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VISIONS

IOWA STATE UNIVERSITY'S ALUMNI MAGAZINE

In Search Of Scientists

▲ TIE A YELLOW RIBBON ▲ GADDING ABOUT THE GLOBE ▲

▲ SEPTUAGENARIAN CYCLONE ▲ KEEPING COMPETITORS CLEAN ▲ WINTER 1989 ▲

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WINTER 1989

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VISIONS

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COVER PHOTO BY TOM WALLACE

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VOLUME 15 NUMBER 4

THIS COULD BE CALLED (YAWN) A COLUMN ABOUT HEALTH...

... THAT OF THE ASSOCIATION'S TRAVEL PROGRAM, STUDENT-ATHLETES, THE SCIENTIFIC COMMUNITY—AND MY OWN

Jet lag does funny things to you. It wakes you up at 2 a.m. and convinces you to clean bedroom closets. By 4 p.m., it's equally responsible for your face landing in the keyboard of your word processor. Going for days on catnaps soon becomes hazardous to your career.

But always, it's worth it. What preceded my most recent bout with jet lag was an eye-opening 17-day trip around the world via the Alumni Association's travel program. The itinerary read like the condensed version of an atlas: Copenhagen, Moscow, Beijing, Hong Kong, San Francisco. And every stop along the way was an adventure in itself. (See page 22 for a photo overview of this extraordinary opportunity.)

KERRY GIBSON

The trip coincided with the Summer Olympic Games held in Seoul, South Korea. As we jetted from city to city, one of the first priorities in each hotel was to tune into a television station broadcasting the competitions. There was something almost eerie about sitting in a cold, stark Moscow hotel room and watching the Soviet Union's Yelena Shoushunova calmly, sternly receive the premier gold medal for women's gymnastics.

But it was downright disheartening the night we turned on an Armed Forces station in Beijing just in time to hear that the fleet-footed Ben Johnson of Canada had tested positive for steroid use and had been forced to give up his gold medal. By the end of the Games, it seemed every newscast had made some reference to yet another "suspected," and in some cases, detected, athlete.

So I'm naive. So I don't understand how the pressures of winning or even participating in an athletic event can drive an otherwise clean kid to the brink of destruction. Because no matter what teammates tell each other as they take turns jamming needles into bloated muscles, a moment of glory just isn't worth the kidney failure and the hallucinations.

Fortunately, more and more U.S. colleges and universities are no longer looking the other way when someone mentions athletes and drugs. Some schools even have pioneered programs to prevent the anticipated havoc wreaked by substance abuse. One such school is Iowa State University, home of the Athletic Department's drug testing program since 1983.

Department officials become uncomfortable when much attention is paid the subject, in large part because of the intense confidentiality guidelines established to protect student-athletes. For that, they have my respect. But I also believe there deserves to be some recognition of what this institution did to head off a potential tragedy of its own. According to Dave Cox, the program's administrator, "We have the charge to care for the health and welfare of our athletes, and we have a responsibility to the total person, not just that part that performs for us." More about that commitment on page 28.

Renewing the commitment to science and technology education is the topic of this issue's cover story, written by Dan Davenport. Currently, the U.S. prognosis isn't so enviable; the "pipeline" for developing tomorrow's scientists is rusting out at a rapid rate. But ISU, along with the National Science Foundation and other organizations, is looking the problem square in the eye and implementing programs to curb the mass exodus from science, mathematics and engineering. That story begins on page 14.

If this is your first glimpse of VISIONS, I hope it's not your last. With that, if you'll excuse me, I've gotta catch a quick nap.

—By Debra Gibson

LETTERS

GIVE HIM THE PINK SLIP

Oh, the irony of it all! Where in the Don Smith story [The Road Not Taken, Fall '88] is the retributive justice whereby the rebellious child eventually becomes the distraught and long-suffering parent? Evidently our former student body president, unlike his parents, has not yet had to cope with even one politically or morally deviant offspring. So, come on Nico or Miura or Chaney! Won't one of you please turn into a Republican fundamentalist Christian patriotic yuppie, a real Neanderthal-type conservative, who will tell that radical socialist commie pinko Daddy ("Don") of yours that you are not buying either his "one big happy socialist world" or the mores of his counter-culture generation?

Wallace W. Wick, '49
Maysville, North Carolina

TIME TO GET OUT THE BOOTS

I just read the six pages devoted to Don R. Smith. I kept thinking I'd find a pony somewhere. I didn't!

The rest of the magazine is great.

Donald L. Drake, '52
Littleton, Colorado

ACCOMPLISHMENTS OF NOTE

WOW! It was terrific to hear about the Ames Piano Quartet [Striking the Right Chord, Fall '88]. Being a vocal music graduate and listening to the Ames Piano Quartet during my schooling made me quite proud then. It's wonderful to know they continue to successfully represent our university and its fine music program!

Meg Brodie-Ideker, '83
Saginaw, Michigan

A HERO, A FRIEND

This is in reference to the article about Jack Trice [Trice statue dedication is victory for supporters, Summer '88]. After all these years I would like to add this additional bit of information about a man who was my boyhood hero and whom I loved very much. In the year of Jack's death I was a 12-13-year-old ragamuffin who lived just a few blocks from State Gymnasium. We kids ... could only swim in the pool if accompanied by a responsible student. Jack Trice agreed to be my sponsor, and I was in seventh heaven. At the deep end of the pool was a diving tower with two platforms — a high and a low. I'd climb up the ladder to the high platform ... and then climb back down to the lower platform. One day as I approached the ladder to climb down, here was this big black figure blocking my way. "Tibby," Jack said, "this time you don't climb down. This time you dive off." So he grasped me by the ankles and ... let me go head first into the water. From that point on I was never afraid to dive off the high platform. Later that fall when his death was announced I was devastated. I had lost one of my dearest friends. One of my great regrets is that I didn't voice my opinion when they were debating the name of the new stadium. It definitely should have been named Jack Trice Stadium.

Fred C. Battell, '34
St. Paul, Minnesota

PLAY MISTY FOR ME

How about starting a standard feature that all alumni can relate to as part of their everyday life at ISU in times past? What I am proposing is a feature that might be called "Remember when ..." or "In times gone by" which does not feature specific individuals but simply provides a slice of life at ISU during the lifetime of most living alumni. Everyone likes to reminisce and say, "Gee, I remember that!"

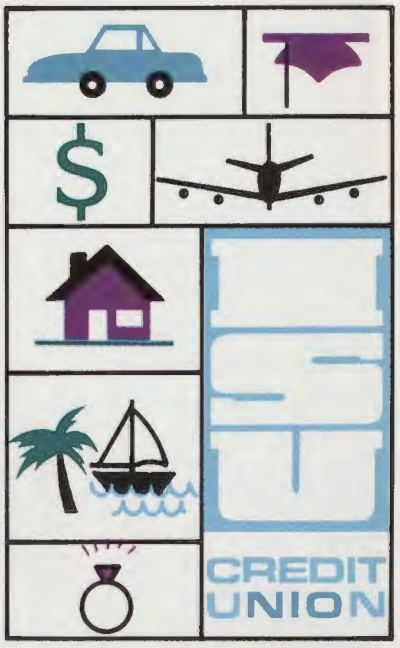
Floyd D. Jury, '56
Marshalltown, Iowa

WE'RE SINGING HER SONG

I want you to know how much I have enjoyed your publication! You keep us informed about what is going on at Iowa State as well as tell us about some of our outstanding "profs" and alumni. It's all "music to the ears" of a '26 grad.

Please keep VISIONS coming to the alums—it's a beautiful and informative publication!

Kathryn McCarney Newman, '26
Cape Girardeau, Missouri



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CARD's Stanley Johnson and President Gordon P. Eaton (center) traveled to the Soviet Union in September.

HANDS ACROSS THE WATER

ISU center finalizes historic agreement with Soviet academy

Even though Iowa State already has sent one scientist to the Soviet Union to kick off its revolutionary research agreement, Stanley Johnson admits he still has to pinch himself occasionally.

Johnson, the director of Iowa State's Center for Agricultural and Rural Development (CARD) has reason to wonder if he's not dreaming. He spent a year and a half working on the first-of-its-kind agreement between Iowa State and the V.I. Lenin All-Union Academy of Agricultural Sciences of the U.S.S.R., but the last six months have been, in his own words, "an unbelievable experience." Now that a solid foundation has been laid, he says it's time for the real work to begin.

"This agreement has opened the door for us to have access to the kind of data no one in the western world has ever had," Johnson said. "This program can be very, very big if both sides want it to be that way. It's something you dream about but never really think can happen."

Last June, a delegation of agricultural scientists from the Lenin Academy came to Iowa State to sign a historic five-year exchange agreement. Never before had such an agreement between the massive Soviet academy and a U.S. higher education institution been signed.

Then in September, five ISU officials spent two weeks in the Soviet Union to finalize the plans. Making that trip were Johnson; ISU President Gordon Eaton; Charles Duchen, a member of the State Board of Regents; Kenneth Frey, an agronomy professor at Iowa State and Tania Tipton, a foreign language instructor who served as interpreter.

While in Russia, the Iowa State delegation traveled to the Lenin Academy headquarters in Moscow, as well as to Stavropol, Dombai, Tashtent and Samarkand. The Academy, which Johnson described as *the* agricultural organization in the Soviet Union, is made up of about 200,000 scientists and support staff in 135 institutes scattered throughout the country. It has a research function comparable to the combined efforts of the USDA Agricultural Research Service and the agricultural colleges in the U.S. land-grant system.

In addition to giving Eaton the opportunity to meet with Academy President Aleksandr Nikonov, the trip also allowed the two sides to finalize their first specific exchange agreement. In all, five umbrella research agreements were signed, and henceforth, individual colleges at Iowa State will sign agreements with corresponding institutes in the Academy.

"These agreements specify which areas the institutes and our colleges will work in," Johnson said. "With our overall agreement, we can now sit down and make deals with any of the institutes in the Academy."

Said Eaton: "We came home with five very satisfactory agreements that are going to benefit both institutions. We are very pleased."

The agreement currently the most developed is between ISU's College of Agriculture and the Stavropol Institute and the Institute of Cybernetics. Karl Skold, a research associate at CARD, started a year-long research assignment in the Soviet Union this month, while a Soviet scientist will be coming to Ames in March. Johnson said this exchange will allow Iowa State to conduct research on productivity, efficiency and agricultural reform. "We're already down to specific analyses," Johnson said.

Several other agreements could be reached this year; throughout the five-year period, ISU colleges involved will include agriculture, veterinary medicine, engineering and sciences and humanities. One upcoming agreement, for instance, will allow ISU's agronomy department to have access to what Johnson called "an extremely valuable" collection of genetic material.

Iowa Regents approve 7 to 9 percent increase in tuition for '89-'90

As expected, the Iowa Board of Regents in November approved tuition increases for the 1989-90 school year. Despite student protests against a ninth consecutive increase, the Regents approved a 7 percent increase for resident tuition and a 9 percent raise for non-residents. That increases resident tuition from $1,706 per year to $1,826. Non-resident annual tuition will go from $5,488 to $5,982.

The Regents, who approved the increase by a 6-3 vote, indicated hesitancy toward another hike. Several, though, said they would not support an increase next year. This marks the third and final year the increases are to be tied directly to faculty raises.

Regent President Marvin Pomerantz said after the vote that the General Assembly would be asked to increase its appropriations to the Regents by 11 percent this year.

Bowen lashes out at lack of ethical literacy

Can we talk?

As far as Ezra Bowen is concerned, no. At least not well enough. Bowen, the seasoned editorial director and executive vice president of Times Mirror Magazines Inc., opened Iowa State's Presidential Lecture Series in October with a speech on ethical literacy.

"In everyday use of language, many of us are verbally crossing our fingers behind our backs," Bowen said. "You have a choice of the quality of your thought, language and the quality of ethics that comes out in your discourse. So talk straight, think right, do not talk around things."

KENYON KOPP

Ezra Bowen

Bowen did exactly that in his speech, which consisted of a series of examples of how notable figures have displayed unethical tendencies in language. Former Attorney General Edwin Meese, Supreme Court nominee Robert Bork and Nancy Reagan were just a few of the people whose language Bowen took issue with, most of which he termed "profoundly offensive."

"People have asked me what on earth ethical literacy means," he said. "I am concerned with the deterioration of the quality of language and the careless way we use words and phrases. Words and ideas are used commonly in ways which do not deal with the bottom line and do not look at the way the world really is."

One speaker will be featured each semester in President Gordon Eaton's lecture series.

Ames/ISU committee issues recommendations in wake of Veishea riots

Three nights of unrest during Veishea 1988 left the Iowa State University community concerned about more than just the future of the annual celebration.

But months of deliberation appear to have made the best of a tense situation. Both ISU and the city of Ames already have made policy changes, and other actions aimed at curbing such alcohol-related incidents appear to be on the horizon.

"We feel good about the work that has been done and discussions that have occurred," said Ames city councilwoman Ann Campbell, who chaired the Ames/ISU Ad Hoc Committee that addressed potential changes necessary to prevent a repeat of Veishea.

Some changes already have been made. It was announced almost immediately that classes would be recessed only one day for Veishea, instead of two as in the past. And in August the Ames Police Department began placing two foot patrol officers in Campustown every Friday and Saturday night.

Veishea's fallout certainly will affect other areas, but most recommendations made by the ad hoc committee are still just that — recommendations. Some of those include:

▲ strictly enforcing traffic and liquor laws in Campustown, with special attention to underage consumption;

▲ promoting more Veishea activities from 9 p.m. to 4 a.m. on Friday and Saturday nights;

▲ reviewing all aspects of the university's existing alcohol programming, and better coordinating these efforts. Said Campbell, "The bottom line is there is a major problem with alcohol abuse [at ISU]";

▲ supporting the possibility of allowing underage people into drinking establishments using an adequate system of identification to determine drinkers and non-drinkers;

▲ revising the city's Beer Keg Tapper Ordinance to allow for a maximum of only two kegs to be tapped concurrently, and

▲ pursuing a state law prohibiting the access to alcoholic beverages through the purchase of some item or donation to a cause, without a beer permit or liquor license, unless the organization is a bona fide, nonprofit charitable organization.

"All told," the committee wrote, "we have used this as an opportunity to open lines of communication about concerns that long predated Veishea."

Said Campbell: "The proof of the pudding is now going to be how these things are implemented. The ball has been passed on to [Ames Mayor Paul Goodland] and [ISU President Gordon Eaton]. Where this goes from here, we won't know. But I'm confident there will be positive changes made."

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MUSICA ANTIQUA RAISES THE CURTAIN ON RENAISSANCE DAYS

EARL RICHARDSON

From left, Alan Spohnheimer, Carl Bleyle, Jean Thomas and Dee Dreeszen recreate a scene from days of yore.

This is one group that travels to the beat of a different sackbut.

Their music is centuries old and their clothes and instruments *look* it, but their enthusiasm, talent and ingenuity have made them one of the freshest, liveliest artistic groups on campus.

Armed with zinks, krummhorns and dulcians and wrapped in 16th century garb, they call themselves Musica Antiqua. Under the direction of ISU musicologist Carl Bleyle, the seven-member group plays about 25 Renaissance gigs a year in almost every venue imaginable, from college auditoriums to church basements. Its performance at the annual Madrigal Dinner is probably the most recognizable to the ISU community.

"I really don't think there's another group like us," says Bleyle, pointing out that the 21-year-old group receives funding from the Iowa Arts Council, a state arm of the National Endowment for the Arts. "We're the only show in town."

At least for the last 400 years or so.

Musica Antiqua, which was born in a 1967 living-room discussion that included former ISU president W. Robert Parks, plays music from the Renaissance era and the Middle Ages, roughly the 14th century to the early 17th century. Made up of musicians and singers from as close as Iowa State's Music Hall and as far away as Fort Dodge, the group has an inventory of more than 100 instruments worth nearly $100,000.

As if it needed more distinction, it goes even further to keep from being a run-of-the-mill Middle Ages combo. Nearly every performance is geared to its specific audience or occasion for gathering. Bleyle, a music historian specializing in 18th century organ instruction, finds music from the period that ties in with the event's theme, then reworks the words and doctors some photographs. Headlining the retirement party of Ames Lab Director Robert Hanson, Bleyle worked his Middle Ages magic to put on a perfectly tailored show.

Ravenscroft's "Wooing Song of a Gentleman from Kent," became "Wooing Song of a Gentlemen from Ann Arbor." A verse from that revised piece, referring to Hanson's own musical abilities, goes:

I am my father's finest son,
my mother too doth love me well;
I play a trumpet very good
and I can blow my horn like hell.

Bleyle says the tremendous variety of music from the period may surprise some. His programs can include everything from "Music at the Time of Martin Luther" to "Country Music of the Renaissance and Middle Ages" to "An Evening of Triple X Music."

At show's end, the troupe often invites the audience on stage to perform. Bleyle remembers coaxing the president of the American Astronomical Society — a physics professor at MIT — to sing. He's also talked members of the audience into playing solos, "usually a song we have that has only one note," says Bleyle, an excitable storyteller who rapidly recites episode after episode. "It was written for King Louis XII of France, and we have great fun with it. When the people leave, we want them to feel a part of what has happened."

Bleyle, who knew "absolutely nothing" about Renaissance music when he inherited Antiqua in 1968, could speak for hours about his musicians and their talents. But he readily points out that it is their versatility that makes the group click. From the bassoon-like dulzain to the mammoth contrabass recorder, every instrument requires vastly different talents. "We just want to show as much of the Renaissance sound as we can," he says.

EARL RICHARDSON

And Bleyle admits that, at times, he dreams of being able to spread that sound more broadly. "I don't know many professional groups like this that have made it touring," he says, "but we'd all like to see what we could do."

But for now, they're more than content to keep the hirtenschalmei humming and the audiences smiling, wherever the stage may be.

FOR ISU'S COLLEGE OF VET MED, THESE DAYS LESS IS MORE

So far as College of Veterinary Medicine officials are concerned, it's not the size that counts.

The college is now midway through its first year of a significant cut in class size—from 120 to 76— and administrators, students and representatives of the profession agree it is much stronger for it.

"For us, a smaller school is a better school," said Phil Pearson, dean of the college. "We made a significant cut, but we kept the same faculty and support staff, which means we'll be able to do a much more personal job. It certainly will increase the quality and excellence of the program."

"Iowa State always has had a strong vet college," said first-year student Debra Simonsen, whose father Russell Simonsen was a 1956 graduate of the college. "I think now it's only stronger, with more hands-on experience for us. That has to be better for students."

Two factors led to the decision to cut class size by more than 35 percent:

- a nationwide overproduction of veterinarians in the last decade; and
- a lack of adequate funding to support 120 students per class.

"We just pared down the size to fit the financial package we had," said Pearson, who announced last fall that he is stepping down as dean after this academic year but will remain with the college in a teaching capacity.

University officials have been discussing the possibility of such a cutback for several years. As veterinary schools across the country also reduce their numbers, Bud Ames, director of scientific activities for the American Veterinary Medical Association, said Iowa State's cut was significantly larger than any other college's.

"Iowa State has a tremendous tradition, but I think they've been carrying a huge load with that class size," said Ames, who oversees the AVMA's accreditation program. "Now, Iowa State should feel glad that things are coming back into balance a little bit. In a [curriculum] like ours where a lot of the clinical instruction involves interaction between teachers and students, we recognize the disadvantages of big classes."

Robert Hogle, associate dean at the veterinary college, said the college has been "on the borderline" in terms of faculty-student ratio in recent years. With this year's smaller class, he said the overall ratio dropped below 4 to 1 for the first time in years. That figure will continue to drop as smaller classes enroll.

And while Ames pointed out that the nationwide oversupply of veterinarians certainly can't be the No. 1 priority of individual university administrators who have their own needs to consider, it remains one of the profession's most serious concerns.

"The AVMA certainly has taken the position that [enrollment cuts] are going to be beneficial to the future of the profession," he said. "I don't know of any AVMA members who are unemployed, and I'd like to keep it that way."

Considering demographic changes, Hogle said this appears to be a perfect time to make a cut. In the 12 years he has been at the college, he said he has seen the number of qualified Iowa residents applying drop from 280 to just 80. That decline is a result of several factors, including the oversupply of veterinarians, fairly low starting salaries (an average $24,000 annually for Iowa State's spring '88 graduates) and the decline in the number of college-aged Iowans.

Since the number of qualified applicants has decreased in recent years, Hogle said it's actually easier for an Iowan to be accepted now than it was when the class size was significantly larger.

"Overall, this is an excellent time for us to be reducing the size of the college," Hogle said.

Reduced enrollment provides greater teacher-student interaction.

Ames Laboratory wins two energy awards

The Ames Laboratory was the only national laboratory to win more than one of nine 1988 Materials Sciences Awards given by the U.S. Department of Energy recently.

Senior physicist and ISU professor John Clem received an award for outstanding sustained research in solid state physics for his theoretical contributions to understanding the property of superconductivity.

A team of metallurgists and physicists received the metallurgy and ceramics award for its development of a realistic and cost-effective method for processing Terfenol-D. The material may be used in sonar devices, robotics and fluid control. Members of the team were senior metallurgist and distinguished professor John Verhoeven; metallurgist Dale McMasters; associate metallurgist Edwin Gibson; associate physicist Jerome Ostenson; associate director of science and technology and distinguished professor Douglas Finnemore; principal metallurgist Frederick Schmidt and emeritus professor David Peterson.

The Ames Lab, operated by Iowa State for the Department of Energy, also won two such awards in 1987 and 1981.

Iowa State celebrates a decade of design

The College of Design's 10th anniversary celebration is well underway.

The college kicked off the nine-month-long anniversary party in October with the opening of the College of Design Faculty Show at the Brunnier Gallery and Museum. Several exhibits of the college's Gallery 181 will feature work of alumni and faculty throughout the year.

October also saw the college premier its Anniversary Lecture Series. Spiro Kostof, a professor of architectural history at the University of California, Berkeley, was the first speaker, and those speaking throughout the year include Robert Irwin, environmental artist and sculptor from San Diego; Donald Schon, Ford professor of urban studies and planning at the Massachusetts Institute of Technology; and Katherine McCoy, co-chair of the department of design at the Cranbrook Academy of Art in Bloomfield Hills, Mich.

Those four artists will be back on campus in May, during the celebration finale and gala, for a synthesis symposium. The college also will have a special exhibit May 1-June 9 titled "History of the College Exhibition," with documents, photographs, plans and art presenting the college's origins in the Colleges of Agriculture, Engineering and Home Economics and subsequent development from its inception in 1978.

Earth sciences program adopts new name to tell the story

What's in a name? For ISU's department of geological and atmospheric sciences, there's a lot.

The department still is getting used to its new name after the decision was made last fall to change it from the department of earth sciences.

Since the department has about 60 students majoring in geological sciences and 80 in atmospheric sciences, the new name more accurately identifies its directions.

"The old name just didn't give people the right perception about the kind of department we have," said Karl Seifert, chair of the department. "This change allows us to have a name that's a better reflection of what we are, and also allows us to stay more current with other universities around the country."

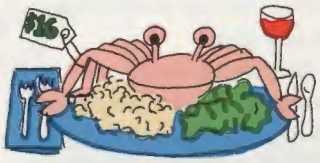
Geological sciences majors study mineral deposits and groundwater and petroleum resources, preparing for careers in petroleum mining, academia, government agencies and consulting firms.

Students studying atmospheric sciences study weather systems, climate changes and the impact of climate changes. These studies prepare them for careers in academia, consulting firms and government agencies.

We define things a little differently in Ames . . .

Mugger:
A little kid making faces at you out of the back of a car.

Rip-off:
The top half of a coupon for discounts at restaurants.



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Cracking down on radon

SCIENTISTS WAGE WAR ON HOMEOWNERS' LATEST ADVERSARY

If Laurent Hodges has his way, classified real estate ads of the future will take on a new look:

Must-see three-bedroom home. Spacious living room, fireplace, one and a half baths, finished basement, lovely backyard, double garage. Great location. Radon level 2.7.

Hodges, an ISU professor of physics and coordinator of the Iowa Radon Project, contends home buyers should know up front the existing level of the deadly radioactive gas. But before such a practice becomes commonplace, he knows many more people must become aware of the threat of the odorless, colorless gas that is creeping into most homes at this minute.

Radon, formed when uranium breaks down, attaches itself to dust and when inhaled, can settle in the lungs and give off strong forms of radiation. It is regarded as the second-leading cause of lung cancer (behind smoking), claiming as many as 20,000 lives a year, according to the Environmental Protection Agency.

The Iowa Radon Project was established two years ago to promote home screening and thus enable Iowans to realize the potential danger. After conducting a statewide survey early last year, Hodges and his peers learned Iowa is above average in terms of the number of homes with radon readings over the acceptable level of four picocuries per liter. (A picocurie is one trillionth of a curie, the standard measure of radiation.)

"When we started testing, I don't think we thought it'd be this much of a problem at all," said Hodges, who worked with Pat Huelman on the project until Huelman left for the University of Minnesota in October. "We weren't exactly right on that one."

EARL RICHARDSON

A hockey-puck-sized device tells Laurent Hodges if homes are safe.

Through October, Huelman said more than 15,000 Iowans had tested their homes. That number had been just 5,000 only a month before, when the Iowa Radon Project sold thousands of detectors in a flurry after it and the EPA held concurrent press conferences to address the radon dilemma.

"This is a case where Iowa and the Iowa Radon Project were on top of this thing, and got out front with it," Huelman said. "It turned out to be very good that we did."

Radon had been known to cause cancer in uranium miners for decades. It wasn't until 1984, though, when a home in Pennsylvania was found to have an extremely high reading, that scientists realized the potential far-reaching threat.

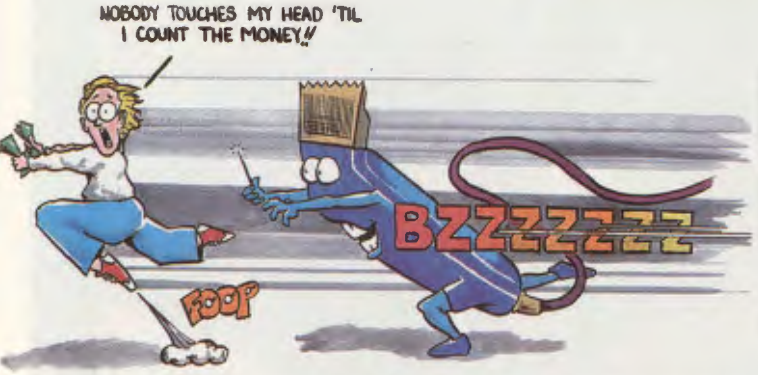
Hodges said a high percentage of Iowa's homes don't have alarmingly high radon levels, but the state does appear to have a large number with preliminary readings over four pc/l. About 50 percent of Iowa's approximately 750,000 single-family dwellings may have readings over four, as compared to the national average of about 33 percent. So far only one state—North Dakota—has been found to have a higher frequency of homes over four, at about 60 percent. The EPA is testing Iowa and six other states this winter, after testing 17 states in the last two years.

After the September press conferences in which the Iowa Radon Project and the EPA advised all Americans to have their homes tested, the IRP was flooded with orders for detectors. People are advised to screen their homes for one week—preferably in the winter, when the houses are closed up—to determine if there is a problem. If readings are more than four, homeowners are advised to conduct more thorough, year-long follow-up tests. If those determine the pc/l readings are more than four, homeowners are advised to eliminate the sources of radon: openings to the ground through major cracks in the foundation, openings to crawl spaces, sump pumps, etc.

"The issue is kind of like smoke alarms," Hodges said. "It's obvious that if you have a fire, a smoke alarm could save your life. Everybody should test."

Hodges points out, though, that unless the readings are extremely high—in the hundreds or even above 1,000—there is no reason for panic.

"If you've got a reading of 20 and spend a lot of time in the house most of your life, you've got maybe a 10 or 20 percent chance of getting lung cancer," he said. "That's not a huge chance, but it's big enough to scare some people. It's a situation where people should see the need. And that's why we're here."



Mom, Yul never believe this one

By the time you see this, Steve Brass will have new hair on his head, a new hole in his ear and a $200 smile on his lips. In a slick effort to raise tuition money last fall, the engineering student told members of Henderson and Mortensen houses he'd shave his head and pierce his ear for 200 bucks. Suffice it to say they took a shine to the idea.

"[House members] wanted to cut my hair at an interhouse meeting," Brass said with a gleam on his noggin. "So everybody just went back and forth hacking on it until it was all gone."

Brass said going glabrous certainly was a wise financial move, but he bristled somewhat over an unexplicable urge to say, "Who loves ya, baby?"

They deserve high praise for keeping a good altitude

Members of the Phi Gamma Delta fraternity learned two valuable lessons after their week-long charity pole-sit back in October: 1) Dates are mighty attentive at 32 feet, and 2) Popcorn poppers aren't particularly fond of long falls.

Fiji house members manned the 4-foot by 8-foot platform 24 hours a day for a week, raising $2,500 for the Ames Youth and Shelter Services. But before we gush on about the nobility of their sacrifice, we present a partial list of their upper-atmospheric necessities: TV, stereo, electric blankets, phone, girls and two corn poppers turned physics experiments. They also invited local celebs to try out the pole position, but only Ames chief of police Dennis Ballantine accepted. The others, it seems, didn't answer the invite, leaving the Fijis up in the air.

What? You were expecting Stupid Pet Tricks?

Illustrations by G. Michael Maddock

Top 10 reasons for holding ISU's first basketball practice, "Late Night With Johnny Orr" (with apologies to Mr. Letterman), at midnight Oct. 15:

10) We've been dying to know if Johnny really does give his hair 150 strokes every night at bedtime.

9) Victor Alexander, the quintessential wide body, would have no midnight snack this night.

8) Ken Trickey didn't.

7) What better time to start a Cinderella season?

6) Jim Walden said we should.

5) You think 5,000 people would show up at 6 a.m.?

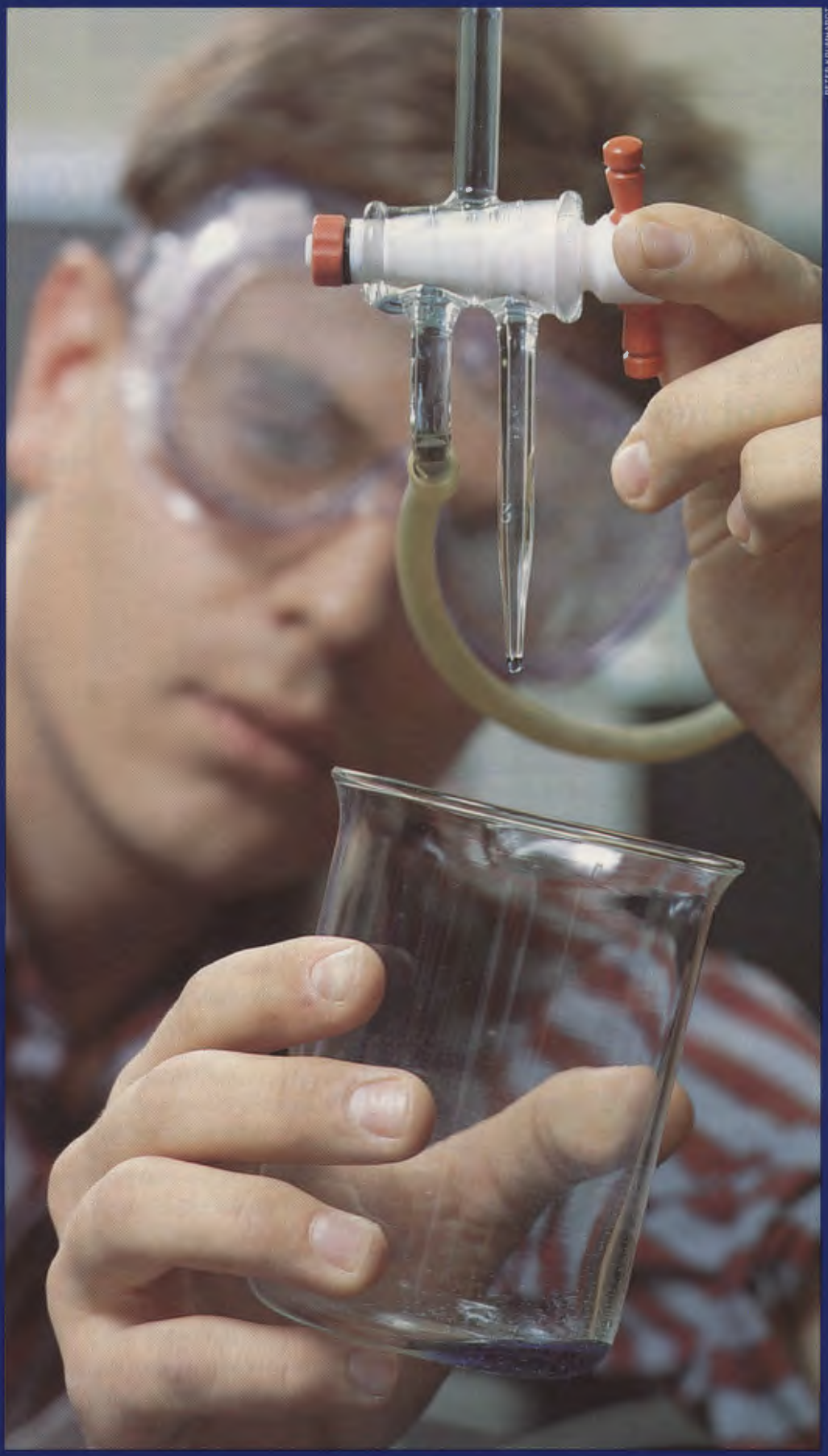
4) We just *had* to know if that rumor was true about Johnny still holding on to his Michigan Wolverine jammies.

3) Missouri didn't.

2) If the season turns into a pumpkin, hey, at least we have an excuse.

1) Johnny said we should.

FOR A VARIETY OF REASONS, IT HAS BEEN PREDICTED THAT BY THE TURN OF THE CENTURY, THE U.S. WILL FACE A SEVERE SHORTAGE OF ITS OWN SCIENTISTS.



PETER KRUMHARDT

RUNNING ON EMPTY

AMERICA'S SCIENCE AND TECHNOLOGY PIPELINE NEEDS SERIOUS REPAIRS

BY DAN DAVENPORT

Tick ... tick ... tick ...

The seconds clicked off at the Baikonur Cosmodome 31 years ago as the Soviet Union awaited the launch of Sputnik. The glorious blastoff of the world's first artificial satellite not only would signal the start of the so-called "space race," but would send the world on a frenzied mission to advance every conceivable aspect of science and technology. Sputnik's launch in 1957 sounded a particularly urgent alarm in the United States, telling the 60-year-old scientists and the 10-year-old hula-hoopers alike that the technological race was on — and that the U.S. already was several laps behind.

Tick ... tick ... tick ...

In 1989 another countdown is well underway in this country. Sputnik has been followed by Apollo and Soyuz and Discovery, but no longer do we await an explosion of technological advancement. On the contrary, we're heading into what many believe could be a potentially disastrous period for U.S. science and technology.

Tick ... tick ... tick ...

We are running out of scientists.

The uninformed and the myopic glance at the surface and point out reasons why just the opposite must be true. Wasn't it the U.S. that single-handedly launched entire disciplines like solid state physics? Wasn't it the U.S. that opened the frontiers of knowledge in fields like new materials development? Wasn't it the U.S. that has raised questions about critical issues like ozone depletion?

Of course it was. But turmoil rumbles beneath this paper-thin layer of serenity. And it's churning its way closer and closer to the surface.

It gets closer every May, when some of this country's brightest college graduates tuck their engineering diplomas into the glove compartments of their shiny red BMWs and zoom off to the $35,000 salaries that rule yuppie-dom.

It draws nearer every September, when visions of MBAs dance in the heads of sunny-faced college freshmen, while across campus another crop of incredibly intelligent, motivated scholars from the other side of the world enrolls in graduate programs.

And each day it draws nearer. More 10 year olds are turned off by science and mathematics. College math, science and engineering departments take on an increasingly international flavor. High school seniors awed by Sputnik are today's 50-year-old physics professors, growing grayer by the semester. The number of 22 year olds in the U.S. population continues a marked decline.

Before the turn of the century, this nationwide concern will become, in the estimation of many, a full-fledged crisis.

"We've got a lot to lose, a lot on the line as a nation," says Joe Widder, a senior legislative analyst for the National Science Foundation. "We are headed for trouble."

Perhaps most troublesome is the thought

that, even should academic, political and industrial leaders suddenly band together in the fight to knock U.S. science education off this crash course, it still would be years before their efforts trickled through what those in the business call the "pipeline." Positively no amount of work aimed at keeping bright students on campus after their baccalaureate this May will make a third-grader care a speck more about entering her school's science fair. And it is all too likely that in 15 years she will be but another college student long lost from the pipeline.

Tick ... tick ... tick ...

There were 1,102 students enrolled in graduate studies in engineering, chemistry, statistics, physics and mathematics at Iowa State University in the fall of 1988. There is nothing the least bit alarming about that figure; it's one that hasn't changed all that much in recent years. There is also nothing alarming in the pool of intelligence represented by that enrollment. Some tremendously gifted students are working toward graduate degrees in buildings with names like Carver, Marston and Gilman.

Again, the surface appears calm as frigid January winds howl across a peaceful central campus. It takes a further, more scrutinizing look to discover the turmoil smoldering not far below.

Of those 1,102 students, 535 are from a country other than the United States. That's more than 48 percent, and that figure is growing every year despite all-out efforts to prevent it. And though it is only an estimate based on national figures, perhaps 300 of those 535 will stuff their diplomas and their newly acquired knowledge in their bags and return to their native lands. In the past two decades, such temporary visitors have helped countries like Japan and West Germany double the percentages of science and engineering professions in their work forces. In the U.S., that figure has not increased. "We can't dominate any more just by saying we dominate," Widder says. "These other countries have made the commitments that we haven't."

Nationally, the number of Americans pursuing mathematics graduate degrees dropped by nearly 20 percent in the last decade. That figure has doubled for international students. ISU's physics department fights literally every day to keep its American-international ratio close to 50-50, yet 56.4 percent of its graduate students still have visas in their back pockets. The physics profession, in the words of one professor, is "gravely, perhaps mortally, ill." Others are not much healthier.

All is not so serene under the surface.

"We have a big, big problem if we can't somehow convert these foreign students to Americans," says David Lynch, head of Iowa State's department of physics. "For the sake of all of us, I hope somebody finds the answers soon."

It should be pointed out that the growing influx of international students into U.S. graduate departments is but a symptom, not the illness. The Chinese, the Koreans and the Taiwanese are by no means stealing graduate school openings from Americans, then bolting directly from the graduation stage to the next flight home.
Administrators fully realize the cultural advantages such a population affords an institution of higher learning. But there is much more. Truth be told, most of the country's graduate programs — Iowa State's included — would be in sore shape without them. There simply are not enough fully prepared Americans to go around. "Without foreigners," a June 1988 report by the Office of Technology Assessment reads, "many graduate engineering programs would have to close their doors."

Still, an increasing international population puts U.S. higher education in an unstable equilibrium at best. Fewer Americans are being developed into the educators of the future. And fewer American graduate students are available now to teach crucial lower-level undergraduate courses. (A story detailing ISU's system for handling the controversial issue of international teaching assistants is found on page 20.)

"Depending on foreign students is a dubious substitute for developing our own," says Erich Bloch, director of the National Science Foundation, an organization that will spend more than $250 million on pipeline repair this year. "How quickly and how well we exploit our own raw material of knowledge compared to our international competitors will determine our commercial standing as a world power."

Making such exploitation difficult is the fact that too many of those few Americans interested in the sciences aren't as qualified as the international students. "[International students] are incredibly motivated," says Dean Isaacson, head of ISU's department of statistics. "For many of them their whole life is to come over here and get a Ph.D. To make a generalization, American students do not have any such motivation."

Chinese students appear to be particularly driven. Yiwei Ding, a chemistry graduate student from Beijing, says there is no comparison in the value of a Ph.D. from his home country and the U.S. You can't get "real chemistry" in China, he says. "People from my country know that if you have a Ph.D. [from the U.S.], you have more knowledge. That means a lot in China."

That was the motivation for David Kao, dean of Iowa State's College of Engineering. He left China for graduate studies at Duke University in the 1960s, graduated and stayed here. Nearly three decades later he is a citizen of the U.S., pulling the strings at one of its top engineering colleges. When he says "we" need help, he is referring to the United States.

"We have good people in our programs, but I'm not sure we can benefit from [international students] all the time," Kao says. "They cannot be a reliable source. But for now, we do not have enough students without them."

Given those ground rules, department heads must make some tough calls almost daily: Do we accept marginal Americans over highly qualified international students, or do we blindly stock our departments with the best available minds? If not, what percentage of international students is acceptable? Forty? Fifty? Sixty?

Edward D. Ernst, program director for undergraduate engineering education at the NSF and a former engineering professor at the University of Illinois, has an answer for the latter question: 20 percent. Any more than that, he says, and departments are reaching the point of diminishing returns in terms of cultural enhancement.

Unfortunately, department heads at Iowa State and most other institutions long ago had to give up even dreaming of an 80-20 ratio. Today they deserve pats on the back for hitting the 50-50 mark, even if the American 50 may not be collectively as sharp as the international 50.

Which leads back to Question No. 1. If you're a department chair and you have 50 spots to fill, how do you divvy them up? Grab the top 50 applicants, period? Take the top 50 Americans? The top 25 or 30

MORE AND MORE INTERNATIONAL STUDENTS MAKE UP THE CLASS ROLL IN U.S. COLLEGIATE SCIENCE AND ENGINEERING CLASSROOMS. WHILE A LOW PERCENTAGE OF AMERICAN STUDENTS PURSUE GRADUATE DEGREES IN THESE DISCIPLINES, AN INCREASING NUMBER IS HEEDING THE CALL OF CORPORATE AMERICA.

PETER KRUMHARDT

EARL RICHARDSON

Tim Ray

EARL RICHARDSON

Jean Brittain

Americans and fill in the rest with international students? At best, administrators have been given fuzzy lines to walk.

"I'm getting four or five requests from mainland China every day," Isaacson says. "I've got to tell most of them we just don't have the spots. But it's hard. If we don't keep at it, [the international-American ratio] could be 80 to 20 in a year and we'd probably be raising our overall academic level."

Says Lynch: "There's a chance we could look at all of our applications, take out the top 25 and find they're all from the People's Republic of China. I'm not saying that's happened, but it could."

Departments in many universities have adopted quotas for percentages of international students. Iowa State Provost Milton Glick flinches at such a thought, opting rather to ask only that each administrator do the best he or she can with each incoming class.

Still, students are imported and degrees exported, in increasing numbers. "Within 10 years, there will be virtually no large homegrown batch of scientists available," Robert Bottoms, president of DePauw University, has been quoted as saying.

Bottoms and his peers are all too aware that in the educational pipeline, a decade can be but a blink of the eye.

There are undoubtedly myriad complex reasons why this country's pipeline is, if not in a shambles, then at least in need of major repair. Generally, though, educators point to three factors as the main perpetrators of the problem:

▲ Pre-college math and science instruction—both in quality and quantity—has deteriorated. According to NSF estimates, only 18 percent of all high school sophomores are even interested in the sciences. After advancing through the first 10 years of our pipeline, only 730,000 of an estimated 4 million want anything to do with a chemistry lab. "We couldn't come up with a better system to turn kids off to science than we have now if we tried to design one," says one national education consultant.

While school children in the U.S. cheer Freddy Krueger slashing his way through another *Elm Street* sequel, their counterparts in Japan, China and Germany are well on their way to becoming their countries' next generation of engineers, chemists and statisticians. A University of Michigan study shows that American fifth-graders spend an average of seven minutes doing homework on Saturdays. Fifth-graders in China spend half that day in school, and still average 83 minutes of homework. This is time spent by children already possessing considerably higher math skills. In an unrelated series of achievement tests given to 12th-graders in 13 countries, U.S. students ranked 11th and ninth, respectively, in chemistry and physics.

"Kids are bombarded by things like sports and rock videos," says Tom Weible, chair of Iowa State's department of elementary education. "Unless you can show kids science and math is just as attractive, you can't always compete with those things."

▲ Societal attitudes have changed tremendously since Sputnik left its wake-up call. The so-called "soft knowledge fields" — like public relations, marketing and management — are snapping up high school- and college-aged people who might otherwise choose science. "I think there's been an ethic, an attitude, in this last administration that you ought to get what you can the easiest way possible," says David Hoffman, chair of ISU's department of chemistry. "There's no more emphasis on the challenge of doing something exciting."

"Any more," Bloch says, "it's almost un-American to have a Ph.D. in science or engineering."

If young students aren't interested in becoming scientists, neither are huge numbers of them thrilled about being science teachers. Of 335 1987-88 graduates listed in the College of Education's annual report, only 13 had an emphasis in math, physics or physical science. None emphasized chemistry. "There's kind of a low esteem put on teachers," says Phil Harrington, an '87 Iowa State graduate who teaches high school physics and math in Harlan. "I wish I knew why that was."

▲ Those undergraduates who do choose science find it more and more difficult to just say no to the big bucks industry can wave around. Jean Brittain, a top electrical engineering student who in a little more than four months will walk out of Hilton Coliseum with her bachelor's degree, always thought she'd pursue the master's and Ph.D. degrees immediately after graduation. Today, that seems highly unlikely.

"There are so many opportunities with a bachelor's degree, it's almost impossible to justify going to graduate school," says Brittain, who applied to several graduate schools but plans to enter the work force at an expected salary of $30,000-$35,000. An official at a powerful international energy corporation (that shall remain nameless) told Brittain after an internship last summer that two years with that company would be much more beneficial to her career than two years in graduate school. And from a strictly economic point of view, it would. As a rule, graduate students don't wear frayed sneakers

Finding the next Curie

According to figures released by the Office of Technology Assessment, one-fourth of 1 percent of all ninth-grade boys will go on to earn a Ph.D. in mathematics, science or engineering. Granted, that number looks pretty slim. But try comparing it to the figure for girls: one-*twentieth* of 1 percent. One out of every 2,000.

The surprise, though, is that the U.S. isn't doing more to bring women into the sciences. After all, though women comprise half the country's overall workforce, the National Science Foundation estimates they make up just 13 percent of its scientists and engineers. So why aren't we attracting more women into these fields?

EARL RICHARDSON

Mary Ann Evans

"That's exactly what we're trying to do," answers Mary Ann Evans, chairperson of the Committee for Women in Science and Engineering at Iowa State. Evans has been with the innovative program since its inception nearly three years ago. She admits having had little idea of what to expect when she proposed the idea to administrators, but adds that the size and diversity of the program after such a short time certainly have exceeded her expectations.

Perhaps diversity is the key word. The

WHO STUDIES WHAT?

Numbers of foreign and U.S. graduate students, Fall 1988, in ISU science, engineering and mathematics departments/colleges

	U.S. # (%)	Foreign # (%)	Total #
College of Engineering	307 (51.4)	290 (48.6)	597
Dept. of Chemistry	118 (57.8)	86 (42.2)	204
Dept. of Statistics	61 (48.0)	66 (52.0)	127
Dept. of Physics	41 (43.6)	53 (56.4)	94
Dept. of Mathematics	40 (50.0)	40 (50.0)	80
Total	567 (51.5)	535 (48.5)	1,102

and drive rusted-out Gremlins because they're stashing away fat salaries for a rainy day. For people like Iowa State math graduate student Tim Ray, it rains every day. As the head of any math, engineering or science department painfully will tell you, a five-figure annual stipend would have many graduate students dancing in the laboratory.

"You go from an extremely healthy salary to a nine-month stipend," says Ray, who worked as a programmer/analyst with Unocal for seven years before returning to academe last fall. He had entered graduate school at the University of Wisconsin after receiving his bachelor's degree from the University of Northern Iowa, but financial inequities — including car repair bills — drove him, as it were, to work. Now he, his wife, Mary, and their two young children survive on his stipend and a dwindling savings.

"We chose to make the sacrifice," Ray says. "With our budget, we're going over what I make every month, but through loans and a decent summer job, we hope things will be OK."

This is the lifestyle the Rays have chosen. In the six years Tim figures it'll take him to earn his Ph.D., they'll get to know it all too well. Theirs is a noble, farsighted choice, one not deemed popular by general consensus.

If all goes according to plan, Ray, Ph.D. in hand, will zoom off — in something other than a shiny red BMW, no doubt—to a teaching job at the University of Somewhere in 1994. Should his plan reach fruition, experts say he will be a man in demand. Educators getting their start in the boom time of the late '50s and early '60s will be retiring from universities in droves. With a majority of the Ph.D.s — and thus, professorships — going to international students, homegrown Tim Ray might be able to, as they say, write his own ticket. "There appears to be little doubt that 1995 will provide a great scholars' market," Glick says.

Still, when a 40-year-old chemical engineering professor can make perhaps half what a 40-year-old chemical engineer can command, don't expect hordes of undergrads to heed Glick's words and scurry off to graduate school.

And so the pipeline creaks on. Already half of this country's engineering faculty under 36 is international. Iowa State President Gordon Eaton pointed out during a recent speech in Des Moines that, should the trend continue unabated, by the end of the century 90 percent of all graduate students and therefore young faculty will be from countries other than America. There is no reason to believe math and sciences will not take a similar path.

Follow the pipeline through another decade, with a solid majority of the faculty now coming from a foreign land, and you begin to meet this crisis face to face: If American-dominated faculties and administrations aren't convincing our brightest students to continue, can internationally dominated staffs be any more effective? Can the U.S. continue as a world technological power if the majority of its advanced students and educators are not even its own? Can it even stay in the race?

It is indeed a bleak forecast. But it is also a forecast made with certain assumptions: That this country will continue with the way it forms its mores; that it will continue with the way it educates its youth; that it will continue to fail miserably at exposing its top potential scientists, mathematicians and engineers to the thrills and rewards of education beyond the bachelor's degree, particularly via college teaching.

Granted, these are the assumptions of a pessimist. A realist would contend that, in time, our leaders might open their eyes and their checkbooks and begin a search for cures. An optimist would point out all the avenues that *are* being pursued, and that

committee is attacking the problem from a variety of directions at both the secondary and undergraduate levels. High school women can apply for six-week summer internships on the ISU campus, for which they will be paid $900 each. Nineteen students between their junior and senior years participated last summer, assigned to specific researchers to work on a variety of projects. Similar eight-week internships exist for undergraduate women. Eleven future scientists and engineers were paid $2,000 each in 1988. Funding for the internships comes from a variety of sources, including private industry, the Graduate College and the Colleges of Agriculture, Engineering, Family and Consumer Sciences, Sciences and Humanities and Veterinary Medicine. Through part of a $76,000 grant from the Roy J. Carver Charitable Trust received early last year, Iowa State awarded eight $1,000 scholarships to incoming freshman women in science, engineering and technical fields. The scholarships are renewable through 1990-91, at which time 24 will have been awarded. The rest of that grant—$28,000—has been devoted to the committee's role model program that sends women faculty into Iowa's secondary schools to promote study in science fields.

Other programs include a career day that twice has attracted more than 600 students; the development of a promotional video available to community organizations and an on-line directory of more than 350 role-model Iowa women working in science, engineering and technology.

"We're trying to touch people wherever we can," Evans says. "We need to educate them about the fact that women can succeed in science and math fields. And we need to do this not only for the good of women, but for these science and engineering fields as a whole."

these efforts can only breed more.

In his position, Erich Bloch must be a realist. In one breath he worries about a future he predicts will "see lean times before it sees better," and in the next he rattles off a long list of efforts his organization now is making. Either way, in campus visits like the one he made to Iowa State last fall, he rarely passes up an opportunity to voice his concerns.

"People are too content with the way things are," he says. "But things can get better, eventually. First, people must start remembering science and mathematics again, as they did after Sputnik."

Another Sputnik appears highly unlikely, but there are other possible solutions that, if developed fully, could bring new vitality to the sputtering pipeline.

KENT NEBERGALL

ERICH BLOCH (SECOND FROM LEFT), NATIONAL SCIENCE FOUNDATION DIRECTOR, TOURED ISU'S CENTER FOR NONDESTRUCTIVE EVALUATION ON A RECENT CAMPUS VISIT. WITH HIM IS THE CENTER'S PROGRAM DIRECTOR, DON THOMPSON; IOWA SEN. CHARLES GRASSLEY AND GRASSLEY AIDE FRED SCHUSTER.

Many colleges and universities have realized that the best place to start is the beginning of the pipeline. If they stand to be the biggest losers, it seems only right that they be willing to do more than complain about low numbers and the low ability of incoming students. Many, including Iowa State, have made this realization, and are beginning to develop outreach programs that show great potential in helping good teachers become better teachers. Through Teachers on Television, Quality Circles and the Electronic Education Exchange, the College of Education helps both students and teachers stay current by receiving information from a variety of sources. And what those teachers seem to be discovering most is that the learning process is greatly enhanced by hands-on teaching methods.

"We make models of how a volcano erupts or how the solar system looks, and we create learning games with math," says Cathy Joslin, a fourth- and fifth-grade teacher at Rolling Green Elementary School in Urbandale, and an '87 Iowa State graduate. "You can't concentrate on pencil-and-paper work any more; it's got to be hands-on. It's important to make sure these kids know science and math isn't dull and boring. You'll lose kids who don't see the excitement."

That sentiment is magnified by the time students reach the secondary level, where teachers still must portray math and sciences as thrilling, rewarding vocations. That can be a difficult task. "It's easy to lose sight of your purpose, to teach the enjoyment and the accomplishment math has to offer," says '86 ISU graduate Scott Swartz, a math and computer science teacher at Montezuma High School. "It's easy to get so bogged down in grades and discipline that you lose sight of why you're really there. But I've got a responsibility to make sure these students see what math has to offer."

The NSF is pursuing another method to ensure students get such exposure: providing alternatives for core science and math curriculums. If all students are required to take more of these courses, the contention is, some will discover their merits.

Many point out that students need to be told—over and over again, if necessary—that these are noble pursuits. In centuries past, great minds like Newton and Galileo were used as effective public relations tools to glamorize the sciences. It can be done again. "In our country," says Ding, "we realize science as something that can give people better lives. You can make better products and help people. That is exciting."

In a letter published in Physics Today, George Phillies of the Worcester Polytechnic Institute said U.S. students with such inclinations should be given further motivation. "We should cultivate students with a monastic bent," he wrote, "those for whom the pursuit of intellectual excellence greatly outweighs mundane financial matters. 'The

Why Johnny (or Juan) not only can speak but also can teach

Should Barbara Plakans ever need a reminder of the importance of her role as coordinator of Iowa State's language testing program for international teaching assistants, she always has the memory of an infamous statistics student for reference.

"There's a story about a Puerto Rican graduate student here who was a TA several years ago," Plakans says. "And [the statistics department] found out that he couldn't even speak English. At all. He became a legend as being at the absolute bottom."

It was just that kind of incident that made international TA-bashing a popular undergraduate hobby in the late 1970s and early '80s. But under Plakans' guidance, Iowa State's program of testing TAs has greatly diminished the frequency of such problems.

"We must guarantee that every person who teaches a class is competent in content, competent in language and has appropriate interpersonal skills," says Provost Milton Glick. "That, I think, is what we are doing. But if we fail at that, the public has a right to criticize."

The program began in 1984, after a state legislator introduced a bill that would require such language-competency testing to be done outside the university. That wasn't an appealing option for university officials, who quickly laid the foundation for their own testing. (Many states currently have such controversial laws, including Missouri, Kansas and Illinois.)

Plakans started the testing with the Educational Testing Service's SPEAK test (Speaking Proficiency English Assessment Kit). But after just a year it became apparent that being able to use the English language was not enough. She then helped

secrets of the elect, known only to the few,' has a long history as a successful sales pitch."

Women should be particularly targeted for such strategies, especially considering they equal or outnumber men in the general population but whose presence traditionally has been practically non-existent in the sciences. (A related story on page 18 details Iowa State's efforts to change that tradition.)

If big industry salaries are drawing crack students away from graduate school, then beefing up stipends and fellowships should help ease the drain. In fact, a report issued by the Office of Technology Assessment specifically identifies graduate fellowships as "the most demonstrably effective direct federal investment in [science and engineering] education." To that end, the NSF hopes to add 100 new fellowships to the approximately 750 it awarded in 1987-88. That will mean a commitment of nearly $8 million in new money, bringing the total to nearly $38 million. It hopes to see the number of fellowships climb to more than 1,000 by 1992. "These [salaries] will never come close to what industry offers, and I'm not sure they should," Bloch says. "But they must improve."

Other government organizations—chiefly the Department of Education and the National Institutes of Health—also have committed millions of fellowship dollars. Ken Heimes, chair of Iowa State's department of mathematics, applied for a dozen new $10,000 fellowships from the Department of Education last fall. "Something like that wasn't even available before," he says.

Adds Hoffman: "There are some problems for which I think government is the right sector to solve. This is one."

There are also those who feel private industry has too big a stake in this to turn a deaf ear. Certainly in the short term it seems to industry's benefit to snap up promising bachelor's degree students and groom them to head some of their most lucrative projects. But in 20 years, when few Americans have stayed behind to teach, will those tactics still appear so beneficial? Most think not. That's why many corporations are seeing the need to help universities keep some of their top students a few years longer.

The department of statistics currently is receiving thousands of fellowship dollars from companies like Corning, Dow Chemical and Shell. Julie Daulton, who will receive her industrial engineering bachelor's degree in May, will have her master's degree studies at Iowa State fully funded through an agreement with Honeywell Corp. In another example, ISU's top master's level statistics student interned at Dow last summer, and was told before he returned to campus that Dow would love to hire him on the spot. "But they said they knew I'd kill them if they hired him," Isaacson says. That official was exaggerating, of course, but the point was clear: Private powerhouses are beginning to realize, as Barry Simon, an IBM professor of mathematics and theoretical physics at the California Institute of Technology and vice president of the American Mathematical Society, says, "that we cannot continue to eat our seed corn."

But a certain amount of seed also is going unharvested. Though schools like Iowa State produce thousands of undergraduates in the sciences and engineering, it traditionally has been the smaller schools, the Loras Colleges and the St. Olafs, that have shipped many of their graduates further on in the pipeline. Realizing that, ISU administrators "hustle hard," in the words of one department head, to find potential graduate students and convince them to do their studying in Ames.

"Getting out and recruiting is the main reason we've been able to do as well as we have," Lynch says. "Some of these colleges may have 10 or 12 students in a position to consider graduate school, but we're sending people out there, trying to convince them to keep going and to come here. We're doing everything we possibly can."

So efforts are being made to patch holes all along the pipeline. It is clear that much more needs to be done, but there is consolation in knowing work has begun. As technology —and thus technological education —becomes more and more of an engine for economic improvement, some, like Glick, think the nation's leaders will become increasingly attuned to our waning fuel supply. Others see the tank down to its final drop before we earnestly start looking for the gas pump.

Only time, which continues to tick away for the United States, will tell.

EARL RICHARDSON

Barbara Plakans

develop TEACH (Taped Evaluation of Assistants' Classroom Handling), which tests potential TAs in simulated classrooms, requiring them to communicate with students. Schools across the country have copied TEACH, including the University of Iowa, which began testing its graduate students last fall.

ISU administered the SPEAK/TEACH tests to 134 students in 1987-88, with 68 percent passing. Those who fail enroll in English and speech communication classes, then retake the tests.

"We haven't completely eliminated complaints [from undergraduates]," Plakans says. "But we have cut down on them. And we realize we have a lot at stake. Many of these foreign students are going to stay [in the U.S.]; without them we may not have our engineering and science schools down the road. So when you look at it that way, you feel like you're preparing the faculty of the future."

Changing of the guard at Amalienborg Castle in Copenhagen.

It's a Small World

(Till You've Been Around It)

COME ALONG AS 44 IOWA STATERS LEARN THE SECRETS OF VIKINGS, CZARS AND EMPERORS

Photo Essay by Kerry Gibson

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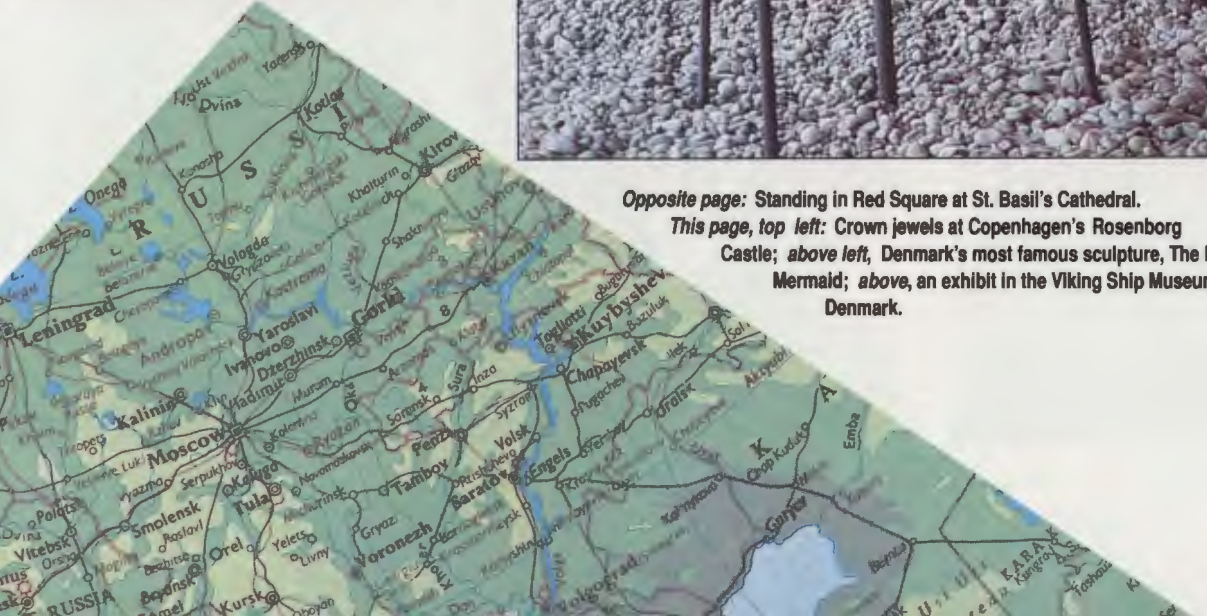


Opposite page: Standing in Red Square at St. Basil's Cathedral.
This page, top left: Crown jewels at Copenhagen's Rosenborg Castle; *above left,* Denmark's most famous sculpture, The Little Mermaid; *above,* an exhibit in the Viking Ship Museum, Roskilde, Denmark.

Opposite page, top: Women weaving rugs and purses in the streets of Xian, China. *Bottom, left to right:* Outside Moscow's Economic Achievements Exhibition; the Cathedral of the Assumption in Moscow; and the Great Wall of China. *This page, above:* Ships dock in the Hong Kong harbor of Aberdeen; *upper right,* posing inside Beijing's Forbidden City; *center,* Iowa Stater Paul Ethington, '49, gets the facts from a Chinese tour guide; *bottom,* Iowa State's hardy travelers.

Kerry Gibson, a 1979 ISU journalism graduate, is a communications specialist for Iowa State's Office of Continuing Education's Conference Services.

Three Strikes & You're Out

In June 1986, collegiate basketball star Len Bias was riding high in the sky—in more ways than one. While celebrating his No. 1 pick in the National Basketball Association draft, Bias fatally overdosed on cocaine.

That fall, Brian Bosworth tested positive for steroid use and was prohibited from playing in the last game of his colorful but successful football career at the University of Oklahoma. Now in the National Football League, the boisterous linebacker is pocketing profits from his first-person book account of drug use in college football.

Last fall, word rocketed around the globe that Canadian Ben Johnson was forced to relinquish his Olympic gold medal in the 100-meter dash, thanks to a steroid test that turned up positive. And just a month later, perhaps the most chilling account yet of drug use in collegiate athletics appeared in Sports Illustrated. In the piece, former University of South Carolina football player Tommy Chaikin told of suicide attempts, maniacal rages and an abundance of physical ailments brought on by his massive use of steroids.

In the midst of the nation's uproar over winning at any cost, a Midwestern university quietly continues to administer the preventive drug program it created more than five years ago, long before dead athletes made it a necessity. It's a program that purposely maintains a low profile, a choice made long ago by its creator, the ISU athletic department.

Iowa State randomly tests its athletes for drug use, and has since 1984. The testing is the major component of an overall program geared to prevent the Cyclone version of the Len Bias story.

Dave Cox, assistant athletic director, is the program's creator and administrator. Back in 1983, Athletic Director Max Urick "saw the clouds on the horizon," according to Cox, and decided the time was ripe for Iowa State to get a head start on the problem.

Cox traveled around the country to glean what ideas he could about starting such a program. What he discovered was that very few colleges or universities were doing anything, period. According to a survey conducted by the National Collegiate Athletic Association (NCAA), only 10 percent of the U.S. colleges and universities surveyed in 1984 were administering their own random drug testing programs.

"Some schools, obviously, were creating programs out of necessity," Cox said, "but back then, we were just starting to see the birth of the real drug problem."

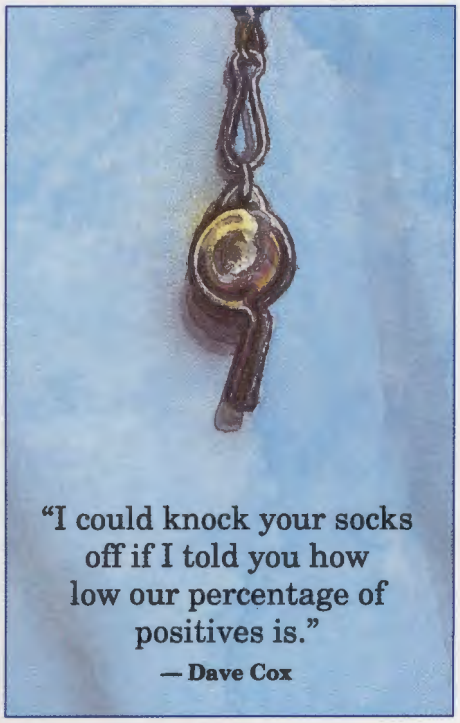
Because Iowa State's athletic department didn't want to wait around for the epidemic's growing pains, it created a student-athlete committee to draw up guidelines for a drug testing program. That committee agreed to the testing of recreational (e.g. marijuana), life-threatening (like cocaine or heroin) and performance-enhancing substances (steroids, etc.), and decided that each student-athlete should be tested at least once every year that he or she competes for the university.

The procedure is very simple. The summer prior to enrolling, new athletes and their parents receive letters informing them of the testing program's existence. In the fall, athletes are asked to sign a consent form indi-

> Nobody is all that comfortable with random drug testing, but one thing is clear: To play at Iowa State, you've got to be clean as a whistle.

By Debra Gibson

ILLUSTRATION BY MIKE OTT



"I could knock your socks off if I told you how low our percentage of positives is."

— Dave Cox

cating their permission to be tested. Signing such a consent form is a condition of team membership; anyone refusing to sign has 24 hours to contact Urick to present his or her case. In the history of ISU's program, only one athlete has resisted signing; as it turns out, that student refused only to see what would happen next. The athlete ultimately agreed to be tested.

"These students don't have to be tested," Cox said, "but if they don't, then they've made the choice not to play, either. Drug testing is as much a condition of team membership as keeping up the grade point average, going to practice and attending classes."

Athletes generally are given less than 24 hours' notice of their team's drug testing ("That's the only way to do it—just pop it on 'em," says men's basketball coach Johnny Orr). In addition to the annual team tests, a computer program randomly selects athletes throughout the year for additional analysis, so one athlete, by random choice, could end up being tested several times throughout the year. The students are assigned numbers that accompany their specimens. Under constant observation, the athletes provide the sample, seal and package it themselves and place it in a tray with the rest of the specimens. These samples then are sent to the American Institute for Drug Detection in Rosemont, Ill., where they are assigned yet another identification number to further protect the identity of the donor. Positive and negative control samples are run through the testing machines to safeguard against false positive results.

Should an ISU sample come up positive at the Institute, it is retested via an even more sophisticated and costly method. If ultimately confirmed as positive, the specimen remains stored at that facility unless an athlete requests outside retesting at his or her own expense.

All test results are provided for Cox's eyes only. Should a positive result emerge, Cox contacts the athlete's head coach, who then alerts his or her athlete to the test findings. That athlete then is required to attend two individual drug-awareness sessions at the university's counseling service, and is subject to spot testing at any time. If a second test indicates positive results, the athlete is presented a contract with the athletic department that states he or she may lose team membership and/or financial aid if a third positive test is obtained. Continued counseling also is required.

Confidentiality dictates the administration of ISU's program, and Cox is hesitant to discuss its findings. He will admit that no Iowa State athlete ever has made it to the third step in the process, and he intimates that the percentage of positive testing is extremely low ("I could knock your socks off if I told you how low our percentage of positives is."). That seems to be in keeping with national averages. According to Frank Uryasz, director of sports sciences for the NCAA, when the NCAA tested during postseason play for the first time in 1987, only slightly more than one percent of all athletes tested (34 of 3,360) lost their eligibility. Last season, 31 of 3,304 athletes tested were prohibited from competition.

"In testing at the NCAA cross-country championships, there has never yet been a positive result," ISU men's track and cross country coach Bill Bergan said, "and in track and field championships, there've been only one or two. Even so, Ben Johnson will make the headlines, while his runner-up, Carl Lewis, who probably never has touched anything, will not."

But for people like Cox, even one positive test is too many.

"I know one university [official] who said lately, 'Why do you bother to test if your numbers are so low?' The answer to that is simple—you're successful because you do test.

"I'm totally shocked if we get even one positive test back," Cox continued. "If I ever lose that, or get so calloused that I start thinking, 'Well, hey, we only had 47 marijuanas this year and 16 cocaines,' well, then something has really gone wrong."

Drug testing is expensive, in particular when looking for steroids. Because the presence of that drug is so much more difficult to detect, an individual test for an anabolic steroid can cost from $100 to $1,000, com-

pared to the $15 to $20 per test for the recreational or life-threatening substances. As more and more synthetic steroids are manufactured in an effort to dupe these tests, their detection will require even more sophisticated, advanced equipment.

For these reasons, only about 10 percent of all drug testing done at Iowa State is for the discovery of steroid use. ISU coaches agree that their athletes don't appear to be involved with these performance-enhancing drugs, and admit they have a responsibility to deter their players from such practices.

"As a football coach, I encourage my players to lift weights for physical conditioning, but not to be bigger than life," football coach Jim Walden said. "I have had to minimize my own thinking about their need to be bigger than they naturally can be. For a coach to say his player isn't big enough is like giving that athlete the kiss of death. Any coach who tells his 255-pounder to beef up to 280 or he can't play ought to be arrested."

Strength coach Tom Wilson cites the need for better nutrition for athletes as another positive step in increasing size and speed. "Some of their diets are terrible," Wilson said, "and with proper attention and education, we can help eliminate a lot of their problems."

Wilson said he has been affiliated with other university athletic programs where steroid use "was something you could actually see in the athletes," but he said he doesn't believe ISU athletes are succumbing to the same pressures.

Neither does wrestling coach Jim Gibbons, who said he's never coached an athlete on steroids. "By virtue of wrestlers' builds, it's often suspected that they must use them, but that look is achieved by training the right way over long periods of time," Gibbons said. "Most athletes today are really in tune with their bodies, and there is an overriding concern about not screwing themselves up for the future. They know all about the mood swings, the sterility and the organ damage steroids can cause, and they don't want to risk it."

Even so, the student-athlete committee that oversees the random drug testing program currently is wrestling with what to do if an ISU athlete does test positive for steroid use. Many committee members question whether the same treatment guidelines should apply to both the competitor who smokes marijuana and the one who ingests the "juice" that enhances his or her performance.

"When we sign our letters of intent, we have a responsibility to our team and our school to stay clean," softball player Leslie Greer said. "I think if athletes test positive just once for steroids, they shouldn't be let back on the team until they're clean."

"We've all seen what performance-enhancing drugs can do," added Dave Gorham, a member of the men's track team. "It's really too bad it's come down to this. But, we have to deal with it." Like several other committee members, Gorham isn't sure the mere presence of the random tests is enough to deter athletes from drug use. "I think maybe we need to set up more serious consequences earlier on," Gorham said, "instead of automatically giving them three chances."

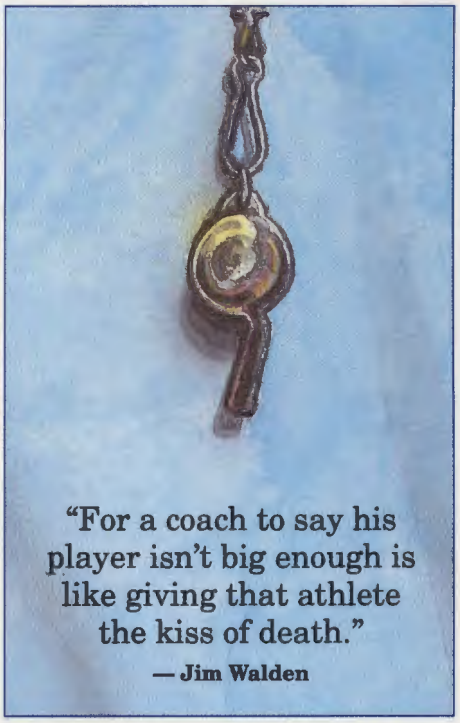
Julie Soldat, a gymnast, agrees, and thinks increasing the incidence of testing throughout the year might be a wise move. She's also game to investigate different treatment tracks for the three types of drugs involved in the testing.

As far as committee member and gymnast Dave Lynch is concerned, administrators have no right to test for any substances other than performance-enhancing drugs.

"If the drugs enhance your performance, then I support testing for them," Lynch said, "but otherwise I think the program infringes on our constitutional rights. Someone needs to prove justifiable cause; this isn't any different than somebody entering your home to search for stolen goods."

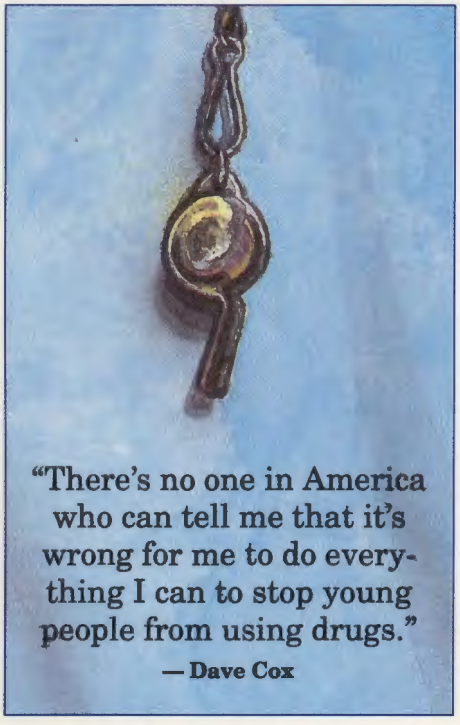
Does Lynch submit to drug testing? "Yes, because if I don't, I can't compete," he answered.

Some U.S. athletes share Lynch's views, and they have gone to court to prove it. Frank Uryasz can reel off numerous litigations the NCAA has been involved in since



"For a coach to say his player isn't big enough is like giving that athlete the kiss of death."

— Jim Walden



"There's no one in America who can tell me that it's wrong for me to do everything I can to stop young people from using drugs."
— Dave Cox

beginning its post-season testing two years ago. For example:

- Last year, two athletes from Stanford University sued the NCAA for invasion of privacy, which led to a California superior court ruling that bans the NCAA from further testing athletes of that university. The NCAA is appealing that decision.
- A federal court in Louisiana ruled in favor of the NCAA two years ago following a case brought by a Louisiana State University athlete questioning the validity of a positive test result. In a similar case last year, two University of Miami athletes challenged the positive test results that prohibited them from playing in the Orange Bowl. The Florida state court ruled in favor of the NCAA.
- An athlete from Northeastern University requested a temporary restraining order that would have prevented him from signing a testing consent form. A Massachusetts state court denied that request.

While Iowa State to date has not been drawn into legal action for its testing program, Cox is adamant that if it did happen, it wouldn't change what the department is trying to accomplish.

"The purpose of this program is to stop drug use, to identify those students who might have a problem and to help them take care of their health," Cox said. "There's no one in America who can tell me that it's wrong for me to do everything I can to stop young people from using drugs."

Cox is equally relentless in his determination that the program not be portrayed as "perfect."

"We've never claimed that it was, and we know that it's not," he said. "A test can only tell us what's in that athlete's system at the time— those athletes who've died because of drug use had been tested. Something could slip through the cracks and some athlete may not be tested every year. This is only an attempt on our part to do the right thing."

ISU coaches would like to see the NCAA do even more of the right thing, too. "I don't think it serves the purpose if the NCAA only tests during the post-season," Bergan said. "It looks great in the newspapers, but I think they could spend their money more effectively on drug education and grants to colleges and universities so they could support their own testing programs."

The NCAA initiated a testing program last spring that may be a start. Thanks to new legislation, the NCAA now can make on-campus visits during the football off-season and test 24 of that team's players for anabolic steroid use. At the same time, it can help that institution devise its own testing program. According to Uryasz, 25 schools participated in the first program, which is completely funded by the NCAA. He expects that participation to increase significantly this spring.

Meanwhile, Cox and the student-athlete committee are preparing their own drug awareness program for its spring debut. "Athletes Reaching Out" will hit the road in just a few months, sending ISU student-athletes out into the area elementary and secondary schools to share their own personal convictions about the dangers of drugs. Each will carry "baseball cards" with their photos on the front and their anti-drug messages on the back.

"Their message to these kids will be very simple," Cox explained. "They're going into their classrooms to tell them, 'Don't just say no—say never.'"

Cox will continue to spread his message as well about ISU's pioneer drug testing program. He'll keep reinforcing the idea that "we're not cops and robbers—all we want to do is take care of our athletes, as is our responsibility, and give them a darned good reason not to take drugs. We're not here to rehabilitate, but we can make sure we get them off that merry-go-round before it starts spinning too fast.

"What we tell them here is pretty simple. If they take drugs, ultimately they're not going to compete. They'll test positive with the NCAA and be declared ineligible.

"Or they'll be dead."

GRAY MATTER

EARL RICHARDSON '81

For Irma Winslow, the pursuit of knowledge knows no age

BY
DEBRA GIBSON

She moves across central campus at the take-charge pace characteristic of most students. Her fading brown curls tucked under an ISU baseball cap, she blends in naturally with the rest of the cardinal-and-gold-jacketed bodies bustling from one lecture to the next. She files into the classroom and heads for the front row, tape recorder and notebook perched on her desk top within minutes. She commiserates over the last test or the upcoming lecture with the person next to her, and taps her pencil on the desk until the instructor arrives.

But unlike most of her compatriots, she doesn't attend fraternity parties or participate in Kaleidoquiz. She's never built a Veishea float or lived in a three-person dormitory room. And she's not likely to sympathize with the student who's blown his last $20 on a membership in the Friday Afternoon Club.

That's because Irma Winslow is 75 years old. And when you're the oldest student enrolled at Iowa State (at least according to the Office of the Registrar), your perspective on college life tends to encompass more than the desire for frosted jeans and twofers. When you're a great-grandmother who didn't get your high school equivalency certificate until you were 58 or your bachelor's degree from Iowa State until you were almost 73, you tend not to care so much about dressing for success, building a resume or networking with prospective employers.

When you're Irma Winslow, you keep attending Iowa State because there's just too much out there you don't know yet.

The cozy, slightly cluttered, apartment on Burnett Avenue aptly illustrates the paradox that is Irma Winslow. Bookshelves line the walls, jammed with textbooks from every course she ever has taken. A desk tucked in the corner of the dining room overflows with notebooks, calculators, copies of the Daily. A wooden loom she recently built dominates most of the living room, and her love for pigs is displayed everywhere— stuffed Porkys on end tables, pig mobiles hanging from ceilings ("my grandchildren know I think pigs are cute, and now they give them to me all the time").

Sitting at the gray Formica table in her dining room, Winslow's characteristic restlessness is evident. Continually picking at crumbs on the table, shifting in her seat and looking around the room, she doesn't mind telling her story. But in her mind, it's not such a big deal.

She's a professional student these days, having obtained her bachelor's degree in liberal studies from ISU three years ago. Last fall she was into philosophy and weaving, but this semester it undoubtedly will be something else. She's in no hurry to start working on another degree, because, "I just keep finding something else I'd like to try. I must have good learning genes."

It is that unbridled zest for learning that has faculty and students alike totally

charmed. One of her most ardent supporters is John McCully, assistant professor of English and Winslow's instructor for courses in Biblical literature and British culture. In addition to scoring her papers and assigning her grades, McCully has become an adviser of sorts for Winslow.

"All I ever encourage Irma to do is to go for it, if it's what she really wants," McCully says. "After she took my course in literature of the Bible, she decided she wanted to go to Israel on an archaeological dig that summer. She asked me what I thought, I told her and she did it." (Accompanied by her two daughters, Irma, then 71, was the oldest person ever to participate in that dig.)

"Students love Irma's marvelous sense of humor," McCully continues. "I believe she is totally un-self-conscious about how old she is. I don't think it even occurs to her that she's not the same age as the rest of the class."

"I think I might be trying to relive the days when I desperately wanted to go to school and couldn't," Winslow says in her soft, deliberate voice. "I loved learning, and for years I just couldn't get over the fact that I hadn't been able to go."

Like many students of her era, Winslow was denied that vital privilege by sheer economics. Born in 1913 in rural Illinois, Irma Wille was the oldest of eight children and the daughter of farmers. She attended rural school through the sixth grade. Because of a promise her parents made to their minister, Irma was sent to St. John's Lutheran School six miles from her home for the next two years. And then the schooling stopped.

"We lived too far from the high school for me to walk, I couldn't drive and my parents didn't have the means for me to board with another family," Winslow remembers, "so I just stayed home."

She was 15 and restless, so she found a job in a Chicago suburb as a live-in housekeeper. For the next three years, Winslow would return home for the summers and help her family with the farm, then move in with a different family during the rest of the year and work as a maid.

When she was 18, she took a job as housekeeper for Harry Winslow in Park Ridge, Ill. Winslow's wife was very ill, and he needed help with his two small daughters, Shirley and Patricia, ages 3 and 1. After the death of Winslow's wife, Irma stayed on with the family, and in 1932, she and Harry Winslow were married. In 1935, their son Roger was born.

Harry was employed by Marshall Field's at the time, and in 1936, he was transferred to New York City. He and Irma moved their family to Long Island, and it was there that the farm girl from Illinois blossomed. She threw herself into church work, scouting programs and caring for her family. For 17 years, it was the life she'd always hoped for.

But there remained a fact of Irma Winslow's life that only her immediate family knew. "If anyone ever asked me where I went to school, I'd always tell them I'd gone to St. John's and leave it at that," she remembers. "I always knew something was missing, but I also knew that there was no way I'd go back to a regular high school to complete my education."

In 1952, Harry lost the job he'd held for many years with Montgomery Ward ("only because he'd turned 50," Irma remembers). It was then that he decided to pursue the dream he'd been holding onto for decades—to return to his roots in southern Iowa and take up farming. Roger, by then a junior in high school, was all for it. Shirley had married, and Pat was a senior at Purdue University. Only Irma had no desire to return.

"All I could think of was the terribly hard life my mother had on the farm, and I knew I didn't want that," Winslow says. "Even though my husband had grown up in Iowa, he'd never even been on a tractor before. But by golly, he said he was going."

So the Winslows sold some furniture, loaded up a truck purchased from a mattress factory, and with their '36 Chevy in tow, headed west. Once they got to Harry's hometown of Derby, they parked the truck at the lumber yard, moved in with Harry's mother and began the search for their new home.

"I remember walking across railroad tracks and down a mud road to get to the place Harry wanted me to see," Irma recalls. "Once we got there, I realized the house had burned down. He said he wanted it, and all I could say was, 'But there's no house!' He said that was no problem— we'd just build one."

So they rented a house for the interim ("for $15 a month we had a house with running water—you had to run out to the back porch to get it"), and spent the next 10 months building their new home, doing most of the work themselves. Eventually, Irma was too busy to miss her friends and activities back in New York, and before long she had established herself with the Allerton community.

(Right) Prominently displayed on Winslow's living room wall is her ISU diploma. (Below) In her spare time, she serves as an unofficial ambassador to international students. (Far right) Winslow catches up with fellow students and grandchildren Mark Winslow and Laura Winslow Bertelson.

But still there remained a nagging feeling that there was more to be done. Sure, she had her involvement with the farm, the church, local politics, the Farm Bureau, travel, children and grandchildren. But she also knew she was the only member of her family without a college education (Roger graduated from ISU in 1957), not to mention a high school diploma. In 1970, Winslow was all set to enroll for general equivalency diploma (GED) courses at the Indian Hills Community College in nearby Centerville, but at the last minute the fear of others discovering she didn't have a diploma prevented her from going. By the next fall, though, she'd decided those fears "were silly," and within three months she had earned her GED.

By now, the bug had bitten. For the next several years, she took courses through the community college, and by 1980 she knew she wanted a degree to show for all the credits she was accumulating. So she and Harry headed for Ames. Counselors assisted Irma in planning a degree program, and advised her on what additional courses she should take at Indian Hills before enrolling at Iowa State.

The Winslows began planning for their move to Ames and Irma's latest venture. What they hadn't planned for, though, was

Harry's death in the summer of 1981. The next year, Irma dedicated herself to finishing up courses at the community college ("it was good for me to have something like that to do just then"), and in the spring of 1982 she received word that she had been accepted at Iowa State.

Roommates. Most everyone who's ever attended college has at least one or two good roommate stories to rehash at class reunions. But the trials of sharing bathroom sinks and closet space take on a whole new meaning when your apartment-mate is your grandma.

Laura Winslow Bertelson knows firsthand. She and grandmother Irma Winslow split rent checks for the first 18 months the elder was a student at Iowa State. Laura was finishing her bachelor's degree at the time and, as the two recall, it was Laura's idea for them to share digs.

"I remember asking her if she wouldn't rather be with friends, but she said she thought we'd work out just fine," Irma recalls. "But we established one rule right off the bat—we were roommates, not grandmother and granddaughter."

The two shared housekeeping and cooking duties and attended church together. Because Irma had no other acquaintances in Ames when she arrived, many of Laura's friends became her own, several of whom attended a surprise party Laura threw for her grandmother's 70th birthday.

"Since I grew up only six miles down the road from Grandma and we'd always been close, I just trusted it would work out," Bertelson, now an ISU graduate student, remembers. "We agreed at the outset we wouldn't mother each other."

If life together wasn't perfect ("I still can't understand why Grandma always wanted to watch *Hawaii Five-O* at bedtime, and she chronically misplaced her keys"), it came darned close. And it came at a time when Irma's life was as far off the beaten path as it had ever been.

"After Grandpa died, Grandma needed to get on with her life," Bertelson says, "and I think we were all thrilled that she hadn't abandoned her dreams."

But at times the dream seemed a bit more than Irma had counted on. Carrying four courses and a seminar that first semester, she remembers feeling "like everything was being thrown at me, and I couldn't keep up. But somehow I made it through."

And she did, semester after semester. There were the challenges ("I thought math would be a cinch, but by golly, it wasn't—I talked to that instructor *all* the time") and there were the joys of doing what she'd wanted to do all along—learn.

"I signed up for a course in child development, and my daughter said, 'How foolish—you've already raised your family,'" Winslow remembers. "But there were so many new things to learn about raising children, and that class opened up all new avenues of thinking for me."

As did the department of family environment's "Aging and the Family" course that Winslow took. "Irma offered a wonderful perspective to that class," associate professor Joyce Mercier recalls. "Relating those concepts from the books just isn't the same as having it conveyed to the students through personal experience. Her maturity and insight added so much, and the students absolutely adored her."

Winslow admits to "learning a lot more about my mother and her own aging process" through that course, but insists her main reason for enrolling in it was to "know how to act when *I* get old."

Winslow woke up "real early" the morning of Dec. 21, 1985, and "just felt rotten."

It might have been a virus, or maybe "just a case of nerves," but she knew this wasn't how she had expected to feel on the one day she'd been looking forward to—her graduation from Iowa State. But then she got a phone call from Laura, who by now was working for the Peace Corps in Ecuador.

"Laura had to travel 60 miles just to get to a telephone to call me and say congratulations on finally getting my degree," Winslow remembers with a smile. "When I hung up that phone, I just sat down and bawled."

And then she picked herself up, got herself dressed and headed off to Hilton, where she secured her diploma with the rest of the Class of '85 as most of the Winslow family beamed from the bleachers. Later that evening, the whole clan headed for Allerton and an open house celebration for Irma that drew 100 people. "We had a printed program and everything," she says. "We did it up good."

Irma's career goals after obtaining her degree were simple—she wanted to keep learning. So upon the encouragement of a friend, she applied—and was accepted—to the University of Hawaii.

"I don't know what was wrong with me," Winslow says, "but when the time came, I just couldn't go. I'm sure I felt like staying at least partly because my mother was ill, and I knew I may never see her again if I left. But I still think it was just plain stupid that I didn't go."

Winslow certainly hasn't wasted the past three years on regrets. She plunged back into courses at Iowa State, dedicating herself to taking only what fascinates her at the time. A design professor inspired her to study color, which has led to her involvement in a marathon of weaving courses. She's designed jewelry and debated anthropology, and continues to do just that "until something more interesting comes along."

To many, Winslow's commitment to education is commendable, to say the least. Her dedication becomes even more noteworthy when one considers all she's done besides write term papers and calculate math problems.

"Many people don't realize that my mother was managing the family farm the whole time she was working on her degree," daughter Pat Anton says. Winslow continues to return to the farm each summer, while maintaining active involvement with the Collegiate Methodist Church in Ames is equally important to her. That involvement has provided the foundation for what has been one of the most rewarding experiences of Winslow's college career.

Through the church's Friendship International program, Winslow has served as a host and confidant to several international students, many of whom have adopted her as their grandma away from home. Ninghe Hu, a Chinese graduate student, has been introduced to American farm life and Thanksgiving dinners thanks to Irma Winslow, and because of her generosity, Winslow was a special guest at Hu's wedding in Ames last year.

"Irma has been someone who has answered many of my questions about American culture," Hu says, "and especially during the time when I didn't have many friends here, it was so nice to have her to talk to."

It's not only international students who are grateful for Winslow's generosity. As a celebration of her ISU graduation at age 72, Winslow established a scholarship for adult students wanting to leave farming to train for another career. Duane Petty will graduate at the end of the year with a double major in agricultural education and agricultural extension education, thanks at least in part to the first scholarship endowed by Winslow.

"I was a divorced man with two daughters, coming off of a couple of rough years on the farm, and I don't think we would have made it through that first year of school without the money from Irma's scholarship," Petty remembers. "I've visited her off and on ever since I started school, and she's had my family over for Christmas get-togethers. She's a remarkable individual."

When she's not endowing scholarships or building looms, Winslow likes to travel (she visited Laura in Ecuador and hopes to track down her roots during a future trip to Germany), keep involved in politics (she was a delegate to the Iowa Republican convention last summer) and dabble in arts and crafts. Boredom is not a concept to which she relates.

"It's not easy being her daughter," laughs Anton. "She thinks anyone should be able to build their own kitchen cupboards just because she did. Unfortunately, we don't all have that steam-engine constitution."

Is Irma Winslow ever surprised at what she has achieved?

"Well, in my wildest dreams, I never thought I'd be blowing glass, but I've done it," she admits. The septuagenarian still has her sights set on traveling to Asia and Egypt, writing a cookbook for her grandchildren and of course, continuing to learn.

As she sits at her kitchen table, her study lamp burning brightly in the corner behind her, the lines on her face deepen as she contemplates the latest chapter of her life.

"You know, when I'm in a classroom and I look at the students sitting all around, inside of me I feel just as young as they look."

Winslow's children say their mother always has been driven to succeed.

Association plans future, remembers its rich tradition

Members of the Iowa State University Alumni Association board of directors and staff are delighted to have the opportunity to reach the entire alumni body—136,000 strong—with this, the winter edition of VISIONS. I'm especially pleased because this provides me with a forum for bringing you up to date on the current status of your Alumni Association.

The Alumni Association has a rich heritage indeed, beginning with its first organized meeting in 1893. E. W. Stanton, Class of 1872, was elected president of the organization at that meeting, and Ward Jones was declared alumni secretary. Since that initial meeting, 69 presidents have headed the boards of directors of the organization, and six alumni secretaries and/or directors have served you: Ward Jones, (1897), Harold Pride, '17, Wallace Barron, '28, Robert Crom, '50, Don Gustofson, '55 and yours truly, '69. The current president of your Association is Roxanne Beale Amendt, '78, of Denver, Colo.

Throughout its history, the organization has been extremely well-represented by capable boards of directors. As a result, you, the institution's alumni, have had an active voice in the organizational structure and operation of the Alumni Association. That tradition remains strong today.

Thanks to your tremendous response to the recent alumni survey you received from President Gordon P. Eaton, we now have extremely valuable data that tells us what you think our priorities should be. With that information as a solid base, the Association's board of directors has authorized the development of a long-range plan to carry the organization into the 1990s.

Jim Hopson

A staff/board retreat was held in Des Moines last September, and the organization's past, present and future were discussed in detail. Special guests at that meeting included President Eaton; Charles McCandless, executive vice president; Dayton Hultgren, executive director of development and Jean Adams, professor of economics and chair of the university's long-range strategic planning committee. Each of those individuals shared with our board of directors and staff his or her perceptions of where the university is going and how the Alumni Association can and should be involved accordingly.

Following the meeting, President Amendt organized an eight-member Association long-range planning committee that she will chair. The group is representative of the broad spectrum of the university's constituencies, and it will use data from the alumni survey, the university's long-range strategic plan, the reorganized ISU Foundation and several other valuable sources in compiling its recommendations. I encourage you to contact Roxanne Amendt or me if you have suggestions for the committee.

We'll continue to share with you the progress of the project and we will most certainly report to you the final recommendations of the Association's long-range planning committee.

The ISU Alumni Association has a rich tradition to uphold, and we're excited about planning for a future of enhanced programs and services. Your support through life or annual membership will ensure our continued excellence.

Jim Hopson
Alumni Association Executive Director

KENT NEWMAN (3)

ISU PHOTO SERVICE

FALL FUN

There was a real "Splash of Spirit" during Homecoming '88 as students participated in the annual "Yell Like Hell" competition. This year's winners were the sorority/fraternity team of Kappa Alpha Theta and Phi Kappa Psi.

During Parents' Weekend '88 festivities last fall, Anne and Charles Hesse of Iowa City were honored as ISU's Parents of the Year.

WHERE ARE THEY NOW?

The ISU Student Alumni Association program has spawned some of the university's most innovative and productive young alumni. VISIONS catches up with an SAA alum in each issue.

Kirsten Held
Student ambassador, 1979-80.

Age: 30

ISU degree: Forest management, '80.

Occupation: Public information director, Alaska Loggers Association, Ketchikan, Alaska.

Best thing about my job: I've gotten a crash course in areas like forest policy, political science and education. It's been eight years of non-stop learning.

Hometown: Hinton.

What I miss most about ISU: The cultural opportunities and the variety of people in your age group. I'm on an island here, so...

Top ISU accomplishment: Editing the Ames Forester, the student publication of the ISU Department of Forestry.

Favorite professors at ISU: Rick Hall and Harold McNabb.

Last book read: *Alaska* by James A. Michener.

Advice to new students: Take advantage of the variety of college life. I'd like to have four more years to take classes just for the fun of it.

I knew I'd made the right decision to come to Iowa State when ... I was still in elementary school. I spent my summers with my aunt, who teaches at Iowa State. There was never another school for me.

My idea of the ideal vacation: Sun, rest and relaxation in Hawaii.

NEW LIFE MEMBERS

The ISU Alumni Association welcomes the following new lifetime members who joined during the months of July, August and September. A list of new members will be published each quarter.

Eyad M. Alaeddin
David C. and Ann R. Arnold
Pascual A. Baburizza
Todd B. and Margaret Barker
Raeford A. Bell
Mary K. Bidlack
Dennis R. Bluhm
Monte L. and Susan R. Bonnicksen
Robert A. Branchini
Carl Brincks
Robert J. Byse
Joel A. Cerwick
Patricia S. Cockerham
Timothy T. Connolly
James R. and Donna L. Cooper
Robert K. Davis
Mary Vorisek Dilla
Bradford S. Dirschel
Janet M. Donahue
Scott R. Ehlers
Todd A. and Kelly A. Elliott
Richard L. and Lynn Engen
Robert C. Erusha II
Mark J. Fahnlander
Jon L. Fleming
Robert B. Flint
Dietmar K. Flock
Carl J. Fulk
Virginia K. Guimond
Margaret E. Hahn
Ahmet V. Hamarat
Richard L. and Kathryn Handy
Randall D. Hanna
Steven L. and Linda K. Hanson
Sally J. Harris
Daniel M. and Dena E. Harrison
Harvey Harrison
Jeffrey S. Hawkins
Steven H. and Norene J. Hayes
Gabrielle Mills Headlee
Bernard R. Hecht
Scott B. and Jan Heeren
Keith A. Heinzeroth
Fred L. Hepler
Steve T. Hoffa
Richard L. Hollander
Thomas K. Howard
Theodore V. and Barbara Jacobsen
Mary H. Jensen
Mary H. Kane
Taiby L. and Nora M. Ladjahasan
Philip M. Lawler
Carlos Lozano Jr.
Terry B. Luttenegger
Jay R. and Marilyn Marti
Mark V. Martin
William C. and Elizabeth A. Martin
Mark J. McGuire
Mary E. McVey
Maureen M. Mericle
James R. and Kathryn L. Meyer
John W. and Barbara M. Meyer
Jason A. and Teresa L. Moore
Harlan F. and Joanne E. Nelson
Donald P. and Carol J. Olson
Paul R. Orr
Michael L. Orso
Joseph A. Peiffer
JoAnn Peterson
Bradley R. and Claudia Corning Peyton
Douglas J. and DeAnn M. Pudenz
Jon W. and Jean M. Rebholz
Stephanie G. Ritrievi
William W. and Denise A. Ryan
Carl C. Schliffke
David W. and Nancy S. Schuler
Joel A. Seaton
Stuart P. and Lori Sessions Sheldon
Mohammed L. Siddiqi
Michael P. Skahill
Kathryn N. and Lachlan C. Smith
Sherman A. Smith
Timothy J. Smith
Sue K. Swain
Eric D. Swanson
Matthew D. Swanson
Rick E. and Renee J. Sward
Kerry L. Taylor
Gary L. and Wanda A. Waugh
Ann C. Wehde
Randall S. Wilken
William G. Wilson
Myron E. Wormley
Joseph H. Zrostlik

Membership in the ISU Alumni Association is your ticket to...

Car rental discounts from Avis, Hertz and National at a discounted price! By calling one of the three companies and giving them your special identification number, you'll receive automatically a discount on rental fee. And remember, this special benefit is yours because you are a member of the ISU Alumni Association!

Trio of Iowa Staters bring their alma mater a little closer to home

It's not the easiest volunteer job in the world, but three Iowa Staters have found that leading new ISU Alumni Association clubs has been one of the most rewarding.

Margaret Fowler Kastner, Jeremy Roth and Paula Tillinghast Forouhari are the tireless leaders of Iowa State's three newest support clubs. All three — leaders of groups in Cincinnati, San Diego and San Francisco, respectively — are at or near the end of their first year in the club business. And although they've maintained undying enthusiasm and support for Iowa State, they're all a year wiser for the experience.

Paula Forouhari

"I can't speak for the other two, but the work has been well worth it because I can see the amount of support we're building for Iowa State, and I can see how we're all enjoying the social aspects of a club," Kastner says. "It's hard work, but it's enjoyable work."

These new leaders have much in common as they look back on their first year and ahead to the second. All admit underestimating the amount of work required. All say it's been a worthwhile effort because of the social benefit they and their fellow members receive, as well as the benefit of increased support the university receives. And all have bright forecasts for their clubs.

"We're doing purely social things now, but in a couple of years we'd like to branch out into more support-type activities," says Forouhari, an office furniture designer for Holsinger Inc. A 1977 ISU graduate, Forouhari started the club's first year with a summer picnic in 1987. Four events later, it now has about 100 club members.

The club in San Diego is about 200 members strong and has held a similar number of events as its sister group up the coastline. Kim Weibel, a 1986 graduate, laid much of the groundwork for the group, with advice from club veteran Arloe Paul, a '33 graduate. It was Roth, an '82 graduate and an attorney with Higgs, Fletcher, Mack and Associates, who really got things rolling in the fall of '87.

"It's taken a lot of planning," Roth says, "but we've found events that people are enjoying. That's what counts."

Kastner, an '85 graduate, found that out in rather unusual fashion. When the Iowa State basketball team traveled to Dayton in January '88, Kastner and current club vice president Carolyn Connor decided to contact most of the 600 alums in the area to see if there'd be much interest in buying a block of tickets for the game. And 329 Iowa Staters showed up.

Jeremy Roth

Margaret Kastner

"That was quite a start for us," says Kastner, a senior marketing analyst for Proctor and Gamble. "Now we have a good number of people who very much want to get together and have a good time and support the university."

And the leaders promise that the more established their clubs become, the more supportive they can be. All hope to establish some sort of annual scholarship in the future, and all hope to contribute their efforts in other areas, such as student recruitment and career networking.

"[Helping them organize clubs and events] is a service we provide them," says Ronda Cox, ISU Alumni Association field services coordinator. "In return we get their tremendous support for our activities and for the entire university."

The Other "Classroom" Building

It's the one where you:

- learned Leadership 101
- earned your first work reference
- applauded first-rate musicians and actors
- delved into the theories behind the latest issues in long discussions outside class
- helped your friends solve all their problems (and they solved yours)
- first understood the complexities of another culture from a co-worker
- purchased your first work of art and then learned to make your own
- found out how great it feels to aim that ball just right for the big score

Life Memberships insure that there will be a place for these "classes" to continue meeting.

Won't you join us?

Iowa State Memorial Union
Room 201, 515-294-2300
Ames, Iowa 50011

Jake the Flake has gotten his break

It's an hour before showtime at C.Y. Stephens Auditorium, and to watch comedian Jake Johannsen fret backstage, you'd think the guy was about to open for the Academy Awards.

"It's like Lou Gehrig and *Pride of the Yankees*. Going home," Johannsen says. "I always come across as a nervous guy, but yeah, I'm more nervous than usual."

He opens the show in customary Newhart-style, uh, delivery, which only enhances the former Iowa State student's reception before an appreciative full-house crowd back in August. Whether he jokes about his haircut ("The barber made my head look like a dolphin's; I told him to take a little more from around the blowhole") or L.A. traffic ("I'm merging," he screams, portraying an over-zealous, pistol-packing driver), Johannsen shows the crowd why he's one of the fastest-rising comedians on the West Coast.

But it's hardly felt like a meteoric climb for Jake, who remembers with a cringe a five-minute show before an audience of three people at 1:30 a.m. in a San Francisco club. Co-valedictorian of his high school class in LaCrosse, Wis., and an honors student while a pre-vet, chemical engineering and advertising major (no, not simultaneously) at ISU for three years, Johannsen dropped out in 1982 and headed west. After a rocky start — he kept his waiter job for three years — he gradually made a name for himself locally.

MIKE DOOLEN

Jake Johannsen

"When you first get in town and you don't know anybody in these clubs, it's pretty scary," Johannsen says. "But after a while, I started getting some club dates. It was a good feeling to quit that waiter job."

Still, it wasn't until a whirlwind fall of 1986 that he felt he truly had arrived. After winning the San Francisco Stand-Up Comedy Competition, he got a call to perform on the *HBO Young Comedians Special*. That led to the first of five appearances on *Late Night With David Letterman*, which in turn resulted in a call from *The Tonight Show*. He also taped a segment for *The Dolly Show*, filmed a small part in the movie *Casual Sex?* and co-starred in the NBC pilot *Visitors and Fish*.

"It's strange having them call me," says Johannsen, who now lives in L.A. "I'd really love to make movies, but for me to say that now is like some guy who's taking flying lessons to say, 'I'd love to go to the moon.'"

That doesn't seem to be all that much to ask, especially for a guy who seems to have found his star.

His vision is 20/20

Steve DeCook looks and acts about the way you'd expect a farm boy from Pella, Iowa, to look and act.

He wears jeans and blue Nike tennis shoes to his job in a small strip mall in the northeast corner of Ankeny. He has no private office, preferring to sit behind an austere desk in the main room of a four-room office. Around the corner sits a battered couch. "From the Goodwill," he reports without shame.

Sitting in the dimly-lit office, DeCook talks in a low, casual voice, using the same tone whether he's repeating a line from Jay Leno's monologue or talking about an approaching storm front.

Dynamic he is not.

Until you consider that the Iowa State graduate manages more than $35 million as a commodities trader, and, as the Wall Street Journal reported in a recent feature article, "[DeCook] has been managing commodity money longer and more successfully than almost anybody in the business."

Indeed, of approximately 90 companies rated by Managed Account Reports magazine, DeCook, who manages commodities in his firm Fundamental Futures Inc., regularly is in the top 10.

Now who says this guy isn't dynamic?

"I don't want to wear a tie to work and I don't want to fight traffic," says DeCook, who received his bachelor's degree in economics from ISU in 1965 and his master's degree in '67.

"There are no wiggly secretaries in this office. What you see is just what you get."

Since 1972 DeCook has been one of four people involved in a retail commercial firm, now called 20/20 Trading, which works mostly with Iowa farmers. He formed Fundamental Futures in 1984, and runs both with a no-nonsense, blue-Nike approach. And without a computer. He prefers to keep a close eye on the market and rely on his instinct and years of experience.

KENT NEWMAN

Steve DeCook

Few people in the business these days, the Wall Street Journal reports, eschew computers and depend so heavily on their own ability.

"I can't make knee-jerk reactions based on what something or somebody has told me," says DeCook. A deck of cards sits on his desk, and when asked if he plays solitaire while waiting for market news to break, he answers dryly, "*While* it's happening. You need something to keep you calm. Hurried reactions usually result in mistakes. What I do is look at markets and go with what I know."

What his clients know is that, while other traders have had similar success in recent years, few can match his consistency over the long haul.

"That's me, my personality," he says. "I don't get too greedy or impatient. I guess that method's done pretty well."

She cleared the runway for dining at 30,000 feet

The next time you complain about airline food, think about the plight of the 1930s flier. That roast beef dinner you griped about while cruising 30,000 feet over the Rockies looks pretty tasty next to the cold chicken in a greasy cardboard box of 50 years ago.

And for that you have Ella "Pat" McMullen O'Donnell to thank.

OK, so airlines may have developed their food service systems with or without the

LEIGH CHARLTON

Ella "Pat" O'Donnell

1933 Iowa State home economics graduate. Still, the facts are these: 1) United Airlines was the first airline in the country to launch full-fledged food service into the friendly skies; 2) In 1936 United hired Pat McMullen to design and implement that pioneering program; and 3) That same year, United chucked the chicken and began serving real meals.

"It seems funny now, but they just hired me and put me on my own to make the rules and regulations," says O'Donnell, who is now 76 and living in Laguna Hills, Calif. "I'd never even been in an airplane before they flew me to Chicago for the interview, and then they hired me and I was in charge. I spent a lot of time in the air."

Back then, long, non-stop flights were unheard of, which meant O'Donnell had to plan more meals for more flights. Before airlines prepared their own food, it was O'Donnell's job to make sure 12 caterers in 12 cities had food ready and at the airport when the planes were set to take off.

To assist O'Donnell in keeping track of inventory in those cities, a passenger agent named Bill O'Donnell was transferred to her department in 1938. Not long after, the two were married, and when Bill was transferred to San Diego, Pat's short but successful stint in the airline food business was history.

But O'Donnell has some vivid memories of the experience, like the Friday night United introduced fish to the menu. "I flew from Chicago to New York," she says, "to make sure the plane smelled OK." It did.

O'Donnell remains a fairly frequent flier, marveling at the huge number of passengers airlines accommodate. "These planes hold hundreds of people," she says, "all going different places at different times."

One thing, though, hasn't changed all that much. "They're pretty well-fed now," she says, "and I'd like to think they were pretty well-fed then."

Video vet scripts his way to stardom

It's official: Eldora, Iowa, now has as many screen stars as it has intersections with stoplights.

Tom Samp made the tally 1 to 1 last month when he hit the screen (albeit the small one) with the extremely abridged story of life as a veterinarian in Smalltown, USA. The 1980 graduate of ISU's College of Veterinary Medicine was a finalist in the "Nick at Nite Do It Yourself Sitcom Search" on the Nickelodeon cable channel, after being chosen from more than 1,000 entries who thought their own lives were funnier than the Huxtables'.

"One night I was a little tired of doing bookwork and heard about the contest on TV, and I decided to try it," Samp says. "I wrote out a little two-page story about my first call as a vet, and apparently they thought it was pretty good."

Good enough to make him one of the top three contenders for the prize. The Nick people scrapped Samp's script — apparently feeling his antics with a bloated steer and a hit-and-run pig weren't quite Hollywood material — and rewrote the story to include his entire family. That means wife Joan, daughter April, son Danny and the family's pet deer, Rudy, all were beamed into the country's cable-ready homes.

Nick hired a film crew from MTV to

EARL RICHARDSON

Thomas Samp, Rudy and daughter April

descend upon this quiet Hardin County seat of 3,000 and shoot the five-minute episode. Their cameras actually were rolling for more than 20 *hours*, recording spots with the show's guest star, Tom Lester, a.k.a. Eb (tall, skinny, no Emmys) from the old *Green Acres* show. Not only did the Samps relish the opportunity to expose the same film as a star of such magnanimity, but they also made the most of their crash course in TV production.

"When Danny and April watch TV now, they always know what happened behind the scenes," Samp says. "The kids had such a good time when [the MTV crew] was here, Danny cried when they left. He didn't want to see his friends go."

The lad's tears no doubt were dried somewhat by Daddy's haul: Though the results were announced after VISIONS went to press, the family received $1,000 for being a finalist, but could have hauled in $10,000 for winning.

Aided by scholarships, Iowa State students have ambitious goals

College scholarships ease the burden of debt that faces students once they graduate, but the recipients would be the first to say they owe a lot to the institution that sponsored the aid.

Nowhere is this more evident than in the situations of three of Iowa State University's more recent scholarship recipients, Ellen Garry, Erik Iverson and James Kirpes. Each has a different story to tell. Each has a different major. Each has mapped out a distinct career plan. But what the three share is a desire to contribute to the whole of society once they've left Iowa State.

"Generally speaking, I want to do biomedical research, not necessarily on a major disease like cancer or AIDS, but at least somewhere where I can help determine the cause of a disease and find its prevention or cure," said Garry, a senior biochemistry major and National Merit Scholar who has set her sights on graduate school.

"In combination with other scholarships I've received from Iowa State, my National Merit Scholarship let me go to college without taking out any loans, so when I graduate I won't owe any money. Deeper than that, it's nice to get recognized for one's scholastic efforts, because I worked hard in high school. My studies, and learning, have been important to me."

Iverson is a senior majoring in nuclear engineering. A National Merit Scholarship recipient, Iverson also has been awarded several other top scholarships, such as the Institute of Nuclear Power Operations (INPO) Scholarship given to a student majoring in some aspect of nuclear science, and the Iowa State Distinguished Merit Scholarship.

His family's farming operation in central Iowa has been affected by the nation's farm crisis in recent years, so Iverson is quick to emphasize the financial importance of the scholarships to his college career.

"Combined, they come out to be a full ride," Iverson said. "I also would like to think of it as some type of reward for a few years of hard work in high school and college."

Iverson is enrolled at Iowa State in the honors program under a five-year master's degree program. Soon he will decide whether to work toward his Ph.D. or go to work for one of the national laboratories, such as the one in Los Alamos, N.M. Iverson epitomizes the well-rounded Iowa State student.

"I'm very involved in music," he said. "I'm in the marching band, the pep band and the wind ensemble. For a good part of the day I can devote my time to nuclear physics, and for the rest of my time I can go play a horn."

Kirpes is another ISU scholarship recipient who is eyeing graduate school. The junior has served as a tutor for several years, and has a double major in math and sociology and a minor in statistics. He only recently decided what he wants to do professionally, and that's teach.

"If I didn't have any scholarship I wouldn't be able to take the credit load that I do," said Kirpes, who was awarded the ISU Foundation Scholarship for Excellence when he was a freshman. "So, I would probably be looking at another year of undergraduate study and working part-time more than I am now to pay for that additional year.

"My goal, my dream, is to get out there and teach math at the high school level. I would like to go into a strong math program, or at least help create one. I'm not averse to teaching remedial students or going into a school that has a poor academic record and giving students with little motivation a chance to improve themselves. I guess that's the sociology major in me."

Iowa State long ago recognized the importance of scholarships as a means of helping its students.

"Scholarship support is one of the most personally rewarding types of philanthropy, because our donors see in each new scholarship recipient the vitality and dedication of Iowa State students," Phyllis Lepke, associate director of the ISU Foundation, said.

"Iowa State has always believed in its obligation to assist, through financial aid programs, students who have financial need and students who are recognized on the basis of their particular talents and accomplishments. Many individual donors find support of these programs a very special way to continue their involvement with the university."

—By David Craft

ISU PHOTO SERVICE

(From left) James Kirpes, Ellen Garry and Erik Iverson

Fisher honored with another endowment

For the second time in 1988, J. W. "Bill" Fisher, the retired Marshalltown industrialist, philanthropist and longtime supporter of Iowa State, was honored with a special endowment program established at ISU in his name.

Last fall, the Fisher Controls Representative System, which includes both active and retired representatives, created an endowment fund to generate annual earnings in support of arts residencies by regionally or nationally known performers, artists and designers.

Fisher representatives contributed $70,000 to the endowment fund. Iowa State expects to meet and exceed that challenge amount through its own fundraising efforts in the next three years. University officials anticipate a principal balance of about $200,000 to launch the J.W. Fisher Endowed Arts Residency.

Last spring, the Monsanto Company, of which Fisher Controls is a subsidiary, established the J.W. Fisher Endowed Arts Outreach Fund to take student and faculty performing and visual arts projects to people throughout Iowa.

COURTESY IOWA STATE CENTER

Young Uck Kim performed with the Munich Chamber Orchestra at C.Y. Stephens Auditorium in 1985.

Order of the Knoll membership climbs

Membership in Iowa State University's premier donor recognition club—the Order of the Knoll—is growing at a rate of 100 to 150 new member families a year. Current membership is at nearly 1,055 families.

About 730 club members and their guests heard the latest news about the land-grant institution they generously support during the Order's annual dinner, held Oct. 7 at Hilton Coliseum. Iowa State University President Gordon Eaton highlighted the events of the past year and stressed the importance of the upcoming capital campaign to Iowa State's future.

The dinner was an evening of entertainment as well as enlightenment. The dinner's Mexican theme, "Fiesta del Sol," saw the arena floor of Hilton Coliseum decorated in adobe, cactus and balloons.

"The Foundation" department is supported financially by the ISU Foundation.

ORDER OF THE KNOLL

The following individuals joined ISU's Order of the Knoll from July 1, to September 30, 1988. Knoll members commit a minimum of $10,000 to Iowa State.

FOUNDERS CLUB

(Minimum of $100,000 personal gift, $150,000 corporate or matching gift, $200,000 trust gift or $250,000 bequest.)

Doris A. Adams

William P. and Virginia Binger*

*(moved from Campanile Guild)

CAMPANILE GUILD

(Minimum of $50,000 personal gift, $75,000 corporate or matching gifts, $100,000 trust gift or $125,000 bequest.)

C. Mitchener Akins*

*(moved from President's Circle)

PRESIDENT'S CIRCLE

(Minimum of $25,000 personal gift, $37,500 corporate or matching gift, $50,000 trust gift or $62,500 bequest.)

David C. and Lynette Garfield*

*(moved from Order of the Knoll)

ORDER OF THE KNOLL

(Minimum of $10,000 personal gift, $15,000 corporate or matching gift, $20,000 trust gift or $25,000 bequest.)

Lloyd L. and JaNelle Anderson
John Chrystal
Tom and Anjean Chrystal
Tom and Mary Jane Clithero
Dennis and Susan Eichner
John and Betteanne Garfield
Duane and Linda Harris
Bob and Marilyn Kollmorgen
Tom and Kay McCollum
Lucille Neumann Miller
G. Lynn Norcross
Floyd F. and Margaret Penkhus
Steven L. and Dallas Wall Rust
Ellen D. Schrag
Membership in memory of Otto J. Schrag by Ken and Karen J. Knelly
William P. and Donna Wilson

Pam Wettig prepares her basketball teams for games and for life

CONTENDER

All she ever wanted to be was a major-league pitcher.

The eldest daughter of Clifford and Florence Wettig grew up in Ohio with "the best arm of anybody out there," and a pretty good home-run record to match. Then Little League came along, and Pam Wettig wasn't allowed to play anymore, "just because I was a girl."

That may have been the last time anything or anybody got in the way of Pam Wettig accomplishing exactly what she set out to do.

Now in her fifth season as women's basketball coach at ISU, Wettig nears the start of the Big Eight Conference season with what she calls her best team yet. With an exhaustive knowledge of the game, meticulous organizational skills and a fierce determination, Wettig has built a program worthy of the contention and respect athletic administrators were searching for when she was hired away from Miami (Ohio) and its championship program back in 1984.

EARL RICHARDSON

Wettig, 38, believes she's mellowed as a coach.

"When we interviewed Pam for the head coach position, she created in me a belief that she was going to win," Assistant Athletic Director Dave Cox remembered. "And what's more important to me, she was going to win in the right way."

The right way for Wettig is inspired in large part by her late father, who himself was a longtime basketball coach on the prep and collegiate levels. "I remember my husband telling all four of our girls from the beginning that they could do and be whatever they wanted to be," Florence Wettig said. "Pam was always with him, going to his practices and riding along on road trips."

And absorbing every detail imaginable about the game of basketball. Wettig recalls coming home nights after playing on her high school team, with her father waiting at the kitchen table with a litany of "what I did right and what I did wrong. But if he drilled me, it was a very positive drilling."

Wettig went on to play for Bowling Green State after her prep career ended, and teammate Randy Mascorella jokingly remembers Wettig as an "outstanding shooter who didn't play a lick of defense. I used to sit on the bench and pray she'd get hurt so I could play more."

Today Mascorella is a member of Wettig's coaching staff and coordinator of the program's recruiting efforts. It's in that area in particular that Wettig has made a difference at Iowa State, not only bringing in outstanding prep players from outside the Midwest but in 1987 landing the nation's all-time leading prep scorer, Iowan Lynne Lorenzen.

"Coach Wettig told me she wanted to rebuild the program," said Lisa Greiner, a product of Wettig's first recruiting class. "And I knew I wanted to be a part of that." It was that rebuilding process that proved almost as formidable as the Little League rejection. Almost.

"I inherited a team that had won three games the season before I came," Wettig said. "That's very scary, and I don't mind telling you getting that program organized that first year was one of the roughest times of my life. But it was also one of the most rewarding. I mean, there were times when the scoreboard said we'd lost by 20 points, but based on the way we'd gotten the most we could from each player, in my mind we had won."

Wettig's team won 19 games in her second season and her peers honored her as the Big Eight Coach of the Year. Her teams have continued to build a reputable record. These days, Wettig sees her team evolving ("It's time to do more than just make the best effort. Now it's time to learn how to win.") as well as herself.

"I don't think I'm quite as tough as I used to be," Wettig said in the rapid, animated voice that is her trademark. "When I started

coaching on the college level I was only 25, and I had players who were 22. I felt I had a lot more to prove than I do now. I think I'm very sensitive, and I know I'm emotional."

As does everyone who's ever watched Wettig during a game. She stomps, she claps her hands and she points whenever she's upset, be it at a player or a referee. (In recognition of her expressiveness, her players reportedly have created the "Pam Wettig Line Dance.")

It's that atmosphere of having fun while getting the job done that endears Wettig to her players, and vice versa. "She's definitely a good friend," senior Carmen Jaspers said.

"When I do on occasion get upset with my team, I ask them why they think I do what I do," Wettig said. "I'm in Ames, Iowa, because I'm doing what I love to do — coach 12 impressionable young women who have a lot going for them. I want them to gain confidence and positive self-esteem so that when they leave Iowa State, they believe they can do anything they want to do."

Recruits make coaches optimistic about future

Nobody knows what the second half of the basketball season holds for Iowa state's men's and women's teams, but one thing is certain: More help is on the way.

Iowa State coaches Johnny Orr and Pam Wettig both signed some impressive players to national letters of intent during the early signing period in November, and both will be looking to add to their hauls before the spring period.

Orr will be bringing in four new players, all of whom he said can "run, run, run": Mike Bergman, a 6-foot-7 forward from Waverly; Doug Collins, a 6-foot-2 transfer guard from John Logan College in Springfield, Ill.; Willie Holliday, a 6-foot-7 forward from Detroit and David Washington, a 6-foot-4 guard from Birmingham, Mich. Add to that list Phil Kunz, a 6-foot-9 forward/center who transferred to ISU from Illinois last fall, and Orr has five promising Cyclones of the '90s.

Wettig has two new players and another who will be eligible next season. She received commitments from Kim Van Deest, a 5-foot-10 forward from Grundy Center and LaShanda Fitzgerald, a 5-foot-11 forward from Milwaukee. Wettig also will be getting the services of Savannah, Ga., native Tynnetta Rasheed, who is ineligible this season after failing to meet the NCAA's Proposition 48 college entrance requirements.

Although NCAA rules don't permit wrestlers to sign in the fall period, ISU coach Jim Gibbons did receive a verbal commitment from Eric Akin, a projected 126-pounder from Bishop Miege High School in Overland Park, Kan. Akin is aiming for his third consecutive state title.

PETER KRUMHARDT

Henderson averaged 4.3 yards per carry in 1988.

Joe Henderson rushes into Cyclone record book

From 1892 to 1988, only three Iowa State players had ever rushed for more than 1,000 yards in back-to-back seasons.

Make room for Joe.

After gaining 1,232 yards in 1987, fullback Joe Henderson came back last fall to roll up 1,040 more, giving him 2,715 for his Cyclone career. That total is the third-best in school history, behind Dexter Green's 3,437, 1975-78, and Mike Strachan's 3,010 from 1972-1974. Green, Strachan and Dwayne Crutchfield had consecutive 1,000 yard seasons.

The 205-pound Henderson averaged 4.3 yards a carry in leading ISU to a 5-6 record. The senior from Chicago scored 10 touchdowns, including a school-record five in a 42-14 victory over Kansas.

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A Family Held Hostage

BY WILLIAM G. MURRAY

On June 9, 1985, three and a half years ago, Tom Sutherland, my son-in-law, was kidnapped in Beirut by a group that calls itself Islamic Jihad. My daughter Jean, Tom's wife, has had no direct news from her husband since September 1985 when Benjamin Weir, who was released from this terrorist group, delivered a letter to her from Tom. In addition to Tom, who received his Ph.D. at ISU, the Islamic Jihad kidnapped and is holding Terry Anderson, chief Middle East correspondent for the Associated Press, who graduated from ISU in 1974. For the release of Tom and Terry, the Islamic Jihad is demanding the release of prisoners in Kuwait who committed terrorist bombings.

Hardly a day goes by without someone asking me a question about Tom Sutherland and how I am handling the situation. There is no better way, I believe, to give you an understanding of our family's coping with the situation during the past three and a half years than to list the typical questions I've been asked, followed by my answers.

How do you cope day after day?

Jean, '56, my daughter, has given me the solution. She has an optimistic but realistic approach. She decided early after Tom's kidnapping to get a job, work hard, not expect him to be released soon, not to put reliance in rumors, but only to hope and pray he would get out soon. This has allowed her to live as normal a life as possible under the circumstances. Jean says, "It makes it possible to carry on as Tom would want me to do." For me, I cope by keeping busy with the big challenge of chairing Living History Farms (an Iowa tourist site Murray founded). In addition Alice, (Anderson Van Wert Murray, '34), my wife, knows how to keep our "feet on the ground." And Tom and Jean's three daughters have done a bang-up job of standing in for their dad. (Daughter Ann has given birth to the Sutherlands' first grandchild, Simone, since the kidnapping.)

MIKE FAIRCHILD

What is Jean doing in Beirut? Isn't she in danger?

Jean teaches English at the American University of Beirut, is preparing her Ph.D. thesis for publication and is administering two special funds she started from contributions from people in the U.S. The money goes to Lebanese orphanages and for student awards in agriculture at AUB, with both funds in honor of Tom. She also is there because the U.S. State Department has made an exception that allows hostage families to stay in Lebanon.

To date, these kidnappers have not been interested in taking women. Jean tells me she is careful and does not feel she is in danger. She lives on the campus, and she says she shares a common burden with many of the Lebanese faculty and students who have suffered family losses in the Lebanese civil war.

Why did Tom go to Beirut as dean of agriculture at AUB?

Tom was invited in 1983 by President Malcolm H. Kerr of the American University of Beirut to serve a three-year appointment as dean of agriculture, mainly to help improve farming in the Middle East. AUB was regarded a safe place during Lebanon's civil war, and the hostage problem had not yet developed. In 1976, he was an animal scientist at the International Livestock Center in Addis Ababa, and his stay was without incident during the period when the Communists took over.

Has the U.S. Government worked hard enough to get Tom and the rest of the hostages released?

This has been a debatable issue. Officially, the U.S. government regards the kidnappers as terrorists and refuses to negotiate with them. There have, however, been indirect ways of dealing with them, some more direct than others, as the Iran arms hostages affair revealed. From the very beginning, the State Department has insisted it was doing all it could, but since what it was doing was supposed to be secret, no details could be revealed. I personally have not accused the government of not doing enough because I was not in a position to make a judgment.

Why the yellow ribbons and "We have not forgotten" buttons?

Up and down our street in west Ames you will see yellow ribbons tied around trees in the front yards. They are there to remind us that Tom and the other hostages are still captives. And you'll see yellow ribbons on the campus near the journalism building (Hamilton Hall) to remind us of alumnus Terry Anderson. There also has been a button drive to keep the hostage issue on the front burner. The buttons have Terry's and Tom's pictures, plus "Iowa Staters Held Hostage 1985" and in big letters "We have not forgotten." And it's true—Iowa State has not forgotten.

When do you think Tom and the other hostages will be released?

Only time will tell. However, there are some indications that the end of the Iran-Iraq War and the possibility of better U.S.-Iran diplomatic relations may free the U.S. hostages in Lebanon by the end of the Reagan administration or shortly afterward. It certainly worked for the U.S. hostages in the Embassy in Tehran at the end of the Carter administration.

I write this in November 1988. You can't blame me for hoping.

William G. Murray is professor emeritus of economics at ISU and founder and chairman of Living History Farms in Urbandale.

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