you knew it was there, at the corner of the window, at the edge of the mirror. The picture of Mural America showed the mighty dream that always came true."

Of course, the "dream" was not always portrayed in ways the community could appreciate or even understand. Most of the artists came from cities in the East and not all of them tested the community waters before picking up the brush, as their government patron expected them to do. Indeed, aesthetic criteria were supposed to be secondary to community and social considerations, according to Marling. Mural art was to be situated between stylistic extremes.

In Kellogg, Idaho, the government muralist depicted a mining scene in which a pair of miners cart an injured companion out of the shaft. The mural, *Mine Rescue*, did not sit well with community residents because they thought it "cast aspersions on the saga of industry" in the world's most industrialized nation, Marling writes.

In Paris, Arkansas, a mural sketch was altered by the intervention of townspeople because it showed a sharecropper in front of his crumbling shack, a "negative stereotype" that the local business community was eager to shed.

In Kennebunkport, Maine, the muralist set about painting a bathing beach scene. The mural was denounced as an invasion of modernism foreign to local standards of beauty. To some, it was "a sure sign of a Red conspiracy." Moreover, there was no beach in Kennebunkport. The beach resort was in nearby Kennebunk. The mural was removed.

But in Corning, Iowa, the result was more satisfactory. *Band Concert* portrays "an assemblage of neighborly farmers and townsfolk, drawn together under the nighttime sky by the radiance emanating like music from the bandstand...."

It is important to emphasize that the government envisioned not an art program, but a social program that employed artists, Marling said. Its stated purpose was to embellish government buildings, but it was seen by some in government, including governmental relief czar Harry Hopkins, as a way of providing federal relief for starving artists. Indeed, "the majority of American painters were so badly off in the 1920s that the Great Depression scarcely reduced their meagre incomes," Marling writes.

At the same time government-funded muralists were painting "realistic" scenes in post offices throughout the United States, government art was on the rise in Nazi Germany, Fascist Italy, and Soviet Russia. But Marling insists that there is a vast difference between government-sponsored and government-mandated art.

There's little evidence that ideology played a major role in the program, she said. "Very little of it is narrowly political."

Muralists were directed by officials to draw from the historical experience of the community or to symbolize the onward march of progress in their works. As a result, there is a "missing center...the calamitous present," Marling writes in her book.

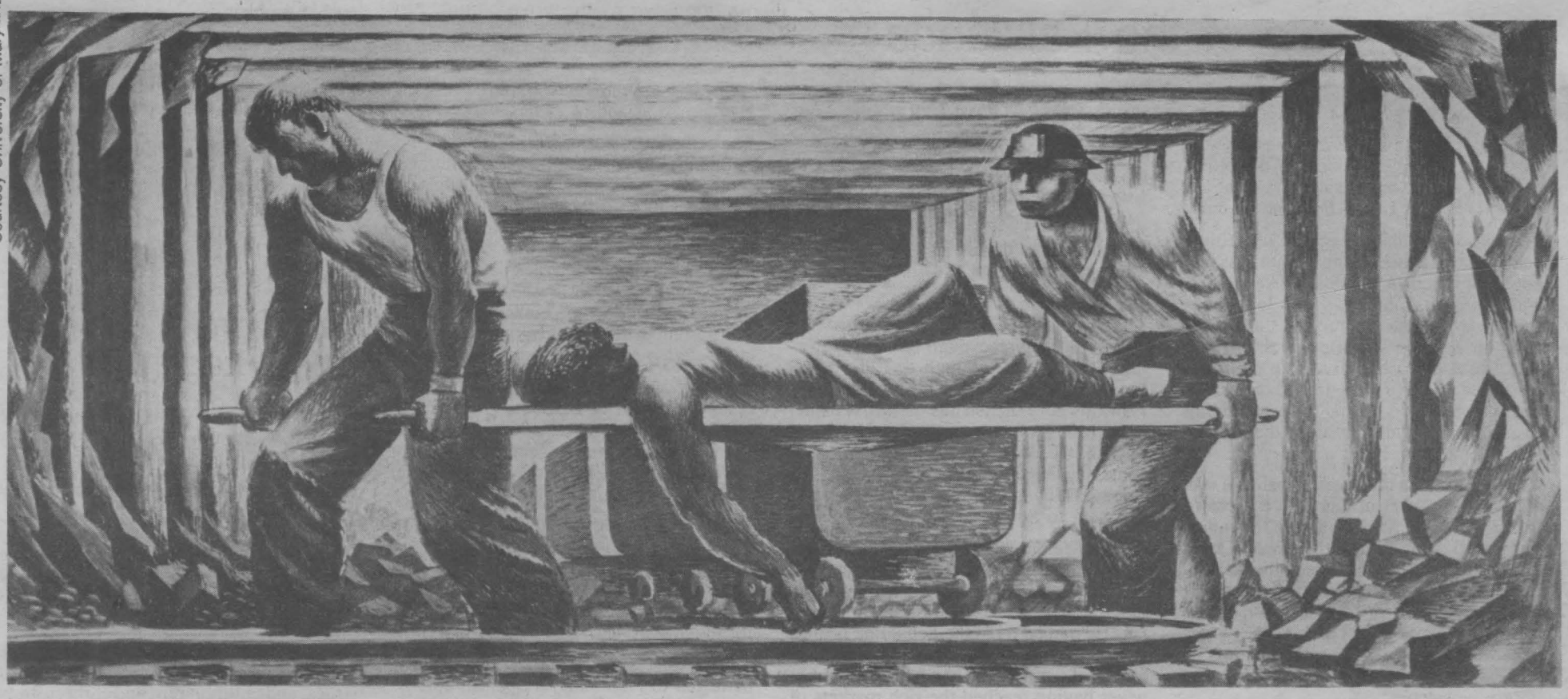
That's one of the reasons that history "has brought in a negative verdict on the post-office pictures of the '30s." But she thinks that verdict is a bit harsh. Showing the past in an idyllic manner was an inspiration in hard times, and showing a "highly edited" version of the present that emphasized happy and productive work reminded people that work "was the fiber of the past and the key to the future."

The "humane pluralism" that characterized the New Deal also characterized the manner in which the government commissioned murals and dealt with community reaction to them.

"Most people and most artists occupied the social center, the gathering place of an embattled democracy," Marling writes. "The federal patron watched over the painter and the public as they met there to dream and hope and reminisce together. That place, of course, was the post office, in the heart of Mural America." □

Mine Rescue in the Kellogg, Idaho, post office. Residents opposed the mural because they thought it "cast aspersions on the saga of industry" in the world's most industrialized nation. Artist: Fletcher Martin

Courtesy University of Maryland



Courtesy National Archives

Discovery of Ore in the Chisholm, Minnesota, post office. John McCaskell's discovery of iron ore in 1891 helped to establish the Mesabi Range. Local history was a typical theme for muralists. Artist: Betty Carney

Courtesy National Archives

Bathers in the Kennebunkport, Maine, post office. The mural was denounced as a "repulsive mural abstract" and a sure sign of a Red conspiracy. It was eventually removed. Artist: Elizabeth Tracy

Test-Tube Growth May Be a Boon for Orchids

by Nicole Simmons
University News Service Writer

An important step in preserving North American orchids—including Minnesota's state flower, the lady's slipper—is taking place on the Twin Cities campus, where the plants are being grown in test tubes.

Peter Ascher, professor of horticultural science and landscape architecture, is the first to grow these delicate flowers, many of which are endangered, in a growth medium in which all ingredients are known. In a few years, Ascher said, "we could be generating plants that could be planted in the wild, and these plants could replace all commercial production."

The problem of growing terrestrial orchids in the greenhouse has plagued horticulturalists for years. The orchids are such fickle creatures that flower merchants have been forced to collect specimens from the wild, threatening the survival of many species. The lady's slipper, however, is not threatened.

The blooms used in corsages are not terrestrial orchids; they are tropical relations of the lady's slipper. In nature these tropical orchids are epiphytes—plants that get moisture and nutrients from the air and rain and usually grow on other plants—living in niches of trees. In greenhouses they are happy to grow on fern bark. The bountiful greenhouse production accounts for their low cost and popularity.

The North American terrestrial orchids are much more delicate. They live only on the borders between bogs and forests, an unstable environment because these borders are constantly shifting. And as if coping with their changing surroundings weren't trouble enough for the fragile plants, their method of reproduction is chancy.

Most species depend on one particular species of insect to carry their pollen, and then release their seeds with very little protection from the elements. As tiny as specks of dust, orchid seeds will not survive unless they happen to land on a special source of nutrition—a piece of fungus.

The orchid develops what is called a mycorrhizal association with the fungus; the fungus wraps itself around the orchid's roots and supplies it with some essential, but unknown, nutrient. In laboratory culture, the orchid must be supplied with that nutrient and many others in order to grow. Discovering exactly which nutritional supplements are needed by the lady's slipper and 15 other orchid species has not been easy. Ascher calls his cultures "shotgun experiments" that happened to hit their targets.

In the case of the lady's slipper, Ascher may have hit the target, but he has yet to hit the bull's-eye. In three years of test-tube growth, the orchids have produced a root system that resembles that of a 12-year-old plant, but they have not grown a single leaf, much less a flower. As a matter of fact, only one of Ascher's orchid species, *Epipactis gigantea,* has done well after being transferred from test tube to flower pot and is the only one to have flowered at all.

Ascher thinks that the problem for the lady's slipper has been the lack of winters in the laboratory. "We haven't figured out the environmental trigger," he said, but an alternating heat-cold cycle might do the trick.

There have been many other problems in nursing the sensitive orchids. At first the researchers simply tried to add the mycorrhizal fungus directly to the test-tube culture. But in the laboratory, conditions were just too good for the mold; it killed the germinating orchid. Yet without the fungus, the orchids also died. Ascher was mystified until he realized that the orchids produce a poisonous waste product that is ordinarily absorbed by the fungus, and without it they were committing suicide. Activated charcoal provided the solution to that problem.

Ascher is confident that he can solve the rest of the problems as well. In a few years, commercial orchid cultures could both considerably reduce the price of non-endangered species—a lady's slipper plant now sells for $5 to $10—and produce replacements for species now endangered in the wild. □

Pirates, Penguins, and Greed Tell the Tale of the Falklands

by Paul Dienhart
University News Service Writer

A sailing ship named *Desire* with a crew of half-dead pirates and a cargo of rotting penguins set the historical course that led to the 1982 war in the Falkland Islands.

The earliest published account of a European sighting the Falkland Islands was in a book published in London between 1598 and 1600. Its author, John Jane—described by a contemporary as "a man of good observation"—sailed on the British ship *Desire,* part of a five-ship fleet that embarked in 1590 to sail around the world. The major motive for the trip was raiding Spanish towns and ships along the coast of South America.

"The tradition in the age of expansion was that the discoverer of land had a claim to it," said John Parker, curator of the James Ford Bell Library on the Twin Cities campus. The library has one of the world's finest collections on European expansion and commerce from 1400 to 1800. Using the library's rare books and maps, Parker traced the history of European claims to the Falklands for an article in a recent library newsletter.

"The war in the Falklands seems like an old-time imperialist war on a smaller scale," Parker said. "I was curious to find out what sort of disputes there were when Europeans first discovered the islands."

After researching a history that is marked by greed, militarism, and double-dealings, Parker has drawn one conclusion about the Falkland Islands issue: "I don't want to defend anybody's claim to the land."

The captain of the *Desire* did not bother to name or claim the islands his passenger saw. Although he described their location in his book, the world took little notice. The voyage of the *Desire* was a failure. While sacking towns along the South American coast, the fleet encountered stormy seas. At least two of the ships eventually sank, and none managed to make it through the Strait of Magellan to the Pacific. The *Desire* returned to Britain with five able-bodied seamen, and rotting penguins for provisions.

"Such failures do not survive as oft-told tales in any nation's history," Parker wrote.

The day after the *Desire* limped into port in 1593, the English captain Richard Hawkins sailed from Plymouth to "discover" the Falkland Islands for the second time. Hawkins gave the islands their first name: Hawkins' Maiden Land. But Hawkins' voyage, too, was a failure. After enjoying some success sacking and pillaging, his ship was blown up by the Spaniards and he was sent to Spain as a prisoner.

So it was left to the Dutch to put the islands on a map. In 1600 Sebald de Weert spotted the Falklands on his retreat from a nine-month battle to cross the Strait of Magellan. He named them the Sebaldine Islands and noted that they were populated by plenty of penguins. Then he sailed home, never having reached the rich markets of the East Indies, with a crew of 36 men remaining of 105.

Apparently all Sebald de Weert had to show for his voyage was the Sebaldine Islands, because the islands began to appear on maps. The Bell Library has the *Isles de Sebald* listed on a map in a French book published in 1618.

About the time Europeans became aware of their existence, the islands lost their potential importance. European merchants were desperate to trade in the spices, silk, cloth, gems, porcelain, and other goods available in the East Indies. All manner of sea routes were tried, from going through the Strait of Magellan to crossing the North Pole. As failures mounted, the passage around Africa by the Cape of Good Hope became the favored route. The Falklands lost any strategic importance as a gateway to a land of riches.

The penguins, albatrosses, and seals of the Falklands remained almost undisturbed for the next 150 years. The first Europeans didn't set foot on the islands until 1690, when the merchant ship *Welfare* landed. Captain John Strong named the passage between the islands and the coast Falkland Sound after Viscount Falkland, treasurer of the English navy. Somehow the name transferred to the islands, which Strong still referred to as Hawkins' Land.

Nobody wanted the Falklands until 1763, when France decided to use the islands as a provisioning base for expanding its empire in the South Pacific. A French nobleman moved 22 men, five women, and three children to the islands in 1764.

The British shortly had the same idea. Even as the fledgling French settlement was struggling to survive, Commodore John Byron reached the islands and claimed them for Great Britain, preparing for the arrival of British settlers in 1766.

Then Spain claimed that the islands rightly belonged to Argentina, a Spanish colony until 1816, because of their proximity.

France discovered that the islands were too barren to sustain the settlers and agreed to cede its claim to Spain in 1766. But in 1771, when Spain and Great Britain squared off over possession of the Falklands, France backed out of its "family compact" commitment to aid Spain. Spain, afraid of getting involved in a war without allies, acknowledged Great Britain's claim to the islands.

"Argentina has picked up Spain's claim," Parker said, "but I don't think the British were fighting to maintain their claim to the land. Their concern seems to be the rights of the British citizens living on the islands." □

Law School Clinic Offers Legal Aid

Persons who need legal services may be able to get help through the Law School's Legal Aid Clinic.

Legal services are available, by appointment, to persons living in the Twin Cities metropolitan area. Potential clients' income must be within certain levels, but the guidelines may be adjusted because of individual circumstances or the educational value of a particular case.

Typical cases handled by the clinic include divorces, paternity cases, landlord-tenant issues, and child support and child custody cases. Name changes, bankruptcies, and criminal defense cases are not handled by the clinic staff.

The clinic was established to provide educational experience to law students in their second and third year of school. The students are supervised by experienced attorneys on the clinical teaching faculty of the Law School.

Persons interested in using the clinic's services should call 373-9980. Clients will be interviewed beginning September 13. □

Hmong Gardens

(continued from page 1)

Some of the Hmong have continued the Asian method of raising peas and beans in clumps rather than rows.

Pesticides used on the plot are an American version of alternate technology. Because so many little children run through the fields playing while their parents and grandparents stoop to pick weeds or gather an armful of cucumbers, most of the pesticides the Hmong use are organic.

In a lettuce patch Gensmer kneels to pull back a leaf and explain to an inquisitive Hmong gardener, "Ladybugs, they're good. But green worms, they're bad."

Gardening has a much simpler system of good and evil than the Hmong had to cope with in Indo-China. They belonged to no country, and have been oppressed and attacked by lowlanders for centuries. Some observers feel that the Hmong didn't so much side with the U.S. troops in the war in their homeland as they fought for their own independence. The name *Hmong* means *free*.

"Farming was our background for centuries, but during the war in Indo-China we became soldiers," said Xang Vang, a Hmong community leader in St. Paul who helped spread the word about the garden project. "Even during the war the soldiers grew vegetables. Hmong like farming," he said.

In fact, the idea for the garden project came from the interest the Hmong showed in a Ramsey County extension program that provides garden plots for family gardeners. About 60 percent of the people who participated in the program in the past two years were Hmong.

Because of the tremendous response from Hmong wishing to join the commercial gardening project, the plot size had to be reduced to between one half to three quarters acre per family—considerably smaller than originally planned.

With federal financial aid and food supplements being trimmed, the Hmong may need to use some of the produce to feed their own community, Xang said. "Now there's hope for making a living because so many are involved in the gardening program," he said. "Somehow we will still survive. Maybe when winter comes we will have more difficulty."

Xang said that even if more than half the crop in the commercial gardens has to be used to feed the Hmong, they still welcome the chance to learn about marketing. Some of the crop will be sold, and perhaps there will be more land available next year.

"There's been so much interest, we definitely hope to expand the program next year," Gensmer said. □

Don Breneman

Karen Gensmer helps Sao Vang inspect for insect pests in a cucumber patch at the Hmong community's new commercial garden.

PEOPLE

Crookston: Don Cavalier, director of placement and counseling, has been appointed to the Balance of State task force, which will study the reauthorization of the employment and training bill.

■ Tillie Beghardt, secretary in the records office, was marshal for Crookston's 1982 Pioneer Days parade.

■ Bernard Selzler, assistant professor of communication, has been elected to a three-year term on the Minnesota Humanities Commission.

Duluth: Sabra Anderson, head of the Department of Mathematical Sciences, has been named president of the North Central Section of the Mathematical Association of America.

■ Philip Campbell, assistant professor of sociology-anthropology, will be teaching at the Trent Polytechnic Institute in Nottingham, England, in 1982-83 as part of a Fulbright International Teacher Exchange Program. Nick Tilley, a sociologist from the Nottingham school, will teach at UMD.

■ Two School of Medicine teachers received honors from the outgoing second-year class at the end of the 1981-82 academic year. Omelan Lukasewycz, associate professor of medical microbiology and immunology, received the Basic Science Teacher of the Year Award and Norman Yunis, clinical assistant professor, received the Clinical Teacher of the Year Award.

■ George Rapp, Jr., dean of the College of Letters and Science, was in the Soviet Union in July and August to conduct research and present a paper at an international conference. He spent eight days in Armenia near the Turkish border looking at sites where metallurgy was developed some 3,000 to 5,000 years ago.

Morris: Roland Guyotte, assistant professor of history and a 1982 recipient of the Horace T. Morse-Amoco Award for undergraduate teaching, presented a paper on "Liberal Education in 20th Century America" at a seminar this summer at the University of Chicago.

Twin Cities: Professor Mario Bognanno has been appointed to head the Department of Industrial Relations and the Industrial Relations Center.

■ Peter Brown, associate professor in textiles and clothing, will present a paper at Leeds Polytechnic Institute in Leeds, England, September 16 on "Evaluating Degradation in Cotton Textiles."

■ Donald Doughman, chairman of the Department of Ophthalmology, has received $14,000 from Research To Prevent Blindness to explore new concepts in the prevention and treatment of eye diseases. Since 1960 the private organization has given the department $141,000 for research.

■ Joanne Eicher, professor and head of the Department of Textiles and Clothing, has been in Melbourne and Sydney, Australia, and Dunedin, New Zealand, August 25 to September 15 meeting with home economists in the three cities and presenting several papers.

■ Merle Loken, professor of radiology and director of the Division of Nuclear Medicine, is the new president-elect of the Society of Nuclear Medicine. He will take office as president of the society in June 1983.

■ Catherine Marienau, director of University Without Walls, led a workshop at the Eighth International Conference on Improving University Teaching in West Berlin July 14-17. Her workshop was entitled "Faculty as Experiential Educators: Applying a Model of Experiential Learning."

■ The 1982 Ebert Medal for the best original research work published in 1981 in the *Journal of Pharmaceutical Sciences* was presented to Edward G. Rippie, professor of pharmaceutics.

■ Kenneth Roering, chairman of the Department of Marketing and Business Law, was recently elected vice president of the 40,000-member American Marketing Association, to serve through June 1984.

■ The Central States Water Pollution Control Association, Inc., recently approved the establishment of the George J. Schroepfer Award. Schroepfer, professor emeritus of civil engineering, is considered one of about half a dozen founders of the sanitary engineering field.

■ Geneva Southall, professor of Afro-American and African studies, chaired the panel on religion and philosophy at the Association of Caribbean Studies meeting in Havana July 12 to 16. She was elected to the executive council of the organization and will serve as a member of the planning committee for the 1983 meeting in Curaçao.

■ Ruth Thomas, head of the Division of Home Economics Education, has won a first-place prize of $7,500 from the Joint Council on Economic Education for teaching the reasoning process. Thomas was the winner in the adult category for a program designed to help individuals move from dependent to independent living situations.

Waseca: Provost Edward Frederick was elected district governor of Rotary District 596 (including about 40 clubs in southern Minnesota) at the Rotary International Convention held recently in Dallas. He was also given an Outstanding Educators Award from the National Association of Colleges and Teachers of Agriculture.

■ Betty Johnson, media artist and graphic designer in the Learning Resources Center, has been elected 1982-83 president of the Southern Minnesota Club of Printing House Craftsmen.

'Beowulf' Expert Klaeber Had Struggle of His Own

by William Hoffman
Associate Editor of *Report*

"At 12 o'clock almost any night, light might be seen coming from beneath the door of an office on the second floor of Folwell Hall."

The office was that of Frederick Klaeber. When a reporter from the Minnesota *Daily* wrote about him in 1926, using this lead, Klaeber had been teaching at the University for 33 years and was an internationally recognized scholar.

Klaeber was a professor of English and comparative philology and the world's leading authority on *Beowulf,* the Old English epic poem. His annotated edition of the poem, first published in 1922, has never been superseded.

Klaeber told the *Daily* reporter that he knew the entire epic, which is 3,182 lines long, "before you were born." He said he'd memorized it while he was still a student.

But the story of Frederick Klaeber is more than one of love for a poem and devotion to teaching and scholarship. Toward the end of his life he got caught up in the events of history, and that's why Helen Damico intends to write about him.

Damico, now a professor of English at the University of New Mexico, taught in the English department on the Twin Cities campus from 1977 to 1980. Her specialty is Anglo-Saxon literature.

At a party, she talked with John Clark, a former head of the English department who had known Klaeber. Then one day she stopped by the University Archives and began to look into the life of the scholarly giant. She hopes to finish a monograph about Klaeber this year.

Klaeber's life began in Prussia in 1863, just as Bismarck, who would unite Germany, came to power. It ended in Russian-occupied East Germany in 1954. He was poor and bedridden by that time, but his interest in his work never flagged: his revised fourth edition of *Beowulf and the Fight at Finnsburg* was published in 1950.

Klaeber received his doctorate from the University of Berlin in 1892. The next year he set sail for an obscure university in America's hinterland. He never regretted his choice.

He began as an instructor in the University of Minnesota English department in 1893. By 1898 he was a full professor, teaching Old English, Middle English, and the history of the English language.

He wrote a number of articles on *Beowulf* and soon got the idea of putting together his own edition of the poem. It was his view that the epic had not been satisfactorily explicated, even though scholars had been working on it since its discovery in an English monastery in the 16th century.

Today experts are amazed at the thoroughness and resourcefulness of Klaeber's edition. "It would be interesting to know how he went about it," Damico said. "He must have put in an amazing amount of leg work and library time."

According to Damico, Klaeber's exhaustive notes and "superb" glossary make his study indispensable to teaching *Beowulf.* Klaeber remains the "preeminent authority." His book is now in paperback.

On his 65th birthday, in 1928, the University of Minnesota Press published *Studies in English Philology,* a miscellany in honor of Klaeber. The editor wrote: "If the University of Minnesota has contributed something to philological learning, it is not least because he showed her students the way."

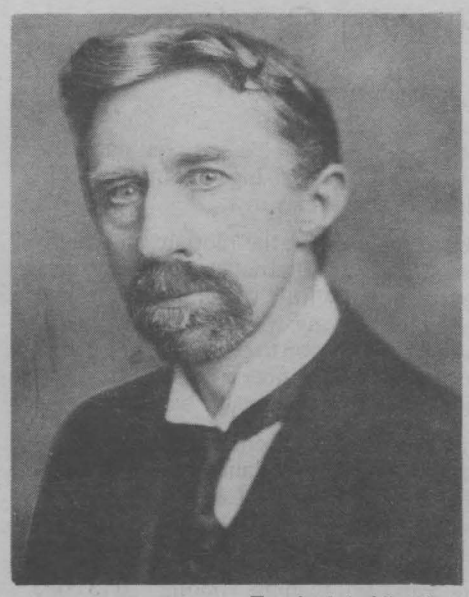
Klaeber retired in 1931 and he and his wife returned to Germany, where he took a nonpaying teaching position at the University of Berlin. He corresponded with his friends in Minnesota.

The rise of Hitler put all German educators on tenterhooks, and in 1939 Klaeber wrote to University president Guy Stanton Ford expressing an interest in renewing his passport, Damico said. But it was too late. Klaeber was forced by the Nazi party to become a German citizen, and in 1941 the U.S. government confiscated his estate, about $35,000 in investments, under the alien property act.

Klaeber was next heard from in September 1945. He wrote to several friends, including University administrators and faculty, asking for help.

"He was poverty stricken and paralyzed and he had nothing," Damico said. "His house in Berlin had been bombed and his library destroyed. He was living with relatives in Bad Koesen in the Russian zone."

A bevy of friends came to his aid and sent packages to him, she said. His wife's death in 1947 he found "terribly difficult to bear," Damico said. "He calls her his comrade," an interesting choice of words because loyalty is one of the highest virtues in Anglo-Saxon literature, she said.



Frederick Klaeber

Meanwhile, his Minnesota friends continued to press the government to release Klaeber's funds, then amounting to $60,000. In 1953 Senator Hubert Humphrey introduced a bill providing that they be transferred to the University as Klaeber wished.

In March 1954, seven months before Klaeber's death at 91, the government relented. The money went to a scholarship fund for needy students.

Damico is interested in speaking with Klaeber's former colleagues and students, and she would like to know about anyone who visited him in Germany after he left the University in 1931. Information can be sent to her at the English department of the University of New Mexico, Albuquerque 87131. □

Beowulf struggling with Grendel's mother, the Sea-Hag. From *Beowulf* retold by Rosemary Sutcliff, with illustrations by Charles Keeping. Courtesy E.P. Dutton & Co., Inc. First published by The Bodley Head Ltd. 1961.

Grant Given for Active Learning

A $150,000 matching grant has been awarded to the University by the Northwest Area Foundation to support departments that develop ways to help students take a more active role in their education.

The grant will be used over the next three years for "Fast Start, Strong Finish: The Northwest Area Foundation Program for Active Learning," which will be geared toward freshmen and seniors. The award, made to the office of the vice president for academic affairs, is aimed at countering passive, impersonal learning with student involvement. □

REPORT

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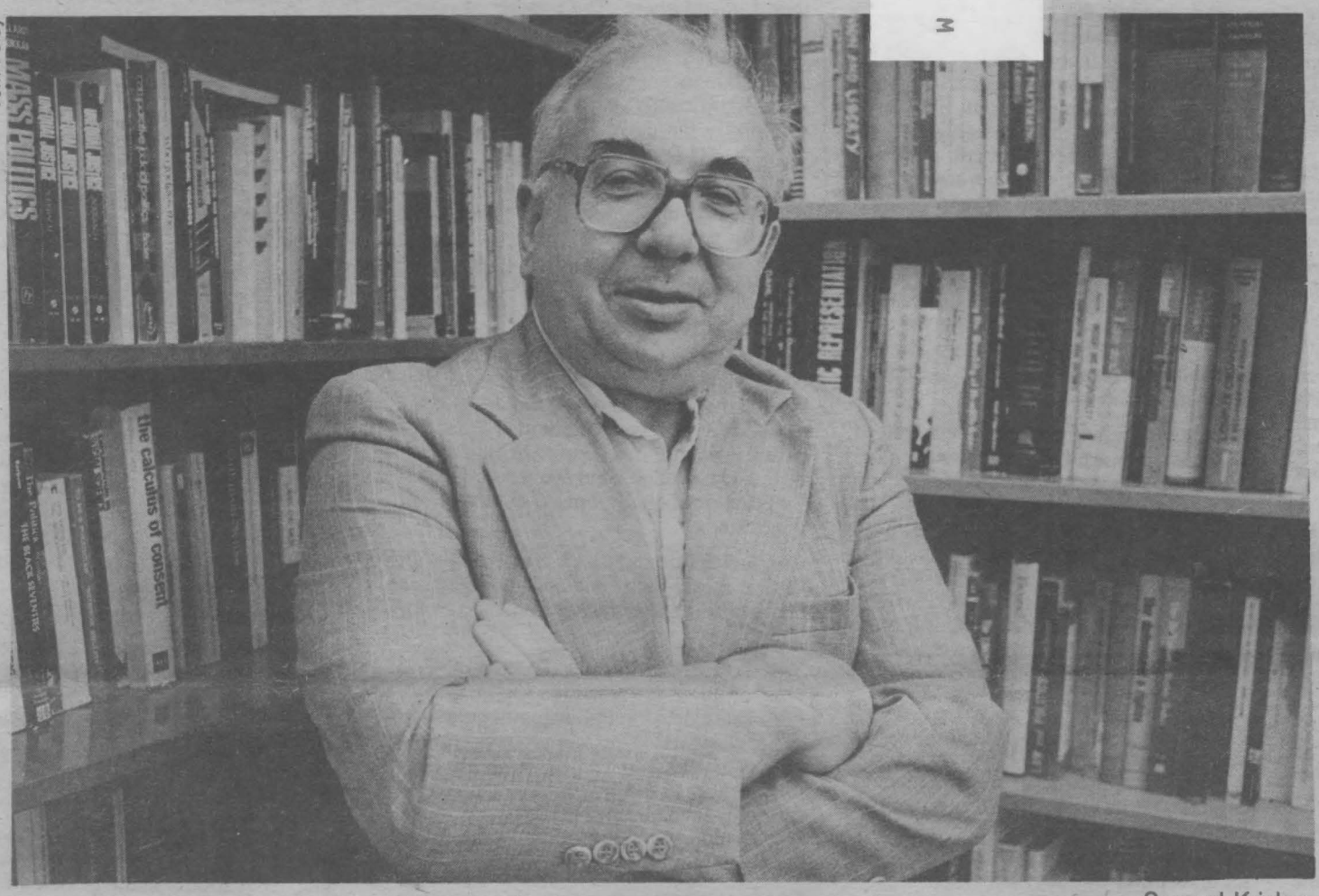
Tom Foley



Samuel Krislov

Bush Sabbatical Frees Krislov To Replenish His Resources

by Maureen Smith
Editor of *Report*

The way Sam Krislov sees it at the beginning of his sabbatical year, receiving a Bush sabbatical is "a big and beautiful thing."

The Bush Foundation gave $900,000 to the University a year ago to support sabbatical leaves for 25 to 30 midcareer tenured faculty members for each of the next four years. Krislov, a professor of political science on the Twin Cities campus, is one of the first 25 recipients. With the Bush money, they will receive up to 40 percent of their annual salary in addition to the normal sabbatical half salary.

Half a salary doesn't go very far, Krislov said, and in recent years not many faculty members have taken sabbaticals. When they have, they have needed to find another source of income—typically, an opportunity to teach abroad—and the experiences have been interesting but not always as productive or renewing as they might have been.

With the Bush money, Krislov said, he will be free to spend his time in a way that will enrich his scholarship and add to his skill as a teacher. "It's a form of replenishment of intellectual capital," he said. "Most people try to live off the ideas and training they got in graduate school many years ago. You have to invest in new things, and yet it's very risky to do."

Another grant 15 years ago—from the Russell Sage Foundation—gave Krislov a chance to develop a new area of research, on the use of social science evidence in the courts. He expects that his year on a Bush sabbatical will enable him to expand his knowledge of comparative law, a subject of growing interest for him as both a scholar and a teacher.

Even when money is available to support a new research interest, Krislov said, it is risky to venture in a new area. "The more you've done, the less likely you are to do it." A faculty member who has won respect and achieved distinction in one area of research may feel shaky about going into something new. But Krislov believes such ventures are essential for a faculty member's intellectual vitality.

For the past three years Krislov has been working on a project out of Florence, examining the European Economic Community (the EEC, or the Common Market) in the light of the American experience. He recently wrote a paper about it, and the experience was a reminder to him of how unnerving—and how rewarding—it can be to publish in a new field.

"It was the hardest paper I ever wrote in my life. As I wrote every line, I felt insecure." After he mailed it off to his colleagues—"with some trepidation"—one of them called him from Florence and told him it was brilliant. For Krislov, the call was not only gratifying but truly reassuring.

All kinds of law

One requirement for receiving Bush sabbatical money is that the work plans must show a definite contribution to undergraduate education. Krislov will be spending the first half of his sabbatical developing course materials on comparative law.

The timing is perfect, he said, because the political science faculty had been changing their courses around and wanting to make them more comparative. "That happened to mesh" with the Bush award, he said.

Finding materials on comparative law for teaching purposes is "not as easy as it sounds," Krislov said. "A lot has been written, but very little has been written for students."

Common law is the system of law that prevails in England and in countries once colonized by England, including the United States. Its unique feature is that it represents the law of the courts as expressed in judicial decisions. The grounds for deciding cases are found in precedents provided by past decisions. "Surprisingly little has been written for students about common law," Krislov said.

Civil law, a modern legal system based upon Roman law, is the prevailing system of law in the countries on the continent of Europe and the countries that were once their colonies (such as the Latin American countries). In contrast to common law, civil law is based on written codes and statutes. "That's been relatively well written up," Krislov said.

A variation of civil law in the Eastern European countries is usually called socialist law.

In the United States, Louisiana is at least nominally a civil law state. Canada is a common law country, but Quebec is a civil law province.

Islamic law is a system that Krislov and his colleagues want to incorporate into more of their teaching. "A third of the world is living under religious law, mostly Islamic," Krislov said. "We find it such a different way of looking at the world, but if we go back 700 years our ancestors were living under religious law."

African law is not one system at all, Krislov said. "It is very individualized. Fine works have been written on individ-

(continued on page 9)

On the Inside

Magrath's Summer Reading Confirms Deepest Values

President C. Peter Magrath told the regents in September that his summer sabbatical leave was refreshing and stimulating—and that he was "as glad to be back" as he was "to have been briefly gone."

In his reading and reflecting over the summer, Magrath said, he found that "there are no 'bolts from the blue,' yet there are renewed understandings, new information, new perspectives, and certainly insights that have reconfirmed and strengthened some of my most fundamental convictions."

Most of the president's reading was on international education, food and development issues in the Third World, and trends and issues in higher education. Following are some excerpts from his report to the regents.

...I would like to state my renewed conviction that a major priority for the United States must be a much stronger, renewed commitment to economic development overseas, to a concern with food and nutrition, in short, to an effort to eradicate the unspeakable poverty and hunger that affect more than a quarter of this world's population, breeding hunger, social discontent, and instability that has a direct impact—and will even more if not corrected—on our country.

Development assistance, and I am not referring to the handing out of largesse or what used to be called "foreign aid" in the sense of commodity transfers, is an issue that has honorably involved America's leading universities, including this one. The arena of development assistance is one of strategies that can provide global stability, address the real problems of hunger and poverty, and at the same time open up export markets for the United States in a very legitimate economic sense.

We have not articulated effectively in this country the fact that our own national security interests are served by a vigorous, pragmatic policy of development assistance and international educational exchange. Moreover, I am now persuaded that the food and agricultural policies and market incentives are fundamentally wrong in most low-income countries.

For example, despite their severe malnutrition, most African, South Asian, and Latin American nations apply their scarce agricultural productivity to promoting export crops for the richer countries, such items as coffee, cocoa, sugar, jute, or bananas. But if, instead, these countries engaged primarily in cereal production, this would eliminate the need for all cereal imports in Africa and Latin America!

Naturally, the rationale behind these export cash crops is to earn foreign exchange, itself a superficially logical strategy. Unfortunately, the foreign exchange is rarely used in a substantial way for rural and agricultural development. Instead it is allocated to fancy nonagricultural development projects and to serving the needs of urban-based populations in the Third World countries, because these are the political groups that can make the political elites in their nations respond to their short-term interest.

In short, much of the foreign exchange earned through the export of cash crops goes to serve urban interests at the expense of the food and income needs of the rural poor. Is is much easier to state what should be done than to bring it about, but clearly understanding ought to begin with the proposition that development strategies should be fostered, collaboratively with the host countries that would promote public investment, incentives, and trade focused on agriculture and not biased toward promoting urban growth. Surely this is compelling logic when one realizes that two thirds of all citizens in poor countries, including about 80 percent of the truly destitute, depend on agriculture for their livelihood.

Americans are not mean-spirited. Indeed, on a case-by-case basis we often respond generously to national disasters both in our own country and elsewhere. With dialogue, more education, and vigorous assertion by leaders and spokespersons in government, in civic life, and in universities, we must try to get the United States to address the problems of the Third World imaginatively and boldly if we wish for global stability and a fulfillment of legitimate American interests.

Today we are investing only an infinitesimal fragment, about 0.27 percent, of our gross national product in development assistance, far less than we did as recently as 1967 and less than virtually every economically developed country in the world with the exception of Italy....

Similarly, international education in its broadest sense must be a high priority for our colleges and universities. This is not a wishful, "nice" ornament for universities such as ours to be engaged in: it is a reality that is already here. The number of international students in the United States has increased dramatically to more than 300,000 in recent years and is projected to grow significantly, perhaps as high as one million by the early 1990s.

We learn from students from other lands, just as they learn from us, and myth and prejudice to the contrary they contribute usefully to our economy and balance of payments. In fact, very little United States subsidy is invested in international students, but we must address carefully and thoughtfully how we wish to maximize benefits all around from international education. It is no exaggeration to suggest that one of the great challenges and tasks for America's colleges and universities between now and the end of the century will be to make available our space, our laboratories, and our classrooms to students from other lands....

Our universities must be concerned with raising moral questions and moral issues and providing alternatives and choices for our society and its decision makers.

This is a difficult and complex subject, which I am trying to address in an essay I have drafted. Although I do not believe it either possible or desirable for governing boards and universities as corporate entities to endorse specific political and social solutions to major problems, our universities cannot be comfortably isolated and antiseptically value-free....

I hope to pursue these thoughts further in the months ahead, but am convinced that those of us who are fortunate and privileged make a fundamental moral—and educational—mistake if we relax and ignore the implications of the devastating comment made by the French novelist and diplomat Jean Giraudoux that "the privilege of the great is to watch catastrophe from a terrace."

In his elegant and powerful essay written over 50 years ago, *Mission of the University,* the great Spanish philosopher, writer, and republican Jose Ortega y Gasset urged that the university "must intervene, *as* the university in current affairs, treating the great themes of the day from its own point of view: cultural, professional, and scientific." He stated, bluntly and forcefully: "In the thick of life's urgencies and its passions, the university must assert itself as a major 'spiritual power' ... standing for serenity in the midst of frenzy, for seriousness, and the grasp of intellect in the face of frivolity and unashamed stupidity."...

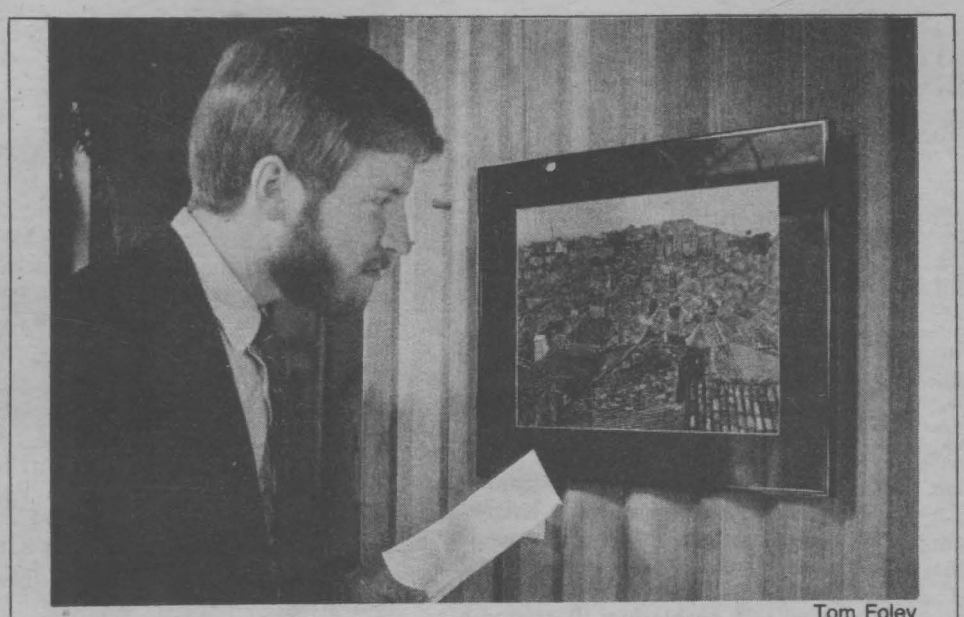
These are complicated and difficult times for all of higher education and certainly for the University of Minnesota.... But there is one variable we can control: it is our faith in higher education and in this University of Minnesota as a vital, in fact essential, force for good in our state and larger society. If we here do not vigorously and boldly assert the value of what we are and what we do, and insist that our state and federal governments, and our society, provide the investments necessary so that we can continue to make our even greater contributions in the future, then we will slide to a passive posture that assures our mediocrity—and that of our society.

In my reading I ran across this quip: The future isn't what it used to be. I wonder if the future ever was? I *am* convinced that the future will not fulfill our hopes if we do not confront it imaginatively and boldly and with faith in ourselves and our work. In my reading and contemplation, I am forced back—or is it, perhaps, forward—to the insistent conclusion that the value of higher education cannot be scientifically demonstrated and proven. As with questions of basic value and morality, an act of faith is required. I am not speaking of blind faith, which is as wrong as blind ambition, but intelligent faith based on practical common sense observation....

During one of the dark moments of World War II, when England's fate hung in the balance, its great wartime leader, Winston Churchill, was asked by someone, "Why are we fighting this war?" He answered brusquely: "If we were to stop, you would know why." And so it is, too, with American higher education: if we stop our commitment to higher education, we would all too soon know what the real costs were—costs in terms of losses in individual productivity, in individual personal growth and development, and in social improvement and productivity. The faith in higher education, and the great cause it represents, are fully justified.

Ladies and gentlemen, I am as glad to be back here as I was to have been briefly gone. I have enormous confidence in this remarkable University of Minnesota and its superb faculty, staff, and intelligent and concerned students. I feel privileged to be associated with an outstanding team of University vice presidents—undoubtedly one of the best in the nation—and equally committed and outstanding academic deans and central administrators working together with a sensitive but tough and dedicated Board of Regents.

This is not a time for timidity and defeatism even as we talk about retrenchments, priorities, and difficult budget-balancing acts. It is a time for boldness and leadership by us all in fulfillment of our faith on behalf of the University of Minnesota and the higher education cause it so effectively serves.... □



Tom Foley

Traveling Photos

"Travels With the President," a presentation of photographs by Diane Skomars Magrath, will be on exhibit throughout the state during the coming year. Bruce Thorpe, student body president on the Twin Cities campus, was one of the viewers at an opening at the governor's mansion September 15. The collection will be shown at the Tweed Museum on the Duluth campus October 30 to November 28, on the Waseca campus January 19 to February 15, at the Campus Club on the Twin Cities campus March 1 to April 1, on the Crookston campus April 4 to 29, and on the Morris campus September 20 to October 16. President C. Peter Magrath and Diane Magrath will be at openings on each campus.

'The Thoreau Quarterly' Follows Philosopher West

by William Hoffman
Associate Editor of *Report*

The morning of June 11, 1861, Henry David Thoreau walked out of Mrs. Hamilton's boarding house on the shore of Lake Calhoun in search of the wild crabapple tree that she said was growing nearby. The tree was one of the particular objects of his journey west.

"Her husband 1st saw it on a ridge by the lake shore," Thoreau wrote in his journal. "They had dug up several & set them out, but all died. So I went & searched in that very unlikely place, but could find nothing like it, though [Mrs.] Hamilton said there was one there 3 feet higher than the lake."

Thoreau returned to the boarding house to receive "more particular instructions" from Mrs. Hamilton, but again for naught. He began to doubt that the species existed in Minnesota.

Someone sent him to a Mr. Grimes. The man's son "showed me some of the trees he had set out this spring. But they had all died, having a long tap root and being taken up too late. But then I was convinced by the sight of the just expanding though withered flower bud to analyze."

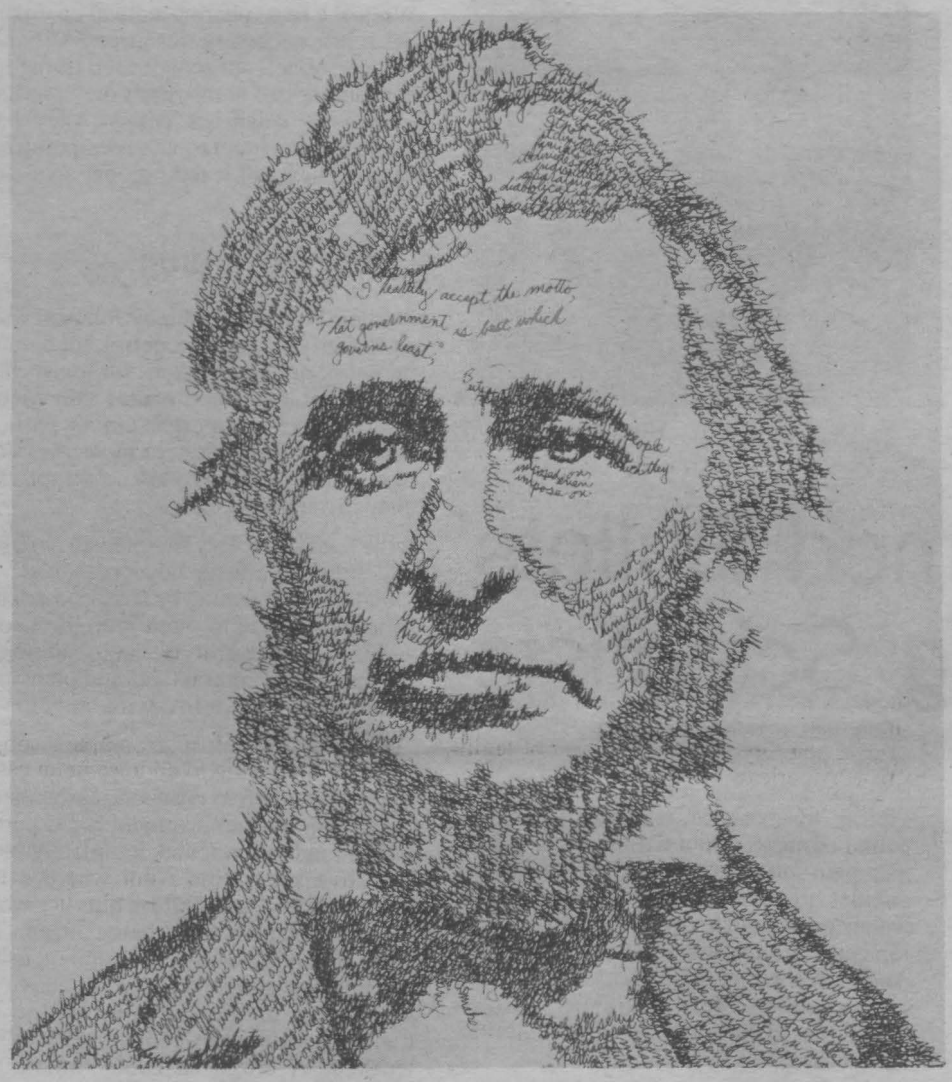
Thoreau's suspicions bore fruit. When the boy's father returned, they went in search of the tree in Grimes's pasture. The naturalist and philosopher was the first to spot one. They found "quite a cluster of them." It was a memorable day.

Thoreau and his companion, Horace Mann, Jr., the 17-year-old son of the American educator, spent only a month in Minnesota—in the Twin Cities, Redwood Falls, and Red Wing.

Thoreau traveled here to recover his health, botanizing all along the way. But by the time he returned to Concord, Massachusetts, he was in a steady decline, and the creator of *Walden* died before finding time to write up his "Notes on the Journey West."

Thoreau believed fate could be conquered by thought and that reflection "enables one to get things right," according to John Dolan, associate professor of philosophy on the Twin Cities campus and co-editor of *The Thoreau Quarterly: A Journal of Literary and Philosophical Studies*.

Thoreau was "right about slavery, right about our invasion of Mexico, right about the 'quiet desperation' of his neighbors," Dolan writes in the spring issue. "He was, even more impressively, right about the need to curb our heedless destruction of wilderness."



"Henry David Thoreau as *Civil Disobedience*," a striking portrait of Thoreau by John Sokol, appears in the winter 1982 issue of the quarterly. Sokol has arranged the words of Thoreau's "Resistance to Civil Government" to form an image of the author's face.

Dolan and Wendell Glick, professor of English on the Duluth campus and the journal's other co-editor, have been teaching and writing about Thoreau for a long time. Several years ago they were offered editorship of the journal, then being published in Maine.

When the University's College of Liberal Arts and Graduate School agreed to provide financial support, Dolan and Glick agreed to edit the journal and set out to change it from the "fan magazine" it had become. They are now working on their third issue.

The journal is "not exclusively Thoreauvian," Dolan said in an interview. In its statement of purpose, the journal welcomes studies of topics concerning the American Renaissance, the New England Transcendentalists, and American philosophy.

"The key is whether the article is interesting and well written," Dolan said. Articles need not "break new scholarly ground," though at least one per issue will be devoted to Thoreau's life and work.

"We don't want committee literature or what I call printed matter, but rather something with a personal touch," he said. "Themes can range from the meaning of life to the nature of a just society—the themes that concerned Thoreau himself."

In the first two issues, contributors have included Thoreau authorities like John C. Broderick of the Library of Congress ("A Lifetime of Waldens") and gifted essayists like Minnesota Regents' Professor of Chemical Engineering Rutherford Aris ("The Intangible Tints of Dawn").

"Moral reform was of the essence to Thoreau's religion," writes Aris, who first encountered Thoreau in a footnote of a book by English poet Robert Bridges while Aris was on a Saturday outing in the Yorkshire moors. "It was the effort to throw off sleep in which 'we must learn to reawaken and keep ourselves awake, not by mechanical aids, but by an infinite expectation of the dawn, which does not forsake us in our soundest sleep.' "

Aris is a member of the journal's editorial board. Dolan and Glick are extremely pleased with their success at recruiting board members; others are G.E.M. Anscombe of Cambridge University, Stanley Cavell and Robert Nozick of Harvard, and noted linguist and philosopher Noam Chomsky of MIT.

But those primarily responsible for the *Quarterly* are Minnesotan: "Diverse in our backgrounds and interests, we share a deep respect for Thoreau's work," the editors write in the introduction to their first issue. They pay special homage to Harold Kittleson, who is the principal donor to the Minneapolis Public Library's New England Collection.

Dolan said he thinks he and Glick can make *The Thoreau Quarterly* a viable journal. Subscribers now total 420. He figures between 1,500 and 2,000 subscriptions, a number they hope to reach in a few years, will be necessary for the journal to be self supporting. Meanwhile, the editors intend to approach foundations and other funding sources.

When the secretary of the Harvard class of 1837 sent a questionnaire to all surviving members 10 years after graduation, Thoreau "answered grudgingly," Glick writes.

In a postscript Thoreau wrote: "I beg that the Class will not consider me an object of charity, and if any of them are in want of pecuniary assistance, and will make known their case to me, I will engage to give them some advice of more worth than money."

That advice has inspired the British Labour movement, Mohandas Gandhi, Martin Luther King, Jr., and countless thinkers, naturalists, and ordinary folk. The *Thoreau Quarterly* is further evidence of its endurance. □

REPORT

Volume 10 Number 2

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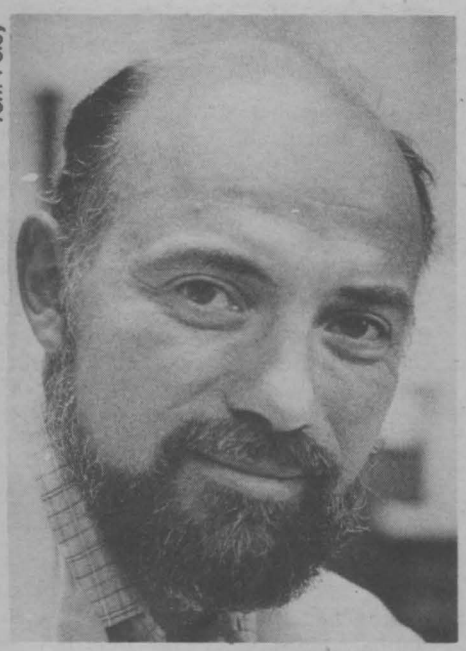


Philip Portoghese

Tom Foley

Rodney Johnson

New 'Charmed Bullets' Aim of Drug Scientists

by Nicole Simmons
University News Service Writer

At the turn of the century, the pioneer immunologist Paul Ehrlich wrote, "Antitoxins and antibacterial substances are, so to speak, charmed bullets which strike only those objects for whose destruction they have been produced."

In the 1980s, medicinal chemists have replaced Ehrlich's "charm" with scientific drug design: they use contemporary chemical knowledge about the nature of disease to guide their bullets to the appropriate targets.

There are two ways to design a drug, say the medicinal chemists—the empirical approach and the rational approach. The empirical approach is the method that has been used throughout history: it produced effective drugs both by serendipity and by screening biological and synthetic chemical compounds for their effectiveness in treating disease.

The powerful effects of opium were known a few thousand years ago, but the people of that time couldn't do anything with it, said Professor Philip Portoghese of the College of Pharmacy on the Twin Cities campus. Once the techniques of organic chemistry had been developed, scientists extracted morphine from the opium poppy and began to experiment with the new drug.

Chemical modifications of the potent pain reliever—treatment with acids, bases, and the like—soon yielded a wide variety of morphinelike analgesics, compounds that relieve pain. And when chemists deduced morphine's chemical structure, they began producing imitations: they came up with many effective analgesics that were totally man-made.

Some other drugs still in use today were first used as folk medicines. Common aspirin, for example, is related to a compound extracted from willow bark, which had pain-relieving properties known to ancient peoples. The coca leaf, from which cocaine is extracted, was chewed for centuries by Indians in the Peruvian Andes. Penicillin, of course, is the product of a common bread mold, as well as being the inspiration for many similar antibiotics.

The multiple varieties of sulfa drugs were the products of a different drug discovery process; produced to fight one illness, they found applications against many others. Sulfa compounds originally were derived from a blue dye that was observed to kill bacterial cells. In routine pharmaceutical company screenings, however, they proved their effectiveness first as diuretics, then as antidiabetic drugs, and still later as agents that relieved hypertension.

While the large pharmaceutical companies have the necessary resources—finances and personnel—to screen each of the tens of thousands of compounds they produce, University scientists believe they have found a more direct route to designing new drugs. They call it the rational approach.

Designing a drug

Medicinal chemist Rodney Johnson wants to design a drug to control high blood pressure, or hypertension. Biologists have found that the blood vessel constriction that occurs in hypertension is partially caused by a small protein molecule. They have named this protein, appropriately enough, angiotensin.

If the body made less angiotensin, Johnson and other chemists have reasoned, the blood vessels would be less constricted. Johnson decided to work with the known sequence of reactions that lead to the biochemical synthesis of angiotensin, a sequence that begins with an enzyme called renin.

Renin cuts a piece off a protein called angiotensinogen to produce angiotensin I. According to chemical theory, a drug that would bind to renin and completely block its active site—"the point where everything goes on," as Johnson puts it—would keep angiotensin from being made. The same theory also says that angiotensinogen binds most tightly to renin's active site when it is at the midpoint, or in the transition state, of its conversion to angiotensin I. A drug that could imitate that transition state would block angiotensin formation, Johnson said, because it would bind to renin much more tightly than angiotensinogen itself, preventing angiotensinogen from getting at the active site.

Equipped with a chemical model of the transition state, Johnson set to work drawing the structures of several drugs that would mimic it. But, he said philosophically, "it's easy to write down on paper hundreds of compounds that you would like to make." Laboratory synthesis of the drug was a different matter.

Johnson chose only eight of the compounds he had drawn for actual production. In the test tube all worked to some extent: they all bound to renin. These results suggested, Johnson wrote, "that even more active inhibitors can be developed through further modifications"—so it was back to the drawing board for refinement of his drug.

While Johnson believes that he will eventually synthesize a drug that could be used as an effective antihypertensive agent, he realizes that his drug may never reach the market. There are other antihypertensive medications out there, Johnson said, and he lacks the resources to develop and test his own. So he intends the compounds he produces to serve primarily as "pharmacological tools" that will help scientists understand the disease process.

Hitting the target

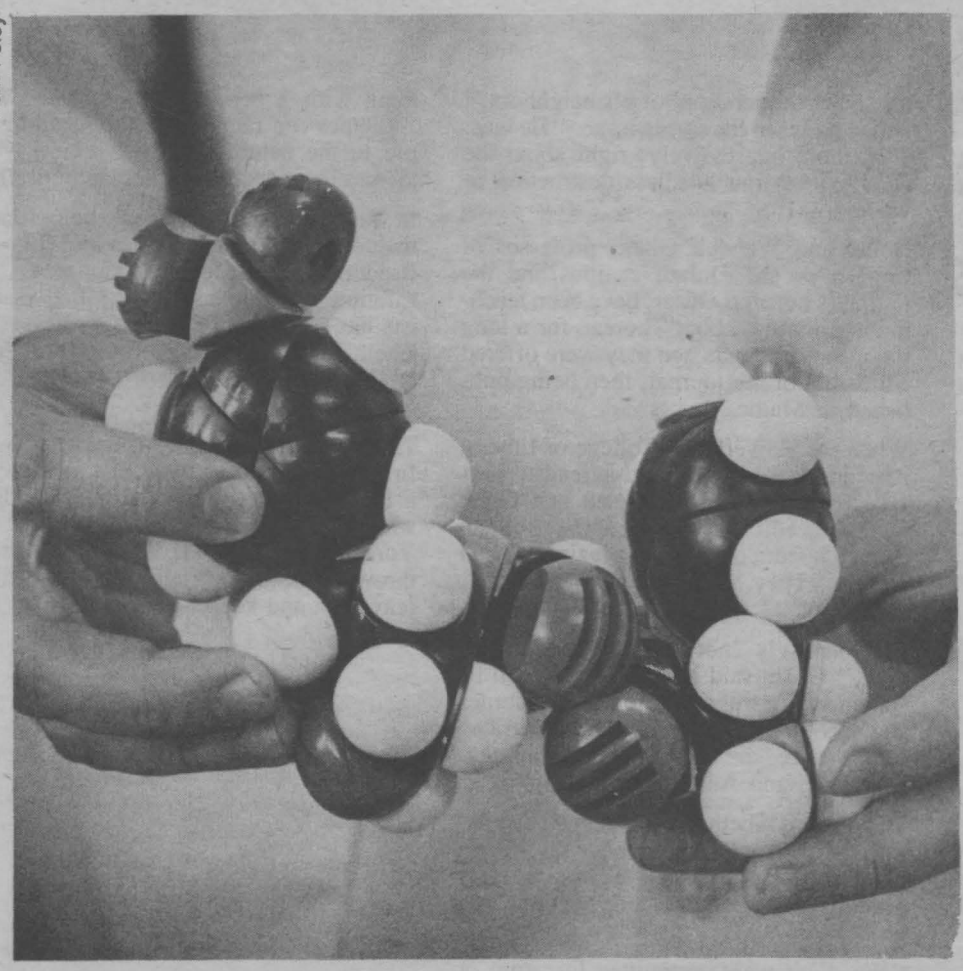
Professor Robert Vince, on the other hand, has designed a drug that he hopes will find its way to the pharmacist's shelf. His charmed bullet, dubbed cyclaradine, is targeted against viral infection.

"A virus is a very simple structure," Vince said. "It contains a nucleic acid, either DNA or RNA, with a protein coat wrapped around it. The virus acts like a hypodermic syringe; it attaches itself to the cell and pokes little holes in the cell membrane and then injects its DNA or RNA into the cell. This nucleic acid then takes over the genetics of the cell and causes the cell to produce more viruses." Eventually the cell bursts, liberating the virus particles it has unwillingly constructed.

Vince sensed that both physicians and drug companies would be interested in having a drug that acted against the herpes viruses, DNA viruses that infect human cells. After studying the steps involved in the life cycle of such a virus, Vince reasoned that the critical step was the replication of the viral DNA, its genetic material.

The human cell has a specific enzyme, called DNA polymerase, that it uses to copy its own genome, its complement of DNA. The herpes virus directs the cell to construct a separate enzyme, viral DNA polymerase, that will copy only viral DNA. By blocking the viral polymerase—in much the same way that Johnson

Tom Foley



As one step in the process of developing new drugs, scientists often build models of molecules.

blocked renin—Vince believed he could stop the virus from reproducing.

Vince's drug, like most other antiviral agents being investigated today, was intended to mimic one of the building blocks of DNA. These building blocks, called nucleotides, are cemented together by DNA polymerase to reproduce the viral genome. Vince initially modeled his compound on a "fraudulent nucleotide" marketed by the Parke-Davis pharmaceutical company.

Parke-Davis's drug, called Vira-A, had been quite successful in test-tube experiments: the viral DNA polymerase recognized it as a nucleotide while the cellular polymerase did not. But Vira-A had not been very effective in curing infected patients. Ironically, the drug was *too* good a nucleotide mimic, fooling not only the target DNA polymerase, but also a cellular enzyme, adenosine deaminase, that specializes in chopping up superfluous nucleotides. So Vira-A did not last long inside the cell.

Vince wanted to design a drug that would retain Vira-A's test-tube effectiveness but be resistant to the destructive adenosine deaminase. Changing a single atom in Vira-A from an oxygen to a carbon—and thus changing the chemical class of the compound—would do the trick, Vince reasoned.

After his lab succeeded in making this novel compound, cyclaradine, via a 17-step synthetic process, Vince could test the success of that atomic replacement. The test consisted of three standard biochemical assays.

First, would cyclaradine resist destruction? To see whether the new drug would overcome the disadvantages of its predecessor, Vince mixed adenosine deaminase with Vira-A in one test tube; in another, he mixed the enzyme with cyclaradine. "Within five minutes the enzyme inactivated all the Vira-A—and our drug resisted its action for five days!" said Vince jubilantly.

Next, would the new drug stop a virus? As an initial test, Vince injected several different types of virus into human cells growing in tissue culture. Here the researchers were pleasantly surprised; not only did cyclaradine stop all the DNA viruses from spreading, but the drug worked against some of the RNA viruses as well.

Finally, would cyclaradine cure an infected animal? Many drugs that work wonders in the test tube are ineffective in live animals, either because they never get to the trouble site or because the body converts them into toxic compounds. But when Vince infected mice with herpes virus, injections of cyclaradine kept them alive; left untreated, the mice would have been dead within a week. It appeared that Vince's bullet had hit its target.

A thorny path

"What happens when they've got the wonder drug?" asked Robin Enever, an expert in drug development. What, indeed?

Some believe that question is out of the academic's realm. "Universities do basic research," said medicinal chemist Portoghese. "Our job is to generate new knowledge, new approaches, new techniques and so on. We may in the course of doing

(continued on page 10)

Tom Foley

Patrick Hanna

Tom Foley

Robert Vince

Civil Service Committee Decides Not To Seek Changes in Pay Plan

by Maureen Smith
Editor of *Report*

The Civil Service Committee voted August 31 not to seek any additional salary adjustment for civil service employees in this fiscal year.

The decision came after the committee spent several months studying the pros and cons of a proposed plan to increase employees' hourly wages next January and then give them some time off the payroll. Committee members said they liked the plan in principle, but it would have been difficult to put into effect.

"The issues and problems are too complex to deal with in the middle of the year," committee chair Jerome Larson said at the August meeting.

Instead of making a recommendation for a salary adjustment this year, the committee decided to begin work immediately to set long-term goals for civil service salaries and to deal with issues raised by responses to a questionnaire sent to all civil service employees in August. The questionnaire was an effort to gauge employee opinion on the pay plan and solicit ideas in other areas of concern.

No clear mandate for the committee emerged in the responses to the questions on the pay plan. Of the 1,677 staff members who responded (out of 9,950 who received the questionnaire), 6 percent favored a wage freeze with the savings used to restore retrenched jobs or programs, 37 percent favored the 5 percent increase that went into effect July 1 (the revised pay plan), 21 percent favored increases covering at least the rise in the cost of living, and 34 percent favored the maximum possible salary plan (the original pay plan).

One problem facing the committee was that a decision to seek increases approaching the original pay plan might have resulted in sizable increases for Schedule A (professional) employees and little or nothing for those in Schedule C (clerical and technical). The original pay plan for Schedule C was linked to increases in the Consumer Price Index, and those increases to date have been much smaller than had been expected.

The questionnaire results showed that the greatest concern about salaries was expressed by clerical workers, whose salaries on the average are the lowest of all groups at the University.

Employees who favored increases beyond the 5 percent in the revised pay plan preferred the plan to fund them through time off the payroll (45 percent of all those who responded to the questionnaire). Only 10 percent favored additional layoffs. A few made other suggestions, such as "cutting the president's salary."

Although the committee voted not to take a recommendation for a January adjustment to the regents, the group did vote to ask the administration to use any surplus recurring funds or any additional money that might come from the state for civil service salary increases.

Larson said there were several recurring themes in the responses to the open-ended questions on the questionnaire: the desire to return to salary increases based on performance, the desire to be paid for unused sick leave at retirement, the suggestion that employees be allowed to use sick leave for taking care of a sick child, the desire to take time off the payroll on a voluntary basis, and complaints about heavy work loads.

Some employees complained that they were being forced to work overtime without pay in order to get their work done. Larson said such a situation would clearly be grounds for filing a grievance.

Grievances could also be filed by those employees who say they are losing their vacation days because their supervisors tell them they cannot be spared, Larson said. "I think our level of supervision at the University, frankly, is not what it should be," said Irene Kraft, who retired from the University and from the committee at the end of August.

Visitors at the committee meeting also expressed concern about heavy work loads. During the discussion of the proposal to fund a salary adjustment by giving employees time off the payroll, Paula Moyer, a secretary in the College of Liberal Arts, asked if people would still be expected to get the same work done. "I don't see any mechanism to protect people from being squeezed into doing more work," she said.

After deciding against the proposal to increase hourly wages and give all employees time off the payroll, the committee discussed whether the University could be doing more to encourage employees to take leaves without pay on a voluntary basis.

One drawback for the employees would be that "over time people would lose their seniority," said John Felipe, equal opportunity coordinator. Compensation manager John Erickson added that "you'd be surprised how often seniority comes down to a difference of a few hours."

Budget cuts and competition for salaries have resulted in increased tension between faculty and staff members, Larson said. The topic was placed on the agenda for a joint meeting of the Civil Service Committee and the Senate Consultative Committee September 28.

"Every time there is a retrenchment, it's the civil service people who get the ax," said Craig Olson of the Law Library, a visitor at the August 31 meeting. In one recent retrenchment, he said, the result in the Law Library was that "two civil service people lost their jobs and the professional librarians got higher paychecks."

(The retrenchment was mandated by the administration in order to find more money for salary increases, and decisions about cuts were left to the discretion of each department.)

"What happens is that civil service people are getting the impression that they're getting the shaft," Olson said. Statements from administrators about salaries are contributing to this impression, he said. "Maybe 5 percent wouldn't be so hard to accept if you weren't constantly hearing that faculty salaries are the big deal." □

Tom Foley

Ralph Holman, director of the institute, said the new animal holding rooms make the institute more competitive for grants. A long room full of air ducts connected to high-efficiency filters changes the air in the holding rooms below three times a minute. Bacteria and germs are removed so fast that sick animals can be placed next to healthy animals without causing infection. "A bio-clean unit of this size is unique in the academic world," Holman said.

Least Understood U Unit Has Formula for Research Success

by Paul Dienhart
University News Service Writer

A crack from a .22 rifle left a six-year-old Illinois girl with almost no small intestine. The little girl seemed to be recovering from the accidental shooting, despite having to be fed intravenously. But months later she began to have difficulty walking. Her feet were numb, her legs hurt, and her vision was blurred. Her doctors were at a loss to explain what might be going wrong.

One of her doctors had come from the Mayo Medical School, and he decided to call a place in Minnesota he knew about, an institute that specializes in the study of fats.

The next link in the chain is the southeastern Minnesota town of Austin, the home of the University's Hormel Institute. Ralph Holman, director of the institute, suggested that the little girl's intravenous formula might be defective. He recommended that they include linolenic acid, an essential fatty acid the body requires at the rate of only half of 1 percent of total calories.

The need for linolenic acid had never before been demonstrated in mammals, but when it was added to the little girl's diet the symptoms cleared. "It was only one case, but it was the most satisfying research result I've had in a long time," Holman said. "Finally, after all these years, I'm gradually seeing part of my work benefit individuals. It's very exciting."

Trace backwards from applied research and you will find basic research. The step preceding that is developing the methodology—the scientific instruments and tests for analysis—that allows research to take place.

Often it is difficult to draw clear distinctions among the research steps, and although the Hormel Institute is generally known for its contributions to methodology and basic research, it is not so strange that its work has practical benefits for individuals. The history of the institute involves many practical concerns: rancid sausage, human nutrition, corporate politics, a town's economy, heart attacks, and the fine art of grantsmanship.

The Hormel Institute celebrates its 40th anniversary this year, and although it was a part of the Graduate School from the start, it is still one of the least understood units of the University. "We have an eternal identity crisis," Holman said. It is unusual for a major University research facility to reside in a small town, bear the name of a well-known company, and employ faculty members who don't teach, are not tenured, and work full time on research involving a single class of chemical compound.

But as most research scientists would tell you, discoveries are often made through unusual means.

Solving puzzles

Take the highway exit to downtown Austin and you're surrounded by Hormel. On the south the road runs to the gates of the Hormel Company plant, and to the north, under the highway overpass, are buildings for the Hormel corporate office and the Hormel Institute.

The late afternoon sun slanting through his office window seemed to put Ralph Holman in a reflective mood. "Out here in the corn fields nobody expects to find quality research. This is Podunkville, isn't it?" he said with a wry smile. "You know, after all this time I've decided being away from a big civic center is a real advantage. The Austin residents who make up our support staff are the most loyal workers I've ever met. Without them, we wouldn't get the science done.

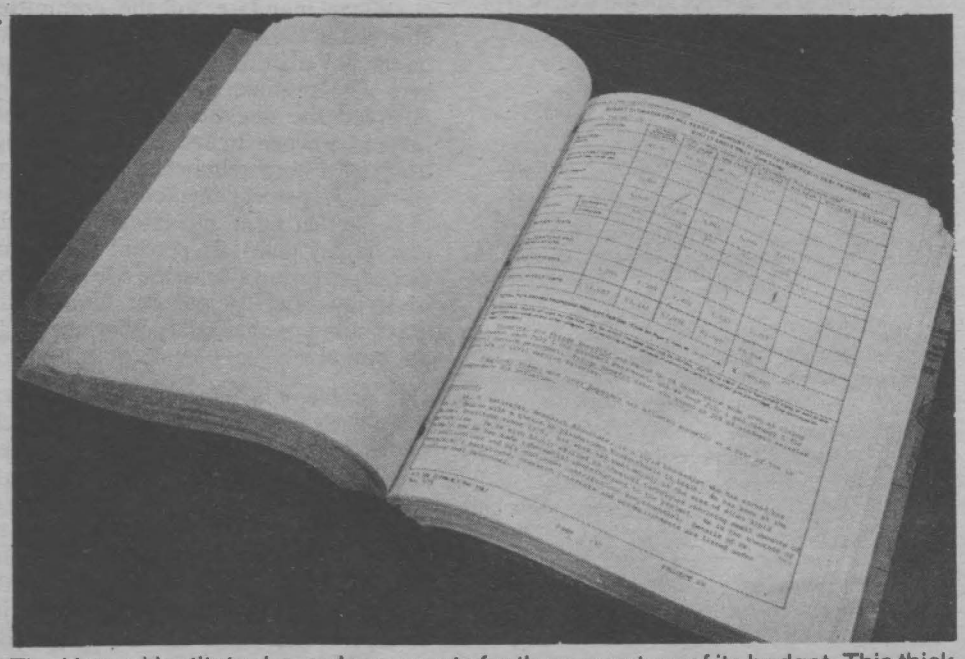
"I came here as a young person dreaming of this as a stepping stone to something greater. But I never found anything better. In 1958 I spent a year at the University replacing a professor on sabbatical. Nothing came of it. I found that the funding and research opportunities weren't as good as down here."

There does, indeed, seem to be a high degree of job satisfaction at the institute. Holman has been on the staff for 31 years, and many of the leaders of the eight research sections have logged over 20 years of service. The place appeals to scientists who like research, the freedom to decide which projects to research, and an atmosphere of competition.

"We have the freedom to follow an idea when it bursts upon our consciousnesses," Holman said. "Maybe it starts as a puzzle. Oh, we like puzzles. But it's very competitive because money is hard to get. People approaching retirement here are still going full steam. We have to pursue good science constantly in order to keep getting the money to solve our puzzles."

One puzzle came to light at a scientific meeting in Argentina where Holman met a researcher who was studying the nutrition problems of starving Argentine children. Holman thought a lack of essential fatty

Tom Foley



The Hormel Institute depends on grants for three quarters of its budget. This thick, five-year grant application to the National Institutes of Health accounts for 40 percent of the yearly budget.

acids might be part of the problem, and he and the scientist decided to work together. Research on 40 malnourished infants brought to hospitals in Argentina revealed that Holman's hunch was correct. They established a level of essential fatty acids that would help the children.

Holman's colleagues have similar tales of their freedom to pursue scientific questions. "I think I've more freedom to do research here than in any biochemistry department," said Wolfgang Baumann, head of the institute's organic chemistry group. "An academic department has the overriding motive of teaching students, and that's not our mission here."

Institute research results in 25 to 35 publications a year, many of which report on cell membrane experiments. Lipids—the principal structural material of living cells—are a major component of membranes, and membranes are involved in every biological process. "The link to membranes makes lipids much more important than we ever suspected," said Orville Privett, a 33-year veteran of the institute.

For example, Baumann and microbiologist Howard Jenkin are collaborating on virus research. To multiply, a virus has to take over a cell, and the first step is attaching to the membrane of the cell. Nobody knows how a virus attaches to a mammalian cell, but the institute researchers suspect the virus may use an enzyme to weaken the cell membrane by removing a fatty acid chain. The virus might then attach to the resulting pit in the cell membrane. They know such enzymes exist because they've found one in snake venom. Understanding how viruses attach to cells could be the first step in discovering how to prevent them from attaching and reproducing.

Lipid history

The importance of lipids in cell membranes is astounding when one looks at their lowly history. "Before 1960 the lipid field was just a fatty mess, a vile mixture of undefined grease," Baumann said.

From the start, many of the discoveries that gave lipids importance had a Minnesota connection.

In 1930, Twin Cities campus scientist George Burr, working with the assistance of his wife in a lab in the Jackson Hall attic, announced the discovery of the first essential fatty acid. Until then all authorities insisted there was no nutritional value in fats. The Burrs showed that the body needs fats just as it needs vitamins, protein, and minerals.

It was also in the 1930s that the Hormel Company in Austin ran into trouble with their sausage spoiling. Fats turning rancid was a major problem, especially with World War II looming and the possibility of food supplies sitting in warehouses or in the tropical sun.

Jay C. Hormel, president and board chairman of Geo. A. Hormel and Company, contacted H. O. Halvorson, a University microbiologist and chemical engineer. Halvorson worked with another University scientist, W. O. Lundberg, to develop a compound to retard spoilage. Jay Hormel was impressed. He was fascinated by research and he and Halvorson became close friends.

Jay Hormel had another problem. He knew that inheritance laws would make it impossible for the Hormel family to continue to control the company. He was particularly afraid that if outsiders took over the company it might be moved from Austin, a town he cared about. He decided to establish a foundation to control the company, and because a foundation has to have a philanthropic purpose, he created the Hormel Institute as chief beneficiary. To further insure there would be no tampering with his project by foundation directors, he donated the new institute to the University of Minnesota. Halvorson became the institute's first director.

The first laboratory of the Hormel Institute shared space with horses, cows, and an antique car collection in a stable on the Hormel family's estate. A separate Hormel Institute building opened in 1960. This year is the institute's 40th anniversary.

The Hormel Institute was a pioneer in making purified lipids. It promoted lipid research by supplying researchers around the country with these compounds at cost. At the American Oil Chemists meeting in 1963, Orville Privett (right center) did a brisk business in methyl palmitoleate.

Labs were set up in a barn on Jay Hormel's property, sharing the building with cows, horses, and an antique car collection. The general mission of the Hormel Institute was to do research in food, agriculture, and medicine. One of the early projects was the breeding of a miniature pig for use as an experimental animal.

The institute seemed designed to attract researchers who enjoyed the freedom to work on what they pleased—so long as they could obtain grants. Despite its name, the institute has no connection with the Hormel Company research. "The truth is the Hormel Company bends over backwards to stay away from our work because any interference might result in the IRS questioning the tax status of the foundation," Holman said.

The researchers Halvorson brought from the University were, as they are known to refer to themselves, lipid people. Lipids were still hard to work with; they wouldn't separate into parts because they weren't volatile or soluble in water. "Then, when technical advances developed during the war spilled over into science, it became possible to analyze lipids," said Holman, who worked in George Burr's lab as a graduate student. "We had a lipid group here, ready to carry the ball. And they did."

The Hormel Institute was the first to use thin layer chromatography to analyze lipids. And, as a pioneer in the field, the institute supplied highly purified lipid compounds to the rest of the scientific community.

So here was a group of scientists at the forefront of a new field of research. It was exactly the right time to be in that position. "The National Institutes of Health (NIH) were founded after the war, and Congress gave Eisenhower more money for health research than he knew what to do with," Holman said. "The Hormel Institute got its share."

Tailor-made for grants

The institute depends on grants for three quarters of its budget. When it comes to money for lipid research the institute is extremely competitive. "We're really kind of tailor-made for the granting situation," Baumann said. "Unlike an academic department we don't have to have specialists in all areas of chemistry. We all specialize in lipids, but without much overlap. We complement one another."

The scientific expertise is backed by an in-house electronics and machine shop that builds computers and new scientific instruments—some out of surplus parts donated from the Apollo space program. Recently built animal holding rooms have a sophisticated ventilation system that prevents sick animals from infecting healthy ones. With disease controlled, experiment results have more meaning.

"The name of the game with grants is to show you can do the project better than anybody else," Baumann said.

It's fortunate the institute has such grant-getting resources because grants are getting harder to get. "The NIH has dropped its grants by 20 percent since 1981," Holman said. "It now takes us about two applications for every grant we get, compared to the 80 to 90 percent yield we used to have."

"Any researcher who did something in the 1960s got a grant renewal," said Harald Schmid, who has been at the institute 18 years. "All of a sudden scientists are like businessmen. We practice something called grantsmanship."

Applying the basics

One rule of grantsmanship these days is to show that the research will benefit people. Holman, for one, doesn't resent this emphasis on applied research. "I saw the tide turn against basic research in 1968, when President Johnson talked of bringing medicine to the poor," Holman said. "The theoretical was deemphasized in favor of the practical. Since that time I've undertaken projects that are intellectually stimulating but of obvious relevance to the lay person. Whether you call research basic or applied, unless it benefits man it's play to the lay people."

In a sense, the change is more in the way a project is looked at than in the research project itself.

A new stainless steel machine sits on a table in Orville Privett's lab. The product of 10 years of work, it will analyze any compound with carbon in it. The lay person may fail to see any personal benefit in this flame ionization detector. It's not even basic research, it's an advance in methodology.

But it could just as easily be seen as a tool that may help unlock a secret of aging. After people reach the age of 20, aging pigment begins to accumulate in their cells. The older they get, the more it builds

(continued on page 10)

Improvements Planned in Accounting System

by Maureen Smith
Editor of *Report*

When Fred Bohen came to the University as vice president for finance and operations in early 1981, he went around talking to people and listening to their concerns.

One of the complaints he heard most often was about the inadequacy of the central accounting system. People said they were being deluged with information they didn't want, and they did not have easy access to the information they did want.

Bohen put Kent Jones to work on a project to modernize and improve the system. In December 1981 Jones dropped his other responsibilities in the accounting department and went to work full time developing a proposal. Now, with the blessing of the budget executive, he is heading a 13-month project to put the improvements into effect.

Jones can see why people have been dissatisfied with the current system. "It's 20 years old, and it pumps out four monthly reports to deans and department heads, a humongous stack of paper. The prospect of wading through all of that is so forbidding that they don't do it," he said.

"We've been giving people a great deal of detailed information, with very little of it aggregated. The reports are not meaningful, not readable, not particularly useful for decision making."

In asking Jones to come up with an improved system, Bohen stressed that the new system must meet the needs of the units. "He didn't want this to be an accountant's dream, something that would make accountants happy and computer people happy and not anybody else."

Green eyeshades

Besides being flooded with unwanted information, people told Bohen that in the interim between monthly reports they were having to keep track of their balances manually.

"It's typical for a dean or department head to hire account specialists to sit down and put on their green eyeshades in the morning and get out their quill pens and spend all day posting transactions on ledger paper," Jones said. "The University is making a big investment in human resources to maintain these bookkeeping systems.

"In this day and age, when people can buy small home computers for a few thousand dollars and we know it's possible to have computer access to large computers through terminals, it just seemed crazy to these deans and department heads that we were stuck in this outmoded system."

With the increasing popularity of word processing machines and microcomputers, Jones said, departments and colleges have been interested in developing their own computerized accounting systems. "If we don't do something centrally, they're going to go ahead and do their own thing," he said. "There will be a lot of duplication of effort, a lot of redundant data."

The problems with the current system have been most acute at the end of each fiscal year, Jones said. "We close the books for the month of June during July, and deans and department heads want to know exactly how their accounts stand—not only what the balances are in their manual records but also on the central computer. They want to make sure that their accounts aren't overdrawn, and if they have money that would revert they want to spend it.

"People will come over with scissors in hand and snip out the little section of the printouts that represents their portion of the budget," Jones said. "It's a laborious manual process at year end."

Jones's first step when he took on the project was to meet with people from throughout the University and listen to their needs. Then he evaluated the commercial accounting packages that could be bought from outside vendors and concluded that going outside would take longer and cost more money.

"I proposed that we go the in-house route as opposed to what I call the out-house route," he said. "We're not going to be developing an entirely new system from scratch. We're not scrapping the present system, but we want to improve it, enhance it."

In mid-July Bohen took the proposal that Jones had drawn up to the budget executive, and $350,000 was allocated for enhancement of the accounting system.

Dumb terminals

The project has two goals: more useful monthly reports and more timely information on account balances. "The first thing we're going to tackle is the lack of timely up-to-date account balance information," Jones said. "We hope to have on-line inquiry capability by June of 1983."

If the system is working by June, "people will no longer need to bring their scissors over here to know where they stand."

The idea is that people will be able to sit at computer terminals and ask a central computer what their balance was at the end of the previous day.

If departments do not have any other use for a computer, they can rent what is called a dumb terminal in order to make their inquiries. A dumb terminal has no computing or word processing capability of its own, but an account number can be punched into its keyboard and a balance will show on the screen.

Jones estimated that the rental cost of a dumb terminal will be about $1,400 a year, plus a charge of about 4 cents for each inquiry. Departments will pay their own terminal costs.

But Jones said that many departments are investing in word processing machines or microcomputers for other purposes. "If they've already made the investment, they can use what they have instead of renting a dumb terminal," he said. "We like the idea of people being able to kill two birds with one stone."

It is not clear that all microcomputers and word processing machines will have the capability for on-line inquiry. The machine Jones can speak of with the most confidence is the CPT word processing machine, which is one of the most popular machines at the University. Next to the CPT (and the IBM 3270, which will be the dumb terminal), Jones is most confident about the IBM personal computer, which has just been introduced on the market.

"Beyond that, there is some uncertainty," he said. "If you are thinking about buying a word processor, buy a CPT. If you're thinking about a microcomputer, we would probably steer you in the direction of the IBM personal computer."

One additional piece of equipment—called a modem—and a small usage charge will be required in order for departments to use a CPT word processing machine or an IBM personal computer for their inquiries about account balances.

The coordinate campuses already have on-line hookups to the Administrative Data Processing Department for registration information, Jones said. "The network is already there. It's just a matter of adding accounting information. This is definitely a University-wide project. We want to be responsive to the needs not only in the Twin Cities but also on the coordinate campuses."

Readable reports

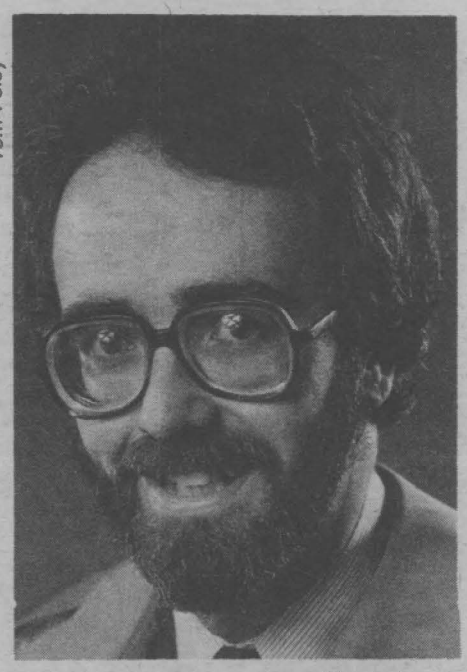
Next fall is the target time for the other major improvement in the system, the preparation of monthly reports that are more readable and useful.

Reports will be more succinct, with summaries of transactions by function or source of funds. And Jones said the reports will show "what some deans call the burn rate, or the spending rate. Expenditures will be given as a percentage of the budget. Reports will provide the burn rate for the current fiscal year and also the prior fiscal year, so that people will be able to tell whether they're spending at a faster or slower rate."

Another improvement will be that departments will be able to define their own account titles, using descriptive labels that are meaningful to them, and provide their own transaction descriptions. Instead of being given a standard label—such as "travel out of state"—an item might be identified as "J. White to Chicago."

Reports will also reflect a department's ongoing commitments for salaries and fringe benefits. "The University is very labor-intensive, with something like 70 percent of our money going for salaries and fringe benefits," Jones said. "Yet our current reports do not reflect these commitments. We show huge uncommitted balances, but that's not reality."

Tom Foley



Kent Jones

Salary balances showing on the new reports will represent "the true miscellaneous help and unassigned instruction balances, not funds that are committed to pay people on the regular payroll," he said.

Researchers on grant money will receive reports based on the dates of the grant, Jones said. "It's meaningless for these people to get a report based on the University fiscal year, the way they do now."

Although the changes will make a big difference, Jones said, they will not be "a panacea for all the shortcomings of the University's accounting system. Deans and department heads will not be able to manipulate financial data in ways that they choose. The technology is not yet available to give them a software package that would allow them to do what they really want to do. That's down the road. We're aware that people are interested in that."

Jobs in jeopardy?

Improvements in the accounting system should be good for departments and good for the University. But what about the people who have been keeping their departments' books? Will their jobs be in jeopardy?

In most cases, Jones doesn't think so. "The rental cost of dumb terminals is so low that it should be easy to find the dollars without laying people off," he said.

"That's not to say that, as we continue to face state cutbacks and declining enrollment, there won't be future retrenchments. Decisions will be made by individual deans and department heads, and it's entirely possible that they may choose to make some cuts out of civil service budgets."

But Jones doesn't think that the computers themselves will put people out of business. "What typically happens is that the person who is keeping the books is not doing that 100 percent of the time. What's more likely is that, as people are freed from doing the more routine tasks, they will be able to do other more important things that have been forgone." □

Sam Krislov

(continued from page 1)

ual countries, but there isn't much that has been generalized.'' For teaching purposes, he said, it may be necessary to choose one or two countries as examples.

Chinese and Japanese law are also ''distinctively different,'' he said, and there are ''not too many Westerners who have mastered those systems.''

As a child Krislov witnessed another kind of law as people came to his father, a rabbi. ''He was often a mediator. To a large extent this was a law that could not be enforced anywhere, and yet people brought their disputes to the rabbi.'' The experience gave Krislov insight into what it is that people are seeking from the law. But he said his brother, a labor mediator, is often explicitly instructed not to split the difference in a dispute. ''People are often happier if they think they got justice than if they think each got half a loaf.''

Students who learn something about comparative law will see that ''there are a lot of different ways of organizing legal systems,'' Krislov said. Some things are consistent from system to system. For example, he said, there must be something intrinsic in the business of drawing up a contract that has made contracts pretty much the same across time and across cultures. It is instructive to learn ''what things are the same and what are the things that people do differently.''

Human rights and nations

For the second half of his sabbatical, Krislov will be trying to test the hypothesis that nations benefit from giving rights to their citizens.

''There is an assumption in liberal writing that the tradition of human rights is not just good for people but good for the government, good for society. I want to test that as much as possible.''

In two places in the world, Krislov said, systems that have had trouble gaining loyalty have turned to human rights. One is Canada. Along with changing the flag and the national anthem, he said, Prime Minister Pierre Trudeau has looked to human rights as a way of ''making people feel better about Canada.''

The other is the EEC. ''Economically the EEC has succeeded beyond anyone's wildest dreams,'' Krislov said. ''But if you ask people on the street, they don't care very much.'' In an attempt to gain loyalty, the EEC has focused on human rights. ''They have protected migratory workers in a way that's phenomenal. They just ruled that Great Britain was not doing enough for women's rights.''

For his research, Krislov will be going to Holland, to an institute in The Hague that has EEC data that looks as if it should be useful.

''A number of people have pushed for human rights as a way to get popular support. The question I'm asking—and I'm an agnostic on it, I don't have an opinion—is 'Does it really work?'

''I think there are many costs to human rights. I'm not sure it's a plus for a regime. I don't know what it means if it isn't, but that's the kind of question political scientists ask.''

An interest in Israel

As a side interest, Krislov recently wrote a paper on the mutual involvement of Israel and the United States in each other's politics.

His interest in Israel over the years has been more personal than professional, he said. ''My parents were strong Zionists and went to Palestine from Cleveland in 1936. My father didn't find work and came back. I spent parts of two school years there. My mother's family are all there.''

He is not a Middle East expert, he said, and his recent paper was ''the first thing I felt competent to write'' on the subject.

Israel and the United States have intervened in each other's politics in quite different ways, he said. Israel, because of its dependence on the United States and because American Jews are an interest group in this country, ''intervenes regularly on trivial as well as important matters,'' he said.

''The United States, I think quite correctly, intervenes seldom and tries to make its intervention decisive.

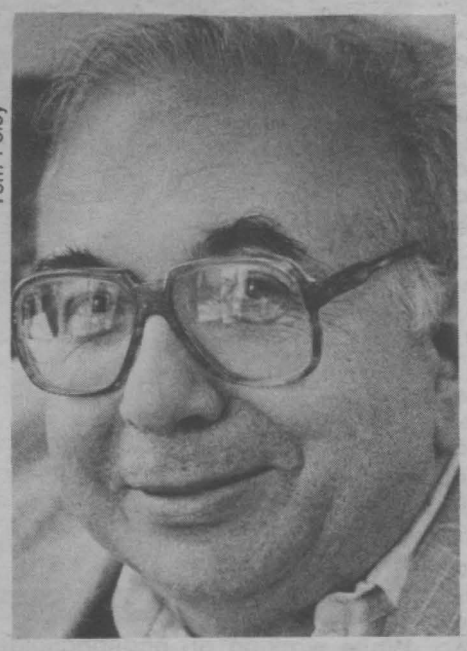
''I would argue in the light of what's going on right now that Begin has misunderstood the nature of the relationship,'' Krislov said, going beyond what he wrote in his paper. ''If we have a long-range policy that makes sense, Israel ultimately has to come to grips with it.

''Camp David is an illustration. It was not quite what Israel wanted, but two administrations at least—Nixon and Carter—pointed in this direction. We've been pretty consistent for a democratic society with changes of party. You could take many of Carter's speeches and give them to Reagan.

''I think Israel has to be realistic. I don't think we should be ashamed of saying, 'If we give you most of the tank production in the United States, and leave our own army weak in tanks, we expect something in return.' We are not altruists only.

''I had no difficulty supporting Israel's position up until about three or four years ago. But it is fairly clear now that they are more the refusers than the other side. I'm not sure the other side is willing to make peace either, but they are at least willing to explore it.

''Israel is hawkish right now. It's a combination of old insecurities and new-found dominance. But I think this is changing. The latest poll shows that more people are willing to be conciliatory. They have more room to be conciliatory. They can take more risks for peace.''



Tom Foley

(Krislov was interviewed before the massacre of Palestinian refugees in Israeli-occupied west Beirut and the subsequent protest demonstrations in Israel.)

An old hand

Krislov usually has several things going at once. In his sabbatical year he will also begin work as cochair of a National Academy of Sciences panel that will be looking at the problems of the courts in assimilating statistical and social science evidence.

An earlier study for the academy gave him the chance to appear before Congress. He was pleased to learn that he was ''the first to testify before the House Judiciary Committee in a turtleneck shirt. I told my kids. They thought I was an old fuddy duddy, but I was a revolutionary.''

Krislov has also been active in University governance. He chaired the Senate Consultative Committee from 1972 to 1974 and the Senate Judicial Committee from 1976 to 1978. ''I'm an old hand here,'' he said.

Back when he was on the Consultative Committee, he was interviewed about the structure of the senate and said ''the governance of this university is infinitely more complex than the United States government. It's more like the Vatican.''

A decade later, he said he has seen some improvements. ''There is much more cooperation between the administration and the faculty. I'm not active, but I know from talking to people. President Magrath and especially now Ken Keller are very anxious to have good relationships with the faculty.

''But the senate is still a labyrinthian structure. It still needs simplifying before it amounts to anything. If we ever get financial exigency, I think we'll find that this stalemated structure will cost us. Either the administration will whipsaw us or we will do it to ourselves.

''Academics don't like to be governed anyway. We're a bunch of anarchists by nature.''

The freedom of the academic life is still a strong part of its appeal for Krislov. ''Hal Chase used to say we academics were the last free people in the world,'' he said, quoting his political science colleague who died last January. ''We're not *that* free, but we can dictate 60 to 75 percent of what we do.

''If you want to be lazy, you can do that, too, but there are more consequences than people think—not just in salary increases, but in the way people look at you. Judgments are severe.''

In his years at the University Krislov has focused sometimes mostly on administration (he chaired the political science department for six years), sometimes on teaching, sometimes on scholarship. ''What I like about academic life is shifting back and forth.''

Whatever he is concentrating on at any one time, he is pretty sure to have a couple of other things going. ''I usually juggle three or four things. It has its costs, but I find that life's more interesting that way.'' □

CAPSULE

■ Universities must raise moral questions and provide choices for society and its decision makers, President C. Peter Magrath told the regents last month in a report on his summer sabbatical. ''Our universities cannot be comfortably isolated and antiseptically value-free,'' he said (see story on page 2).

■ A group of private investors may build the planned $125 million hospital building on the Twin Cities campus and lease it back to the University. The possibility was one of four options discussed by the regents last month. Vice President Frederick Bohen said it is ''on paper, a practical, feasible solution'' (see story on page 11).

■ A ''modest and restrained'' legislative request for 1983-85 was presented to the regents. A $48 million increase in the state appropriation would be sought. Vice President Stanley Kegler said that only $20.6 million of the increase would go toward improvements and the rest will be needed just to keep the University operating at current levels. Salary increases for faculty and staff are not yet included in the request.

The biennial request was put together differently than past requests, Kegler said. Instead of being asked for their needs and wishes, deans were informed that, based on priorities set up during the planning process, they either were or were not to receive increases. ''We did not have to raise aspirations and then dash them,'' Kegler said.

■ The regents voted in closed session August 26 to ask a federal appeals court to reverse a lower court order that the University pay $2 million to lawyers in the Rajender sex discrimination suit.

■ The Civil Service Committee voted August 31 not to seek any additional salary adjustment in this fiscal year (see story on page 5).

■ Excellent candidates have applied for the position of assistant vice president for academic affairs, search committee members said at a meeting of the Senate Consultative Committee, but the search has been extended through October to ensure that everyone has a chance to apply. Vice President Kenneth Keller said he continues to believe that the responsibilities for undergraduate education and outreach can be logically combined and ''the same person can be very excited by both challenges.''

■ An improved accounting system will be developed for the University in a 13-month project led by Kent Jones (see story on page 8).

Drug Design

(continued from page 5)

some basic research work with some very interesting compounds that could be developed further. We can't be involved in the development.''

Pharmaceutical companies, in contrast to academic institutions, deal with all the aspects of making drug products: formulation, characterization, clinical evaluation, and manufacturing. Charles Leighton of Merck, Sharp, and Dohme, a major international pharmaceutical company, estimates that his company works with 15,000 compounds for each drug that reaches commercial distribution. Only large corporations have the resources to test so many compounds and also to demonstrate that their drugs fulfill the Food and Drug Administration (FDA) criteria of safety and effectiveness.

Because no company has a financial interest in promoting them, many drugs designed, tested, and publicized by university scientists get left out in the cold while drugs designed by pharmaceutical companies—albeit by a less ''rational'' process—are prescribed by physicians. After several of Vince's drugs had met the former fate, he decided that he wanted to tap into the vast corporate resources and to see cyclaradine put to practical use.

Practical use, however, seemed to mean professional secrecy. First, Vince had to ask the University to apply for a patent for his drug—publications about the drug are forbidden until the patent is approved. Then the University signed a contract with a pharmaceutical company, which agreed, not to develop cyclaradine, but simply to test it alongside other antiviral compounds.

''If cyclaradine were ever marketed the University would get millions'' in royalties, Vince said. But he knows the path to marketing may be a thorny one, and that cyclaradine could get set aside anywhere along the way. If the drug company senses too much competition in the area, it may not put up the tens of millions of dollars necessary to submit cyclaradine for approval to the FDA.

The FDA came into existence in 1906, with congressional passage of the Pure Food and Drug Act. This legislation was aimed at the fraudulent claims of patent medicines. In 1938, after a cluster of adverse reactions to ''elixir of sulfanilamide,'' the Food, Drug and Cosmetic Act required the FDA to clear all new drugs for safety before they could be shipped across state lines.

Yet another tragedy, this one caused by thalidomide, motivated the 1962 New Drug Amendments. Under those amendments, new drugs have to be tested for both safety and efficacy, and the FDA must also monitor all clinical testing of new drugs.

Although the FDA approved 27 new drugs last year, between 10 and 13 annual approvals has been more the rule since 1962. Generally, it takes a drug company seven to ten years—and $40 million to $70 million—to develop a drug from idea to approval. But there have not been any disasters stemming from new drugs since the New Drug Amendments were passed.

There has been much discussion recently over ways to speed up the drug approval process, and to reduce the so-called drug lag between the first use of a potentially life-saving drug in other countries and use in the United States. Jay Cohn, a professor in the Department of Medicine, is one who believes it is important to cut some time off the drug approval process. Cohn was a member of the Congressional Commission on the Federal Drug Approval Process, which released its report in January, and also the chairman of the FDA Cardiovascular and Renal Advisory Committee.

Cohn has seen the FDA's drug approval process at first hand. ''A drug company usually submits a file of data about 10 feet tall, which it takes months to simply prepare, for a New Drug Application,'' Cohn said. ''Each drug is assigned at the FDA to an in-house medical reviewer who writes a report between 20 and 50 pages in length. Advisory committees consist of experts who sit in judgment as a liaison between industry and the FDA. The drug company submits to the advisory committee an abridged New Drug Application of about three volumes.'' The committee also receives the report of the FDA medical reviewer.

''The advisory committee will make recommendations and suggestions to the FDA but the FDA acts as they see fit,'' Cohn said. They can approve the drug, reject it, or ask the company for more information. Reports upon reports are passed between FDA divisions. ''The FDA finally releases a long letter of approval that is between 15 and 30 pages long. The secretarial shortage is such that a letter of approval can take one to two months just to be typed.''

The congressional commission recommended that the FDA reduce the industry's paperwork, simplify some of the approval requirements, and be less fastidious about details—that it not require all 500 case histories from each clinical trial of the drug, for instance. The commission also stressed that the FDA should retain its high standards.

Theoretically, FDA commissioner Arthur Hull Hayes could institute the commission's recommendations, Cohn said, since the commissioner's dictates have the force of law. Cohn believes that Hayes, who belongs to an antiregulatory administration, is likely to want to reduce some of the red tape in the FDA. But basically, Cohn said, ''the FDA is understaffed. Delays are going to be inevitable.''

More and more knowledge

Research on a drug does not end after it has been approved, manufactured, and marketed. Scientists like Dr. Patrick Hanna investigate drug metabolism—''what the body is doing to drugs and how it's doing it,'' Hanna explained.

''There's a concept that has developed over the last 20 years that many chemicals produce toxicities, including carcinogenic effects,'' Hanna said. ''A metabolite produces the toxic effect. A compound that is either beneficial or harmless when you're exposed to it is converted in the body to a toxic compound.''

Hanna works with aryl amines and amides, a class of compounds that includes many drugs. One example is phenacetin, an analgesic and the *P* in the over-the-counter pain relievers called APC tablets. The FDA recently proposed to ban phenacetin because it produces toxic effects. Chemists believe the drug can be metabolized to potentially harmful products, which form in the bodies of people who abuse it over a long period of time. But other drugs in the same chemical class, such as acetaminophen, the active ingredient in Tylenol, are safe, except in overdose.

Hanna takes the body's enzymes that are suspected to be responsible for bioactivation—conversion of drugs into harmful compounds—and allows them to interact with various aryl amines and amides: Information about the products of these reactions will help predict the safety of future drugs.

The purpose of many of the enzymes that Hanna works with is to convert environmental chemicals to a more water-soluble form, so they are more readily transported in the bloodstream and excreted by the kidneys. ''We've fooled Mother Nature,'' Hanna said. ''We've exposed ourselves to so many different chemicals that the enzymes that normally perform beneficial functions for us now perform harmful functions—these chemicals overwhelm the enzyme system.''

Hanna is also looking for the enzyme culprits in a case where metabolism is doing good, not harm. He is working with an antiarthritic drug, sulindac, that is marketed by Merck, Sharp, and Dohme. Company scientists knew that the body converted sulindac from an inert ''prodrug'' into a therapeutically active compound, but they did not know which enzyme system was responsible. Hanna, along with Professor M. W. Anders, found the enzyme to be an electron-transport protein, one whose normal function in the body is ''really kind of a mystery.'' Many other drugs, including Vince's new compound cyclaradine, also depend on the body's enzyme systems to convert them into an active form.

As medicinal chemists like Hanna have gained more and more knowledge about the way drugs work, Ehrlich's ''charmed bullets'' have ceased to appear magical. But to those who design these medicinal agents, they will never lose their charm. □

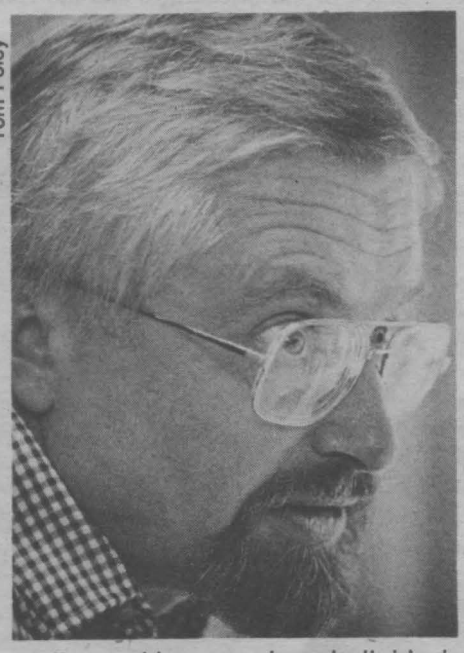
Hormel Institute

(continued from page 7)

up. The pigment doesn't seem to be harmful in itself, but it gets in the way of the activities of the cell. Privett's instrument is the first to be able to measure aging pigment. Now it is possible, for example, to do nutrition studies to see how different diets affect the accumulation of the pigment.

Harald Schmid is interested in the metabolism of phospholipids, and most people would classify his endeavors as basic research. While studying heart tissue after heart attacks, he found a high concentration of a certain chemical. His hypothesis is that this may be a natural drug that helps decrease tissue damage following heart attacks.

''Schmid didn't start out to look for such a natural drug,'' Holman said. ''It isn't hard to see the relevance of his research now. But all the time he was doing it he just had to guess that there would be relevancy.''



Tom Foley

While working on phospholipids in heart muscle, Harald Schmid may have found a natural drug that could decrease tissue death from heart attacks.

The applicability of ''basic'' research might best be proved by the work of Hermann Schlenk, an individualist who disdains such concerns. ''Questioning the applications of our research is like asking an expert on the biosynthesis of chlorophyll why he doesn't have the patent for using chlorophyll to deodorize cat litter,'' Schlenk said.

While most lipid researchers use rats for study, Schlenk uses fish. ''I wished to bring something unusual to the institute,'' he said. Likewise, while he was walking through Central Park in New York one afternoon he saw a tree he had never seen before, a Chinese ginkgo. So he decided to study it.

Not many researchers study lipids in plants, but Schlenk found a lipid called a wax ester that is concentrated in plants with an ability to survive stresses like drought, heat, and salt. Plant breeders can use this wax ester as a simple way to test for plant hardiness.

But Schlenk won't be doing that work. ''For my research, curiosity is much more of a determining factor than ambition,'' he said. ''I could spend a lifetime working on wax esters, but I get curious about other things.

''Plant breeders would never study wax esters for fear of ruining their reputations. I can do it because I have no reputation in plant breeding to ruin. I can study anything I'm curious about—so long as I can convince somebody to fund it.''

The curiosity of the Hormel Institute people—their enjoyment of solving puzzles—is their bond with other University professors.

''We're very proud of being part of the University,'' Baumann said, ''but sometimes we feel it would be nice if the University realized we are part of it.'' □

Regents Look at Creative Financing for Hospital

by Elizabeth Petrangelo
University News Service Director

The proposed University Hospitals building may be built by a group of private investors and leased back to the University if the Board of Regents sees that plan as the best for financing the $125 million facility.

Such a "sale/lease-back" method for financing hospital construction was one of four options discussed last month by the board, and was presented by finance vice president Fred Bohen as "on paper, a practical, feasible solution."

Under such a plan, the University would lease the land for the new building to a private owner group that would construct the building according to University specifications. Construction costs would be absorbed by the owner group, partly through equity contributions and partly from conventional loans to the group by mortgage lenders, Bohen said.

Once the hospital was built, it would be leased to the University for 15 years with options to renew for up to 45 more years. At the end of each renewal term, the University would have the right to buy the hospital from the group using a formula that would be agreed upon before the original lease agreement is signed, he said.

Beginning in 1986, the University would make lease payments of $17.5 million a year to the owner group. A major Minnesota financial corporation has expressed serious interest in putting a group of private investors together, Bohen said.

Bohen outlined three other financing options: the sale of state general obligation bonds, drawing upon the bonding authorization of $190 million approved by the state legislature in May 1981; the sale of bonds issued by the University with no state involvement; and deferring long-term financing arrangements for one to three years and financing the entire construction now through short-term bond anticipation notes issued by the University.

Bohen cautioned that the state's poor financial health "has major consequences on the state's ability to assist the University on this project on our timetable." There will be no further bond sales during the remainder of Governor Al Quie's administration, and no bonds are likely to be issued before the summer of 1983, he said.

That fact makes the option of long-term University-issued bonds more attractive, Bohen said.

In a 10-0 vote, the regents approved a resolution authorizing the University administration to pursue private financing, with the stipulation that the three other options would also be considered.

Construction of one floor of the building—which will house the therapeutic radiology department—is scheduled to begin in October. First payments on that construction are not due until November, but $15 million more in short-term financing will have to be arranged during the next several months to cover the cost of that construction and plans for the next phase, Bohen said.

Current designs for the building are for a considerably smaller hospital than had originally been planned. Square footage estimates have dropped 37 percent and construction cost estimates have been reduced by 18.8 percent, but the total number of new beds will be reduced by only 7.1 percent, Bohen said. □

PEOPLE

Crookston: Robert Smith, associate professor of marketing, has been named acting director of the business division. He replaces Larry Christiansen, who resigned to accept a position with Maricopa Community Colleges in Phoenix, Arizona.

■ Twyla Treanor, court reporting instructor, has been elected chair of the Office Education Association Classroom Educators Advisory Committee for 1982-83. Her responsibilities include overseeing a group of instructors from throughout the country.

Duluth: Robert Carlson, professor of chemistry, has received a $155,000 grant from the U.S. Environmental Protection Agency for a two-year research project on chemical alternatives to chlorine in water disinfection.

■ Michael Lane, director of Glensheen, has been elected vice chair of the Minnesota Association of Museums.

■ George Rapp, Jr., dean of the College of Letters and Science and professor of geology and archaeology, presented a paper on trace elements of native copper at the national meeting of the American Chemical Society September 14 in Kansas City, Missouri.

Morris: Eric Klinger, professor of psychology, has accepted an invitation to serve on the advisory screening committee for Fulbright Senior Scholar Awards in psychology.

■ Joseph Latterell, professor of chemistry, has been granted a sabbatical from March 1983 to March 1984 for research on the identification and quantification of organic ligands in sewage sludge and municipal wastewater effluent applied to land. He will work in the laboratory at Morris and also in the soil science department on the St. Paul campus.

■ A recent painting, "Still Life With Brass Candlestick," by John Ingle, professor of studio art, has been purchased by the Metropolitan Museum of Art for its contemporary collection.

■ Van Gooch, associate professor of biology, will be on leave fall quarter researching the role of mitochondria and membranes in circadian biological rhythms.

Twin Cities: John Blackmore, professor emeritus of agricultural and applied economics, has been named the first recipient of the Award for Distinguished Service in International Agriculture presented by the Association of U.S. University Directors of International Agricultural Programs.

■ J. Paul Blake, associate director of University Relations, has been named one of the Outstanding Young Men of America for a second time. The designation, endorsed by the U.S. Jaycees, recognizes young men throughout the nation for professional achievement and community service.

■ W. Andrew Collins, an authority on child psychology, has been named head of the Institute of Child Development. He has been at the University since 1971.

■ Gisela Konopka, professor emeritus and former director of the Center for Youth Development and Research, has received a grant from the Lilly Endowment to continue her life work on the humanization of treatment of adolescents who are in serious difficulty. She will visit and describe facilities that work in a humane way. Konopka's book, *Social Group Work: A Helping Process*, has just been published in its third edition. The cover shows a sculpture of hands done by her late husband, E. Paul Konopka.

■ A. Thomas Kraabel, professor of classics, has been named dean and vice president at Luther College in Decorah, Iowa, effective in January. He will also hold the rank of professor of classics and religion.

■ Two faculty members, both assistant professors in the Department of Laboratory Medicine and Pathology, have received grants from the Leukemia Society of America. Harry T. Orr received a five-year scholarship for $125,000, and Charles G. Orosz received a two-year special fellowship for $37,000, both in support of research on immunology.

■ Stephen Simon, an instructor in the Law School, has received funding from the University's Office of Alcohol and Other Drug Abuse Programming for a study entitled "Criminal Justice System and the Drinking Driver."

■ The summer 1982 issue of *Craft International*, which has an African theme, includes two articles by University faculty members: "Blacksmiths and Basket Makers: The Spectrum in Ghana," by Fred T. Smith, assistant professor of art history, and "Cut and Drawn: Textile Work From Nigeria" by Joanne B. Eicher, professor and head of the Department of Textiles and Clothing.

■ Geneva Southall, professor of Afro-American studies, has published the second book in a three-part biography of "Blind Tom," a musical genius born a slave and regarded as an idiot savant throughout most of his career. Southall, a concert pianist, has also recorded a cassette of Blind Tom's music. Both are available from Challenge Productions, Inc., of Minneapolis.

■ John Splettstoesser, senior scientist at the Minnesota Geological Survey, was in Australia in August to present two papers at the Fourth International Symposium on Antarctic Earth Sciences, held at the University of Adelaide, and another paper before the South Australian Division of the Geological Society of Australia. He participated in field trips in the Adelaide area and in the Flinders Ranges of South Australia.

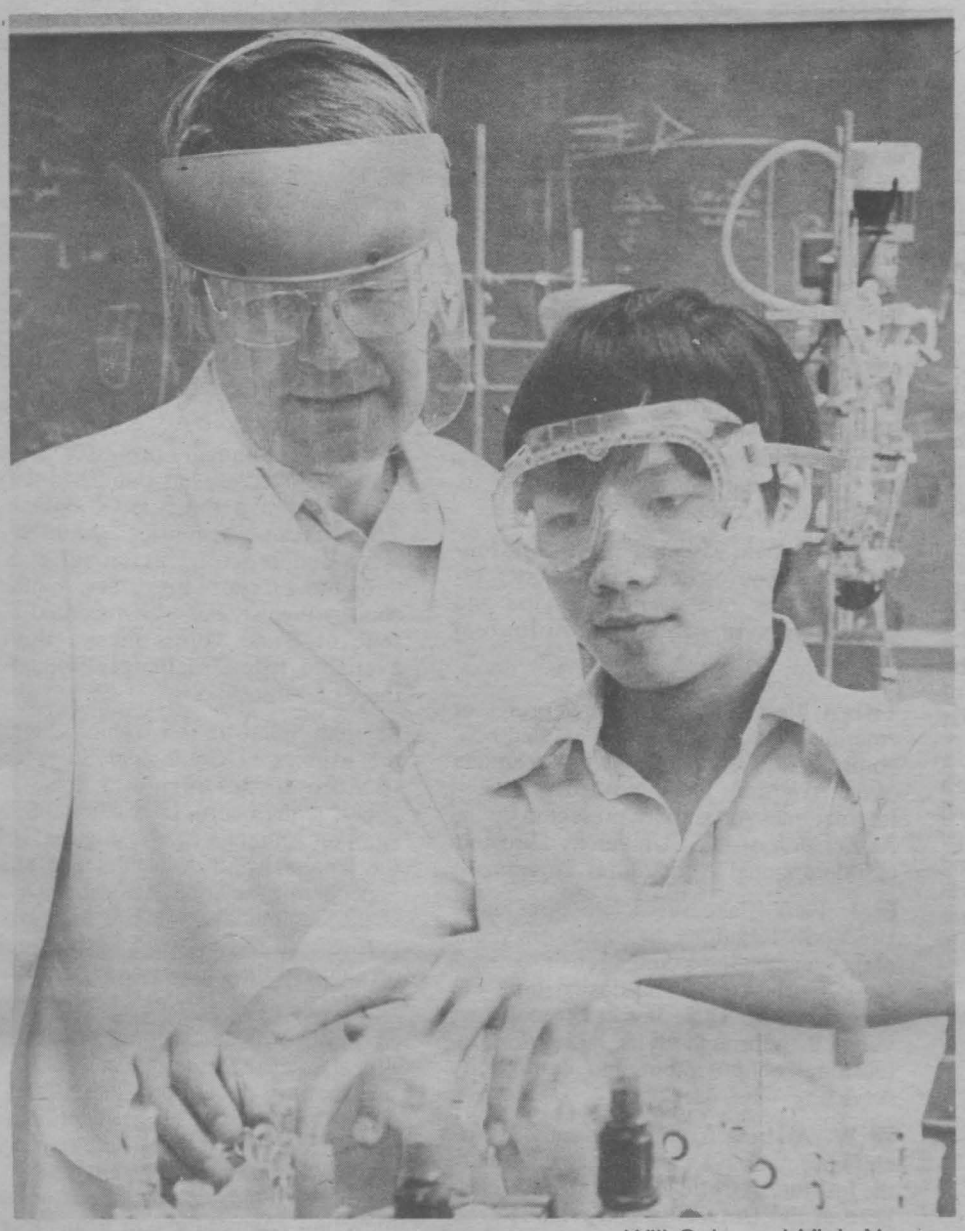
■ Philip Voxland, acting director of the Social Science Research Facilities Center, was recently elected president of the U.S. Cycling Federation. He has been a director of the federation for nearly four years and was its Minnesota representative for six years. Voxland has also been an active bicycling competitor and a member and chair of the Minnesota Bicycle Safety Committee.

Waseca: Peter Fog, coordinator of the Pre-Occupational Preparation Program, is the DFL-endorsed candidate for the Minnesota Senate in District 30.

■ Gary Sheldon, assistant provost for student affairs, has also assumed the responsibility of the assistant provost for academic affairs while a search is under way to fill that position.

■ Nan Wilhelmson, chair of the Home and Family Services Division, has been appointed to a two-year term on the All-University Council on Aging Policy Committee.

Ken Moran



Will Salo and Vinh Nguyen

High School Student Joins Research Team

by Angelo Gentile
UMD News Writer

A Duluth East High School senior learned something this summer about what it's like to be part of a major scientific research project.

Vinh Nguyen, 16, a senior this fall at Duluth East, worked as a research assistant in the Duluth campus School of Medicine's biochemistry department for 10 weeks as part of a $400 grant/internship from the American Chemical Society (ACS). The program, called Project SEED, is designed to introduce high school students to and interest them in the sciences. The School of Medicine provided an additional $350 for Nguyen, who worked 40 hours a week.

Nguyen worked with Will Salo, an associate professor of biochemistry, in a study of the chemical, physical, and biological properties of mucus secretions. Along with Salo, Stephen Downing, an associate professor of anatomy, is working on the research project, which is funded by the National Science Foundation.

There has been an interest in studying the structure of mucus mainly because "everybody produces some form of mucus —in your lungs, for example," Salo said.

The researchers are looking at mucus cells and secretions in eellike hagfish, hoping what they learn from the fish will be applicable to other forms of life, including humans.

Using gas-liquid chromatography—a method for separating and quantifying chemical compounds—Nguyen identified the kinds and amounts of sugars in the glyco-proteins in the mucus cells.

"This internship will help me in high school and also prepare me for college," Nguyen said. "I'm taking chemistry classes this fall, and I would like to study something in the sciences, such as physics or mathematics, when I go to college." □

Key to Weight Control Is Exercise, Keys Says

by William Hoffman
Associate Editor of *Report*

To many overweight people and a thriving industry, dieting is serious business. But a number of experts claim that a smaller waistline can't be bought with less than regular exercise.

One of those experts is Ancel Keys, a professor emeritus in the School of Public Health and former director of the Laboratory of Physiological Hygiene on the Twin Cities campus. Keys was probably the original diet doubter.

Current diet doubters include William Bennett and Joel Gurin, whose new book, *The Dieter's Dilemma—Eating Less and Weighing More* is subtitled "The Scientific Case Against Dieting as a Means of Weight Control."

Bennett and Gurin argue that people have a weight thermostat or "setpoint" that controls how much they weigh and that only regular exercise can change it. Dieting is doomed to fail in the long run.

Their main evidence is a starvation study conducted by Keys at the end of World War II to help get the jump on the problem of starvation in war-torn Europe.

For five months 36 volunteers received half the normal number of calories for adult males. At the end of the diet all of them had lost about 25 percent of their starting weight and were obsessed by thoughts of food. Once off the diet, all eventually returned to their starting weight.

"Keys' experiment provides some of the clearest evidence that the human body itself demands a certain amount of adipose [fatty] tissue," the authors write. "Severe disruption can alter the body's balance of fat and muscle, but it is restored with adequate time and food."

Keys, a physiologist and nutritionist who is best known for his theory on the connection of diet, blood cholesterol levels, and heart disease, has long held that a person's weight is to a large extent biologically determined. But cultural and nutritional habits also play a part.

"The great majority of people pay no attention to how many calories they're taking in and how many calories they are expending, and yet they maintain substantially the same weight," Keys said in an interview.

"Now this is more true in other populations perhaps than in some of our American urban communities in the present state of society, but the fact is that this is really quite remarkable if you think of it. I think the main reason is simply the automatic built-in metabolic machinery in the body that regulates it," he said.

The "energy balance" may fluctuate wildly from day to day, but over a period of weeks or months it "irons out," Keys said.

But why do some people not respond to "that automatic set of metabolic machineries and signals" and maintain their weight well above the setpoint?

"I'm afraid that a good deal of the difficulty is simply the changed manner of life in general—no exercise and a very lousy rich diet," Keys said. "The items that make up the major part of the average diet in the United States are calorie laden, items that in general were only eaten on feast days in the past."

Keys was one of six experts interviewed by NOVA for a program on obesity to be broadcast in March. Obesity in the absence of high blood pressure or diabetes is nothing more than a "cosmetic problem" and is not detrimental to one's health, he said.

Neither diet fads nor the jogging craze gets a sympathetic hearing from Keys, who at 78 stays fit by gardening at his home south of Naples, Italy.

"Six or eight months ago in one issue of the Sunday newspaper there were some 60-odd diet treatment clinics, health spas that reduce your weight, et cetera. It's big business.

"The experience of Weight Watchers and TOPS are probably as good as any, but the experience of all of these has been about the same. Something on the order of 50 percent will lose something and not more than 10 or 15 percent stay reduced. Within a year they're back again," Keys said.

Even though there is a strong biological factor involved in what a person weighs, individual willpower can also play a part in maintaining a proper "calorie balance." But urbanites have an uphill fight.

"The energy expended in exercise that is feasible to the city dweller or the suburban dweller who's got a full-time job and some social life—he just hasn't got much time to spend," Keys said.

"My gardener in Italy works 10 hours a day and I assume he has 4,500 calories a day and he just stays the same forever. So these joggers—I just ask them to come on over to my place and see if they can keep up with me and my gardener. It's the long pull that's really important." □

REPORT

A Publication for Faculty and Staff
of the University of Minnesota

November 1982

Tom Foley

Nils Hasselmo: "We are not starting from scratch. The second cycle will be in very basic ways a continuation of what we have already started."

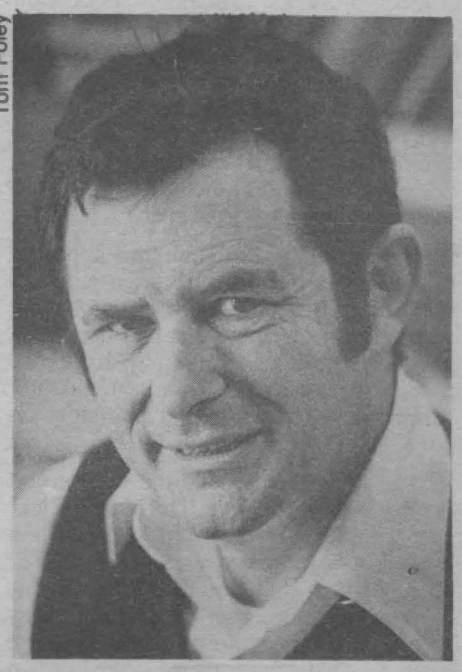
Tom Foley

C. Peter Magrath: "Not only is planning essential for us in hard financial times, but the dialogue it forces and fosters is a real payoff."

Tom Foley

Patricia Swan: "The trickiest thing of all will be to figure out the mechanism for looking at these issues in a way that people can really tackle."

Tom Foley



Irwin Rubenstein: "These plans are not going to be put in a drawer and forgotten about. The faculty realize now that planning has implications for budgets."

Second Planning Cycle Will Build on First

by Maureen Smith
Editor of *Report*

From the top down, people at the University have learned some things about planning in the past few years, especially last year.

As they enter the second cycle of institutional planning, they hope to benefit from the experience gained in the first.

"We feel that the first cycle of planning has done some good," President C. Peter Magrath told the regents last month. "In the second cycle we hope to build on some of the foundations that have been established."

The first cycle began back in 1979, but it wasn't until early 1982 that the results were made public. A draft document on academic program priorities, listing almost 100 programs in which money was to be saved, was released at the February regents' meeting.

One of the primary messages of the first cycle is that planning makes a difference. "The first cycle of planning made it clear that resource decisions will be guided by planning decisions," said Nils Hasselmo, vice president for administration and planning. "Both the retrenchments of 1981-82 and the biennial request for 1983-85 were based on planning decisions."

"These plans are not going to be put in a drawer and forgotten about," said Irwin Rubenstein, professor of genetics and cell biology and chair of the Senate Planning Committee. "The faculty realize now that planning has implications for budgets," he said, and some people who ignored the planning process in the first cycle may see to it that they have more of a say in the second.

The second planning cycle, now beginning, is intended to result in a two-year budget plan for 1984-85 and 1985-86 in the winter of 1984 and a biennial request for 1985-87 in the summer or early fall of 1984. By design, the major decisions are to be made next year, when a budget request is not before the legislature.

Capture the experience

The second cycle will be easier than the first, planners say, because it will build on what has already been decided.

"We are not starting from scratch," Hasselmo said. "The second cycle will be in very basic ways a continuation of what we have already started. We will be continuing to set priorities and implementing the decisions that have already been made."

"It looks to me as if we can capture the experience of the first cycle and improve on it without a huge effort," said Patricia Swan, professor of food science and nutrition and chair of the Senate Consultative Committee (SCC). "None of us has the stomach for just redoing everything."

Hasselmo said the continuity of the effort "should be made clear by relying to the greatest extent possible on revision of existing plans and planning memoranda rather than on extensive rewriting."

For individual academic units, the primary work of the second cycle "is going to be refining the plans of the first cycle and carrying out the plans," said Kenneth Keller, vice president for academic affairs.

"Change takes a lot of time. Effecting the plan we put in place will take at least this year and probably part of the next," Keller said.

Keller said he does not expect that more programs will be marked for elimination in this cycle, but he said that cuts will have to go deeper than they have gone so far. "Our plan for the academic units over a two-year period called for elimination of some 5 percent of their programs," he said. "No unit accomplished a 5 percent elimination last year."

Because of obligations to tenured faculty members and the need to allow students to complete degree programs, academic programs cannot be changed quickly or financial savings realized overnight. Part of the planning effort must be to chart budgetary "paths," Hasselmo said, and the paths may vary greatly among units, depending on such factors as the occurrence of vacancies—whether from retirement, resignation, or termination—and shifts in enrollment patterns.

Separation pay and early retirement options have been offered to tenured faculty members in programs or program components that are designated for curtailment or elimination, and Keller told the regents that more than 30 separation agreements have now been signed.

"We haven't saved a penny yet," he said—because, for example, one of the separation pay options calls for the payment of full salary for two years. But in the long run the result will be a contraction in the faculty salary base of about $1 million. "The numbers continue to grow," Keller said.

Realistic expectations

The biggest problem in planning last year was not in the process or in the substance of decisions made. It was that the state's

(continued on page 10)

On the Inside

CAPSULE

■ An "intent to strike" notice was filed October 4 by the University Education Association (UEA), representing faculty members on the Duluth and Waseca campuses. The regents voted in a closed session October 7 to continue negotiating with the UEA on a contract, but not on the issue of salary equalization. President C. Peter Magrath said he thought a negotiated settlement was still possible.

■ The regents gave unanimous approval to the new design for the proposed $125 million hospital building, but the private financing arrangement that had been suggested for the building may have run aground because of a Medicare regulation handed down in September (see story on page 4).

■ The regents approved the budget and capital request package. The budget package includes a request for $49 million more in state money to operate in 1983-85. About half of that would go to cover the costs of inflation. Vice President Stanley Kegler called the request "the most sparse budget we have put forward in the last two decades."

■ The second cycle of institutional planning will be "in very basic ways a continuation of what we have already started," Vice President Nils Hasselmo told the regents. A thematic approach, with focus on a few issues, would be in addition to the primary thrust of planning, he said (see story on page 1).

■ A program to treat infertility through in vitro fertilization will begin on the Twin Cities campus in early 1983 (see story on page 3).

■ An "upstairs/downstairs mentality" is found at the University, with faculty as the people upstairs and civil service employees as the servants downstairs, a staff member said in a letter to the Civil Service Committee (CSC). CSC chair Jerome Larson quoted from the letter in a meeting September 28 between the CSC and the Senate Consultative Committee. Larson said some progress has been made over the last decade. As one example, he mentioned the evolution of the Civil Service Committee from an all-faculty committee to an all-staff committee.

A wide-ranging discussion of salaries led to agreement that there is a need for creative proposals that both faculty and staff can support. Larson said faculty have a good case in pointing to the erosion of their salaries, but some civil service employees are "not all that far removed from the poverty line."

■ Barbara Kalvik, associate administrator in women's intercollegiate athletics, has been elected the new chair of the Civil Service Committee. Cheryl Streit is now the vice chair and treasurer and Nancy Carriar is secretary. Former chair Jerome Larson will oversee the process of recommending changes in civil service rules.

Chinese Artist Gets Firsthand Look at Western Art

by Judith Raunig-Graham
University News Service Writer

In the United States, artists generally become highly regarded only after their works begin to demand high prices. But in China, artists are highly esteemed just for being artists. Art is considered a special job for a person with special talent.

That's probably why Zheng Shengtian is the first Chinese artist to study in the United States since his country's Cultural Revolution. He is currently studying as a visiting professor in the studio arts department on the Twin Cities campus.

In the 1920s and 1930s a number of Chinese artists did travel abroad to study, mainly in Europe and usually in Paris, Zheng said. But after World War II, he said, only a handful of artists studied abroad. Those who did went to Russia during the 1950s.

Consequently, opportunities for artists to learn about Western art were limited to looking through magazines and art history books. There are no collections of Western art in China, Zheng said.

Nevertheless, Zheng was trained in a realistic style rather than in the Chinese tradition when at age 17 he began studies at Zhejiang Academy of Fine Arts in Hangzhow on China's east coast. Zheng studied under a professor who had studied in Paris, so he learned the Western method. Zheng said he was most influenced by the work of Gauguin, Van Gogh, and the German expressionists.

Now a professor himself in the oil painting department at Zhejiang, Zheng will return to China as an authority on Western art. The Zhejiang Academy, founded in 1928, is one of China's oldest and most renowned art schools and currently has an enrollment of about 400 students.

Since arriving in the United States in October 1981, Zheng has visited as many museums and galleries as he could in New York, Chicago, and Minneapolis. He took an art history course and joined a seminar on modern art. "Now I know something about theory and about how people think about modern art. I try to visit with many people and get their ideas about art," he said. This winter he will travel to the western and southwestern United States.

The Cultural Revolution between 1966 and 1969 was a hard time for artists in China, Zheng said. "It was an extreme time," he said. "We couldn't paint landscapes or flowers because that was too bourgeois. The only function of art then was to give a political message. You could paint leaders and political posters only."

Chinese artists are now again free to paint what they want. Zheng likes to paint the urban scene and he believes art "should also be for the people to recover the beauty of nature."

Since his arrival in Minneapolis, Zheng has been concentrating on painting portraits and figures. About 40 of his paintings are in an exhibition at St. Benedict's College in St. Cloud through November 14.

An easygoing man with a quick smile, Zheng said if he could have named his exhibition he would probably have called it "The Glimpse of America Through a Chinese Artist's Eye." Most of the paintings are in oil, but some are in acrylic since that is one of the media Zheng wanted to experiment with here.

Acrylics have been manufactured in China only for the last three years. "I think it's good for an art student to try different media as here in this system. In China students specialize."

Zheng has been impressed with the way children study art in the United States as opposed to the more regimented Chinese method.

"Many parents in China like their children to paint so they start them in with art supplies at age three or four and then ask teachers for help. But in elementary school the method is too imitative and limits creativity. I think the aim should be to develop the children's imaginations, not to train them to be artists."

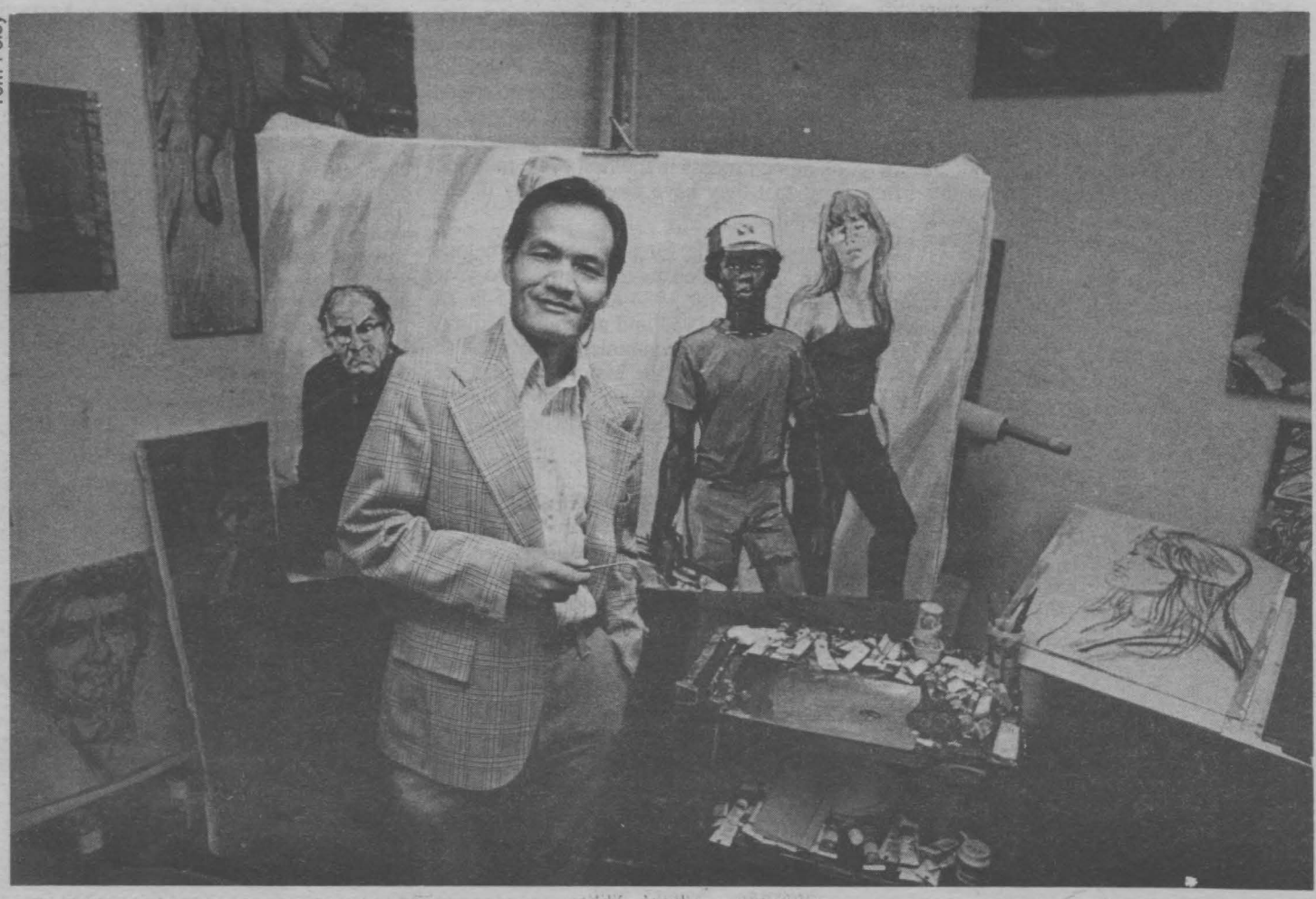
In China, people never consider themselves artists until they reach age 50 or 60, Zheng said, so he never calls himself an artist. He says instead, "I am painting."

Zheng knows that when he returns to China next year his own painting will have changed, but he doesn't mind.

"You can't live isolated," Zheng said. "Artists have always influenced each other throughout history. You can't avoid the influence of another culture. So when I return to China my work will be changed. Artists don't like to stay in one point, but like to always change the self."

Ironically, Zheng also would like to learn Chinese traditional painting when he returns home. He thinks that could take two to three years, although the old masters contend it takes at least 20 years to be good, he said. □

Tom Foley



Zheng Shengtian and one of his recent paintings. If he could have given a title to his exhibition, it would have been "The Glimpse of America Through a Chinese Artist's Eye."

Doctors Announce Plans for In Vitro Fertilization Program

by Ralph Heussner
University News Service Writer

Doctors on the Twin Cities campus announced recently that they will launch a new program early in 1983 to treat infertility through in vitro fertilization.

In the program, scientists will fertilize the human egg with the father's sperm outside the mother's body, then return the egg to the mother's womb for normal development of the fetus.

Announcement of the program was made by George Tagatz, director of the division of reproduction endocrinology in the Department of Obstetrics and Gynecology. The program staff also includes Theodore C. Nagel, Hugh C. Hensleigh, and Shaila Phansey.

The program will be called Minnesota VIP, for vital initiation of pregnancy, and will be patterned after pioneering work done by scientists in Great Britain and at the Eastern Virginia Medical School in Norfolk.

"Because of the cumulative expertise at the University of Minnesota, and the familiarity of physicians with the in vitro process, VIP Minnesota is ready to help hundreds of infertile couples in the Midwest region," Tagatz said.

Although 10 percent of couples have infertility problems such as abnormal Fallopian tubes and low sperm concentrations, only married couples who have explored alternative therapies will be accepted in the University program.

The first successful case of in vitro fertilization came in Britain in August 1978 when Louise Brown was born to Lesley and Gilbert John Brown. The birth capped a decade of concentrated efforts by gynecologist Patrick Steptoe and Cambridge University physiologist Robert Edwards. The first child conceived in vitro in the United States was Elizabeth Jordan Carr of Westminster, Massachusetts, who was born at Norfolk Virginia General Hospital in December 1981.

Approximately 20 such births have been recorded worldwide, according to Tagatz. Programs are now under way at four or five medical centers in the United States. VIP Minnesota will be the first in the Upper Midwest.

Tagatz emphasized that the procedure is no longer considered experimental by the medical community and that it has been approved by a federal commission on ethics that included representatives from all major religious faiths. He said the University decided to initiate the program because of a "remarkable increase in the effectiveness" of the procedure, particularly in the past six months.

Although its development required years of intense research, the procedure may be stated simply. In vitro fertilization is accomplished through the following steps.

—The woman is treated with hormones to stimulate maturation of eggs in the ovary.

—An optical system called a laparoscope is inserted through an incision in the abdominal wall to help doctors locate a mature egg, which is drawn from the ovary with a needle.

—The egg is placed in a dish containing blood serum and nutrients, and sperm are added for fertilization.

—Once the egg is fertilized by one of the many spermatozoa, it is transferred to another dish of blood serum and sustaining nutrients. For the next three to six days, the fertilized egg divides.

—The dividing cells are placed in the uterus, where they attach to the uterine lining, and normal embryo development proceeds as it would from natural conception.

Tagatz estimated that 30 to 40 couples will be involved in the first year of the Minnesota program. He said he expects the University clinic to be accepting patients from its usual referral area of Minnesota, the Dakotas, northwestern Wisconsin, and southern Canada.

Because health care insurance companies have not yet included in vitro fertilization in their coverage plans, patients will probably have to pay for the procedure—the estimated cost is $3,000—themselves.

"Our goal is not to experiment on people, but to assist couples in their goal of having children," Tagatz said. □

Grant Received for Health Care Administrators

The University has received a $468,085 grant from the W. K. Kellogg Foundation of Battle Creek, Michigan, to provide continuing education for administrators of ambulatory and long-term health care programs.

Persons enrolled in the new three-year program must be full-time outpatient administrators from medical group practices, hospitals, public health agencies, health maintenance organizations, or community health centers.

Vernon Weckwerth, professor of hospital and health care administration on the Twin Cities campus, will direct this new independent study program as part of the Alternative Studies Program.

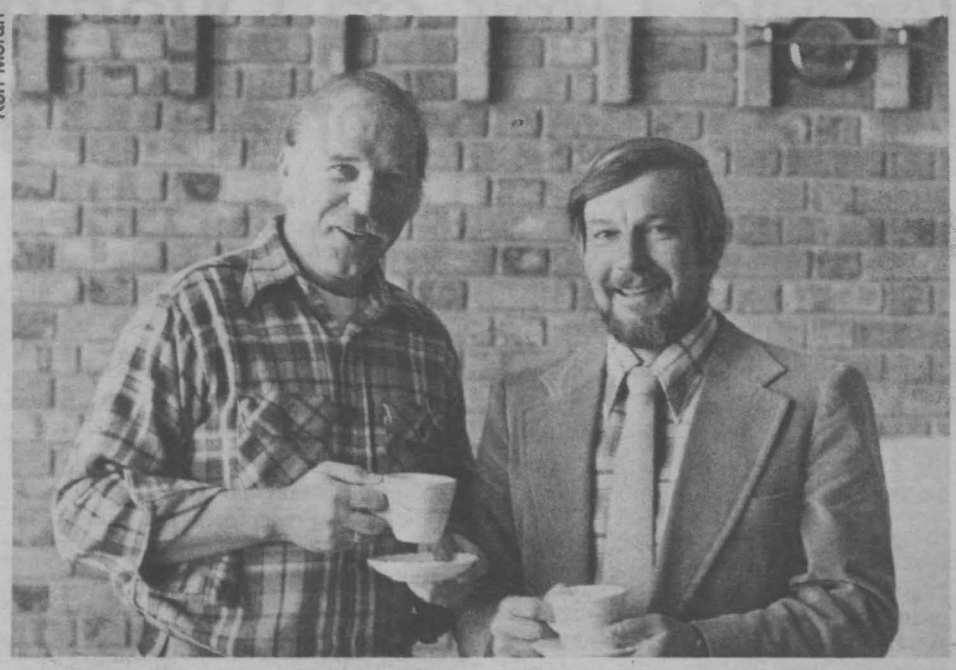
"This is a unique education program for ambulatory care administrators," Weckwerth said. "The Kellogg grant makes this long-needed option possible."

Approximately $127,000 of the grant will be used to continue a program for persons in long-term care administration. This program, initiated in 1977, is under the direction of associate professor George K. Gordon.

The W. K. Kellogg Foundation was established in 1930 "to help people help themselves." More than $585 million has been distributed in the past five decades in support of programs in agriculture, education, and health.

The foundation is among the largest private philanthropic organizations in the nation, supporting programs on four continents, including Europe, Latin America, and Australia. □

Ken Moran



Charles Matsch (left) and Richard Ojakangas

Book Traces History of Minnesota Landscape

by Angelo Gentile
UMD News Writer

Minnesota has always been known for its beautiful and varied natural scenery, and now there's a book that traces the geological history of that landscape.

Better yet, *Minnesota's Geology* is written mostly in nontechnical terms to make it accessible not only to geologists but to all who are interested in natural history.

Published in October by University of Minnesota Press, the book was written by Duluth campus geology professors Richard Ojakangas and Charles Matsch. Matsch also is head of the geology department.

Minnesota's Geology is illustrated with more than 400 graphics and photos. In it, Ojakangas and Matsch, both Minnesota natives, share the pleasure they have found in studying the rocks, soils, and landscapes they know well as field geologists and continuing students of earth history.

Placing Minnesota in the larger geological picture, the authors then trace the geological history of the state from Precambrian times 4,500 million years ago through the beginnings of life and the present era. They sketch a history of geological investigations since 1872, when the Minnesota Geological Survey was established.

The last two sections of the book are devoted to the state's mineral resources—the discovery and mining of iron ore, the search for copper, nickel, and other metals—and the regional geology of the state.

Ojakangas and Matsch describe the lay of the land, the glacial and bedrock geology, and the most revealing and accessible geological sites in each of five geographic regions.

"It is a book for the people of Minnesota," Matsch said. "We hope it will stand for a generation as a guide to Minnesota's geology for state residents and visitors." □

REPORT

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Would Limit on Overtime Create Jobs for More People?

by Maureen Smith
Editor of *Report*

It doesn't seem right. People are out of work. The unemployment rate nationally has risen to more than 10 percent. Yet other people are putting in hours and hours of overtime.

Wouldn't it make sense to find a way to limit the number of overtime hours worked and create jobs for more people?

Every time there is a recession, people start asking this question, and legislation aimed at curbing the use of overtime is periodically introduced in Congress. What people usually haven't done is study the data to see if the proposed remedies would work.

Paul Schumann, assistant professor of industrial relations on the Twin Cities campus, and Ronald Ehrenberg from Cornell University have recently written a book that gives some answers. The book—*Longer Hours or More Jobs?*—is intended for policy makers, economists, and students and has been receiving some attention in the public press.

In the recession of 1979, Representative John Conyers of Michigan introduced a bill in Congress to increase the overtime pay premium from time and a half to double time, make the overtime premium effective after 35 hours a week instead of 40, and make mandatory overtime illegal. All three provisions of the bill were designed to discourage the use of overtime and result in the creation of new jobs.

In their study, Schumann and Ehrenberg simulated the effects of the Conyers bill to try to see if it would have had the desired result.

They started with a set of the most optimistic assumptions possible. "If you make a whole bunch of assumptions, each of them in favor of finding a large employment gain, we estimate that increasing the overtime pay premium from time and a half to double time would increase employment by 1 or 2 percent," Schumann said.

A 2 percent increase in employment translates into about a million jobs, or a decrease of about 1 percent in the unemployment rate—for example, a drop in unemployment from 10 percent to 9 percent. "That's a lot of jobs," Schumann said. "I don't mean to belittle it."

The trouble is that the assumptions on which the estimate is based are clearly too optimistic. In the next series of chapters, Schumann and Ehrenberg focus on those assumptions, one by one.

If the estimate were to hold up it would mean that "if the number of overtime hours worked by electricians in the Twin Cities falls by 2,000 hours that would be one new full-time job and there's someone unemployed with the skills to step in and do that job," Schumann said. The too-optimistic assumption is that "the skill distribution of the people who are working overtime and the skill distribution of the people who are unemployed exactly match."

In reality, Schumann said, the people who are working overtime have different skills than the people who are unemployed. Even if new jobs were created, gaps in skill matches or geographic distribution would cause many of them to go unfilled.

"When all is said and done and we factor in the constraining forces, essentially the employment effect is reduced to a trivial number," Schumann said. "It's very close to zero. If you want to decrease unemployment you're probably better off finding more direct ways of doing it than playing with the overtime law."

Schumann and Ehrenberg also examined the effects of the proposed legislation on income distribution—taking into account the people who would be working fewer overtime hours but earning more for each overtime hour worked and the previously unemployed people who would become employed.

"What we found was that an increase in the overtime pay premium would benefit the middle-income and upper-income families at the expense of the lower-income families," Schumann said. "When we factored everything in, we found that income distribution would become more unequal than it currently is."

Another problem would be noncompliance with the law on overtime pay. "We know there is cheating out there," Schumann said. "A conservative estimate of noncompliance would be 10 percent. Ten percent of the workers who should be getting overtime pay are not."

What about moving to a 35-hour week? Wouldn't that create jobs for more people? Schumann said some of the same reasoning would apply, although the skill mismatches would not be as severe as in the comparisons of unemployed people and people working overtime.

In the Conyers bill and in most proposals to mandate a 35-hour week, the mechanism would be to require an overtime pay premium for all hours worked beyond the 35 hours. One problem with this proposal, or with the proposal to require payment of double time for overtime, is that the cost of labor would rise.

"If you make overtime more expensive, you've made labor more expensive in general," Schumann said. "If labor costs go up, corporations will pass along some of the costs to consumers in the form of higher prices. If consumers buy less, the companies will produce less and therefore need less labor."

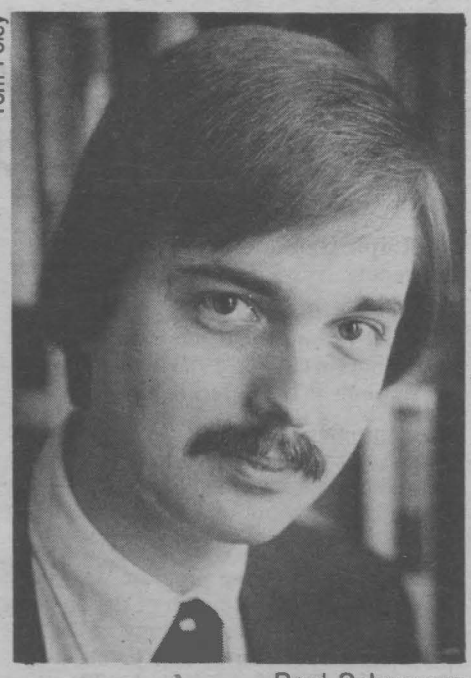
Something else to remember, he said, is that if the cost of labor goes up more than the cost of machines, "there are incentives to substitute machines for people."

The average work week fell from about 54 hours in 1901 to 38 hours in 1948 and hasn't changed much since then, but it is not clear how much of the decrease can be attributed to passage of the Fair Labor Standards Act in 1938. The law called for payment of an overtime premium for hours worked beyond 40 hours a week, allowing for a transition period when overtime began at 44 hours a week and then at 42.

"About that time the work week was around 44 hours anyway," Schumann said. "The trend had already been downward."

Changing the law to shorten the work week or discourage the use of overtime might result in some new jobs, but not as many as proponents would hope. "If you're thinking that's going to solve the problem, you're putting all your eggs in one basket," Schumann said. "You probably want to consider more direct ways of stimulating employment." □

Tom Foley



Paul Schumann

Medicare Regulation May Rule Out Private Financing for Hospital

by Elizabeth Petrangelo
University News Service Director

A private financing arrangement suggested for the proposed University Hospitals building may have run aground because of a new Medicare regulation handed down in September.

Finance vice president Frederick Bohen told the Board of Regents last month that the new regulations made a sale/lease-back arrangement with a private owner group the least attractive of three options available for financing the new building.

University Hospitals receive a significant part of their annual operating revenue from third-party reimbursement—primarily from Medicare. Traditionally, rent paid on purchase-type leases for hospital property has been eligible for reimbursement.

But under the new regulation, issued in early September by the Health Care Financing Administration, the type of sale/lease-back financing plan suggested by the University administration may not be eligible for reimbursement, Bohen said. In the arrangement suggested to the regents in September, a group of private investors would have built the hospital according to University specifications and leased it to the University.

The only other options available to the University for long-term financing are issuance of long-term University bonds, or the sale of short-term notes for up to three years and the simultaneous purchase of an option on a long-term mortgage.

In 1981, the legislature authorized a $190 million bond sale for the new hospital building. However, the state's financial troubles have prevented the sale of the bonds and no bonds are likely to be issued before the summer of 1983.

The board gave unanimous approval to the new design for the $125 million building—a design that reduces the cost and the gross square footage of the building. The new design reduces the size by about 37 percent. Construction cost estimates have been reduced by 18.8 percent, but the total number of new beds will be reduced by only 7.1 percent.

Construction of the floor of the eight-floor building that will house the therapeutic radiology department is scheduled to begin in November. That floor has been designed so that it can stand alone should hurdles to the rest of construction become insurmountable. The board approved $5 million in short-term borrowing to pay for construction of the therapeutic radiology floor.

The board also approved a budget and capital request package for 1983-85 that the University will take to the legislature. The budget package includes a request for $49 million more in state money to operate during the biennium.

Under the current guidelines from the state finance department, more than half of the increase is regarded as "same level" of activity, said Stanley Kegler, vice president for institutional relations.

The total University budget for this year is $818 million. Some 33 percent of that amount comes from the state, with the rest coming from the federal government, private sources, sales and services, tuition and fees, and general income.

The $49 million increase would be added to a current two-year base of $757.9 million. About 40 percent would go toward academic salaries, 26 percent to civil service salaries, and 36 percent to supplies, expenses, and equipment.

The $49 million represents a 6.47 percent increase, Kegler said. Since roughly half that amount would be required to cover the costs of inflation, the actual increase is only 2.8 percent, he said.

Kegler called the request "the most sparse request we have put forward in the last two decades." □

Zoo Animals Saving for Future With Deposits in Sperm Banks

by Nicole Simmons
University News Service Writer

Camels in the Bronx, the Ringling Brothers' elephants, and a St. Paul gorilla named Don have all donated to a common cause. They've joined a growing band of zoo animals across the United States whose genes will be preserved in sperm banks.

These exotic animals are taking part in both aspects of what zoos now see as their dual mission: to display animals to the public and to preserve endangered species for future generations.

Artificial insemination, and hence preservation of germ cells, is becoming a key tool in the zoo's attempts to breed their animals in captivity. For aid in freezing semen for the sperm banks, zoo veterinarians have turned to the cryobiologists, scientists who specialize in the preservation of animal tissues. One major ally has been reproductive physiologist E. F. Graham, professor of animal science on the Twin Cities campus, whose collection of frozen sperm includes 65 different species.

Artificial insemination can be used to impregnate animals that live with their mates but have refused to breed. Many gorillas who seem to have "incest taboos," and Ling Ling and Hsing Hsing, famous giant pandas at the National Zoo in Washington, are examples. It can also be used to propagate an individual that is long dead. A more important use of the technique, however, may be to end inbreeding within a zoo's own animal population.

In the wild, a group of animals depends on its females to have occasional trysts with wandering outsiders, thereby introducing fresh genetic material to the herd. When animals are continually bred with their brothers and sisters, as commonly happens in zoos, important genes are lost and the animals "get smaller and smaller and weaker and weaker," according to one researcher.

To fight the problem of inbreeding, Drs. Ulysses Seal and Dale Mackey at the Minnesota zoo nine years ago created the International Species Inventory System (ISIS). The system, which is based in Minnesota and has 170 representatives at zoos around the globe, is basically a computerized matchmaker for zoo animals. As sperm banks for zoo animals become more widespread, the stored sperm could join the 55,000 living animals now cataloged in the ISIS computers, said Larry Grahn, an ISIS research analyst.

The availability of frozen sperm would make the computer catalog much more useful, according to veterinarian Frank Wright of the Minnesota zoo. "If you look at all of the Siberian tigers in captivity and look at the degree of inbreeding you may find that an animal is most distantly related to a female in Seattle or Sweden. It's certainly easier to transport a vial of semen than a Siberian tiger."

Agricultural breeding associations use the same techniques as the University's Graham does to improve the quality of their animal stocks, be they horses, cattle, turkeys, or fish. Last year, frozen semen produced 10.5 million cattle alone.

Although Graham's work with these domestic animals has been extensive, his dream for the last 30 years has been to freeze the germ cells necessary to save endangered species from extinction. Working with wild animals, however, was a whole new ball game. While docile domestic animals could be trained to deposit their sperm neatly in a so-called artificial vagina, Siberian tigers, for instance, would not cooperate.

But, laughed Marcia Schmehl, who has worked with Graham for the past 18 years, "to us here that's part of freezing semen—first you have to get it." Graham invented a mechanism that can be used to collect semen after a wild animal has been sedated. Called the electro-ejaculator, the machine works by stimulating the nerves close to the animal's rectum, which control erection and ejaculation, with a pulsating electric current.

Now that semen can be collected from almost any species, zookeepers are using the technique to check the fertility of their childless animals. Right now, such fertility studies are proving more productive than artificial insemination itself. Although zookeepers are uniformly enthusiastic about the potential of insemination, their successes have been few and far between. With big cats, for example, there have been 200 insemination attempts—and 200 failures.

Frustrated veterinarians realize that scientific breeding programs will only be successful after the basic reproductive groundwork has been done. "A male zebra is going to cover a female zebra 10 times a day. We can't inseminate that often," said Barbara Durant, a reproductive physiologist at the San Diego zoo.

Getting around that and many other breeding dilemmas requires that the veterinarians examine the females of a species as well as the males. Unfortunately, that's not quite as simple. For many species, "you can't always tell when the females are in heat," said Jo Gayle Howard of the National Zoo. And many species, such as Siberian tigers, camels, and even the common house cat, are induced ovulators, which means females need to mate to ovulate, or release the eggs from their ovaries.

Zoo breeders must deal not only with the quirks and preferences of their animals, but with those of the animals' sperm as well. Cryobiologists have found that the sperm from each species needs to be frozen under slightly different conditions.

With the hundreds of different species kept in zoos, said San Diego's Durant, "it's going to be years and years before we're going to be able to freeze all the semen and thoroughly test [for fertility]." To date, sperm has been frozen from more than 200 species, but little of that has actually been thawed and tested. Graham is, however, confident that ways can be found to preserve all the various types of sperm.

Cells that are frozen and then thawed are quite literally killed and resurrected, but this seeming miracle can be performed routinely by adding two protective substances to the diluted semen. These cryoprotectants, usually glycerine and a protein source—egg yolk or skim milk, for example—shield the cells from damage that can occur during changes.

As soon as the sperm cells are completely frozen, and stored in a tank of liquid nitrogen at minus 320 degrees F., they are safe from further harm. Paradoxically, it is many of the same processes that keep a cell alive at body temperature that injure it while it is being frozen. Once those processes have stopped and once the sperm is collected, frozen, and cataloged, it will be banked, basically, forever.

Graham estimated the half-life for frozen bull semen, for example, to be 10,000 years, and some sperm will be viable five times that long. Most would probably agree with Wright's statement that he has "difficulty planning more than 50,000 years ahead. That's the closest thing to immortality I'm going to be involved in." □

Tom Foley

A Siberian tiger at the Minnesota zoo contributes to the sperm bank.

Refined Table Manners Reflect Lonely Society

by Paul Dienhart
University News Service Writer

You are what you eat, the saying goes.

Consider what strange things that meant for a guest at a banquet given by a 13th-century king. In a huge dining hall all classes of society, from nobleman to beggarman, would be served great platters of roast fowl with feathers reattached to imitate life—everything that had wings from bustard to sparrow, with a few rabbits thrown in for good measure. The guests would pass bones around for mutual munching.

At a dinner party these days we're likely to find a carefully selected group of people enjoying separate courses of food, each dish served on individual plates. The steak or chicken Kiev bears little resemblance to the creature it came from. The guests eat with a decorum approved by Amy Vanderbilt.

If this means we're somehow homogeneous yet separate, then medieval people were a strange mix that nevertheless formed a whole.

The changes in table manners over the centuries is one example Yi-Fu Tuan uses in his new book to examine how we have gained individuality at the expense of being a secure part of a richly mixed community. *Segmented Worlds and Self* was published this summer by the University of Minnesota Press.

"We tend to regard the sense of self—the ability to be a unique individual—as good," Tuan, a geography professor on the Twin Cities campus, said in an interview. "But that ability also creates all kinds of problems. How do we go about combining this unique self with the comforting feeling of belonging to a community?"

Rather than advocate a return to societies of the past, where a sense of community came at the expense of "hierarchical order, economic inequality, and tolerance imbued with condescension," Tuan's book explores ways of creating a community of free individuals. "We want community and we want freedom, but they are actually opposing forces," Tuan writes.

In the Middle Ages the sense of community was such that people shared eating utensils and drank soup from a communal bowl. The meals themselves showed a weird intermingling of ingredients. "In a hare stew one might find cabbage, beets, violets, parsley, leeks, and the tops of young nettles," Tuan reports. As time passed, the trend was toward separation: chairs replaced benches at the dining table, utensils and bowls multiplied, and people began to appreciate the flavor of individual meats.

"Table manners promoted self-consciousness," Tuan writes. One of the first etiquette books, *Courtly Manners*, contained such maxims as "A number of people gnaw a bone and then put it back in the dish—this is a serious offense" and "A man who blows his nose on the tablecloth is ill-bred, I assure you." Another etiquette book from the 15th century advocated spitting on the floor rather than on the table during meals.

Etiquette books were very popular by the 16th and 17th centuries, when it was becoming possible to move up the social ladder. People were being recognized for their individual talents. This replaced the medieval view that everybody and everything had a preordained niche.

Medieval peasants knew they were born to be peasants and had no aspirations to be anything but peasants. "Community springs from necessity," Tuan writes. If peasants were exploited by their liege, it confirmed their place in the community.

The security of feeling all were in their place created a strange mix in medieval society. The lord's house—a huge barn-like structure—was a meeting place for all classes of society. One nobleman went to the extreme of rerouting the kingdom's highway to run through his manor hall so that no traveler could avoid his hospitality.

The desire for privacy was considered odd. Henry VIII had to issue a special proclamation to explain why he occasionally retreated to an inner chamber. For peasants, privacy wasn't even an option: one-room cottages often housed 20 people.

The few rooms in a lord's house had multiple uses. In 17th-century France, four-poster beds gave their occupants some privacy while other users of the room ate or conducted business.

The constant intermingling of people may have led to the view in the 14th and 15th centuries that even the lowest servant had a place in the master's family. Louis XIV, the Sun King, gallantly doffed his hat to any charwoman he encountered in the corridors of Versailles. By the 19th century, English houses had back stairs to keep the servants as invisible as possible.

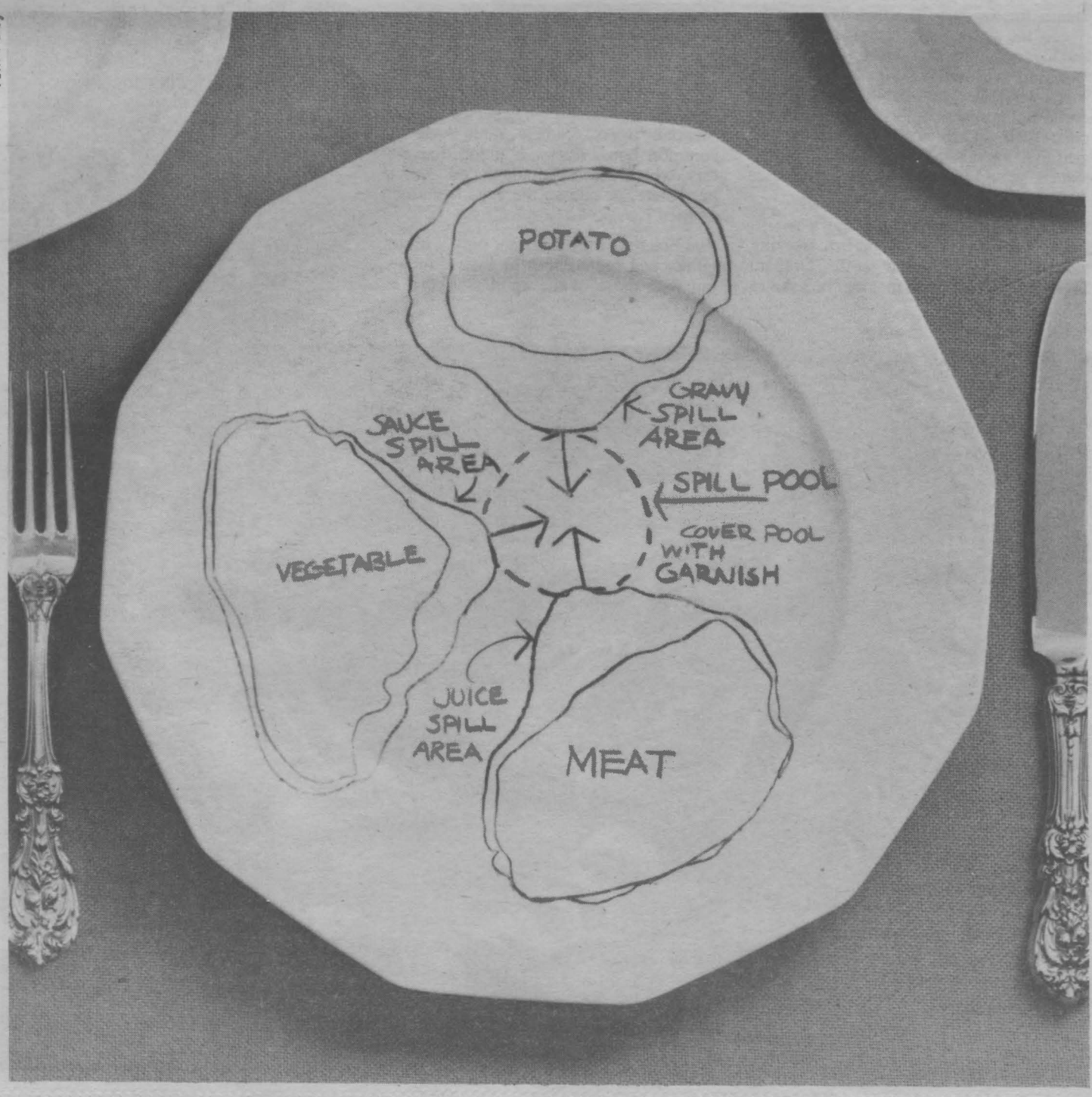
The United States was born with the idea of free individuals. Thomas Jefferson pictured the self-sufficient farmer as the ideal American. The immigrants who settled in the new nation had few common beliefs or traditions.

Yet America also was born with the ideal of democratic togetherness, Tuan points out. All these free individuals were expected to mesh somehow and live in harmony.

Tuan sees these contradictory ideals at work in shaping the American house. By the last quarter of the 19th century, houses contained many rooms. Each room had a specific use. At the same time, some architects began to experiment with larger rooms, sliding doors, and removable screens to give rooms many uses.

Neighborhoods show similar contradictions. In recent years there have been attempts to create inner city neighborhoods where different kinds of people live and work in the same community. Then

Tom Foley



At a dinner party these days, each dish is likely to be served on an individual plate. If more than one item is placed on a plate, care is taken to ensure that different foods will not touch each other.

there is the suburb, "the ultimate in homogeneity," fulfilling "the old desire to live with people who share one's beliefs," Tuan writes.

Physical settings, by themselves, can never reveal an individual's place in the complex world, Tuan cautions. That is a problem people must solve for themselves.

Tuan sees great rewards for those who work at finding the solution. Western culture's emphasis on the value of the individual gives us freedom to explore, to question, to be rational and personally responsible. True friendship, a profound sharing of selves, becomes possible. "Deep personal relationships presuppose the existence of persons, that is, complex and self-aware individuals; but such individuals can emerge only as the cohesive and unreflective nature of community begins to break down," Tuan writes.

"Given the freedom and opportunity to explore self and the world, few individuals in fact do so," Tuan writes. Instead, we tend to be bored and discontented. A common way to escape this feeling is by consumption. We buy things to amuse ourselves, or to help define who we are.

"Much of experience passes us by," Tuan said in the interview. "What impresses us is only the best and the worst. We 'fall' in love and get ideas like bolts from the blue because we don't understand the process. The external world seems to exist apart from us, and we have the uneasy feeling of being unable to control our lives."

In medieval times people accepted the idea of being controlled by an external reality. However limited their lives, they had a secure place in the world. Today we're much more likely to feel lonely and isolated, Tuan writes.

It may be impossible to realize the medieval feeling of being part of a whole while developing as a free individual, Tuan cautions. "Being a whole is not being aware of the parts," he said. "By definition, a whole is something one can lose oneself in. That doesn't fit with being conscious of our individual identities."

With success never assured, perhaps the bravest response is to continue the search for both self and community.

"I think it comes down to the question of what life is about," Tuan said. "That's the question that occurred to me as an adolescent and has remained with me ever since. Writing *Segmented Worlds and Self* was one attempt to look for some answers." □

Yi-Fu Tuan: A Geographer Who Maps the Mind of Man

by Paul Dienhart
University News Service Writer

Undoubtedly the most distinctive newsletter at the University comes on two mimeographed pages and is called "Anecdota." There is some reference to its originating in the Department of Geography, but it contains no notices of staff meetings, exam schedules, or grant awards. Instead, there are insightful and witty paragraphs on topics ranging from Freud to the movie *ET* to thoughts while eating Sunday breakfast at Bridgeman's.

The editor of "Anecdota" and its major reporter is Professor Yi-Fu Tuan, who studies the geography of human experience. He is the author of four books that appeal to people interested in philosophy, anthropology, American studies—and even geography. He teaches a course called Space and Place that requires students to keep a personal journal for the quarter and draws students from a wide range of fields.

Tuan began his career with a thesis on the geomorphology of the desert, followed by a fellowship in statistics. In a recent book called *Conversations With Geographers* Tuan traces his unusual career in an interview with Clyde Browning of the University of North Carolina.

The son of a Chinese diplomat, Tuan grew up in many Chinese cities as his family moved to escape the invading Japanese army. In 1940, at the age of 10, he moved with his family to Australia. In 1946 they went to the Philippines, and a short time later his father was transferred to the Chinese embassy in London.

That traveling was one source of Tuan's interest in geography. He also wondered about some big questions concerning man and nature. "I decided to look for answers with my feet planted firmly on the ground," he said. "You can't get much more attached to the earth than by studying geography." He entered Oxford with that intention.

Studying for his doctorate at Berkeley, he fell in love with the deserts of the Southwest. "I've always longed for clarity—this career in the academic world is an opportunity for me to seek some kind of clarity in life, some pattern." The desert offered a kind of clarity: its lack of vegetation made the landforms obvious.

Tuan's work in statistics made it clear to him that the big questions that concerned him could never be answered with numbers. He drew attention with an early monograph called "The Hydrologic Cycle and the Wisdom of God."

It was the start of a body of work that included an eclectic mixture of literature, history, anthropology, and philosophy structured around natural, scientifically observable phenomena. The hydrologic cycle was considered in the 17th and 18th centuries to display the kind of harmony and balance humans might imitate. "I found the story interesting and useful because it allowed me to integrate my knowledge of physical geography with my new interests," Tuan said.

Tuan's interest shifted from pure landscape to man's role in transforming the landscape to conform to the structure of human thoughts and feeling. In his field of human geography he methodically tests a conceptual framework by fitting it with examples of human attitudes from different times and different parts of the world. He uses the examples to explore the general statement, not to prove it.

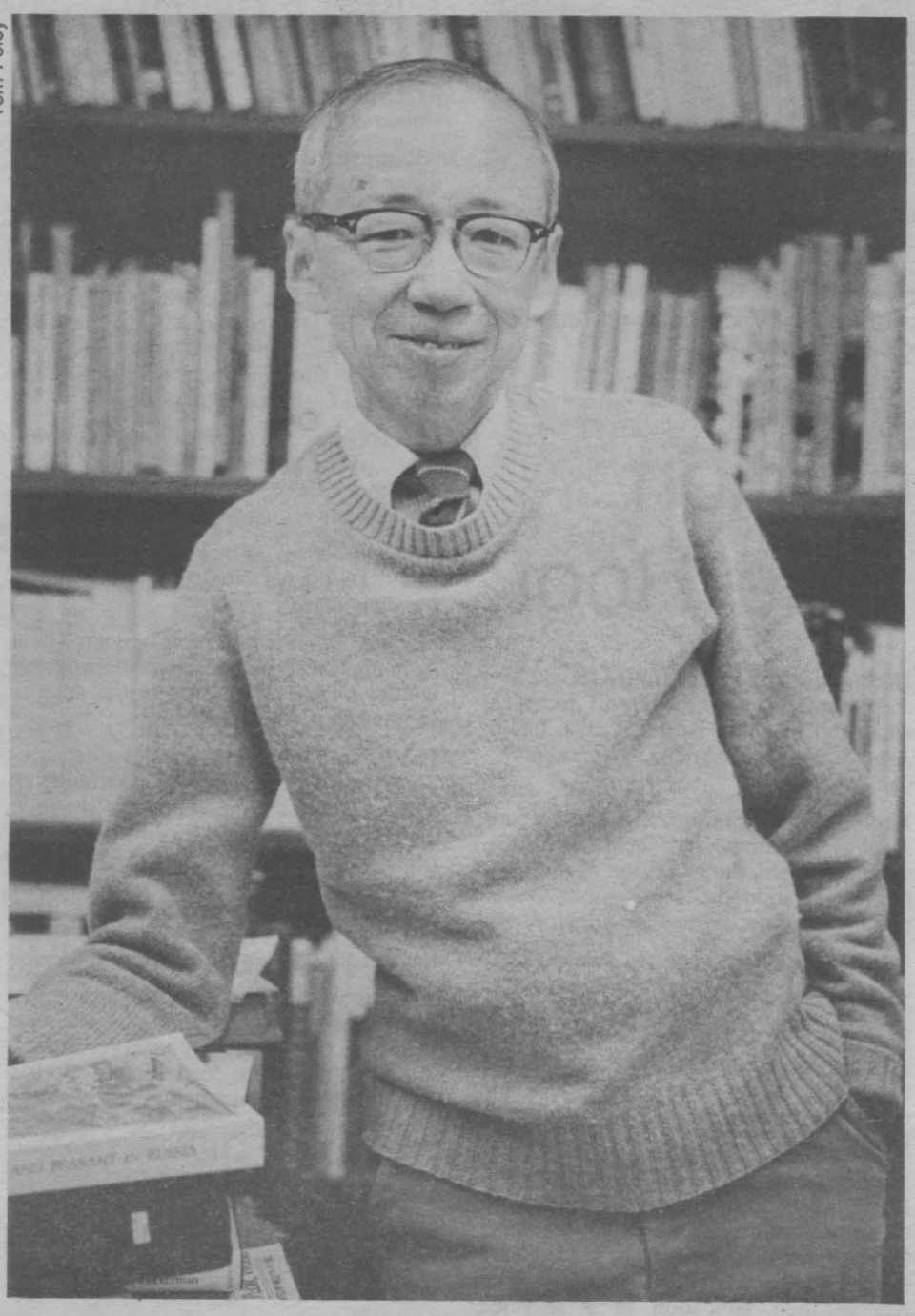
It's the kind of questioning he hopes to pass on to his students. "Disciplined wonder," he calls it. "In classes I try to present themes in human geography systematically—building ideas on ideas in the way I found so satisfying in physical geography."

In recent years Tuan has written the books *Topophilia, Space and Place, Landscapes of Fear,* and *Segmented Worlds and Self.* It took him years to collect the thoughts that formed the books.

"I've been reading widely since I was a freshman at Oxford. I made voluminous notes that just piled up; they didn't connect and very little could be done with them. But somehow, about 15 years ago, I found it relatively easy to make connections."

Tuan believes his intellectual storehouse contains at least one more book, one about the strange relationship of dominance and affection that people have with their pets. □

Tom Foley



Yi-Fu Tuan

Tom Foley

Some of the attractive architectural features of the new Vocational and Technical Education Building were visible at the dedication ceremony.

Vo-Tech Education Now Under One Roof

by Judith Raunig-Graham
University News Service Writer

Friends of vocational and technical education gathered on the St. Paul campus October 8 to dedicate the new $7.4 million Vocational and Technical Education Building.

John A. Butler, former director of Dunwoody Industrial Institute in Minneapolis, was awarded an honorary doctorate at the ceremony. The degree was the 61st awarded by the University and the first presented through the College of Education.

A 1928 graduate of the Dunwoody Institute and a former University student, Butler served as the institute's director from 1957 until he retired in 1974. He is a former member of the Minnesota State Board of Education, the Minnesota State Coordinating Committee on Education, and the Minnesota Citizens Committee on Public Education.

During his long career Butler served as a consultant on vocational and technical education in South Korea, Libya, Chile, Argentina, Saudi Arabia, Lebanon, Sudan, and India.

Jerome Moss, chairman of the Department of Vocational and Technical Education, described Butler as one of the most influential individuals in public vocational education in the state's history.

"The fact that we have the best postsecondary vocational system in the nation is in large measure due to his foresight," Moss said. "Despite his association with a private institution, he was public-minded from the first in promoting the development of area vocational-technical institutes."

Minnesota boasts one of the highest populations enrolled in vocational and technical education courses in the country. Most of the state's vo-tech teachers are trained at the University and will now receive their education in a recycled building hailed as the first of its kind at a land-grant university.

When construction on the new building was completed last March, the four divisions of the department—agricultural education, business and distributive education, home economics education, and industrial education—and the Minnesota Research and Development Center for Vocational Education came under the same roof and onto the same campus for the first time.

Moss said the new facility "will greatly improve the quality of the undergraduate program" because it will encourage faculty interaction and enable functions, space, and equipment to be shared.

The 97,000-square-foot facility cost $7.4 million and represents the University's commitment to recycling older buildings and developing alternative energy sources.

Designed by the Architectural Alliance of Minneapolis, the structure combines a red brick livestock pavilion built in 1904 with a new 70,000-square-foot wing, connected by an atrium that serves as a student lounge. The visual character of the old facility was integrated with the addition through the use of common mortar colors, clear glass, and a unifying concrete base that buffers traffic noise.

The most important energy-saving feature is an unvented Trombe wall composed of an interior thermal wall and an exterior moisture wall separated by three feet of greenhouse space. The wall provides passive solar heating and cooling of faculty offices with a southern exposure and gives the building a light appearance that contrasts with adjacent buildings.

The renovated livestock pavilion has 27,000 square feet of classroom space providing each of the four divisions with a microteaching room, supply room, large classroom, and independent study area. The new component contains faculty and department offices on the upper level and shops and laboratories on the lower level.

The renovated building now also serves as an enclosed pedestrian concourse connecting a network of other buildings.

Minnesota's climate was a major consideration for the architects and general contractor, Knutson Construction of Minneapolis, when they went to work on the building. A motorized thermostatically controlled insulation system reclaims heat and minimizes the need for auxiliary heating and cooling systems. □

Architecture Prof Compares Five Energy-Saving Homes

by Lynette Lamb
University Relations Writer

For at least five Minnesota homeowners, the arrival of a winter fuel bill is nothing to dread: their homes were built to conserve energy.

The energy-saving designs—each the state of the art at the time the houses were built—are featured in a new book by Lance LaVine, associate professor of architecture and landscape architecture on the Twin Cities campus.

Five Degrees of Conservation: A Graphic Analysis of Energy Alternatives for a Northern Climate was released in September by University of Minnesota Press.

"Energy is a regional issue," LaVine said. "People need to find out what's good for their area."

Much of the research on solar gain—heat from the sun coming through south-facing windows—has been done in the sunnier southwestern United States.

LaVine and his co-authors, graduate students Mary Ferguson and Sharon Roe, suspected that the figures on passive solar gain were exaggerated for Minnesota, especially in the winter months when that solar energy is most sorely needed. Their study of the five Minnesota houses bore this out, as did a recent Minnesota Housing Finance Agency study of 140 homes.

Another of the book's conclusions is that in Minnesota, good insulation is the most cost-effective way to conserve energy. Although the other technologies studied—underground construction, active solar system, passive solar system, and double envelope construction—all worked to some degree, the amount of money saved on energy wasn't always worth the investment.

"You don't necessarily get more back for investing more," LaVine said. In fact, the method that saved the most energy was super-insulation, the second cheapest of the five systems.

Super-insulating a house involves three steps, according to LaVine. The first is to insulate the entire house two to three times as well as a typical house—16 to 18 inches of insulation in some places. The second step is to ensure that the house has a good vapor barrier to slow the flow of warm air and moisture to the outside. This process, which requires, among other things, carefully sealing joints and windows, makes the house "like a giant thermos bottle," LaVine said. The third step, which is necessary because of the vapor barrier, is to install an air-to-air heat exchanger to keep the tightly sealed house ventilated without losing heat.

The cost of super-insulating the 2,058-square-foot house built in 1979 that is featured in the book was estimated at about $4,200, but the savings have been well worth it. The super-insulated house's fuel bill for this year would be about $235, approximately 19 percent of the $1,265 bill the owner of a normally insulated house of the same size can expect at current Minnegasco rates.

Although LaVine is all for saving energy, it is by no means his only consideration in evaluating a home. "Using the fewest possible BTUs per square foot doesn't make a home, it makes a tomb," he said. "A house is not just a machine.

"The best Minnesota house is suited to your tastes and lifestyle with the space and

energy systems that allow you to live with the least expenditure per physical gain."

All five houses described in *Five Degrees of Conservation* are new, architect-designed homes; four are in rural areas or small towns. LaVine and his colleagues are planning another book on energy-saving technologies that would feature more urban homes, an older house converted to save energy, several tract homes, and some larger buildings.

Next, he would like to build up a file of energy-saving construction ideas so that home builders could learn from existing structures. For when it comes to building houses, LaVine believes in taking the long view.

"Financing and planning are based on a short-term view," he said, adding that that is one reason for the relative scarcity of energy-efficient new construction. "But houses aren't just built for now—they're built to be here 30 years from now and beyond. What can we lose by investing a little more today?" □

Law School Gets $1 Million To Honor Graduate

The Law School has received $1 million from the Sherman Fairchild Foundation to honor 1929 graduate Melvin C. Steen.

The Melvin C. Steen Faculty Fund will be provided in four $250,000 installments from 1983 to 1986. Income from the fund will be used to provide research grants, to support faculty travel and participation in national professional seminars and meetings, to provide rotating awards for excellence in teaching, scholarship, and professional service, and to provide research assistance.

Born in Minneapolis in 1907, Steen is a founding and still active partner in the Wall Street law firm of Cleary, Gottlieb, Steen, and Hamilton, which has offices in New York, Washington, Paris, Brussels, London, and Hong Kong. He is a recipient of the Law School's Outstanding Achievement Award and a fellow of the American Bar Foundation and the International Lawyers Association, and is listed in *Who's Who in America*. He also was decorated chevalier de la Legion d'Honneur.

The Sherman Fairchild Foundation supports a variety of national programs in education, health and medicine, and social services. It was established by Sherman Fairchild, an inventor and aviation industry pioneer who died in 1971. Fairchild was chairman and founder of the Fairchild Camera and Instrument Corporation and Fairchild Industries, Inc. He served as director of IBM for almost 50 years.

Steen was a friend and legal adviser to Fairchild and became a member and director of the foundation in 1961. Although he resigned as a director in 1978, he continues to serve the foundation as a member and consultant to the board. Steen has been active in both University and Law School alumni affairs. □

Artists Use Computers To Design Medical Graphics

by Ralph Heussner
University News Service Writer

About two years ago, Martin Finch surveyed his department's quarters in the basement of the Phillips-Wangensteen Building with an eye toward expansion.

Finch, director of Biomedical Graphic Communications on the Twin Cities campus, needed space for two additional drafting boards. He found there was no more room.

"It was then that we started thinking about going to computers," Finch said.

Today, the University's medical artists are among the best-equipped in the field, thanks to the installation of some of the most advanced computer graphics equipment in the country. And any fears that computers would compromise an individual's creative instincts disappeared long ago.

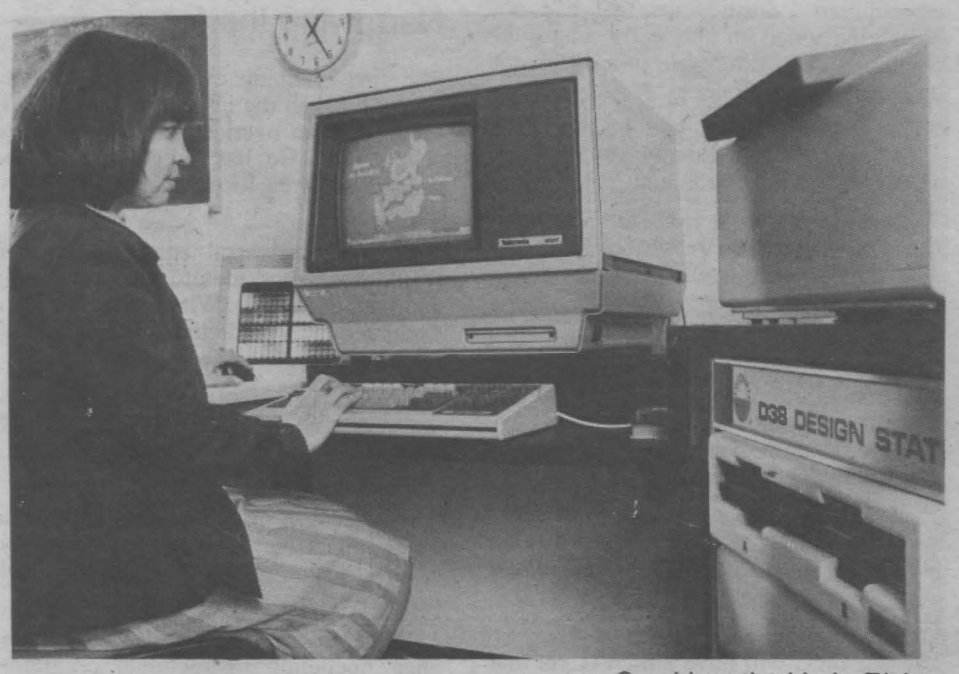
"The computer really allows you to be more creative," said Linda Richter, a medical illustrator. "You can experiment until you have the best drawing possible and you don't have to worry as much about making mistakes. The computer gives you a great deal of versatility."

But the Biomedical Graphics computer—a DICOMED D-38—is no ordinary machine. Figures created on its screen can be moved, rotated, scaled, duplicated, or deleted. Text or type can be slanted, condensed, extended, and reproduced on 35mm color film in any of 64 colors.

A drawing is created by the artist on a digitizing tablet that transfers the image to the display screen. Once on the screen, the image can be enhanced: the computer allows the artist to zoom in on and magnify a selected area, add detail, and then return to the scale of the original drawing.

"The computer takes a lot of the drudgery out of the creative process and allows you to concentrate on other aspects of the project," Finch said.

Artists usually spend a great deal of time at the drawing board revising and upgrading a piece of work. The computer offers the luxury of experimentation. If the artist isn't satisfied with a sketch or a color combination, a simple keyboard command will erase the effort without affecting the rest of the drawing.



Graphic artist Linda Richter

Graphic artist Lynne Olson puts it differently: "The computer allows you to change your mind."

Completed graphics are stored on floppy discs that are converted by a film recorder onto color slides that are processed locally and returned within 24 hours. "These slides are of such high quality that traditional artwork pales in comparison," Finch said.

"The only problem we've had is that when we mix the computer slides with other graphic slides, they tend to make the other slides look washed out because of the higher saturation and intensity of the color," Finch said.

The computer system can also be used as an educational tool for young artists learning the trade. With its memory bank, the computer can show the thought processes that went into the development of a drawing.

Although some might view the intrusion of computers into the world of art as heresy, Finch sees the computer as another tool—just like a T square, pens, and paints—albeit a more expensive one.

"You make the same decisions about design, shape, and color that you would make in the traditional method at the drawing board," Finch said. "Now, we just approach the creation of artwork in a more systematic way."

Another advantage of the computer is its memory bank. It stores basic designs and some technical data that can be recalled to produce new drawings or to update old slides with new research information.

The department recently completed a project in pediatric cardiology that required a sequence of 10 slides showing various stages of heart disease. Instead of drawing 10 outlines of the heart, the artist drew only one, stored it in the computer, then called it up on the screen 10 different times for modifications.

What has been the reaction of the medical staff who call on the department to illustrate research findings for presentation at conferences and in scientific journals?

"Fantastic," Finch said. "We've had feedback from several doctors who have used the slides at major conferences. They tell us that after their talks, their colleagues ask where they got their slides."

The cost of computer-produced slides varies with the complexity of the art. "When used appropriately, computer-generated slides can result in a cost savings," Finch said, "and the price of the service will be coming down once the system is paid for."

Finch said the computer has created a market for itself, actually resulting in more work for the department, not less. Which leaves Finch in the same predicament from which he started two years ago: where to put those two new drawing boards. □

Planning

(continued from page 1)

fiscal crisis forced the University to make changes fast. The retrenchments of 1981-82 required "drastic cuts that had not been envisioned in the early stages of planning," Hasselmo said in a document on the planning process.

"The original targets had been set for 1985—and it was suddenly 1985!" Hasselmo said in the document.

What about the next cycle of planning? Can realistic targets be set so that planners are not again overtaken by events?

"Planning will take place within a set of fiscal projections," Hasselmo said. "We are trying to assess what the financial situation is going to be. We do not yet have those projections. They will continue to develop over time. Units will be given a budgetary range within which to do their planning."

As in the first cycle, units will be given a high and a low target for planning, based on "a best- and a worst-case scenario," Hasselmo said.

"A few units will have a high target that may involve some additional resources," he said. But because of the financial realities and the expected decline in enrollment, he said, "for most units the best will probably be maintenance of the current budget. For some, the best case will be a reduction in current resources. Obviously if you're going to allocate resources to some, you'll have to take them from somewhere."

In the first cycle, Hasselmo said, the cuts were so severe that there was "no opportunity for freeing up resources" to allocate to areas of growth. "We hope in the second cycle there will be."

Freeing a portion of the budget for the creation of flexible resources is one of the planning goals. A margin of flexibility of about 10 percent of the budget has been held up as a desired goal in the next two to four years, Hasselmo said, but it remains to be seen whether this 10 percent goal can be met.

A dilemma for planners—and a reason for the high and low targets—is that "it is important to provide some room for institutional aspirations while at the same time keeping the institution's financial feet on the ground," Hasselmo said. Hasselmo told the regents that he is "operating in a spirit of optimistic realism."

"I have some concern that the resources available to us in the next two to five years or more will be less than any of us would want," Magrath told the regents. "We will have to get into some very candid discussion about choices."

Narrowing the focus

The first planning cycle took "a broad sweep through the institution" and "suffered from an overload of issues," Hasselmo said. He has suggested that the second cycle be focused on a more limited agenda.

"We have universal agreement that it would be a good idea to take a thematic approach," he said. Where there has been disagreement, predictably, has been in the selection of themes.

Four areas of emphasis that would involve central administration as well as several of the major planning units are being proposed:

—teaching, research, and service in areas supportive of the state's economy, especially technology; transfer of knowledge to business and industry;

—improvement of the student experience, including instructional programs, services, and the physical environment;

—use of computation and information technology; and

—improvement of the administrative structure of international education; physical consolidation of major units concerned with international studies, international student advising, and international programs; funding for international education.

Other issues, more managerial in nature, could be handled by central administration, Hasselmo said. Four of these issues, or sets of issues, are being considered:

—personnel management; payroll system development;

—the future funding base of the major program units;

—opportunities for improving the use of SEE (supplies, expense, and equipment) funds; and

—the University's use of auxiliary enterprises.

Swan said it makes sense to her that "some of the issues that have been identified have strong academic components and others are more administrative issues. There are some things the faculty doesn't have to worry about. They are very important issues, but they aren't things we can do a lot about. I'm glad to see that they have highlighted some issues that are very academic in nature."

The problem with identifying some areas of emphasis is that other areas are left out. When the set of suggested issues was presented to the regents, Regent Charles Casey asked why technology was chosen ahead of agriculture. Doesn't agriculture contribute as much to the state's economy as technology does, or more?

Hasselmo said the University already has "a long and venerable tradition of providing teaching, research, and service in agriculture" and the idea would be to strengthen the transfer of knowledge in technology.

There is always a problem in choosing the first set of issues for emphasis, Hasselmo said. "If we could go through several cycles, we could show that everything will be covered." Magrath stressed that "the items that are not listed for study are not being deemphasized."

The trickiest part

Swan said her concern with the suggested areas of emphasis is that their focus needs to be narrowed further. "The trickiest thing of all will be to figure out the mechanism for looking at these issues in a way that people can really tackle," she said.

"If we can define the issues well, and get the subissues laid out, then we can be wise about our decisions. But if a fuzzy task is given to an inappropriate group, the whole thing will fall apart."

About a year ago the administration and the SCC set up a task force on faculty vitality, Swan said to illustrate her concern. "I worried very much at the time that we weren't sure ourselves what we wanted. We gave a group of people an awful job." (The task force, chaired by Professor Jack Merwin of the College of Education, is looking at ways to encourage the scholarly activities of the faculty.)

Defining the planning issues and narrowing the focus "will make or break the whole effort," Swan said. She said she likes the idea of choosing some issues for particular attention. "I think it's important. I think it's a great idea. I think it's kind of exciting even. But there's a lot of work yet to be done."

"She's right," Keller said. "There is a need to narrow each of those questions." In international education, for example, "we have to pick some goals that are achievable," he said.

Defining and focusing the questions will be done by central officers in consultation with faculty-student groups, Keller said. Then each theme will be assigned to the appropriate vice president, who will have the responsibility for further focusing of the issues.

Themes must be framed in the context of the first cycle of planning, Keller added. "We can't go to a college we've told to contract and ask them to turn around and take on an enormous new job."

Bringing all units in

One problem in the first cyle of planning was that "the nature and quality of the planning effort varied considerably from unit to unit," Hasselmo said. "Units that lagged behind in the first cycle must clearly be brought along in the second cycle."

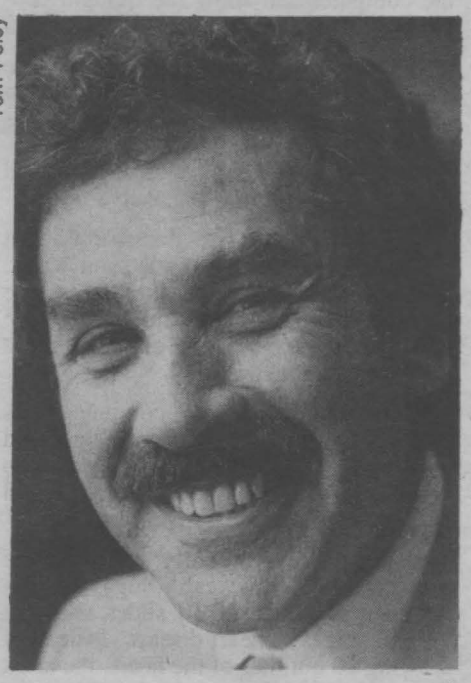
The primary reason for the variation was "the different decision-making traditions that exist in different units," he said. In any case, those units "that did not participate as fully as others will be asked to bring their plans up to the standards."

Rubenstein said it was his observation that "the planning process went best in units where there were elected faculty advisory groups. It was also useful when those groups included students."

Wider consultation with faculty and students within units can be expected this year, Keller said, because the documents will be public from the start. And now that the results of planning decisions are clearer, he said; "people have been awakened to their role. They know they are affected by these policy decisions. I think there's going to be more pressure from the dispersed faculty for consultation."

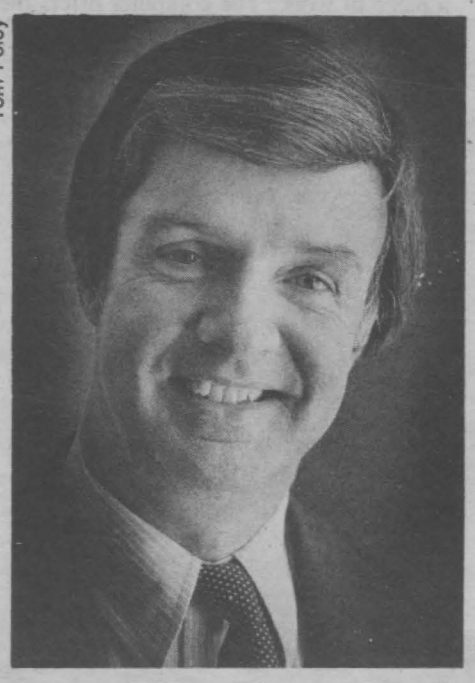
Another weakness of the first cycle was that interaction among major planning

Tom Foley



Kenneth Keller: "Change takes a lot of time. Effecting the plan we put in place will take at least this year and probably part of the next."

Tom Foley



Frederick Bohen: "The support units are here to serve the academic enterprise, but no one has been able to extract from all the academic planning any useful guidelines as to the relative urgency of support services."

units was limited, Hasselmo said. "Time and time again we saw the need" for more communication across college lines, Swan said.

Hasselmo said one reason for choosing several planning themes is that "it makes it easier to do lateral planning." In addition, he said, several task forces were set up at the end of the first cycle to address specific issues that affected more than one college. Those groups are now at work, he said, and two or three additional task forces will probably be formed this time around.

Support units

Because of the severe retrenchment last year, Hasselmo said, cuts were made in the support units "that went way beyond what was programmatically based. We have to go back now in the next cycle and look at the effects of those severe cuts."

Vice President Frederick Bohen, who has responsibility for many of the support units, said "there continues to be an unresolved difficulty in planning for the support units. The support units are here to serve the academic enterprise, but no one has been able to extract from all the academic planning any useful guidelines as to the relative urgency of support services.

"Planning has not suggested dramatic growth or dramatic decline in students, facilities, or the need for services that would then provide a cue for a rigorous reassessment of the support services in the context of academic needs," Bohen said.

In the absence of such cues, he said, the support services have focused more on the budgetary limitations. "That's planning of a sort, but it takes its inspiration from the budgetary imperative."

For the units under his jurisdiction, Bohen said, he has "reached the broad conclusion that the central objective should be to define more clearly out of such cues as we can get what are the services the University simply cannot do without, what is the absolute minimum level at which those services can be provided, and what is the lowest cost at which that minimum adequate level of service can be provided."

In the past, he said, "my perception is that there has been less attention to minimizing cost than to maximizing service. We no longer have the resources, if we ever did, to maximize service."

Last year the custodial services took a major cut, amounting to 12 or 15 percent of the budget and nearly 20 percent of the work force. "I do not believe that reduction has materially affected or eroded what I'd call an adequate minimum level of service," Bohen said. "I haven't had a sense that people around the University have noticed much difference, frankly."

The custodial layoffs illustrate an overwhelming problem that goes beyond the support services, Bohen said. "We lost 20 percent of the work force but only 12 percent of the budget. We had to let go the least senior help, which is the cheapest help. We face that problem all around the University. An overwhelming proportion of our costs at the University are personnel costs—70 to 80 percent. To make a cut, we have to disproportionately lay off larger numbers of people. That is worrisome as we face a very austere several years."

Bohen said he did not think any of the cuts taken last year in the support units have had a "deleterious effect." The cut he would most like to see restored, he said, is $250,000 in the major repairs and maintenance budget.

But Bohen said the University cannot look to the support units for similar cuts in another retrenchment. "As we face retrenchment, it would be totally unrealistic to expect the support services to make anything like the contribution they made last year. Those funds are now gone. A lot of the cushion that has been built up over the years is gone."

A critical time

The end of the first cycle is "a critically important point," Hasselmo said, "because many planning efforts founder after one cycle." It is easy to spot the imperfections in the process and the limitations of the plans that have been laid. But planning must continue, he said.

"If there is anything that has become clear in our planning effort and the efforts elsewhere, it is that the absolute commitment of the line officers is crucial," Hasselmo said.

In his first meeting with the SCC after his summer sabbatical, Magrath reaffirmed his commitment to the planning process. In addition to the practical need for planning in hard financial times, he said, "the dialogue it forces and fosters is a real payoff."

Rubenstein agreed. "In a time of decreasing resources, I think planning is essential," he said. "The more voices that are heard, the more sure we can be that —even though our judgments won't please everyone, and they can't—they will be judgments that are wise and just and that will have the best chance of allowing us to grow." □

PEOPLE

Crookston: Correction—Tillie Gebhardt's name was misspelled in the September "People" column.

■ Provost Stanley Sahlstrom will receive the national 4-H award in Chicago in November; he is the first Minnesotan to receive the award in 21 years.

Duluth: Philip Campbell, assistant professor of sociology-anthropology, will teach at the Trent Polytechnic Institute in Nottingham, England, this year as part of a Fulbright International Teacher Exchange Program. Sociologist Nicholas Tilley, an instructor at Trent, will teach at UMD.

■ Chemistry professor Robert Carlson received a $155,000 grant from the U.S. Environmental Protection Agency for a two-year research project on the chemistry of water disinfection.

Twin Cities: L. Sunny Hansen, professor of educational psychology, gave several lectures at the University of Bergen, Norway, last summer and was a consultant on counseling to the Ministry of Education in Oslo. She also presented a paper and led a working group at the International Round Table for the Advancement of Counseling at Lausanne, Switzerland.

■ Regents' Professor of Economics Walter Heller has been named chairman of the board of the National Bureau of Economic Research, a nonprofit study center known for its dating of the beginning and ending of recessions.

■ Clinton Hewitt, assistant vice president for physical planning, has been elected vice president and president-elect of the Society for College and University Planning (SCUP), an international association that focuses on developing and improving higher education planning and management. He will assume the presidency in August 1983.

■ John Howe, professor of history, has been reappointed to the History Advisory Committee of the College Board for 1982-83. The committee will be refining a statement on preparation in history for college-bound students, which will be published as part of the College Board's Educational Equality Project.

■ Newman Center minister Paul Johnson wrote a chapter on "Faith Stances, Imagination, and Campus Ministry" for the book *Faith Development in the Adult Life Cycle*, published in September as part of a project on adult faith. Charles Bruning, associate professor in the College of Education, is a research consultant for the project.

■ *Jungian Psychology in Perspective* by Mary Ann Mattoon, clinical associate professor of psychology, was recently published by Macmillan.

■ Gary McGrath, director of the College of Liberal Arts Career Development Office, has been elected president of the Minnesota College Personnel Association for 1982-83.

■ Richard Schall, vice chairman and chief administrative officer of Dayton Hudson Corporation, has been appointed chairman of the School of Management Board of Overseers.

■ Robert Shoffner, professor of animal science, is the 1982 recipient of the Merck Award for outstanding achievement in poultry science, based on his accomplishments during the past seven years.

Waseca: Byron Harrison, chairman of the Division of Agricultural Production, has been elected to the Waseca Area United Way board of directors and is coordinator of the United Way drive on campus this fall.

■ Tom Yuzer, acting director of the Learning Resources Center, has been elected to the 1982-83 SMILE (Southern Minnesota Interlibrary Exchange) advisory committee as the public-supported academic library representative.

Study Will Assess Impact of Economy on Nonprofit Groups

The Twin Cities area is one of 16 targeted for an in-depth national study to determine the impacts of federal budget cuts and program reforms on nonprofit organizations.

The national study will be coordinated by the Urban Institute, a nonpartisan policy research organization. Local research will be conducted by Barbara Lukermann of the Center for Urban and Regional Affairs (CURA) on the Twin Cities campus.

"Private, nonprofit organizations are a vital part of the Twin Cities' human service delivery system, but we know too little about them and therefore frequently overlook them in policy discussions," said Tom Anding, CURA associate director. "This project will help us recognize their role and develop the information we need to make the best use of both public and private resources in serving the needs of Minneapolis and St. Paul people."

In launching this effort, Lester Salamon, director of the project for the Urban Institute, pointed out that a report the institute recently released shows that recent federal budget proposals would decrease the revenue that nonprofit organizations receive from federal sources by $33 billion between 1982 and 1985, while increasing the need for nonprofit services. Particularly hard hit by these reductions will be private nonprofit social service agencies, community development organizations, and educational institutions.

To offset these losses, the report noted, private charitable giving would have to increase three to four times faster over the next four years than it has at any time in recent years. "The project we are announcing is an effort to understand what these changes will mean for private, nonprofit organizations in Minneapolis and St. Paul, and to help the Twin Cities community to respond," Salamon said.

Anding will head a local advisory committee for the project, which held its first meeting in September. □

Jeff Sinks

Hersch Lysaker finally was presented with the ball after a football victory.

Crookston Gym Named for Coach Lysaker

by Barbara Weiler
UMC News Writer

For 32 years Herschel Lysaker was coach to hundreds of Northwest School of Agriculture and University of Minnesota students in Crookston. He was athletic director, coach, a well-liked instructor, and a dedicated recruiter who spent countless hours of his own time visiting homes and traveling to other communities.

Those 32 years produced some undefeated teams and some championships, but he never got a ball to commemorate the occasion. "We were always so hard up that we couldn't afford to give a ball away," Lysaker said.

September 25 was Herschel Lysaker Day in Crookston—proclaimed by the mayor—and Lysaker not only received the ball from the day's victory over Itasca Community College but helped celebrate the naming of the new $2.2 million campus gymnasium in his honor.

The ceremonies were typical of any building dedication, with plaque unveiling, reception, and banquet, yet the day was unusual. Lysaker is not a University president, vice president, or dean. He is not a provost. Not a director. And he is not a benefactor.

He is what local preacher James Hanson called "salt."

Or as Howard "Hap" Casmey, former Minnesota Commissioner of Education, said, "He was a true teacher. You didn't have much experience losing when you played for Hersch. He taught you to win and to win gracefully with humility. He wanted respect for both you and his team. We respected him, and he demanded respect from us."

During the University's 131 years, more than 600 buildings have been built around the state.

"To show you how rare an honor this is to name a building after an individual, out of those 600 buildings only 123 are named after an individual," said Stanley Kegler, vice president for institutional relations. "Those people—those someones—after whom we have named facilities do not come to the honor very lightly."

"Those someones" include members of historic Minnesota families such as the Pillsburys and Mayos, former University presidents and regents, former governors, wealthy benefactors, and, now, Herschel Lysaker.

From the beginning of his coaching days at the Northwest School, through the formation of the technical college as a branch of the University system, to his retirement in 1976, Lysaker was coach and athletic director.

The going was tough during the college's first few years. To get the athletic program going, it took a man who had the respect of many. But it also took a man who didn't feel it was beneath his dignity to perform the many tasks the job required.

Hersch Lysaker was that man. He was the college's first janitor. He was a recruiter. He washed uniforms and handed them out at games. He directed the band. He was a counselor and mentor. He and his wife Esther became family to the players. He was, and is, a musician. He was a football, basketball, track, and baseball coach—and an outstanding educator.

"The real test for the young people who will learn there [in the gymnasium], train there, compete there is to live up to the high standards set by Hersch Lysaker," state senate majority leader Roger Moe said at the dedication ceremony.

Lysaker is a hometown boy, born and schooled in Twin Valley, just 40 miles from Crookston. He graduated from Concordia College in 1932 and earned a master's degree in 1951 from the University of North Dakota. His coaching career began in 1932 at Adams, North Dakota. He accepted a job with the Northwest School in 1944. His overall football record is 160-58 and for basketball 516-219, both over 70 percent.

In the early 1950s, so the story goes, Lysaker would stay in the stands at halftime to direct the band—except for one time when he felt the team needed a pep talk. The team ended the season with a 28-1 record, and the only game they lost was the one during which he had talked with the players at halftime.

"And that's a true story," said current athletic director Marv Bachmeier at the banquet. The plaque that will be placed in the gym was unveiled at halftime, a reception followed the game, and the banquet ended the day's activities.

"We love our good friends for their strengths and contributions. We learn to overlook their weaknesses. But it's a strange thing with Hersch—you love him *for* his weaknesses," said Provost Stanley Sahlstrom, who reminded Lysaker of the time he lost the college keys.

"We owe a great debt of thanks to Hersch for his tremendous effort on behalf of the college, laying the groundwork in those early years to build the reputation for quality and for excellence here at UMC in all of our endeavors," Sahlstrom said.

And the University is not done with him yet: he still teaches an early-morning men's exercise class.

Kegler spoke about the outstanding individuals within the University system. "When we honor someone like Herschel, we honor all people who individually by their efforts have made us collectively great. Herschel has made an impact on thousands of people," Kegler said.

When Sahlstrom suggested naming the gymnasium in Lysaker's honor, the all-University honors committee asked a simple question: Did he help to make us greater in serving the state? The answer was a simple and resounding yes.

In accepting the honor, Lysaker typically shared the credit: "On behalf of myself, my wife who has carried the ball for our family most of the time, my family, and the hundreds of boys who have played for me on this campus, I accept this great honor of having our brand new beautiful gym named Lysaker Gymnasium." □

Jeff Sinks

Unveiling the plaque, from left: Lysaker, Representative Tony Stadum, UMC athletic director Marv Bachmeier, NWEIA president Chuck Rongen, Regent Lauris Krenik, Provost Stanley Sahlstrom, U.S. Representative Arlan Stangeland, and Minnesota Senate majority leader Roger Moe.

REPORT

A Publication for Faculty and Staff
of the University of Minnesota

December 1982

Nurses Give Care Day After Day

by Maureen Smith
Editor of *Report*

Betsy Anderson couldn't believe what a quiet day it was. After a few days off, she was back at work on station 41 at University Hospitals, and her patient was doing fine 13 days after a bone marrow transplant.

But for a nurse in an intensive care unit, even an easy day is hard work. Anderson was on her feet and on the go for her whole eight-hour shift.

Transplants sometimes make big news (see story on page 2). The stories usually focus on the patient whose life is in the balance, or on the doctor who performs the surgery. It isn't often that anyone pays attention to the nurses who give care day after day.

Following Anderson around on one of her easy days offered a glimpse into the demanding role that nurses play. It was an easy day for Anderson, but the writer went home exhausted.

The day began, as it always does for the nurses, with report. Mary Schleich, the charge nurse for the night shift, met with the eight nurses who were coming on at 7 a.m. to bring them up to date on the condition of all ten patients on the station.

Most of the information was medical: vital signs, blood counts, medication given. Some of it was about how each patient was doing emotionally: "The hardest part of her day was when she smelled food and she was depressed because she couldn't eat yet."

One new patient had been admitted to the station the day before, and the nurses were given some background about his case. "He's 20 years old, he has aplastic anemia that was diagnosed three weeks ago, and he has never been sick before. His sister is the donor." He would be receiving his bone marrow transplant in a week. "It's day minus seven," Schleich said.

With report completed, the day shift nurses moved out onto the floor. Schleich and Anderson talked briefly about Susan, the patient Anderson would be caring for during the next eight hours. (To protect the patients' privacy, their real names have not been used in this article.)

Station 41, a protective isolation unit for bone marrow transplant patients, is organized on a primary nurse system. Each patient has a primary nurse, or often two, who plan a program of care, take care of the patient themselves when they are on duty, and oversee the care given by the nurses on other shifts. Schleich was one of Susan's primary nurses, and she wanted to review the case with Anderson before leaving for the day.

Anderson herself has often been a primary nurse. It is a responsibility that rotates, and nurses volunteer to be the primary nurse for new patients as they arrive on the station. "I'm due for another primary now," Anderson said. "There are some new patients."

But for this day, Anderson was assigned to care for Susan, a 21-year-old woman who had been given a transplant for myelodysplastic syndrome, a preleukemic condition.

On the way to Susan's room, Anderson pointed out the bulletin boards with pictures of almost all the transplant recipients since the first bone marrow transplant at University Hospitals in 1974. "There are the patients who made it through, and the ones that didn't," she said. Either way, the nurses never forget the patients.

About two thirds of the patients are children and the other third young adults. "We're real family oriented," Anderson said. "Our patient-staff ratio is low." But also, she said, "our patients get sicker than other places." Turnover among nurses is high, she said, because of the stress.

Before a bone marrow transplant, a patient is given massive doses of chemotherapy and radiation to destroy the body's own bone marrow. The patient is then extremely susceptible to infection until the new marrow has taken hold and is mature enough to fight off infection.

In the early days of bone marrow transplants, nurses never entered a patient's room without putting on masks and gowns and rubber gloves. But it was learned that the patient mortality rate was no higher if the nurses simply took care to wash their hands each time in an antiseptic solution. It's easier that way for the nurses, and the patients like it better when they can see their nurse's face.

Tom Foley

Betsy Anderson

The rule now is that the nurses, and all visitors, must wash their hands for at least a minute with Betadine, a reddish brown soap, before entering a patient's room. The nurses are faithful about the handwashing, but they complain about it a little.

"This is our beloved sink, where everyone gathers," Anderson said. The frequent washings are hard on the hands. "In the winter my hands crack." And there is another minor problem: "It seems invariable that after I wash my hands my nose starts to itch."

With her hands thoroughly washed, Anderson was ready to visit Susan. She closed the door behind her, because a fine air filter was removing dust from the air. Dust carries a fungus that could be fatal to a transplant patient.

Like other transplant patients, Susan had lost her hair from the chemotherapy, and she looked older than 21. But she was doing well. Her mother had spent the night with her, sleeping on a cot in the same room. Susan's mother had been having trouble getting extended time off work to spend with her daughter, and Susan was happier when her mother was with her.

Anderson greeted the two women and explained why a visitor would be with her during the day. For the first of several times during the day, she checked Susan's vital signs. She did put on a mask and rubber gloves before drawing blood, and she inquired about the stuffy nose that had been troubling Susan.

'I'm going to take a quick peek in your mouth," she said, and then praised her patient: "Your mouth looks really clean and good. You've been doing good mouth care. I can tell that."

"We're real sticklers about mouth care," Anderson explained later. "A patient can get a bad infection, and we go by the principle that it's better to prevent something that can't be easily treated."

Nursing care on station 41 is "very detail-oriented," Anderson said, because "little things become big problems fast. Nurses

(continued on page 12)

On the Inside

Fiske Transplant Story Captures National Attention

by William Hoffman
Associate Editor of *Report*

The wire service dispatch read: "Father Pleads Before Doctors for His Daughter's Life."

The story, circulated to more than 2,000 media organizations, captured the interest and imagination of hundreds of thousands —perhaps millions—of Americans. In a little more than a week it had generated more press coverage than any transplant story since the first heart transplant in 1967, and it caught the notice of President Reagan and the First Lady.

An 11-month-old girl named Jamie Fiske, hospitalized on the Twin Cities campus since mid-September, was failing fast when her father appeared before 400 doctors at a meeting of the American Academy of Pediatrics in New York October 28.

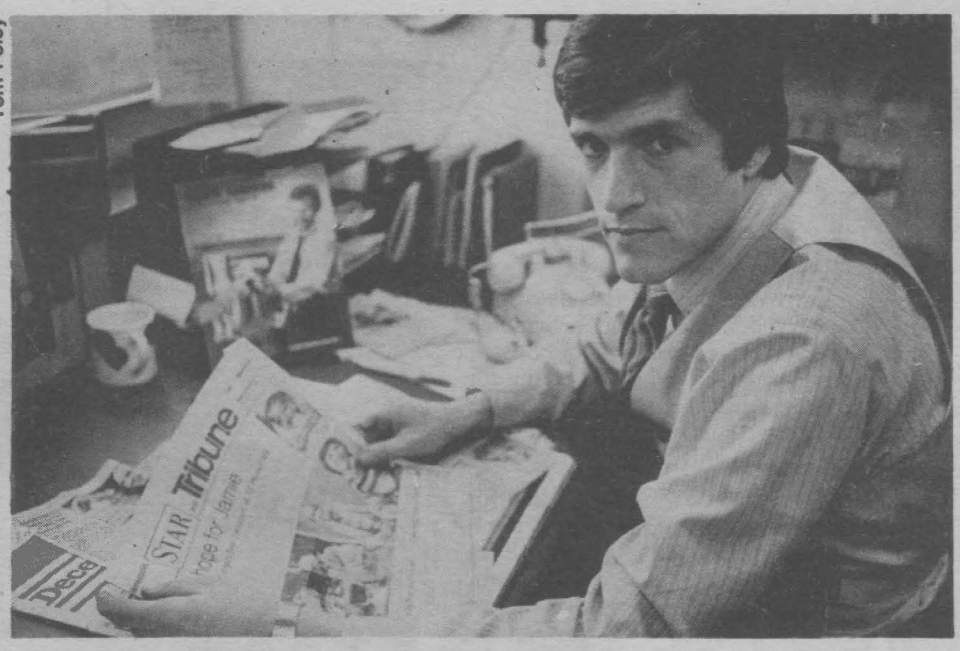
Charles Fiske implored the doctors "to keep your eyes and ears open for the possibility of a donor for my daughter," who needed a new liver and was not expected to survive until Christmas without one.

A week later, a team of University surgeons flew to Salt Lake City, where they took the liver from the body of a 10-month-old boy who died of injuries he suffered in an auto accident and rushed it back to Minnesota, where it was sewn into Jamie's body in a six-hour operation. The dead boy's parents had seen Fiske's plea on television and had told doctors after the accident: "Our boy is going to die. Could his liver help the child in Minneapolis?"

Two weeks following surgery, Jamie was making satisfactory progress in recovery. Doctors were hoping she'd be home by Christmas.

"Many stories here that involve patients start with the hometown newspaper, hometown radio and TV," said Ralph Heussner, head of the health sciences information office for the University News Service. "Most of them remain an isolated story affecting a community."

Tom Foley



Ralph Heussner

The plight of Jamie Fiske became a national news story "because it contained all of the elements of a great story—tragedy and despair, hope and determination, a father fighting the bureaucracy, fighting the medical establishment, doing everything he could to save his daughter's life," Heussner said.

Heussner and Nancy Goedeke, a senior secretary in the office, and other University News Service staff members were answering calls at the rate of two per minute the day of Jamie's surgery—an estimated 1,200 calls, mostly from reporters. Heussner got his first call at midnight at home.

Reporters and television crews started showing up at University Hospitals early in the morning, forcing chief surgeon John Najarian and the Fiskes to hold a news conference later on. Before the day was over, newspapers and radio and television stations from across the country—and a few from across the Atlantic—had gotten into the act.

The mass media had been primed a week earlier. The day Fiske appeared before the meeting of pediatricians, all three major television networks made his plea the lead story on their evening news programs. That prompted a rash of calls to Heussner's office and to the transplant service, tying up the phones there so that patients needing information on their medications couldn't get through, Heussner said.

"Many of the press reports did not indicate the type of liver, so people from all over the country were calling and saying they would like to donate their liver," Heussner said. "Many lacked a basic understanding of physiology."

One elderly woman called offering her liver, saying, "I've lived a long and full life and I'm in good health and I'm willing to die to give my liver to Jamie," Goedeke said. "She wanted to feel useful."

Some callers recommended folk medicines, others said they had religious revelations about Jamie. An abortion clinic called offering the liver of an aborted fetus, Goedeke said. She said she sent organ donor information brochures to many callers asking what they could do to help.

After the operation, many of the news organizations wanted more than the report issued by the information office and wanted an exclusive interview with Najarian and Charles and Marilyn Fiske, Heussner said.

One of the more sensible news organizations was CBS News, he said. "They called to check the day after Fiske's plea. That night Dan Rather mentioned the flood of calls and urged people not to call the University but to call their doctors. I thought that was very responsible," he said.

The Fiskes decided to go public shortly after their daughter was admitted to University Hospitals September 15. They sent a one-page statement about Jamie's need for a liver to the major Boston newspapers and the wire services and to the Brockton *Enterprise*, a local paper near their hometown of Bridgewater, Massachusetts.

The Boston papers ran stories about Jamie, and the *Enterprise* printed an in-depth feature. "That was our introduction to the media," Charles Fiske said in an interview.

Shortly afterward, the Fiskes "ran into a problem," as Fiske puts it, with Blue Cross/Blue Shield. The company refused to pay for Jamie's surgery after having assured the Fiskes by letter that it would. "At that point we went back to the same print media and then to television," he said. The spate of negative publicity caused the company to change its mind again.

The Fiskes learned a lot about the news business in a short time. "We were finding that credible media is print media. If it's in print, then it can be quoted. TV may capture something more accurately and precisely, but you don't have the recall unless you have the videotape, and people don't videotape news," Fiske said.

Once the public became interested in the story, particularly after Fiske's appearance at the pediatric conference, the media would accommodate that interest by reporting on Jamie's status, Fiske said. Many people sent letters of support to the Fiskes, including, during the search for a donor, Nancy Reagan and, following the transplant, the President himself.

Fiske's appearance at the conference was unprecedented and took a good deal of behind-the-scenes lobbying to make possible. "The media's observations about a nonmedical person addressing a medical convention—that became more of a story than the convention itself," Fiske said.

"Even though there is an effective transplant network in the Midwest, [my appearance] brought that network and the [medical community] together," he said. The organ "might have come through a nonmedia type of situation. We really didn't care. As parents we were willing to look anywhere and anyplace."

Generally, the press has been "fair, supportive, and has respected our privacy when we've asked for it," Fiske said. "A number of reporters apologized to me for asking personal questions. We got a lot of support from the media. I think it was because [the reporters] who met Jamie liked her."

Jamie's story is not unique in and of itself, Fiske said. "Our story is typical of a thousand and one patients across the country. We've gotten letters from parents whose children have died from the same disease and from parents who are currently waiting for donors," he said.

What makes it unique is the hardship of traveling 1,400 miles, the struggle with Blue Cross/Blue Shield, and making the decision to go before the pediatrics conference to get the word out, Fiske said. "We did what we had to do."

Fiske recommends that parents in the same predicament that he and his wife were in use the organ-sharing network before going public.

Jane Van Hook, coordinator of the University's organ donation program, said that the publicity generated by the Fiske story "was very positive" and ultimately will benefit other patients in need of a transplant.

"What it has done is made the medical community aware of its responsibility both to the donor's family and to the recipient," she said. In Jamie's case, the medical community "pulled together" in its search for potential donors.

Furthermore, the public now knows more about transplantation and probably is more willing to talk about it, she said. That is likely to result in more donations. □

REPORT

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Celtic Courses Catching On, And That's Not Blarney

by Paul Dienhart
University News Service Writer

Come March 1, Fred Suppe is prepared to fasten a leek, a kind of large scallion, to his lapel. He has undertaken this "major engineering effort" before, aware that some people might misunderstand and dismiss him as simply a man wearing an onion.

Fortunately, as an assistant professor of history on the Twin Cities campus, Suppe spends much of his time in a place where it is increasingly likely that people will recognize things Celtic (pronounced with a hard *K*, please). For those not yet in the know, March 1 is St. David's Day in Wales, a day when people wear leeks and daffodils the way their fellow Celts wear shamrocks 16 days later.

In the past few years, an informal program in Celtic studies has developed around the campus. Along with a two-quarter flagship course called The Celtic World, students have the chance to take courses on Irish language and history, Welsh history, Old Irish, and the Irish satirist Jonathan Swift—and that's just during the rest of this academic year. At least a dozen other Celtic courses have been offered in previous years.

"It's not a formal program, but we have a strong range of courses almost without really trying," Suppe said.

Suppe spent two years in Wales studying Welsh history on a Fulbright scholarship. His stay there was made richer by learning to speak Welsh. He found the natives were delighted to discover an American who wanted to speak their language. Clerks would elbow each other out of the way in their eagerness to wait on him—even if he had ducked into a store only to get out of the rain. But he didn't cause nearly the stir in the Welsh college town as the visiting Nigerian student who spoke fluent Welsh.

When Suppe came to Minnesota he was afraid he might be alone in his Celtic enthusiasm until "a serendipitous happening": a friend told him he should meet Nancy Stenson, an assistant professor of linguistics, who knows modern Irish.

Linguists are especially fascinated by Celtic languages. Verbs come before nouns, and making a word plural involves changing the beginning of the word. Spelling is difficult because there are twice as many tongue-twisting consonant sounds as there are representative letters in the Roman alphabet. Stenson believes that Celtic languages will yield clues on how English word order developed.

There are six distinctive Celtic languages, the same number as there are Celtic countries and Celtic enclaves in other countries. But the languages belong to the same linguistic family because Celtic people came from the same area: what is known today as Bavaria and Bohemia. Julius Caesar's armies dispersed the Celts to Ireland, Wales, Scotland, Brittany on the north coast of France, the Isle of Man in the Irish Sea, and Cornwall, now a county in southwest England.

Not long after Suppe met Stenson they began to find other Celtic scholars at the University. "The Celtic gods seem to smile upon us now and then," Suppe said. Together the group devised an interdisciplinary course called The Celtic World that explored the history, literature, music, folklore, and linguistics of the Celts.

Tom Foley

A leek affixed to the lapel is de rigueur for the Welch on St. David's Day, March 1. Fred Suppe plans to follow the custom.

The first time the course was offered more than 80 students registered. Celtic courses have consistently filled classrooms. The students tend to be the dedicated sort who will brave a winter ice storm to attend an evening course on Scottish history, Suppe said.

One explanation for the interest is that the Twin Cities—particularly St. Paul—is kind of a Celtic headquarters. The St. Patrick's Day activities in St. Paul are famous. Scots like the Daytons and the Donaldsons settled here and named Edina after Edinburgh. There are two Scottish societies in the cities, one that accepts only native-born Scots. There's a St. David's Society for the Welsh. And the Irish American Cultural Institute in St. Paul is one of the most active such organizations in the country for supporting Irish lectures and performances.

Not even students with no Celtic roots can ignore Celtic contributions to literature. From the early Celtic bards and harpists to Sheridan and Swift, to Yeats and Joyce, to Dylan Thomas and Samuel Beckett, the Celts have shown a special talent for language. "Celtic culture is very language oriented," Suppe said. "They value good talkers, good storytellers, and good singers."

"We're finding it revealing to read Yeats and Joyce from the perspective of the Irish tradition," said Chester Anderson, professor of English, an authority on Joyce and a member of the core group of Celtic scholars. The rhythm of the native Irish language and the spoken Irish-English helped form the writing style of the Irish literary giants. Even Dylan Thomas, who did not speak Welsh, wrote his poetry in the singsong cadence of native Welsh speech, Anderson said.

The English department, of course, has been offering courses on Celtic writers for years. The offerings increased markedly 10 years ago when some students came to Anderson to ask for a series of courses in Irish literature. Anderson was set to go on sabbatical, but changed his plans. "I thought, 'Gosh, this may not happen again,' " he said.

Other faculty members have offered, or have the expertise to offer, courses on Celtic history, modern and Old Irish languages, Welsh, medieval and prehistoric Celtic art, Celtic folk music, Celtic anthropology, Celtic folklore, modern Irish politics, Irish demography, and Celtic geography.

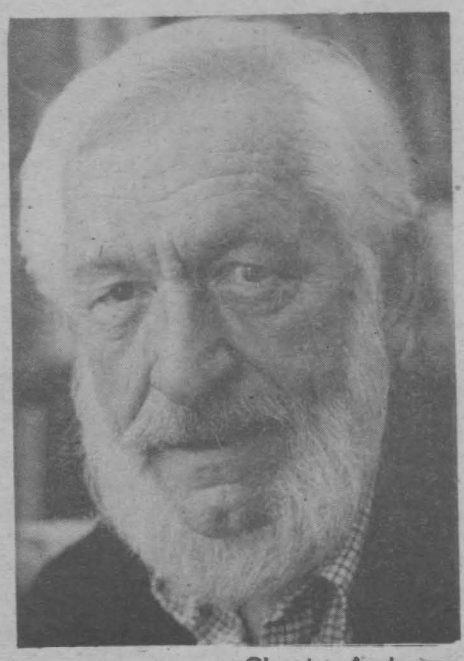
Last year the Butler Family Foundation of St. Paul—the Butler family claims kinship to William Butler Yeats—gave the University $14,500 to encourage Celtic studies. This year the foundation gave an additional $85,000 that will be used over the next four years to bring visiting professors, speakers, and performers to the campus. It will also help pay the salary of a new English professor who will be hired this winter to teach medieval literature, Celtic languages, and Celtic literature. The new position will help fill the biggest gap in Celtic scholarship at the University.

Anderson is hoping to organize a spring quarter program in Dublin for 1984, patterned on the English department's successful Spring Quarter in London. Students would have classes at a Dublin university, taking three Irish literature courses from Anderson and one course from an Irish professor.

The flurry of activity has raised the idea of making the informal program formal: developing a Celtic minor and major. "We

(continued on page 8)

Nancy Stenson



Chester Anderson

Art Still a Mystery for Malcolm Myers

by Judith Raunig-Graham
University News Service Writer

Fans of Alfred Hitchcock's films enjoy watching for the portly fellow to make a brief appearance. Art viewers might be equally delighted trying to pick out artist Malcolm Myers in his paintings and prints. He's usually there and so is his dog.

At 65, Myers is an established artist with a national reputation. He was included in *American Prints and Printmakers* by Una Johnson, published in 1980. He has works in collections throughout the country, from the Walker Art Center in Minneapolis to the Museum of Modern Art in New York and the National Gallery of Art and Library of Congress in Washington.

Yet Myers describes himself as a simple man who, after a lifetime as an artist, still believes art is a mystery. "I've been in it all my life and I still don't know what I'm going to do when I start out," Myers said recently in his loft near the Twin Cities campus, where he has taught in the studio arts department since 1949.

"I still just work and try to learn more all the time," he added, dabbing a bit more color onto one of the large canvases propped against the wall. "It's always a challenge. I find it very interesting because of the endless possibilities."

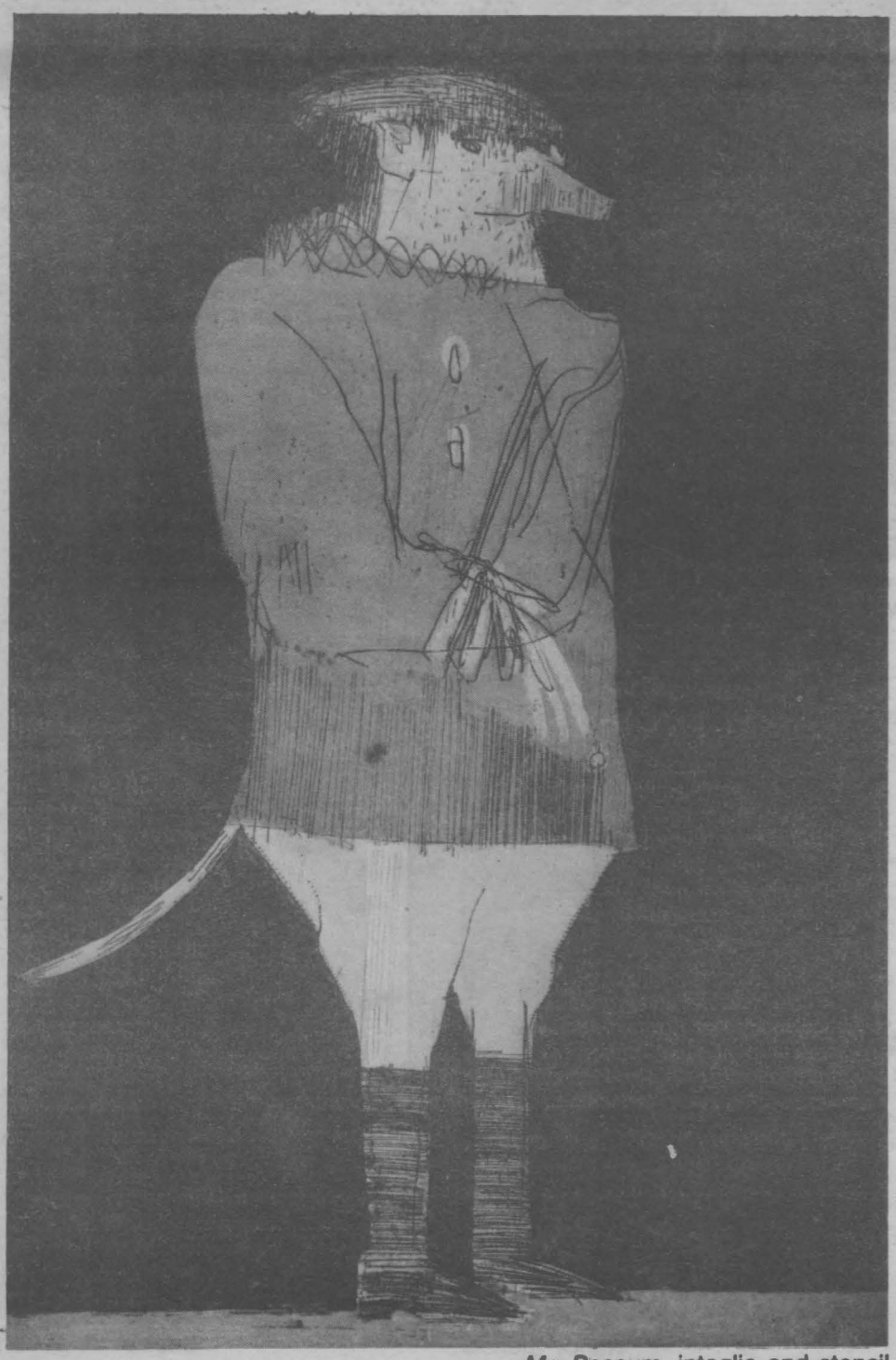
Subject matter in Myers's work runs from animals to jazz to religion. He has painted cowboys and Indians, farm silos and toys. Titles range from the whimsical *Mr. Possum* and *Minnesota Rabbit* to the serious *Crucifixion* and *The Last Supper*.

"The subject isn't important," Myers said. "If you've got talent and you're a good artist anything you paint is going to be good. I like to paint the things I like in life."

Myers believes that many elements in his work, like the animals he often depicts, reflect the interests of his childhood in Missouri and Texas. "I've always loved animals, even as a child. I was just intrigued with the animal world and birds. I don't know why everybody isn't, because they are the only other things alive on earth. They're all part of the whole picture. I suppose in some way, maybe subconsciously, by doing a lot of these animal things I'm trying to show their importance."

Tom Foley

Malcolm Myers



Mr. Possum, intaglio and stencil

Early in his career, Myers studied with two renowned artists who have had an influence on contemporary printmaking, Mauricio Lasansky and William Hayter. He studied with Lasansky as a graduate student at the University of Iowa in 1945 and with Hayter when he won a Guggenheim Fellowship to study in Paris in 1950. He visited museums and castles in Europe that later inspired him to use medieval pageantry as the focus of several paintings.

In 1954 he received a second Guggenheim Fellowship and spent the year in Mexico City. There he developed an interest in ancient civilizations and began a collection of pre-Columbian sculpture. Collecting sculpture is still a favorite pastime.

Myers said he likes to approach his art like a jazz musician plays music: he likes to improvise. "I work intuitively and I like to approach it off the cuff. I find out what I'm trying to do after I get into the painting, which is like the abstract expressionists and their philosophy: to find the painting in the painting.

"That's not to say that the intellect and the mind don't enter into it. I study it over and I analyze it, but I have to have that freedom in approach," he said.

Eventually, Myers said, he would like to live on Long Island because New York is where the "real action is in art." But he's not planning to retire soon.

"I'm still trying to make a stronger statement and a better painting. I'm trying to fuse some content and emotion and how I feel about life and the world." □

Prints by Myers Now on Exhibit

The works of Malcolm Myers will be on exhibit at University Gallery in Northrop Auditorium on the Twin Cities campus through January 16. The show is entitled "Mr. Possum and Friends: Prints by Malcolm Myers."

The exhibition covers Myers's career from 1936 to the present and is the first comprehensive showing of his graphics.

Early works *St. Anthony* and *Agony* are examples of his black-and-white intaglios. When he began using color, he produced a number of works based on medieval themes including *The Journey* and *Knight, Death, and the Devil*.

Animals and the West have figured prominently in Myers's work since the 1960s. *Minnesota Rabbit* and *Mr. Possum* evidence the artist's sense of humor. Landscapes, cityscapes, and self-portraits are among other works included in the exhibition. □

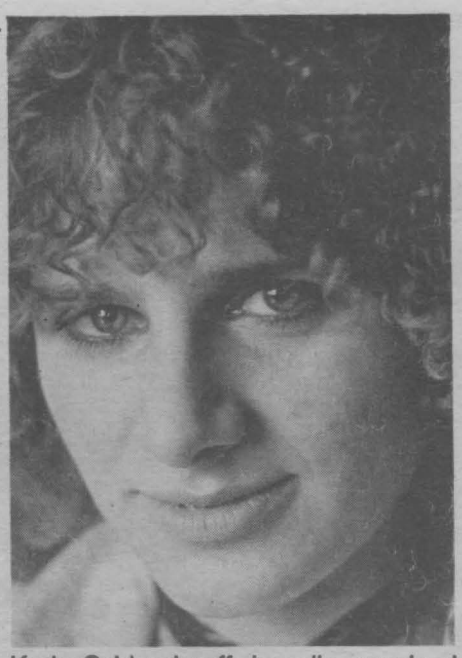
Tom Foley

Sue Ann Westphal: seeing the University on the inside

Tom Foley

Jason Snebold: finding out that a big school might be okay

Tom Foley



Karla Schlauderaff: happily surprised by the University

Visiting High School Scholars Discover Personal Side of U

by Maureen Smith
Editor of *Report*

Think of the University as a kangaroo. Or think of its largest college, the College of Liberal Arts (CLA), as "a big college with a little college inside."

Glen Holt, director of the Honors Program in CLA, drew the kangaroo image for a group of high-ability high school students and their parents who attended Minnesota Scholar Days on the Twin Cities campus last month.

"CLA is a big college. That is its big strength," Holt told the students. "It has enormous resources, more than 50 majors. Inside that big college is a little division —the Honors Program—jumping out of the pocket of the kangaroo. We cater to only about 7 percent of all the students in CLA, just a hair over 1,000. We have the capability of a small liberal arts college."

Holt was selling the Honors Program, and his talk seemed to spark interest among the academically talented students, but the kangaroo image could be extended to other parts of the University as well. Students were told that they would find a niche, a smaller community within the large campus.

"I think I'm finding out that a big school might be okay," Jason Snebold from Bagley High School said at the end of his day on campus. "Bagley is a very, very small town in northeastern Minnesota. The University is thought of as too big. You hear a lot of horror stories. A day like this can take those horror stories away."

Sue Ann Westphal from Edison High School in Minneapolis said she lives near campus but "never saw the University on the inside before. It made it seem more personal. I've had private conferences, I've talked to students."

Westphal, who is interested in nursing, said the most valuable part of the day for her was her talk with Frances Dunning, assistant dean for student affairs in the School of Nursing. "She was real helpful. She answered a lot of questions," Westphal said.

Another highlight for Westphal and her mother was a conversation with some nursing students. "The students were honest. That helped," Beryl Westphal said. "Not everything they said was good." But overall, the impression was positive. "The people here seem real proud of the program," Sue Ann Westphal said. "It's respected around the country."

Westphal and Snebold, who wants to go into dentistry, attended the first of five Minnesota Scholar Days in early November, for students interested in the health professions and behavioral sciences.

Other days were designed for students interested in engineering, mathematics, and sciences (the day that drew the largest number of students); agriculture, forestry, home economics, and biological sciences (with the day's program on the St. Paul campus); fine arts, humanities, communication, and social sciences; and management, economics, and computer science.

Following a multimedia presentation, each day began with a talk on "The University of Minnesota: A Tradition of Excellence." On the first day, that talk was given by John LaBree, assistant vice president for health sciences. Other opening speakers were Vice President Kenneth Keller, a professor of chemical engineering; Dean Keith McFarland of the College of Home Economics; Dean Fred Lukermann of the College of Liberal Arts; and Julie Carson, director of undergraduate studies in the School of Management. Dozens of faculty and staff members took part in one or all of the days.

Presentations were given each morning on honors programs, merit-based scholarships, campus life, and career outlooks. Students and their parents then had a chance to eat lunch at a campus residence hall. Sue Ann Westphal ate at Centennial Hall and said, "The food was good. You could make your own ice cream cones."

In the afternoon, the students were able to dig more deeply into programs that interested them—in individual information-gathering, small group discussions, and visits to academic departments. Some parents accompanied their sons and daughters on these visits, others attended a session on financial alternatives and parent concerns. In mid-afternoon, everyone came back together for a social hour and, if they wanted, a campus tour.

"I thought it was going to be a lot of sitting around listening to boring talks," said Karla Schlauderaff from Lutheran High School in Mayer, Minnesota. To her surprise, she said, "the things that people said really excited me. I really liked talking to the medical students."

Most of the students who were interviewed at the end of the first day said the talks with students and the visits to academic departments were the best part of the day. Mike Martin from Wayzata Senior High School and Charlie Baker from Mayo High School in Rochester, who hope to go into medicine, both mentioned their session with W. Albert Sullivan, associate dean for admissions and student affairs in the Medical School.

Sullivan "helped clear up a lot of myths about getting into medicine. I've heard you had to major in a science, but he told us he preferred someone who went to CLA," Martin said. "He stressed having a well-rounded education and a complete college life," Baker said.

This year's Minnesota Scholar Days represented the University's "most ambitious effort ever to recruit high-ability students," said William Beyer, executive assistant to the director of student academic support services in CLA.

For the past four years, CLA had its own Minnesota Scholars day for top high school students, but this year the one day was expanded into five and the program was broadened to become campus-wide.

"Some of these students have a variety of interests," said Carol Dunkak-Dunekirchen, coordinator of prospective stu-

(continued on page 9)

CAPSULE

■ Faculty members of the University Education Association (UEA) at Duluth and Waseca voted overwhelmingly last month to continue negotiations rather than strike or accept the administration's contract offer. UEA President Richard Lichty said students could be assured that fall and winter quarters would not be interrupted by a faculty strike.

The vote at Duluth was 197-10 "to refrain from striking to allow the legislative delegation [from St. Louis County] to intercede on our behalf." Lichty said area legislators and Governor-elect Rudy Perpich have pledged to try to bring "our salaries in line with the Twin Cities and State University System salaries." UEA members at Waseca later voted unanimously to take the same position.

■ New Regents' Professors named by the regents are Bryce Crawford, Jr., professor of chemistry, and Margaret Davis, professor of ecology and behavioral biology (see story on page 8).

■ Jamie Fiske, an 11-month-old girl from Massachusetts, received a liver transplant at University Hospitals last month, and the story was big news nationally (see story on page 2).

■ Tax-exempt revenue bonds will be issued by the University to pay for the new $125 million hospital building if financial arrangements fall into place this month (see story on page 8).

■ Lee Stauffer, dean of the School of Public Health for the past 12 years, has resigned to return to the faculty and conduct research (see story on page 11).

■ Fall enrollment rose by 0.1 percent to 58,962—59 more students than last fall. An enrollment decline had been predicted. The record number of students is gratifying, President C. Peter Magrath said, but the numbers stretch the limits of University resources.

■ Tough choices will face the next legislature, faculty legislative liaison Peter Robinson told the Senate Consultative Committee (SCC) last month; 84 percent of the state budget goes to education and welfare, and welfare needs go up in hard times.

An analysis of appropriations over the past 30 or 35 years has shown an "extraordinarily high correlation" with the economy of the state, Vice President Kenneth Keller told the SCC. Analysts ran the model out to the future "to see whether income equals expenditure," he said. "What you find is that it doesn't. We may be looking at a 4 percent decrease in present dollars per year over the next few years."

Grant County Historical Museum

A Scandinavian farm home in Grant County, about 1880

UMM Professor Sees Art, History in Old Farm Homes

by Peggy Palmer
UMM News Writer

You might expect an art historian to be most at home studying famous works in the museums of Florence and Rome. But Fred Peterson, professor of art history on the Morris campus, finds the art and architecture of the Midwestern countryside appealing.

The summer before last, you might have found him on the rangeland of North Dakota, warily crossing a field to examine a low rugged structure while nearby cattle watched with interest.

Peterson took notes and photographs and measurements at the house, which was built around 1875 by German Russians who immigrated from the Ukraine. Its walls were of rammed earth two feet thick. With this insulation, planting trees for a shelter belt was unnecessary. A lone tree outside the kitchen window served as a lightning rod and provided a bit of shade.

A pentagonal entry, painted in the brilliant hues favored by this ethnic group, led to the main house. Inside the house were a large central fireplace and a loft where the children slept.

Like many old farm homes, it offers a glimpse into the lives of the people who helped settle the frontier. Their homes reflect their cultural background and the social, economic, aesthetic, and environmental forces that shaped their lives. But as urban growth, freeway construction, and large agricultural operations absorb the small family farm and change the rural landscape, these homes are disappearing.

Peterson estimates that half of the homes built in this region between 1830 and 1930 are gone, and many of the ones that are left have been remodeled so frequently that the original houses are no longer recognizable. Lack of funding for restoration means that more will be lost.

Peterson has photographed more than 1,500 homes; in many cases, his photographs and notes are all that remain to document their existence.

He believes that farm homes are an art form. "Any work of art has a visual form, which farm homes have, and a theme or subject, in this case the farm family and the history of the house and those who lived in it," he said.

Peterson, who grew up in Chicago, lives on a farm near Hancock. His interest in the architecture of this area grew out of his own drawings and paintings. "At first [my] watercolors were romanticized, but they became more detailed as I became more interested in the architecture of the buildings," he said.

As coordinator of the campus Humanities Fine Arts Center Gallery, Peterson put together an exhibit in 1975 that included nearly everything you would expect to find in a farm house of 1890: quilts and crafts, an Edison light bulb, Red Wing pottery, furniture of the period.

A later exhibit, supported by the Minnesota Humanities Commission, on farm home architecture in an eight-county region in west central Minnesota included photographs and descriptive text.

A sabbatical leave and a fellowship from the National Endowment for the Humanities enabled Peterson to expand his studies to include farm homes built between 1830 and 1930 in Iowa, North and South Dakota, Minnesota, and Wisconsin. The result will be a book on vernacular architecture and rural homes.

Peterson's research has taken him well off the main highways as he has explored homes that reflect the diverse ethnic origins, culture, and values of those who built them.

He recalls visiting a large farmhouse inn in Iowa: "The lumber for it was pre-cut in Long Island, New York, and transported to Iowa City via canals and rivers." Designed in the neoclassical style popular at the time, it served as a resting place for weary travelers along a stagecoach route.

On a river bluff in Bentensport, Iowa, the elegant home of Thomas Payne was constructed with a walnut frame and walnut and butternut wainscoting. "Payne was a close friend of Mark Twain, who often

Morris Campus on List of 50 'Good Colleges That Cost Less'

The University's Morris campus offers a top bargain in higher education: it is one of 50 colleges in the nation that offer "high academic standards and below average prices."

This conclusion was reached in a study conducted by *Changing Times*, a Kiplinger publication, and was reported in an article entitled "Good Colleges That Cost Less" in the November issue. UMM and Concordia College of Moorhead were the only Minnesota colleges included in the list of 50.

Changing Times evaluated colleges and universities on the basis of cost and quality. The average cost of attending a four-year private college for 1982-83 is $7,475, and any college costing less than that met the low-cost qualification.

For public institutions such as UMM, the amount used was that paid by out-of-state students. At UMM that amount is $6,886; for students who pay in-state tuition, it is $4,629. Tuition, fees, room and board, transportation, books, supplies, and personal expenses such as laundry and recreation are included in those figures. In terms of in-state college costs, UMM ranks 17th among the least expensive schools on the list.

Changing Times used several indicators to evaluate academic quality. Average test scores of entering freshmen were examined, and only schools whose freshmen ranked well above the national average were included.

The ability of freshmen at different institutions was also assessed on the basis of their high school rank. Schools on the list draw close to 75 percent—and often more—of their freshmen from the top 50 percent of their secondary school classes.

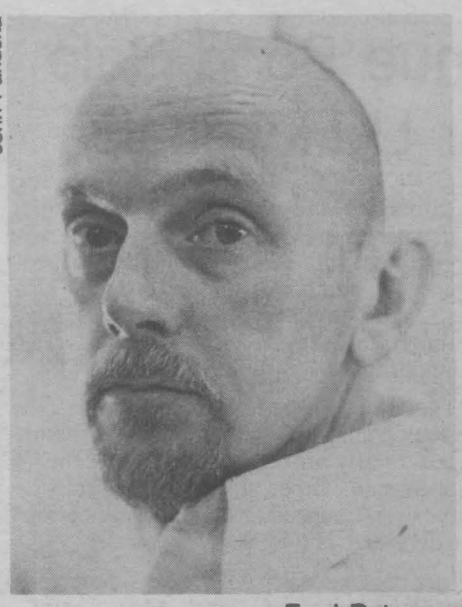
Another characteristic shared by colleges on the list is a selective admissions policy. All of the schools have high standards not only in academic programs, but in their student admissions levels as well. They actively seek students capable of meeting rigorous academic standards, and in the process they may turn down as many as 15 percent or more of their applicants.

Changing Times also looked at the percentage of students who go on to graduate and professional schools. A good proportion of the graduates of colleges on the list go on to gain admission to such schools.

Other statistics examined by *Changing Times* included the percentage of freshmen who do not return for their sophomore year and the percentage of entering classes that graduate. The average freshman dropout rate, according to a survey of 1,500 schools conducted by Peterson's Guides, is 27 percent. Almost all of the schools on the list reported a lower rate. Typically, 50 to 55 percent of entering classes earn bachelor's degrees within four to seven years. Most of the schools on the list are doing that well or better at holding on to their students through the full course of their college careers.

"This article in *Changing Times* reports what we have been saying for some time, that is, that UMM is one of the best academic 'bargains' available today in higher education," said Robert Vikander, director of admissions. "Our liberal arts program is of high quality, and in relative terms, our costs are less than those of most other academic institutions in the United States." □

John Panuska



Fred Peterson

visited this stately house,'' Peterson said. ''It is typical of homes built by affluent people of the East when they moved west.''

In contrast, the severity of many frontier homes reflected their builders' need to reach goals with a minimum of means and materials. Simple and unadorned, these homes are among the truest expressions of the American frontier experience, Peterson said.

Along the Red River Valley in North Dakota, Peterson found beautiful manor homes constructed by Norwegian families who had earned their wealth working the rich black soil of the valley.

In some cases, the ethnic influences on 19th-century homes continue as the next generation builds new homes. An example is a new home built by a family of German Russian descent. The outward appearance is similar to that of a modern rambler, but inside are five-sided steps leading from the garage to the kitchen. And in keeping with German Russian tradition, the bedrooms are grouped together at the back of the house in an adaptation of the earlier lofts.

Peterson is continuing to explore the influence of ethnic and traditional values and tastes on American architecture: ''To document and interpret those historical moments when farm homes came into being and functioned as homes for farm families is to recognize a valid and meaningful style that was generated by the untutored and anonymous artists who built them,'' he said. □

Textbooks for Nigeria Reflect Cultural Richness

by Margo Warner
Director of University Relations, UMM

A late-night meeting at the Radisson Hotel in Minneapolis a few years ago may have changed Craig Kissock's life.

Within months of that meeting with a friend who told him of a job opportunity, Kissock and his family were heading for Ahmadu Bello University in Zaria, Nigeria, where he had been hired as a visiting senior lecturer in social studies education.

Kissock, an associate professor of education on the Morris campus, has now written four books on social studies and teaching, all growing out of his experience in Nigeria. His latest book, published last spring in London, is entitled *A Guide to Questioning: Classroom Procedures for Teachers*.

Two earlier books, a social studies textbook and an accompanying book for teachers, were written for junior high use in Nigeria. Under the general editorship of D. L. DuBey, the text was written by Kissock and a committee of Nigerian educators, and the teachers' book by Kissock alone.

Committee members who worked on the textbook represented the principal cultures of Nigeria: Igbo, Hausa, Edo, and Yoruba. Kissock provided expertise in curriculum design and in English, the language in which the books are written.

Nigeria has a long history of association with Great Britain, and nearly all educated Nigerians speak at least three languages —their own tribal language, one of the three main Nigerian languages (Igbo, Hausa, or Yoruba), and English. Since English is the common language of Nigeria, it is the language of choice for educational material. Many of the texts used in Nigeria are published there by British publishing houses, including Nelson-Africa, the publisher of Kissock's social studies text and teachers' book.

The teaching of social studies in Nigeria is now similar to social studies teaching in the United States, drawing on many disciplines to show the relationships people have with each other and the world. Kissock was challenged by the responsibility of writing a book to serve all Nigerian people from a Nigerian, not an American, point of view. He relied heavily on his Nigerian coauthors for Nigerian viewpoints.

Craig Kissock

Like many other developing African nations, Nigeria is attempting to give its people a sense of their own history. After years of rule by Great Britain, the country's educational system reflected British values. British models were apparent in teaching methods and materials. Teachers lectured, students took notes without questioning. History was used as a tool in the development of students who were to become good civil servants and loyal British colonials.

Funds from the Ford Foundation and other international agencies have supported the development of a new school curriculum in Nigeria. The goal of many of the materials, including those written by Kissock, is to develop a positive image of Nigeria and Nigerians and to help Nigerians recognize the diversity and richness of their own culture.

Although the materials in the textbook *Social Studies for Our Nation* reflect traditional culture, they also look forward to the new Nigeria. For instance, the language of the text is intentionally nonsexist. Unfortunately, Kissock said, the editors —both of them women—chose photographs that reinforce the traditional male-female division of labor. Men are pictured in the workplace performing active tasks; women are shown in the marketplace and kitchen. Kissock and his colleagues plan to use other photographs in later editions of the text.

Another of Kissock's books is *Curriculum Planning for Social Studies Teaching: A Cross-Cultural Approach*. It began as a short paper on what social studies is for Nigerians. Soon Kissock was responding to requests for copies by mimeographing them for distribution out of his university office in Nigeria. Now it is a full-fledged hardbound book.

The book is being used in southeast Asia, Europe, and North and South America as well as in Africa. The text, practical and direct, is useful for social studies teachers no matter where they teach. Kissock said it shows ''a way of implementing and designing your own social studies materials, using local resources.''

A Guide to Questioning, Kissock's latest book, was written with his former student Peter Iyortsuun, a Nigerian. It is intended to cross grade levels, disciplines, and national boundaries—in short, to be used by teachers everywhere.

The book helps teachers form the questions they ask students and encourage students to construct their own questions. Questions can be worded to test knowledge, comprehension, interpretation, application, analysis, synthesis, or evaluation, Kissock said. The ''right'' questions encourage critical and evaluative reasoning.

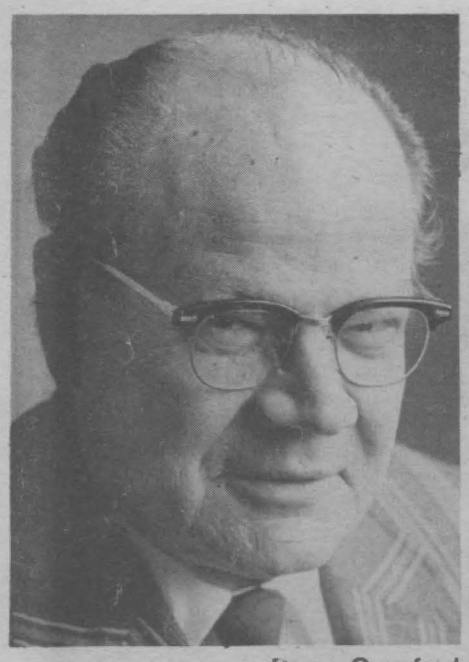
Beyond this, Kissock said, ''Teachers have to decide what is okay for students to ask. Each society has its own limits. In Nigeria, for instance, it is important not to challenge authority, so teachers there must choose questions with this value in mind.''

Kissock's experiences abroad have convinced him that we all carry our own culture with us no matter how long we stay in other places, but he has seen as many similarities as differences among cultures.

''No matter where we are as teachers, we're asking the same questions,'' he said. ''The answers may be different, depending upon where we are and where we've been. The answers may eventually be more similar than different.'' □

North Dakota Heritage Center

The Home of a Successful and Contented North Dakota Farmer, about 1910. Using the materials most readily at hand, John T. Wallace, a ''former farm renter from Illinois,'' built this home of sod on his new homestead in North Dakota.



Bryce Crawford

Margaret Davis

Two Scientists Named Regents' Professors

Two faculty members were named Regents' Professors—the University's highest faculty rank—by the Board of Regents last month.

Chemistry professor Bryce L. Crawford, Jr., and Margaret B. Davis, professor of ecology and behavioral biology, joined a select group of 17 other active Regents' Professors. The honor includes a $5,000 annual stipend from the University of Minnesota Foundation.

Both Crawford and Davis already belong to the nation's most prestigious group of scientists, the National Academy of Sciences (NAS).

This year Crawford was awarded the highest national honor in chemistry, the Priestley Medal from the American Chemical Society. He is one of a very small group who belong to the NAS, the American Academy of Arts and Letters, and the American Philosophical Society.

Crawford joined the University faculty in 1940, after teaching at Harvard and Yale Universities. His classic early research on rocket propellants contributed to World War II rocketry and helped lay the groundwork for the space program. He is best known for his work in molecular spectroscopy. By recording the reactions of molecules to light and radio waves, he pioneered the understanding of molecular structures. His techniques have helped chemists identify unknown materials.

Crawford was dean of the Graduate School from 1960 to 1972.

Davis came to the University in 1976 from Yale University. A world authority in the field of paleoecology, Davis developed a technique—now widely accepted—to use fossil pollen to find out how many plants actually grew at the time the pollen was released. Davis has used this technique to investigate the history of tree migration across the eastern United States in the past 15,000 years.

Davis chaired the Department of Ecology and Behavioral Biology from 1976 to 1981. She is the second woman to be named a Regents' Professor.

Regents' Professors are chosen by an anonymous committee of nine professors. There have been 39 Regents' Professors named since the honor was established in 1965. □

Outpatient Cancer Clinic Opens

A new outpatient cancer research clinic designed to treat patients who don't require hospitalization has opened at University Hospitals.

The clinic has examining rooms, special areas for chemotherapy and x-ray viewing, consultation rooms, and space for tabulating cancer research data.

"This unique facility was provided by a gift of $875,946 from the Masonic Memorial Hospital Fund to meet the increasing demands for cancer teaching, cancer research, and the care of patients with cancer in an ambulatory [outpatient] setting," said B. J. Kennedy, professor of medicine and director of the adult cancer clinic. Mark Nesbit, professor of pediatric oncology, heads the children's section of the clinic.

The clinic is on the fifth floor of the Phillips-Wangensteen Building. A ramp leads to the Masonic Cancer Center, which also houses the Veterans of Foreign Wars Cancer Research facility.

The Masonic Cancer Center was built in 1958 for the care of patients with advanced cancer. No outpatient facilities were provided until 1967, when a small outpatient clinic was built in the basement of the hospital.

With the rapid progress in cancer care, this facility became outmoded, and a modern clinic to care for adults and children was needed, Kennedy said.

"As a result of this progress, more patients are being rehabilitated," Kennedy said. "A longer survival of patients with cancer has been accomplished, especially in those under the age of 40, and some of these patients have been cured. With such progress, the number of patients managed in the clinic has rapidly increased." □

$157 Million Revenue Bond Sale Gets Go-Ahead for U Hospitals

by Elizabeth Petrangelo
University News Service Director

The new $125 million University Hospitals replacement building will be paid for through University-issued tax-exempt revenue bonds if financial arrangements fall into place this month.

The Board of Regents voted in November to give finance vice president Fred Bohen and a special committee of regents authority to prepare for the December sale of $157 million in 30-year University revenue bonds.

The package must be approved at the board's December meeting before the bonds are issued. Financing of the entire project through the sale of long-term bonds would be acceptable to the board only if the long-term debt burden can be kept below $92 per patient day. The bonds would be secured by hospital revenue and paid off through costs to patients.

The vote specified that if long-term financing under current market conditions were to push the cost per patient day above $92 or if it cannot be arranged during December, or at the very latest the first quarter of 1983, Bohen is to explore options for short-term financing. The board stipulated that short-term financing would be acceptable only if it would not push the debt burden above $95 per patient.

Bohen said he was hoping to see a bond prospectus by Thanksgiving and that bonds could be sold during the middle two weeks in December.

Bohen told the board that a recent feasibility study by Touche Ross and Co. indicates the long-term bond plan to be a reasonable alternative. The study was based on the assumption that:

—Patient days will decline from 196,335 in 1982 to 184,342 and will then level off;

—Charges per patient day will rise from $649 in 1983 to $1,119 in 1987 (60 percent of the increase will be the result of inflation, 23 percent will be costs of financing the project, and 17 percent will result from revenue losses caused by changes in federal reimbursement for Medicare and Medicaid); and

—At a long-term interest rate of 10.9 percent for 30-year bonds, the University would incur an annual debt burden of $16 million.

Bohen said all indications show that University Hospitals will increasingly become a regional referral center for patients with serious medical problems.

Neal Vanselow, vice president for health sciences, told the board he has appointed a committee to study costs of patient care at the hospitals and to recommend cost-cutting methods.

Vanselow said he and his health sciences colleagues are extremely concerned about the projected increase in cost per patient day to $1,119 by 1987. "If we're going to make the care at University Hospitals available to patients who need it, we need to launch a major effort to control costs," he said.

The committee, to be chaired by chief of surgery John Najarian, will compare costs at University Hospitals to those at similar institutions. Medicare and Medicaid reimbursement trends will be examined and the committee will evaluate whether to decrease the number of staff employees, lab tests, and x-rays and will attempt to isolate noncritical services that aren't self-supporting.

"This is one of the few projects of its size in the country that will attempt to support itself totally through long-term debt," Bohen said. Other similar-sized projects have been financed through a combination of debt and philanthropy.

Work began in early November on the first floor of what eventually will be an eight-story hospital. The first floor, financed through short-term borrowing, will house the therapeutic radiology department, which is scheduled for completion early in 1984. The rest of the building is expected to be ready for occupancy in 1986. □

Celtic Studies

(continued from page 3)

realize it's a little odd, given the current history of American academe, to try to get a new program going," Anderson said. "But we think we have the interest and most of the teaching talent, and that we could do it with a relatively small increase in the budget."

A survey of the students in the first Celtic World course in 1979 revealed that 21 of them would be interested in a Celtic studies major and 33 of them in a minor. Several students have been interested enough to arrange Celtic major programs through the University Without Walls. "I think many more students would be interested if there were a better way of declaring a major or minor," Suppe said.

"Certainly you could argue that Celtic studies is as legitimate a major as other majors we're offering," said Fred Lukermann, dean of the College of Liberal Arts. "The choices we want to offer students and the community are not less than in the past. I think it's natural that some programs will see acceleration, just as it's natural for other programs to show deceleration."

But any new liberal arts program will have to raise most of its money from contracts and grants, arise out of existing faculty and student interests, and function with such present resources as language labs and library collections, Lukermann cautioned.

The Celtic enthusiasts believe their informal program is evolving according to Lukermann's criteria. They're working on a bibliography of books needed for the library. Fortunately, the College of St. Thomas in St. Paul has a 5,000-volume Celtic library and St. John's University in Collegeville has a microfilm library of medieval manuscripts that's one of the best in the world. "We're looking a few years down the road for a minor in Celtic studies, and perhaps a major as well," Suppe said.

At one time Harvard was the only center for Celtic studies in the United States. Now there are a number of universities with Celtic studies programs. At their most optimistic, the Minnesota people see a chance to build a program in Celtic studies to match the best in the land. □

New Acne Drug Produces Remarkable Results

by Lynette Lamb
Publications Writer

It has never killed anyone, but severe cystic acne—the worst form this skin scourge can take—is physically disfiguring and psychologically disabling.

So, when a remarkably effective acne drug called isotretinoin, under the brand name Accutane, was approved by the Food and Drug Administration (FDA) last spring, acne sufferers and dermatologists alike rejoiced.

Studies of isotretinoin (13-cis-retinoic acid), a chemical relative of vitamin A, have proven that this oral medication works in cases where no other treatment has been successful. In a University of Minnesota study completed in June—part of a larger joint study at 10 medical centers—9 out of the 10 patients experienced total clearing of their skin.

These results are strikingly similar to those reported elsewhere. At the University of Iowa the skin of 88 percent of the patients cleared, and in an early National Cancer Institute study the success rate was about 90 percent.

"This is far and away the biggest breakthrough ever in the treatment of acne," said Garrett Bayrd, a dermatologist and clinical assistant professor on the Twin Cities campus who worked on the recent study.

Bayrd has strong feelings about the benefits of isotretinoin. "We're talking about patients that we've been unable to help before," he said. "These were the absolute worst cases, and now they're doing remarkably well."

Although Bayrd praises and prescribes it, he does not claim that isotretinoin is a wonder drug. "The side effects are there and they're significant," he said.

In fact, the side effects are significant enough that most dermatologists will prescribe isotretinoin only for patients with the deep, severe cystic acne that has proven unresponsive to conventional treatment. "This is a potent drug, with significant side effects, that is not to be taken lightly," said Professor Robert Goltz, head of the dermatology department.

The most obvious side effects are a direct result of the cure. Although doctors aren't sure exactly what mechanism is at work, they do know that isotretinoin drastically dries the sebaceous or oil-producing glands of the body, which, when clogged, become inflamed and cause pimples. But along with drying up pimples, isotretinoin can dry a patient's mouth, nose, unaffected skin areas, and even scalp, causing hair loss, nose bleeds, dry eyes, and very dry skin.

Other side effects are less benign and of even greater concern to physicians. Isotretinoin has been shown to cause increased blood lipid levels, birth defects in laboratory animals, and elevated levels of certain toxic liver enzymes.

All of these side effects appear to be reversible but, taken together, are serious enough to cause doctors to prescribe the drug with care. "For a significant risk of this sort, the benefits just have to be great," Goltz said. "Not everyone with a pimple or two should have the most heroic limits of medicine."

Even for those patients for whom the benefits are great, Goltz and Bayrd agree it's the dermatologist's responsibility to explain carefully the side effects. Bayrd said he is particularly cautious with female patients, stressing that they must practice birth control and avoid pregnancy until at least a month after the treatment is completed.

Although the side effects are temporary, the drug's results are not. John S. Strauss of the University of Iowa, one of the foremost isotretinoin researchers, wrote, "One of the most striking things with the use of oral retinoids in acne is the prolonged remissions that occur." Bayrd agreed, adding that because remissions can last long enough to get acne victims out of the critical teen and early-adult years, "Accutane may well represent a cure for acne."

Bayrd and Goltz agree that it was this incredible effectiveness in seemingly hopeless cases that caused the FDA to approve isotretinoin so quickly. Last winter, experts were predicting that the drug would not be approved for two years; six months later isotretinoin was on the market. "There is no other drug like it," Bayrd said. "The FDA recognized this and realized that they shouldn't deny it to people any longer." Goltz gave another explanation: "The FDA has been severely criticized for its slowness in introducing new drugs. I think they wanted to avoid that here."

But slowness seems to be part of isotretinoin's history. Although the drug was first synthesized in 1955, it wasn't until the mid-1970s that doctors in Europe began using it to treat acne. And although its introduction in the United States seemed quick, dermatologists here have been studying isotretinoin for six years.

Now that it's available, isotretinoin is virtually changing the lives of severe cystic acne victims, said Bayrd, who has treated about 50 patients with the drug so far. "I had two parents in my office recently who did everything but hug and kiss me, they were so amazed and appreciative of what Accutane had done for their son," he said. And parents aren't the only ones. "The patients are so grateful," said Goltz.

In fact, patients are so eager to use isotretinoin, few are put off by its price. At about $1.50 per capsule, Accutane can cost up to $500 for an average treatment course. But Bayrd is quick to point out that although it seems expensive, in the long run isotretinoin is probably much cheaper than the alternative—many dermatological visits, creams, ointments, antibiotics, and, for the terrible scarring that often follows cystic acne, dermabrasion or removal of the surface skin layers. "And this is to say nothing of the psychological costs," he added.

Bayrd believes that isotretinoin is only the first of what will eventually be many retinoid drugs—derivatives of vitamin A—capable of treating dermatological problems. He is still studying other retinoids, one of which seems effective in treating keratinization disorders—diseases of the outer, hard skin layer. "All retinoids appear to work very specifically," he said. "You change the vitamin A molecule slightly and you significantly change all the clinical and biological effects."

Goltz shares Bayrd's belief that isotretinoin is only the beginning, even for acne treatment. "My hope is that other retinoids will be uncovered that are more effective and less toxic," he said. "Accutane is a big breakthrough, but we're only on the threshold." □

High School Scholars

(continued from page 5)

dent services and admissions for CLA. "The more information we can give them, the better their decision is going to be."

Students were encouraged to pick the day that interested them most (or fit their schedule best), but information about all programs was available all five days. And students who were unsure about what they might want to major in were assured that it was fine and appropriate for them to be undecided. "We have faculty who are very happy to deal with undecided people, which is the majority of you at this time," Holt said.

Dunkak-Dunekirchen said the students who were invited to Minnesota Scholar Days were chosen in two ways. Most were in the top 8 percent in verbal and math scores on the PSAT (Preliminary Scholastic Aptitude Test). "We also recognized that that method eliminated some other

Tom Foley

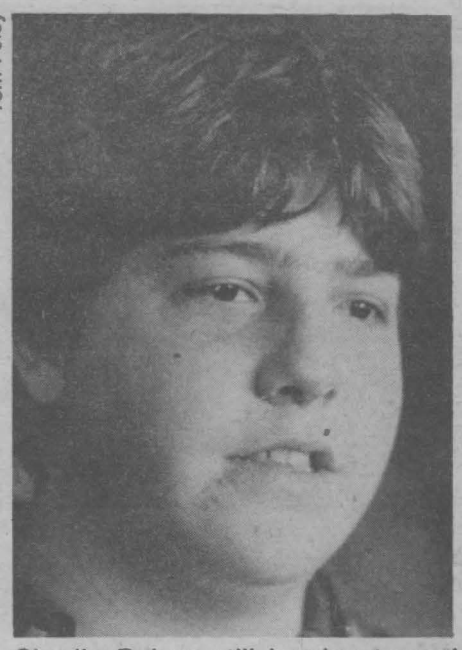
Mike Martin: clearing up myths about getting into medicine

outstanding students," she said—for example, students with outstanding musical talent, and some minority students. For this reason, recommendations from principals and counselors were also considered.

Because only about half of all Minnesota high schools responded to the original letter, she said, not all students with test scores in the top 8 percent were reached. Of the 3,665 who were invited, 700 said they would be coming and 100 others said they couldn't make it but would like more information.

Counting parents, more than 1,400 people were expected for one of the five days in November, but planners knew that not all

Tom Foley



Charlie Baker: still leaning toward Madison

of them would show up. The first day—November 3, when it snowed in the morning—225 students and parents were expected and 176 came.

In past years, more than half of those who attended a Minnesota Scholars Day have eventually enrolled at the University. The percentages range from 54 percent in 1978 (46 out of 85) to 59 percent in 1980 (43 out of 73). The follow-up has not yet been completed on the 187 students who attended in 1981.

Not all of the students who attended one of the 1982 days will end up choosing the University of Minnesota. Charlie Baker said Minnesota was in the running, but he was leaning toward the University of Wisconsin. Some of the students would have picked Minnesota even without attending one of the days. Jason Snebold said he'd already pretty well made his mind up, but he wanted to see the school before he decided for sure.

For some students, Minnesota Scholar Days may have turned their decision around. Karla Schlauderaff was asked whether she was seriously considering the University. "I wasn't," she said, "but after this day I am." □

Tom Foley

Carol Dunkak-Dunekirchen: giving information to help students make good decisions

Tom Foley

Paul Weiblen and one of the oldest rocks on earth

When the Earth Was New: Scientists Look at Origins

by Jeanne Hanson
University News Service Writer

Blazes of trees held to brown soil molded by the last glacier. A scarf of blackbirds billowed between earth and sky. Wind loosened fiery leaves as a gray lake reflected the gray sky.

It was Minnesota in October, and a group of scientists from around the world were on their way to Alexandria and then to the Minnesota River Valley to learn about the origins of the earth. Their trip took them backwards in time, back beyond the lake and the glacier, longer ago than the birds and the trees, even further back than the wind.

The origin of the inner planets, including the earth, was explored at a three-day conference convened in Alexandria for the National Aeronautics and Space Administration (NASA) by physics professor Robert Pepin and his Harvard colleague Richard O'Connell. Some of the conference's more than 100 physicists, geologists, and geochemists then traveled to the Minnesota River Valley to see the oldest rocks on earth. The visit to the valley was under the direction of geology professor Paul Weiblen.

Planetary scientists at the conference described how the inner planets formed within a vast cloud of gas and dust called the solar nebula and how they developed —or did not develop—their layers of core, mantle, crust, water, air, and finally life. The scientists have pieced together their theories based on what little evidence is left of those times: mostly volatiles, or dispersing gases, trapped within water and rock. Like chemical footprints, these gases are locked within meteorites, comets, and the sediments and rocks of the earth, the moon, and Venus and Mars.

Pepin's research on the early solar system focuses on meteorites and moon rocks, within which lie the frozen and almost unchanged evidence of events that occurred 4.6 to 3.3 billion years ago.

The most ancient meteorites, once asteroid fragments, were present at the creation of the solar system 4.6 billion years ago, condensing from clumps of gases and dust within the original solar nebula. Formed in the orbital zone near Jupiter, they were prevented by its immense gravity from accreting further to become a planet. So they have hardly evolved and hold, in cold storage, tiny frozen bubbles of helium, neon, argon, krypton, and xenon gases, encased in particles of carbon and accompanied by isotopes (variants) of nitrogen associated with the earliest history of the solar system. Within one of them, Pepin recently found evidence of a dying red giant star, which apparently flung its gaseous outer envelope into the solar nebula just as the cloud was condensing.

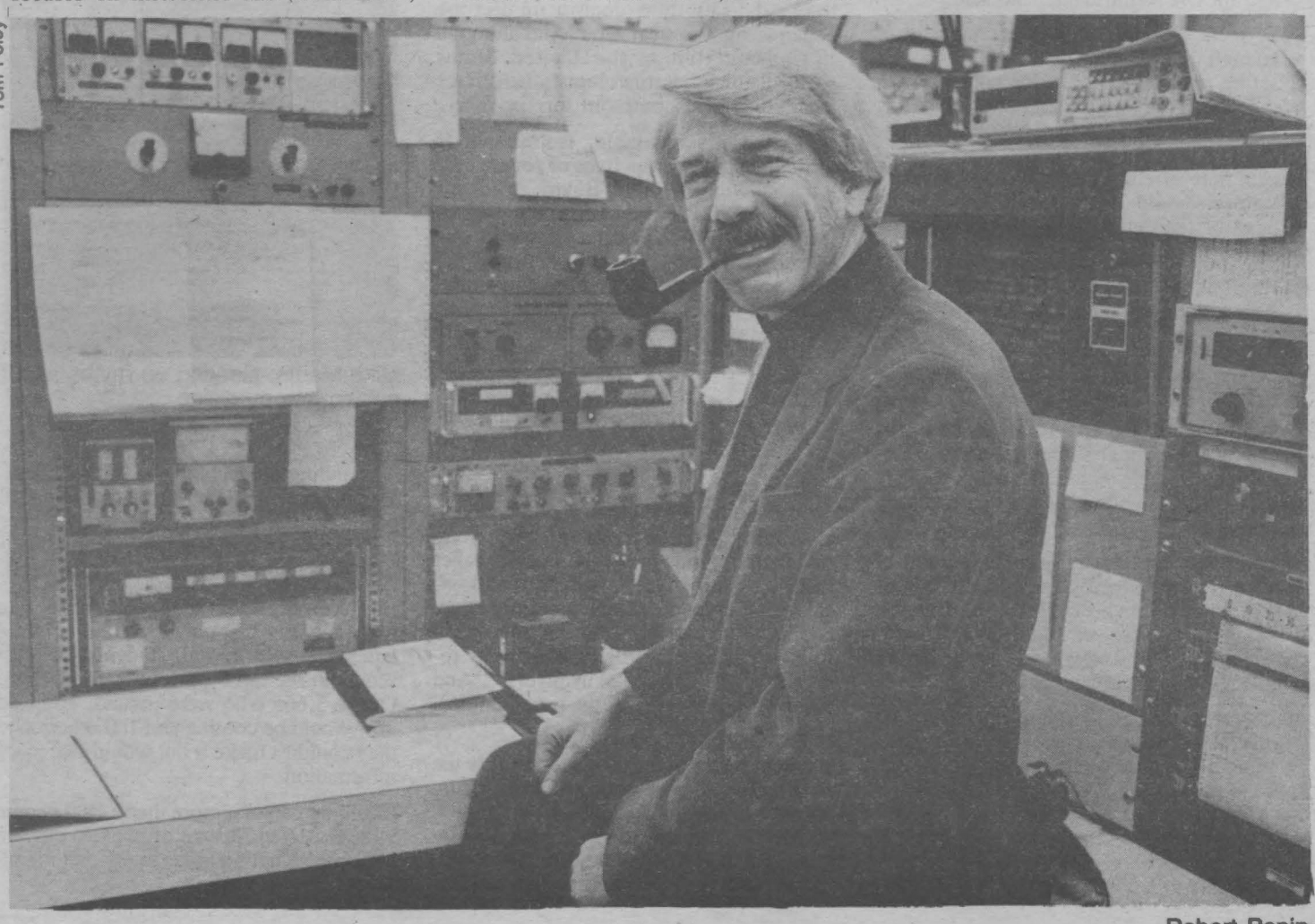
Moon rocks fill in other chapters of our origins, ones obliterated from the surface of the earth as it evolved, Pepin said. They contain evidence of the earliest volcanic processes in the solar system and of the early history of the sun.

Other conference participants filled in additional pieces of the puzzle. The early earth was described by Sherwood Chang of the NASA Ames Research Center in California as a "belching, burping" volcanic planet that created from gas under sunlight the surface carbon necessary for life.

Slightly later in the earth's evolution, ancient bacteria came to thrive on a diet of carbon within the rich ammonia and methane atmosphere. Descendants of these microorganisms are now being fed in the labs of geobiologists Penelope Boston and Carol Stoker at the University of Colorado, Boulder. Some 400 different organisms have been shown to thrive in simulations of the atmosphere of the early earth, before there was oxygen.

In fact, much of the oxygen we now breathe was created by these carbon-eating organisms, and the rest by water mole-

Tom Foley



Robert Pepin

cules splitting into hydrogen and oxygen, said Max Schidlowski, a geochemist from the Max Planck Institute in Germany. He placed the earth's "oxygen bloom" at 3.8 to 3.5 billion years ago, a golden age for primitive fossils. Schidlowski gave credit —"from us all"—to retired Minnesota Regents' Professor of Physics Alfred O. C. Nier, who developed the mass spectrometer, a tool now central to the work of planetary scientists.

The water budget of the evolving earth was discussed by Emi Ito, University of Minnesota geologist, and that of Venus by James Pollack of NASA Ames, who presented evidence that Venus once had an ocean.

More solid evidence on the now very solid earth was presented on the trip to the Minnesota River Valley. Some rocks there date from the early part of the Precambrian period, 3.8 to 3.5 billion years ago. Similar rocks lie exposed in parts of Greenland, South Africa, and western Australia. Older rocks may someday be found, but they could not be dated since early heat processes would have destroyed the evidence, said Ross Taylor, a geologist from the Australian National University in Canberra.

These most ancient rocks contain fragments of the first solid crust of the earth. When their mineral grains first interlocked in seething lava, the earth was still violent with volcanoes, its surface a thick and fiery flow of rock. The young sun shone, dimmer then, over the first small continents rising dry, bare, and lifeless above the surface. The process of plate tectonics, the fracturing of the earth's land surface into moving pieces, may not yet have begun; even the protocontinent, the land mass from which all present continents broke, had not yet formed.

To these rocks, the echo of dinosaur footsteps is a recent memory. So is the swimming of sharks, when Minnesota was a tropical sea. Both eras ended less than 100 million years ago. People have walked the earth only in the last 4 or 5 million years.

The rocks are frozen ribbons of pink granite, darkly sparkling with quartz and feldspar, swirled through with black amphibolite. The granite rock, from the first continent, lies immobile now with the amphibolite, formed from ocean crust and ancient lava. This layered meld of time is called a gneiss, and of all the gneissic rocks these are the oldest.

The rocks have been carried deep within the earth and brought back to the surface several times since their formation, forged at temperatures and pressures that exist only 10 miles or more below the surface, Weiblen said. In the 2 billion years between 3.8 and 1.8 billion years ago, they were melted, crystallized, folded, remelted, fractured, battered, and sliced through with material from old volcanoes and from the continental and ocean crusts. Then time buried them, preserving them from later chaotic change and from significant erosion.

"It's a miracle that their [radioactive] clock wasn't disturbed," Weiblen said. The rocks can be dated by measuring the stage of radioactive decay of elements within them. Isotopes of uranium and thorium decay to lead, rubidum to strontium, potassium to argon, and neodynium to sumerium, providing five clocks for geologists.

What eventually raised these rocks to the surface again, to be bright salmon even on a gray day, to be cluttered with juniper trees and their blue berries, and to be clamored over by geologists carrying cameras and pickaxes? Part of the answer is unknown, Weiblen said. They somehow must have been less dense than other deep crustal rock or they could not have risen through the earth's crust, now about 25 miles thick in this region. Long-ago meteorites may have helped by curling up buried rock on the rims of the craters created by their impact on the earth.

Only the most immediate cause is known, Weiblen said. A three-mile-wide river broke a natural dam and slashed this valley out of solid rock at the end of the last glacial period some 12,000 years ago. Racing with glacial water and debris for hundreds of years, it scoured off millions of years worth of younger, looser rocks. The ancient gneissic rocks were shoals in this river, and even today the outcroppings show signs of its fierce smoothing.

The glacier still lives in our land: the valley miles broader than the present-day Minnesota River, the rolling farmland sculptured by its path, the state's many rounded "kettle lakes" formed when giant iceballs left behind by the glacier melted—all are its vestiges.

And all are recent reminders of the ancient days of our planet. Its history goes back to the much earlier simplicity of air, fire, and water. Even then, it had vastly more potential for life than the other inner planets ever had. □

PEOPLE

Crookston: Provost Stanley Sahlstrom chaired a forum at the recent American Council on Education meeting in Minneapolis.

■ A paper entitled "Shelter in a Hostile Land: Sod Houses on the Frontier" by Stephen Sylvester, assistant professor of social sciences, won second place in the professional category of the Dakota History Conference.

Duluth: Robert Pozos, associate professor and head of the medical school's Hypothermia and Water Safety Laboratory, and David Born, professor of health ecology on the Twin Cities campus, are co-authors of *Hypothermia: Causes Effects Prevention,* published by New Century Publishers, Inc.

Morris: Wilbert Ahern, professor of history and director of the West Central Minnesota Historical Center, presented a paper on "The Morris Indian School: 1887-1909" at the Northern Great Plains History Conference in Bemidji in October.

■ Leona Classen, acting chair of the Division of Education, and William P. Kelly, assistant professor of education, made a presentation to the Minnesota Reading Association conference last month on "Math Anxiety: Reading Skills Can Be a Solution." Kelly also read a paper on "Teacher Burnout in the Rural Middle Schools" at the national meeting of the National Middle School Association in Kansas City October 29.

■ German professor Liselotte Gumpel has completed work on *Metaphor Re-examined in Terms of Non-Aristotelian Semantics Toward a New Millenium,* which will be published in 1983 by the Indiana University Press.

■ William K. Tomhave, assistant professor of mathematics, and Kathryn M. Schotzko, UMM senior, have been named test and evaluation consultants for a grant given by the Council on Quality Education for a project on "Problem Solving Through Strategy Games" in the public school systems in Olivia and Sleepy Eye.

Twin Cities: Agricultural Extension Service staff members were honored at the annual Staff Development Conference in October. Harold "Bud" Cloud, professor and extension agricultural engineer, and Francis Januschka, Stearns County extension director, received the Director's Award to Distinguished Faculty. The $1,000 award is given annually to an outstanding campus-based faculty member.

■ Dominick Argento, Paul Fetler, and Alex Lubet of the School of Music faculty have received awards for 1982-83 from the American Society of Composers, Authors, and Publishers (ASCAP). The awards represent ASCAP's commitment to assist and encourage writers of serious music.

■ Douglas Fenderson, director of Continuing Medical Education, has been appointed director of the National Institute for Handicapped Research. He will take a leave of absence for the two-year appointment, which begins in January 1983.

■ Marie Manthey, a nationally known nursing consultant and author, has been appointed director of the Independent Study Program for Patient Care Administrators in the School of Public Health. She will also serve as an assistant professor in hospital and health care administration.

■ University librarian Eldred Smith has been elected president of the Association of Research Libraries for 1983-84. He will serve as vice president and president-elect for 1982-83.

■ John Stecklein, professor of educational psychology, presented a paper and chaired the business session at the fourth European Association for Institutional Research Forum in Uppsala, Sweden, in August.

■ Vernon Weckwerth, professor of hospital and health care administration in the School of Public Health, will direct a new independent study program made possible by a $468,085 grant from the W. K. Kellogg Foundation. The program will provide continuing education opportunities for administrators of ambulatory and long-term health care programs.

■ Roy Schuessler, professor emeritus and former chair of music and music education, died at the age of 71 on October 29.

Waseca: William Anderson, associate professor of agricultural production, has been named editor of the *Journal of Agronomic Education* beginning in January 1983.

Stauffer Resigns as Public Health Dean

Lee Stauffer, dean of the School of Public Health on the Twin Cities campus for the past 12 years, has resigned from that post to return to the school's faculty and to conduct research.

Neal A. Vanselow, vice president for health sciences, told the Board of Regents last month that a search committee headed by Ellen Fahy, dean of the School of Nursing, will soon begin interviewing candidates for the permanent position. Edith Leyasmeyer, associate dean of the School of Public Health, has been named acting dean for the interim period.

"I know I speak for his faculty when I express deep appreciation for [Stauffer's] long years of high quality and service to the school, to the University, and to the state," Vanselow said.

"Dean Stauffer's leadership of the School of Public Health has continued to provide the Medical School with expertise in preventive medicine, not only for our educational programs but for our research programs," said N. L. Gault, dean of the Medical School. "I feel he personally was responsible for our excellent relationship in these endeavors. I trust the new dean will do as well."

Stauffer has spent most of his career at the University of Minnesota. In 1952 he became a housing inspector for University Health Services and became assistant director of the School of Public Health 10 years later. For two years in the 1960s he was executive secretary of the American College Health Association in Coral Gables, Florida. He returned to the University in 1968 as assistant director of Continuing Medical Education and became dean of the School of Public Health in July 1970.

Leyasmeyer earned a Ph.D. from the University in 1968 and became associate dean of the school in 1980. Previously, she held a joint appointment as assistant professor in the School of Public Health and the School of Medicine and was a member of the University's health sciences planning staff.

A Nurse's Day

(continued from page 1)

Tom Foley

Betsy Anderson: "A lot of what we do here is IV management, IV management, and more IV management."

have to be acutely aware of what's going on. We have to know our patients. Nurses are the ones who are there. We are the potential spotters of any changes."

While Anderson was briefly out of the room, Susan took her pills. The nurse noticed as soon as she returned. "You already got your pills down. Terrific, I'm so used to having to fight with kids to get them down."

Anderson needed to get a throat culture and a nose culture, and she gave Susan her choice about when she would do it. "Would you rather have me do it now and get it over with?" Susan said she would.

While Susan went to take a bath, Anderson made her bed—one of her least favorite tasks. "This is what I went to college for four years for," she said. Anderson began working at University Hospitals six years ago, when she was a sophomore in the School of Nursing, and she started at station 41 in September 1979. She is now taking seven graduate credits in nursing.

Much of Anderson's time during the day was spent preparing solutions to give to Susan intravenously. Some of those solutions are incompatible with each other, and it is necessary to flush one through the Hickman catheter before the next is administered. "A lot of what we do here is IV management, IV management, and more IV management," Anderson said.

In mid-morning, Anderson had time for a short break. Several of the nurses were trading notes on what they had heard about the condition of former patients. A message on a blackboard extended congratulations to the three staff members who would not have to work on either Thanksgiving or Christmas: one with the most hours worked, one who had not used any sick leave in the last year, and one whose name had been drawn.

"I get to work Christmas," Anderson said. She said she had volunteered for the assignment, because her family is in town and she knew that other nurses wanted to spend time with their families out of town. Anderson's father works at the University, in plant services. "It's a family thing," she said about working at the University. "I run into him on campus sometimes."

After her break, Anderson dropped in to visit a favorite young patient, Kevin. As it turned out, he had other company, two residents who were playing Simon Says with him. One of them had a red beard, and Kevin was getting a kick out of calling him Redbeard and then trying some variations: "Black beard. Yellow beard. Purple beard."

Another nurse, Sandy Goldman, asked Anderson if she had time to help take a throat culture from two-year-old Jeffrey. "He's going to scream," Anderson said, but she and Goldman managed to get the culture without even a whimper from the little boy.

"You're quite a talker, aren't you, Jeff? We're going to do cultures now. We're going to get this done real quick and then we'll be done for a couple of days."

"I betcha I can open my mouth wider than you. Let's play copycat here. Can you open your mouth this wide? I'll show you what to do. Just like this, honey."

"Good job, good job. Keep your mouth open this time. We've got to get this done so we can get some playing done today."

"All done! Good boy! Do you want a hug? Such a good kid!"

When she had her culture, Goldman thanked Anderson: "Betsy, thank you so much. I couldn't have done it without you."

Before leaving Jeff's room, Anderson had an idea. "Shall we do a culture on your doggy? Okay, it's time for a throat culture. Such a good dog. Now you give him a big hug because he's such a good dog."

Before lunch, Anderson visited Susan again to flush her IV, look at her chart, and update her care plan. Susan didn't like the lunch that had been brought for her and asked if she might have some chicken noodle soup. Anderson called to order the soup, went to pick it up, heated it in a microwave oven, and brought it to Susan. Then she went to get a hamburger and french fries from the cafeteria for Susan's mother.

When patients don't like their food, the nurses try to find or fix something they will like. Nurses are often mixing malts for their patients, Anderson said. And families are encouraged to bring in favorite foods. One refrigerator is reserved for food that family members bring. "It gives the families something they can do," Anderson said.

After her own quick lunch, Anderson returned to Susan's room to change the dressing on her Hickman catheter, an IV made of a flexible plastic tube that is put into a large vein in the neck. The tip of it is in the right chamber of the heart, and the end comes out from under the skin at either the chest or the side. With a Hickman, frequent blood tests can be taken painlessly.

At 1:45 p.m. Anderson said, "Now comes the time when I have to start documenting what I've been doing, writing down everything she's been drinking, adding up all her IV totals." She borrowed a pocket calculator to do the computation. Susan's biggest complaint during the day had been her stuffy nose, so Anderson included that in her report.

The next job was to clean Susan's room, wiping off all the surfaces and restocking supplies. And once again, it was time to check the vital signs: temperature, pulse, blood pressure, and respiratory rate.

Another job for the afternoon was to give Susan amphotericin, an antifungal agent, which would run for two hours in the IV beginning at 3 p.m. To avoid a possible reaction, Susan was given some premedication. Before giving any medicine, Anderson asked another nurse to check it for her. "We double check all our medications," she said.

As she worked with the IV solutions, Anderson also prepared the first solution to be given by the nurse on the relief shift. Getting things ready for the new shift "makes everybody happier" and "makes for better working relations," she said.

Then Anderson was ready to give her report to Jeanne Hannah, the charge nurse for the day shift. Hannah took reports from all the nurses so that she could relay the information to the nurses coming in for the relief shift.

Report time for the new shift was at 3 p.m. The three shifts, which overlap by half an hour, are from 7 a.m. to 3:30 p.m., from 3 to 11:30 p.m., and from 11 p.m. to 7:30 a.m. Like most of the nurses, Anderson rotates on all three shifts. Eight nurses are on duty for the first two shifts and five at night.

Typically the nurses on station 41 work 32 hours a week. By working on 80 percent appointments they receive full benefits from the University, but they have more time to recuperate between shifts, Anderson explained. All of the nurses work every other weekend.

After working Thursday, Anderson was going to take Friday off. Then she was going to be the charge nurse Saturday and Sunday. Head nurse Ann Kaley called her in at the end of the day Thursday to tell her something to watch for over the weekend.

Before leaving for the day, Anderson visited Susan one more time and took her vital signs again. "Something new and different," she remarked. She said goodbye to Susan and told her she would be back on Saturday.

Susan wanted to know what her counts were—the blood counts that are so crucial to a transplant patient. Anderson didn't have them yet but she said she would tell the nurse on the next shift to get them for her.

Just before she left, Anderson got Susan's counts. The hemoglobin count is normally between 13 and 16 for an adult woman. Susan's was 7.8. "That can make her feel wiped out," Anderson said. The normal white count is between 5,000 and 10,000, but for transplant patients it may fall as low as 50. Susan's was 500.

Susan's platelet count was 32,000. Platelets help in blood clotting, and the normal count would be between 150,000 and 300,000. But Anderson said 32,000 is "not real low. People can spontaneous bleed with a count less than 20,000."

All in all, Susan's condition was stable for a patient less than two weeks after a transplant. Serious problems could still develop, but there was no immediate cause for concern.

Greta Peterson, Susan's nurse for the relief shift, came up to Anderson just before she left. "Hi, I have Susan," she said.

"Here are her counts," Anderson said. "You can just give them to her. She's fine." □