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# Macalester Today January 1989

Macalester College

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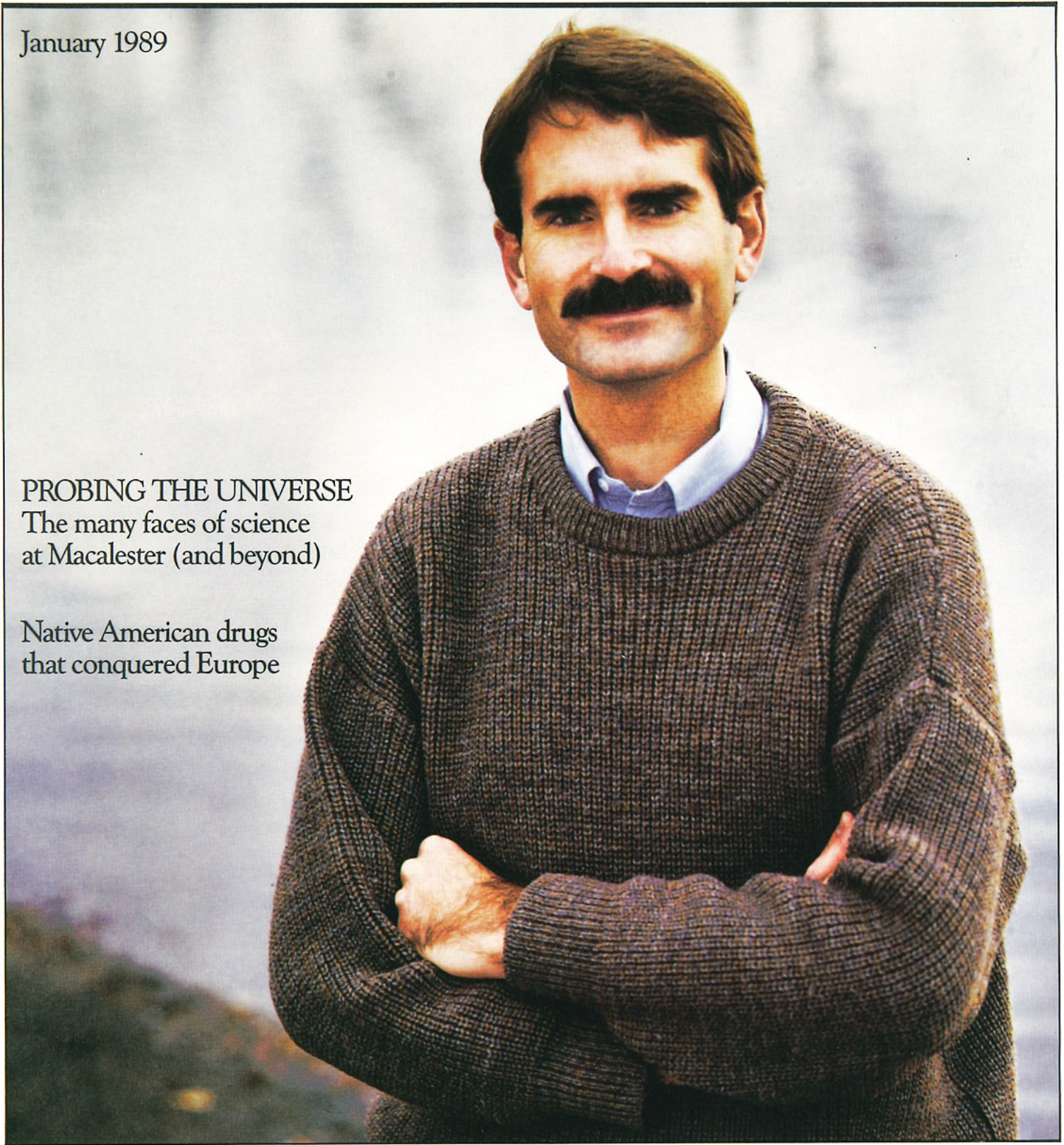
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# MACALESTER TODAY

January 1989

PROBING THE UNIVERSE  
The many faces of science  
at Macalester (and beyond)

Native American drugs  
that conquered Europe



# LETTERS

## Ungainly magazine format is a 'monstrosity'

Because my wife, two daughters, and many members of the Gregory and Torgersen families attended Macalester College, I have a friendly feeling for "Mac." This has been reinforced by the pleasure of knowing several faculty members and graduates.

But each time I extract *Macalester Today* from our post-office box, a wave of anger sweeps over me. It is a congenital monstrosity, a misfit—it is a nuisance from the time I pull it out of the box until its remains are dropped at the recycling center.

*Time*, *Newsweek*, *U.S. News*, *Science News*, *Consumer Reports*, *The New Yorker*, *Minnesota*, *Bostonia*, several Harvard publications, the *New England Journal of Medicine*, and dozens of other magazines are published, give or take small fractions, in an 8 x 11-inch format. Torn-out pages or whole issues fit well in the folders of a standard letter file.

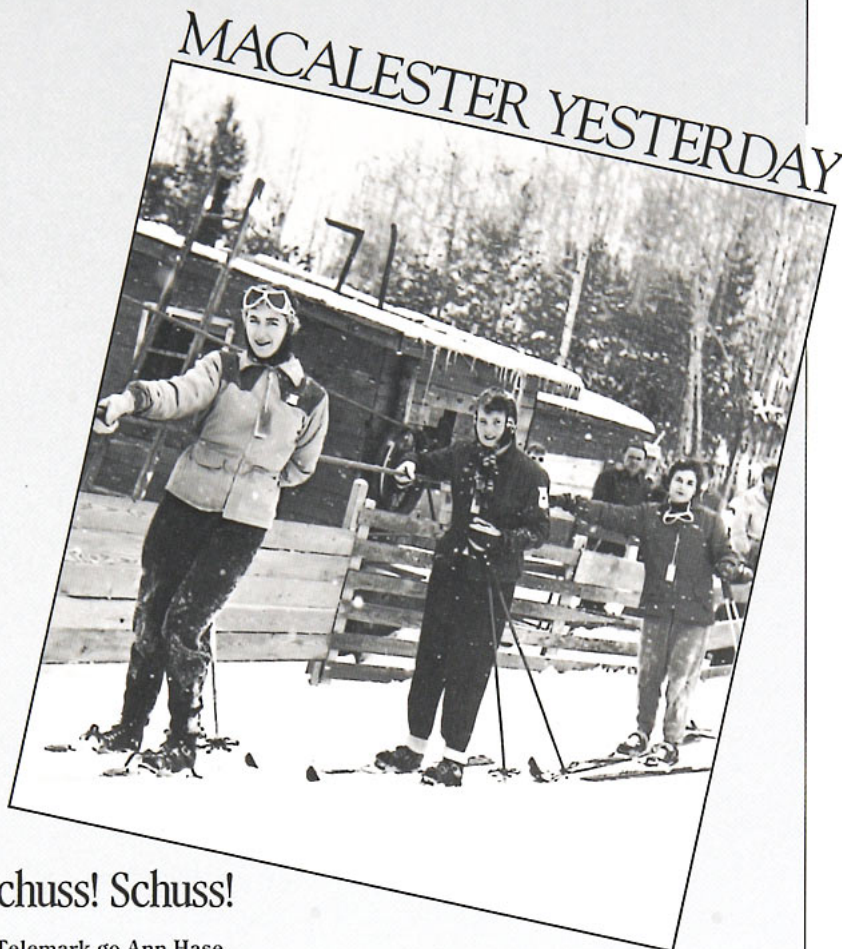
Not *Macalester Today*. Its 9¼ x 11-inch size does not fit in file folders without totally obscuring the tabs. It does not even lie gracefully in a supermarket paper bag for recycling. And the 9¼-inch width of its pages includes 1½ inches of paper wasted in the form of absurdly wide margins. The print would fit on an 8½ x 11-inch page.

What gives? Do you hate your alumni/ae? Or are you out of touch with the world outside your office?

Please change to a narrower format for *Macalester Today*. Then, instead of anger, I shall feel a wave of pleasant anticipation for its interesting and well-written articles when I find Harriet's copy in our mailbox.

**Ernest A. Bragg, Jr.**  
(husband of Harriet Gregory  
Bragg '37)  
Attleboro, Mass.

*Is anyone else out there finding our format unwieldy? Please tell us! All suggestions will be cheerfully entertained.* —Editor



## Schuss! Schuss! Schuss!

"Up the tow at Telemark go Ann Hase, Marilyn Benson and Virginia Zosel," read this photo's caption in the 1953 *Mac* yearbook. Ann Hase Emrick '54, Marilyn Benson '55, and Virginia Zosel Erickson '55 were among the beneficiaries of a weekend ski trip to Telemark (in northwestern Wisconsin) sponsored by the Macalester Ski Club 36 years ago.

## Coming in the next issue

Tuition, room, and board at Macalester total roughly \$86 per 1988-89 schoolday. Students and faculty may agree it's worth it, but why is the cost so high? And, with tuition at colleges across the nation rising an average of 8 percent each year, how can tomorrow's parents afford a liberal-arts education for their children? A feature in the February/March *Macalester Today* explores the situation in detail—

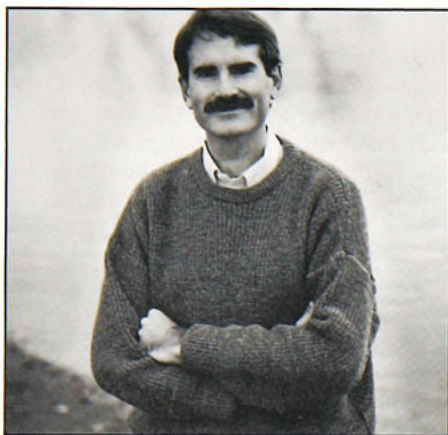
and offers practical advice on covering college expenses.

Also in the next issue are lots of big, beautiful photos of the campus's newest addition, the 92,000-square-foot library completed this fall. And you can read about two Washington, D.C., alumni with truly international careers.

Enjoy the next 32 pages!

—The Editors

# ABOUT THIS ISSUE



As photographed by Greg Helgeson, associate biology professor Daniel Hornbach's "classroom" is a freshwater lake. Our story on Hornbach begins on p. 18; other science-related reading starts on p. 12.

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## 2 At Macalester

Meet a diverse 'class' of new faculty, a new academic dean—and the stonecutter whose handiwork now adorns Old Main.

## 7 The Plants That Built an Empire

A trailblazing new book highlights the role that such native American plants as coca and tobacco have played in world politics.

by Jack McIver Weatherford

*Nicotiana tabacum*



## 11 Discovering the World

How an anthropology professor took three years to reach the most remote places on the map.

by Kevin Brooks '89

## 12 Dr. Jekyll, I Presume

Three alumni scientists discuss how public perceptions and misconceptions of science have shaped their work.

by Jon Tevlin



## 18 A Lakeside Classroom

Biology professor Dan Hornbach plunges into his subject.

by Jon Tevlin

## 20 As Others See Us

Press clippings about Macalester from around the world.

by Randi Lynn Lyders '83

## 24 'The Perils of Pac-Man'?

You can read—and act out—Amy Briggs' romance novel on your computer screen.

by Rebecca Ganzel

## 25 Going Strong at 95

A pioneer trooper vows to see the Girl Scouts' centennial.

by Ellen Tomson

## 26 Class Notes

A brand-new rabbi, an old-fashioned Chautauqua, and more.

by Eunice Sandeen Weisensel

## 28 Alumni & Faculty Books

These 11 new books make great winter reading.

by Mary Lou Burket '78

## Incoming faculty are nearly as diverse as the freshmen

The words "quality" and "diversity," often applied to the incoming freshman class, are also appropriate for the not-so-visible "class" of new professors—a credit to the *other* side of college recruiting. This year, Macalester's provost's office hired 43 new faculty members for full- and part-time positions in 18 departments.

Three people joined the continuing faculty in tenure-track positions this fall.

Donald Culverson (Ph.D. University of California at Santa Barbara 1986) is assistant professor of political science after holding a visiting assistant professorship last year. His research specialties include Afro-American politics, African politics, and public policy, and his perspectives will be of interest to Macalester's historians and sociologists as well as to Culverson's fellow political scientists, notes Provost James B. Stewart. Culverson previously was assistant professor of history at Washington State University.

Elizabeth Strouse (Ph.D. University of California at Berkeley 1985) is assistant professor of mathematics. She brings strong scholarly credentials and wide-ranging teaching experiences in mathematics, says Provost Stewart. Her research interests include functional analysis and measure theory; she has published widely in professional journals and has secured National Science Foundation money to support her work. Most recently, she served on research teams at the University of Minnesota and the Université de Bordeaux.



JIM HANSEN

Donald Culverson, joining the political-science department.

And James von Geldern (Ph.D. Brown University 1987) is assistant professor of German and Russian language and literature. His current research interests include Soviet culture from 1917 to 1939, 19th- and early 20th-century Russian



JIM HANSEN

Newly hired mathematician Elizabeth Strouse.

popular culture, and Russian and Soviet theater's mass festivals and films. His scholarship has been supported most recently by a Mellon fellowship at Stanford University and by a Fulbright-Hayes fellowship to the U.S.S.R. in 1985-86.

Each year an endowment in memory of Macalester's best-known professor, Hubert Humphrey, provides for visiting professors in the international-studies

program. Sri Lankan native Asoka Bandarage (Ph.D. Yale University 1980) has been a visiting scholar at the Massachusetts Institute of Technology. As this fall's Humphrey professor, she teaches a class on Third World women. Margaret Randall, a poet, essayist, editor, and photographer, will be the Humphrey professor this spring. The founder of a bilingual quarterly magazine in Mexico City, she has also presented several one-woman photography shows throughout the country. In addition, she has taught at numerous colleges and universities throughout the United States.



JIM HANSEN

James von Geldern, new to the German and Russian department.

Four Hewlett-Mellon predoctoral fellows are here on one-year appointments, teaching one class apiece each semester. The Hewlett-Mellon program, new this year, is designed to support top-notch minority graduate students as they finish their dissertations, and to give them the experience of teaching at a small liberal-arts college. (The number of blacks in Ph.D. programs has halved since the 1960s, and most now go on to teach at large universities.) Ronald Judy, pursuing a Ph.D. in comparative literature (German and Russian) from the University of Minnesota, is working with Macalester German professor Ellis Dye. Barbara Ballard and Kimberly Phillips

(both working toward Ph.D.s at Yale University) are focusing on American studies in the history department under associate professor and department chair Paul Solon; both are also involved with the women and gender studies program, directed by J. Michele Edwards. And Richard Reed (pursuing a Ph.D. in philosophy at the University of Chicago), previously a junior-college administrator in Chicago, waited until his sons finished school at the University of Michigan before continuing his own studies; he is working with philosophy-department chair Henry West.

Other new-faculty highlights include Michael Harper (M.F.A.s University of California at Los Angeles and University of Iowa, 1963) and Diane Glancy (M.F.A.

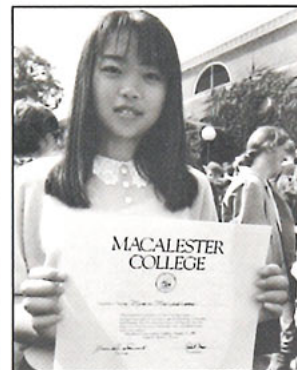
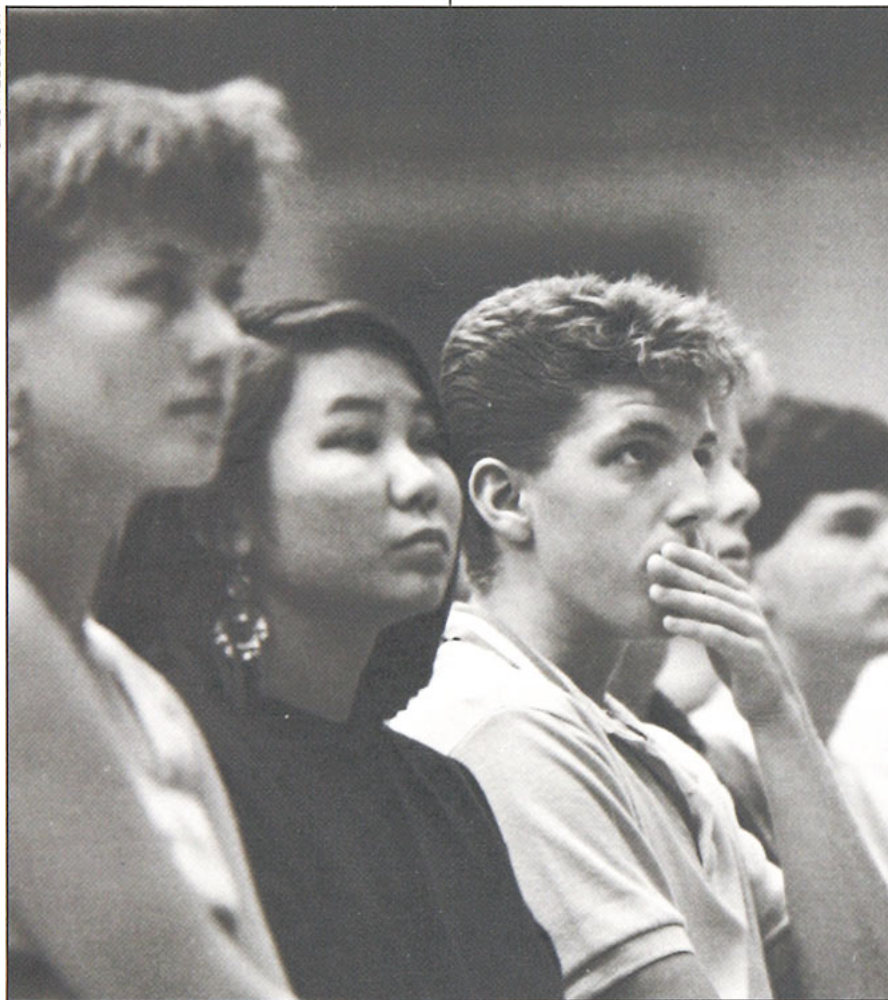
University of Iowa 1988), both on "visiting" appointments in the English department. Harper, a black writer who has spoken on campus several times (most recently during September's library symposium), will teach this spring as a part-time visiting distinguished professor. Glancy, a past member of the well-known University of Iowa Playwright's Workshop and a native American, is a full-time lecturer for the year.

Part-time senior lecturer Nancy Steblay (Ph.D. University of Montana 1981) is one of several to join the psychology department, coming from the Minneapolis firm General Mills, where she was most recently a project director involved with statistical analysis, consumer research, and new-product development.

Macalester alumni have also found a place among the new-faculty faces. Deborah Karasov '77 (M.A. Harvard University, Ph.D. University of Minnesota 1988) has joined the geography department as a part-time lecturer for fall semester. Suzanne Donsky '75 (finishing a master's at the University of Minnesota) has been teaching English as a second language in the linguistics program during the fall. And Lee Knepfelkamp '67 (Ph.D. University of Minnesota 1975) is a professor in the psychology department in addition to filling the newly created administrative position of academic dean.

—Kevin Brooks '89

GREG HELGESON



GREG HELGESON

## Freshman class— 435 strong— matriculates in special ceremony

"Nothing can match the feeling of seeing you assembled as a class," dean of admissions William Shain told the gathering at the Aug. 31 freshman matriculation ceremony. The class of 1992 is the third-largest in nine years, representing three dozen countries. Above, one international student holds her matriculation certificate.

## Macalester gets \$800,000 for science programs

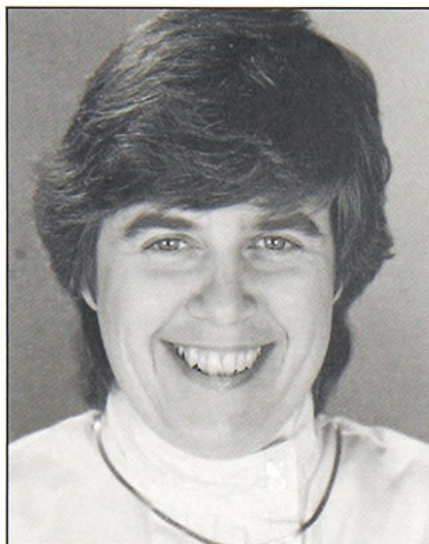
Junior-year biology students at Macalester are getting a taste of real-life scientific investigation, thanks to an \$800,000 grant for science education and research from the Maryland-based Howard Hughes Medical Institute. Associate professors of biology Janet Serie and Daniel Hornbach are co-directing Macalester's Hughes program.

The grant money will be used to expand the biology department's senior research program (in which biology majors complete a research project and defend it orally) to include juniors as well. It will also fund the development, Serie says, of "freshman- and sophomore-level courses and laboratories which will bring this excitement of scientific discovery to every level of the curriculum."

In addition, the Hughes grant supports curriculum development and faculty research across disciplinary boundaries—for instance, in biophysics or biochemistry, or in constructing computer models for biological research.

Macalester was one of 44 undergraduate colleges nationwide, including Carleton, (\$800,000), Wellesley (\$750,000), Amherst (\$500,000), and Xavier University of Louisiana (\$1.8 million) to receive 1988 Hughes grants.

—R.L.L.



L. Lee Kniefelkamp '67 became academic dean in August 1988.

## Alumna becomes college's academic dean

When she last appeared in these pages, she was a '67 alumna, dean of the School of Education at American University in Washington, D.C., receiving the Macalester Alumni Association's 1987 "Distinguished Citizen" citation. Now L. Lee Kniefelkamp has assumed a newly created position as Macalester's academic dean.

A former chair of the University of Maryland's doctoral program in counseling and personnel services (she held several positions at the university between 1974 and 1986), Kniefelkamp holds M.A. and Ph.D. degrees in counseling and student personnel psychology from the University of Minnesota.

As one of seven college officers at Macalester, Kniefelkamp (who began her new position in August) works with Provost James B. Stewart in academic planning, curriculum development, and administering the Interim and summer-term programs, as well as other areas of faculty support.

"I count Macalester extremely fortunate for being able to attract so talented, so recognized, and so committed a teacher and scholar to fill this position," said Stewart in announcing Kniefelkamp's appointment to the faculty this summer.

—Kevin Brooks '89

## Measles outbreak disrupts spring semester

"It's not called an 'epidemic' yet," dean of students Mary Ackerman cautioned, but the "outbreak" of 11 cases of measles among Macalester students last spring kept Ackerman's office on its toes—providing round-the-clock care for students with measles, and setting up mass vaccinations for everybody else. Furthermore, the Saint Paul health department ordered the college to close or restrict access to nearly all on-campus events scheduled for the weekend of May 6–8, including the popular Scottish Country Fair.

"We're not a closed campus—we're not in quarantine," Ackerman said at the time. "But we don't want the public mingling with students, especially in enclosed spaces." The high fever that comes with measles can cause serious medical complications in adults, she said.

One event *not* cancelled was the open-air May 7 Scottish Country Fair, but it was not open to students. Students scheduled to perform in it had to undergo medical examinations beforehand to make sure they weren't carrying measles.

Although some students protested what seemed to them draconian measures, the college's quick action paid off; the campus was measles-free by Commencement, May 21.

—R.L.G.





JIM BARBOUR

Saint Paul stonecutter Henry Valiukas at Drake Marble Co. with one of the six limestone pillars he carved last spring for Old Main's north entrance. Valiukas's handiwork restores the entrance to its 1887 appearance.

## Sprucing up Old Main

With the work on the exterior of the new library "99.9 percent completed" in late June, physical-plant director Mark Dickinson said, construction workers turned their attention to the library's companion building, the 101-year-old Old Main.

On Old Main's south side, the old air-conditioning units were removed (interior ductwork installed in April puts Old Main on the college's central air-conditioning circuit), as were all exterior pipes and wires except the downspouts. On the building's east side, fresh landscaping (including brick sidewalks and a sunken reading area under the existing buckeye and locust trees) integrated the new building with the old. Following the plans of the landscape architect, Charles Wood, terra-cotta stonework saved from the demolished East Old Main was incorporated into the walls of the reading area. Stone benches now dot the new sidewalks on the south.

Particular milestones in Old Main's renovation are six new hand-carved pillars that adorn the building's north entrance, the port-cochère. Carved by Henry Valiukas—one of a handful of stonecutters in the United States—of Drake Marble Co. (Saint Paul), the pillars restore the port-cochère to its appearance when Old Main was first built. Of the six original 1887 pillars, four had been replaced by brickwork long ago, says assistant to the president Alexander Hill. (The bricks were in place when Hill, a member of the class of '57, was a student; Margaret Day '35, who retired in 1983 as director of donor relations, estimates their installment to have taken place in the late 1940s.) Time had rendered the remaining two sandstone pillars structurally unsound, Hill says, and they were replaced this summer.

The six new pillars—of Kasota limestone matching that used for the "skirt" of the new library—were paid for with money saved by containing the new library's cost overruns, Hill says.

—R.L.G.

## Linguistics is reorganized, begins national search

Macalester has begun a search for someone to fill a tenure-track position in linguistics—the first in the program's 15-year history.

The new linguist (whose job description was being written at press time) is to join the college in fall 1989. He or she will guide a redefinition of the program's curricular content and help decide how to structure a second full-time (or full-time equivalent) linguistics position.

Intense study and discussion preceded the decision last spring to reorganize the program, whose curriculum (taught by a staff of noncontinuing and part-time professors) was supplemented by courses offered in other disciplines within the college. A specially appointed "linguistics task force," whose members included faculty, students, and outside consultants, recommended early in 1988 that linguistics be an autonomous program with the equivalent of two full-time positions.

(The program had formerly been known as a department. However, a Macalester academic department must have at least three full-time faculty positions—a provision designed to ensure that each department's course offerings are sufficiently comprehensive. "Programs" may have fewer than three faculty members.)

The ensuing campuswide discussion turned on whether to discontinue the teaching of linguistics, as recommended by several faculty committees and endorsed by Provost James B. Stewart, or to reconstitute the program as proposed by the task force. In April, the faculty voted 34–24 to support the task force's conclusions.

According to current program co-chair Ellen Guyer, the linguistics program now serves five declared majors and offers six 1988–89 courses.

—R.L.G.



## Library acquires rare 233-year-old book

Few dictionaries provide lines from works by Swift, Locke, and Shakespeare to explain how a word like "oats" may be used. But the *Dictionary of the English Language* by Samuel Johnson, widely known as Johnson's Dictionary, carries such glory. And thanks to the late Charles Ferguson, a *Reader's Digest* editor and a longtime friend of Macalester, the college has acquired a 233-year-old copy of the dictionary's first edition.

When Ferguson died last December, no one, says Joel Clemmer, director of the Macalester library, expected to see Macalester mentioned in his will. Then came a surprise that took Clemmer out of the hot Twin Cities in late June. Clemmer drove to Pleasant View, N.Y., to thank the Ferguson family in person and pick up the bequeathed Johnson's Dictionary—"an unusual acquisition for a college library," he says.

(Edward Kukla, head of special collec-

tions at the Minneapolis Public Library, believes that there are 1,600–1,700 copies of the first edition existing. "They are not scarce, but because they are highly desirable, they seem to be very rare," Kukla says.)

The two-volume dictionary of Samuel Johnson—18th-century lexicographer, essayist, poet, and critic—was first printed in 1755; it defines 43,500 words. A milestone of the English language, it retained its supremacy for many decades. (The latter half of the 18th century is sometimes called "the Age of Johnson" in recognition of his achievements.)

The "new" dictionary, according to Clemmer, is the most valuable of the more than 400 books Ferguson donated to Macalester over the years, all dealing with words and their origins. These books were kept in a separate room on the first floor of the old library, making up the library's "Word Collection."

"Master of words" well describes Charles Ferguson, formerly a senior editor of *Reader's Digest*. Devoting his life to

the monthly magazine, which he served from 1933 until his retirement in 1968, he originated the popular "It Pays to Increase Your Word Power" column, through which he helped millions of readers to strengthen their communication skills. Himself a graduate of Southern Methodist University, Ferguson became a close associate of magazine founder DeWitt Wallace '11, and through Wallace he developed a strong interest in the Macalester library.

Clemmer says that Ferguson was once deeply attracted to the idea of turning Macalester into a "word center," to which people across the nation could turn to learn about new words in the English vocabulary. The dream did not come true; nevertheless, Ferguson's effort contributed a great deal.

Visitors to the new building find the old library's word collection "integrated into the rest of the library's collection, so that [the books] can be more accessible," Clemmer says.

—Ran Wang '91

## What was it like, Mr. Mondale?

Among the guests at the Sept. 17 dedication of Macalester's new library were two distinguished alumni. During the lunch after the ceremony, students pressed Walter Mondale '50, former U.S. vice president (left foreground), and Joan Adams Mondale '52 (far left), into an impromptu outdoor seminar.



JIM HANSEN

# The Plants That Built an Empire



*Erythroxylum  
coca*

*More even than force of arms, drugs played a key role in European colonization of the New World. Plants unknown in Europe, revered in Indian ceremonies, were turned against Native Americans as tools of conquest. In this adaptation of a chapter in his new book *Indian Givers*, anthropology professor Jack Weatherford argues that cocaine has simply succeeded tobacco and chocolate among New World substances to invade the Old World.*

by Jack McIver Weatherford

# The Plants That Built an Empire

*Nicotiana  
tabacum*



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Contemporary civic mythology of the United States overlooks the role of America as drug supplier to the world. The 1607 settling of Virginia—to cultivate tobacco leaves for sale to Europe—receives short mention compared to the much later Pilgrim settlement at Plymouth in 1620.

The silver mines of Potosí, in upper Bolivia, strained the limits of human endurance. The oxygen content inside the labyrinth of small passages dropped so low that the work proved almost too strenuous even for the Indians—already accustomed to hard labor and at high altitudes—who, starting in the 16th century, supplied the mines' forced labor.

The Spanish *conquistadores*, however, found that the miners worked much harder and longer if they chewed the leaves of the coca plant. Not only could the men work with less oxygen, but they could work longer hours with less food. The workers continued working while chewing coca and thus did not take breaks. To meet this new demand, the Spaniards expanded the plantations of coca growing in the humid lowlands and shipped tons of the leaves up to Potosí, which had become the world's largest consumer of coca.

Coca's price began to rise when European scientists learned to extract cocaine from coca leaves in the 1860s. Europeans and Americans began buying coca leaves to make cocaine, which they used as a medicine and as flavoring for wine and cola drinks.

By the time the United States government outlawed the use of cocaine through the Pure Drug and Food Act of 1906 and the Harrison Narcotics Act of 1914, a small but loyal market of users had been created. The drug grew slowly but steadily until the 1970s and 1980s, when it exploded in the United States and Europe as the drug of choice among the urban affluent and poor alike. Soon the fad spread even to Rio de Janeiro, Mexico City, Bogotá, and other cities of Latin America.

During the 1980s, coca paste and cocaine have emerged as the primary exports of Bolivia—surpassing tin and zinc, which in turn had long since surpassed the colonial export of silver. By the late 1980s as much as 40 percent of the gross national product of Bolivia came from cocaine, and cocaine amounted to 25 percent of the country's exports.

South American Indians never acquired an interest in using cocaine itself, preferring to chew the coca leaf directly. Chewing the leaf produces no strong effect like drinking a cup of coffee, a glass of iced tea, or even a cola drink. Instead, it merely blunts the edge of discomfort on endlessly long trips up and down the mountains. It is one of the few drugs which prevents *soroche*, or altitude sickness—one of the most common ailments in the Andes. In addition to lessening the discomforts of life, the mildly narcotic effect of the coca leaf supplies calcium and



LAURA STEAD '88

Workers in Bolivia dry coca leaves in the countryside near Cochabamba. The leaves are dried for several days before being processed into cocaine. Chewed in its natural form, the coca leaf is a mild narcotic that provides calcium and vitamins, playing much the same traditional role in Quechua society as the ritual bath in Scandinavia. But most coca is now processed for export as the far more potent cocaine.

vitamins A, C, and D. This offers much-needed nutrients to a people who otherwise might lack calcium, since the altitude is generally too high to support either cows or many garden vegetables. The coca strengthens their bones and teeth, and for some unclear reason it significantly retards cavities and related dental problems.

As a symbol of resistance to the whites and to European culture, coca plays a quiet and calm role in Quechua society, somewhat like tea in British society, or ritual baths in Scandinavian, Japanese, and traditional Jewish society. Coca use creates a communal act to separate "us" from "them."

Today the Indians can afford only a small supply of coca leaves, for most coca leaves go directly into making cocaine.

Cocaine is merely the most recent in an extended wave of native American drugs and mind-altering substances that have swept the world over nearly 400 years. The boom in coca-leaf cultivation in the Chapare, and the luring of colonists from the mountains down to clear the lowlands to satisfy this drug need, clearly echoes the founding of the United States.

The first colony of the United States was settled by profiteer colonists, convicts, and indentured servants who arrived in Virginia to cultivate tobacco leaves for sale to Europe, where people ground it into snuff to snort up their noses. Tobacco was the first of the New World drugs to be widely accepted in the Old World, and the European zest for it played a major role in opening North America to colonization.

Contemporary civic mythology of the United States overlooks this role of America as drug supplier to the world. Instead, the 1607 settling of Virginia receives short mention compared to the much later settlement at Plymouth in 1620 by the Pilgrims (who thought they were landing somewhere much further south). The cash crop of tobacco played so important a role in the United States that when the founding fathers built the original capitol building in Washington, D.C., they decorated the Greek columns with tobacco leaves. Some of these remain visible today under the small dome between the old senate chamber and the main dome of the building, but most of them disappeared in subsequent campaigns to make the Capitol appear Greek and obliterate American influences.

Just as the United States fights cocaine smugglers in the 20th century, so world governments of the 17th century ardently fought against the use of tobacco. Even England, under the rule of James I, banned its use—until they realized how much money they could make from their American colonies' trade. Over the next 50 years tobacco was outlawed by the Ottoman Empire, the Mogul Empire, Sweden, Denmark, Russia, Naples, Sicily, China, the Papal States, the Electorate of Cologne, and the Kingdom of Wurtemberg. Regardless of the law, tobacco use increased in popularity, spread to new parts of the world, and people found ever more ingenious ways to use it.

Despite anti-tobacco campaigns around the world, Maryland and Virginia exported 30,000 kegs of tobacco a year by 1723, a trade requiring the services of 200 oceangoing ships. In succeeding decades, this trade increased astronomically as the

# The Plants That Built an Empire

Cocaine is merely the most recent in an extended wave of native American drugs and mind-altering substances that have swept the world over nearly 400 years.



Carolinas, Georgia, Delaware, and even parts of New England joined the tobacco boom. Even though the colonists amassed fortunes from their drug trade and managed to build large slave estates in the middle of the forest, they greatly resented that the British government and merchants took a share of the profits. American colonists also resented that British merchants gave increasing attention to the rival crop of tea that they transported from India and Ceylon to all parts of the world. Eventually, the colonists declared and fought for their independence, thereby seizing full control of the lucrative American drug trade.

Like cocaine, tobacco proved versatile. Woodland Indians of North America smoked dried tobacco in pipes, and the Indians of Meso-America and the southwestern United States rolled it into corn-husk cigarettes to smoke. Indians of the northern Pacific coast chewed tobacco with lime much the way the Indians of the Andes chew coca leaves. Some Indians, such as the Aztecs, ate the leaves straight. The Creek Indians mixed it with the leaves of *Ilex cassine* and other ingredients to make their Black Drink for use in their rituals.

When adopted by Westerners, tobacco had no culturally prescribed place as it did among the Indians. Its use grew indiscriminately and soon became pervasive, with people smoking, chewing, spitting, and snorting tobacco in the streets, at the dinner table, in bed, and in classrooms.

Tobacco use spread around the world more thoroughly than coffee, tea, betel, the kola nut, cocaine, or any other drug—including chocolate. Apparently every culture in the world today has been introduced to some form of tobacco use, and very few cultures have rejected it.

(Even in Tibet, where I found the lowest penetration of American Indian foods—the Tibetans adhere tenaciously to their diet of barley, yak butter, tea and meat seasoned primarily with sugar—tobacco use was widespread among men.

(On a remote Tibetan pass called Karo La at an elevation of 16,548 feet, I came upon two herders, about 14 years old, who pleaded more desperately for tobacco than the monks in the monastery pleaded for pictures of the Dalai Lama. The two young boys were sitting in the dirt beneath a stone cairn decorated with colorful prayer flags that snapped in the breeze, while in the background we could see the sun reflected from a glacier creeping down the high peaks toward Yamdrok Yamatso, a lake of Caribbean blue water. I did not have any tobacco, but my Chinese guide tossed two cigarettes in the dirt, and the boys scrambled for them. Despite the high altitude and the reduction of oxygen by one third of its concentration at sea level, the boys smoked one cigarette with great relish while saving the other.)

Over the past 500 years the world has ransacked American pharmacology looking for ever-higher highs, ever-more-complete forms of intoxication, and ever-more-altered states of consciousness. The quest for drugs continued through a variety of tobacco forms, root beers, tonic water, peyote, chocolate, cola drinks laced with cocaine, and finally to pure cocaine. Along the way, drugs such as marijuana and the poppy were introduced from the remote parts of the Old World, and when possible these were made into stronger substances such as opium and heroin.

By the 20th century, the quest for ever-stronger drugs has replaced the earlier New World quests for gold and the fountain of youth. Many of the drugs of the New World have yet to be tried outside their native settings. Perhaps they too await the appropriate technology to transform them into even stronger substances—the cocaine of a future generation.



Reprinted from *Indian Givers* by Jack Weatherford  
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JIM HANSEN



Jack Weatherford demonstrates a bow and arrow to his "Cultural Anthropology" class. The weapon was made by the Yuquí, a nomadic Bolivian culture (first "discovered" by the outside world in 1968) Weatherford visited as part of the research for *Indian Givers*.

## The World Is Yours — Go and Find It

To judge from the map behind Jack Weatherford's desk, there's not an exotic locale in the world that he hasn't explored and marked with a pin. Weatherford, an associate professor of anthropology at Macalester, has travelled extensively over the past three years under a national fellowship from the W. K. Kellogg Foundation. The results of his research have been numerous articles, a 1987 book—in Spanish—on drug traffic between Bolivia and the United States, and his newest book, *Indian Givers*, recently published by Crown Books.

Jack Weatherford has been teaching at Macalester since 1983, becoming a popular and well-known faculty member. His two other English-language books, *Tribes on the Hill* (1985), and *Porn Row* (1986), have given him a sort of celebrity status

among students. Appealing to a general audience, Weatherford's books draw heavily upon his fieldwork—including a stint as legislative assistant to Ohio Senator John Glenn (Capitol Hill being the "Hill" of *Tribes on the Hill*), and as a clerk in a Washington, D.C., adult bookshop.

For *Indian Givers*, he says, he wanted to go to the most remote areas of the world to investigate the extent of American Indian influence. The book as a whole discusses the significance of Indian innovations and contributions—including native plants like corn and tobacco—on world culture.

"I must have taken at least eight trips to Latin America in the last three years," he says. On almost all these journeys, as in most of Weatherford's fieldwork, he was accompanied by Macalester students. Abroad, students can assist Weatherford with some of his work while they also pursue independent projects.

Weatherford's one undergraduate anthropology course turned out to be one of his favorite classes. The professor, Harry Hobart Turney-High, though "ancient" to Weatherford's undergraduate eyes, captured his imagination and interest with magical visions of peoples and places he had never seen.

"He really made me believe that the world was mine to go out and find," Weatherford says.

After receiving his B.A. in political science in 1967, Weatherford stayed at the University of South Carolina to earn an M.A. in sociology in 1972. The university didn't have an anthropology department, and sociology was the closest thing to anthropology, he explains. Later work led to an M.A. and a Ph.D. in anthropology from the University of California at San Diego.

Some of Weatherford's recent fieldwork has centered on Bolivia, the world's chief producer of cocaine. In *Indian Givers*, he describes the effects of this American drug of choice upon the peasants of Latin America. He believes that the U.S. government would better achieve its aim of reducing illegal cocaine traffic if it concentrated its efforts on users and smugglers rather than attacking the growers.

"Marijuana comes primarily from within the United States," he says. "The [U.S.] government can't control drug production on its own land, but it still tries to control coca production in South America."

When asked about some of his favorite places, Weatherford leans back in his chair and dazzles the listener. Timbuktu, Bolivia, and Tibet are all familiar to him. The West African republic of Guinea, he says, was particularly beautiful, but, he adds, "that was after I was in the Sahara [in 1987], and compared with the desert it seemed like paradise."

Weatherford's next project is closer to home, focusing on the Indian cultures of the Mississippi. With a gleam in his eye, he points to the map to show how cultural influences spread from Mexico and the Caribbean islands to the North American Indians. Clearly, he plans to continue to share his enthusiasm for these "magical peoples and places" with the rest of the world.

—Kevin Brooks '89

# 'Neither Dr. Jekyll, Mr. Hyde, nor God'

*An astronomer, an ocean-mining expert,  
a nuclear chemist — Macalester's alumni scientists defy stereotypes  
as they probe our world from the ocean's floor to the galaxy's edge.*

by Jon Tevlin

**F**or those who believe that only large universities have the resources to support scientific discoveries, it has come as a surprise that America's liberal-arts colleges have long been an important spawning ground for scientists and their research.

A study compiled by Oberlin College in 1985 concludes that, nationwide, most of the Ph.D.s given in the sciences go to students who did their undergraduate work, not at Caltech or UCLA, but at small colleges. More than one-quarter of the people teaching chemistry in graduate programs, for example, come from small colleges. And according to the *Los Angeles Times*, small colleges employ almost 70 percent of all science teachers in the country.

Macalester, one of the colleges cited by the Oberlin study for its many graduates who have later excelled in biology, astronomy, chemistry, physics, and science education, is no exception. Macalester, like other small colleges, fosters close working relationships between students and faculty, thus providing opportunities for undergraduates to collaborate with their scientist-professors in significant research—collaborations that are almost unheard-of at larger institutions.

"In a liberal-arts college, there's a very strong link between faculty members' research and the students' activities," says President Robert Gavin, once a member of Haverford College's chemistry faculty, "simply because faculty members teach all the labs and involve their students in their own [research]. To learn empirical science, you have to be actively involved in the laboratory, turning out experiments. It's very difficult to separate research from teaching the science itself."

In Macalester's laboratories, examples of student-teacher collaborations abound: Chemistry students create natural compounds with professor Janet Carlson to figure out how they work—what makes a herbicide kill weeds, or why a certain Japanese tea is naturally sweet. Biology students work with professor Janet Serie in her American Diabetes Association-funded research in islet transplantation and immunology. They study lakes and freshwater clams with Daniel Hornbach (see related story). Or they assist Russell Whitehead on his \$125,000 electron microscope; or help Mark Davis, a terrestrial ecologist, examine how prairie fires affect ants and plant-eating insects. Or maybe they get a first-hand look at the recombinant-DNA work of Kathleen Parsons (who has a dual appointment in the chemistry and biology departments). Many of these undergraduates end up co-authoring scholarly papers with faculty members.

These opportunities do not come cheaply, however. Macalester has been maintaining "a high-quality science education [at a time] when the cost of providing that education is growing," Gavin says.

"In general, the more you discover, the more expensive it is to get to the next level of discovery."

At any rate, alumni find that their early immersion in real-world science pays off. As scientists, Macalester graduates have, quite literally, explored the world from the bottom of the ocean to the edge of the universe. Richard Binzel '80, an astronomy teacher and researcher at the Massachusetts Institute of Technology, counts asteroids and the solar system's furthest planet, Pluto, among his studies. Geologist David Pasho '67 directs Canada's off-shore mining of non-fuel minerals. And Ruth Powers Yaffe '48 has explored other frontiers—the frontiers of science education—forging exciting new directions in the study and teaching of science.

In the 1960s, when Richard Binzel was growing up, the United States' space-exploration program was in high gear. Like most kids, Binzel was intrigued by the promise of rocket ships, space travel, moon landings and, as he says, "that intangible thing you might call 'the immensity of the universe.'" For his 12th birthday, Binzel's parents bought him a telescope, and he spent many nights watching comets streak across dark skies.

"I always wanted to be an astronaut," he says now, a bit wistfully, "but pretty early on I realized that the chances of that were small. So I figured that if I wanted to do something with space, the thing to do was to become an astronomer."

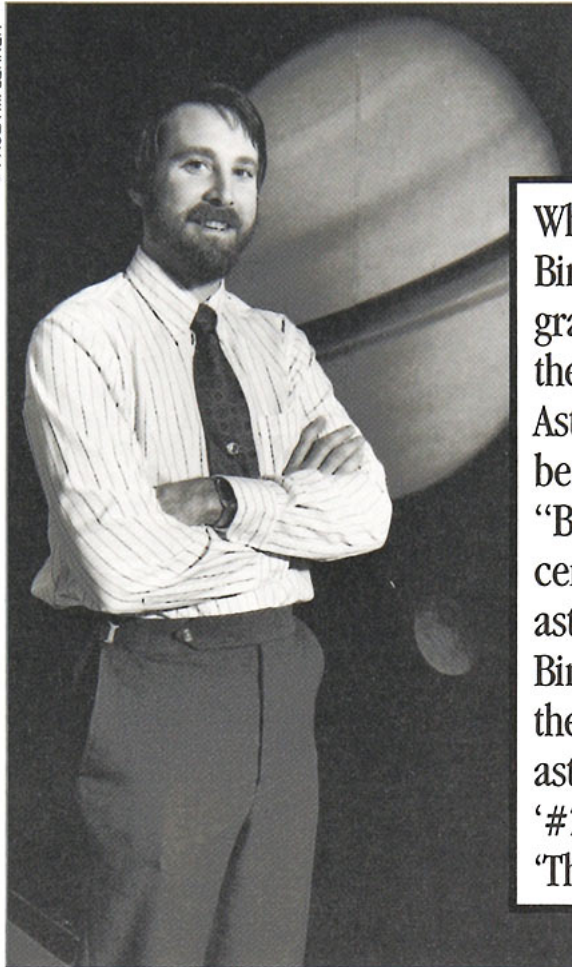
As second-career choices go, it seemed a natural. Although Binzel has yet to achieve the household recognition of such early space pioneers as Alan Shepard and John Glenn, his work in astronomy has led to a kind of star-status nonetheless: While he was still a graduate student at the University of Texas, his peers in the International Astronomical Union thought enough of his research on asteroid formation to bestow the name "Binzel" on a certain lonely asteroid. Now, when he gazes through the powerful telescopes at the Massachusetts Institute of Technology, where he was recently hired to teach and do research, Binzel can point out the faintly glowing asteroid, formerly "#2873," and say, "That's me."

Stellar immortality is one of the more glamorous aspects of a science Binzel calls "fairly routine, fairly ordinary most of the time." It's a rare recognition for years of sturdy, exacting research—the sort of research that often goes unnoticed, but is "entirely necessary to keep [one's] field going," Binzel says.

His work on the formation, evolution, and movement of asteroids—the countless small heavenly bodies that orbit the sun between Mars and Jupiter—began, Binzel says, almost as early as his boyhood curiosity. It was shaped at Macalester, where he won the American Physical Society's prestigious Apker Award (given annually to one student in the nation for outstanding achievement in science). It was there, under the tutelage of astronomy lecturer Sherman Schultz, now commemorating his 30th year at Macalester, that Binzel began to plot the planets of the solar system—and with them his own astronomical career path.

A physics and mathematics major, Binzel graduated *summa cum laude* in 1980, then moved on to an M.A. and Ph.D. at the University of Texas, where he later taught. He then worked under contract to NASA at the Planetary Science Institute in Tucson. Now, at MIT, Binzel still serves as a consultant to Time-Life Books and the National Geographic Society, among other organizations—part of what he sees as his duty to relay space achievements to the public.

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Astronomer Richard Binzel '80: Are we alone in the universe?

While Richard Binzel was a graduate student, the International Astronomical Union bestowed the name "Binzel" on a certain lonely asteroid. Now Binzel can point out the faintly glowing asteroid, formerly '#2873,' and say, 'That's me.'

"I chose Macalester because of the degree of interaction with the faculty, and also because it has outstanding facilities," he says. "There are better telescopes at Macalester" (many of them built by students themselves under Sherman Schultz's direction) "than certainly any college of its size, and it beats many places that are much larger."

Undergraduate internships in 1977, '78 and '79 at the U.S. Naval Observatory in Washington, D.C., further whetted Binzel's interest in planetary astronomy. There, he acquired an awe about things beyond earth—an awe that still lingers.

When you hear him talk about space, at once so familiar to him and still so mysterious, you get the feeling that Binzel lives in a world dynamically expanded by his technology, his experience, and his wonder. (He casually refers to the entire solar system as his "backyard," and planets billions of miles away are "neighbors.")

"Sometimes a galactic astronomer will say, 'Gee, how can you study planets? They're not interesting at all.' But the fact that they're close by, and that



there's a reasonable chance that in the not-too-distant future a lot of the questions we have will be answered, makes them all the more fascinating," he says.

His current research is a study of the planet Pluto, 3.5 billion miles away, and its moon, Charon. In a recent article in *Science* magazine, one of dozens of Binzel's published works, he reveals how measuring the light emitted by the mutual eclipses of Pluto and Charon, a several-years-long phenomenon occurring once every 124 years, can determine the precise measurements of the planet and its moon.

For astronomers such as Binzel, these eclipses—one of which is in progress right now—are critical times.

"If we can measure the diameter of Pluto and its moon, we can measure the mass of the system," he says. "Then we can compute the density of Pluto and Charon, and from the density we can try to guess what they're made of."

Color is another clue to the two bodies' makeup, and Binzel has used multicolor photometric observations of the mutual eclipses to determine the color of Pluto and Charon. The planet turns out to be much redder than its moon—due possibly to a methane frost on the planet's surface, Binzel says—and previous suspicions of dramatic color variances on Charon may instead result from reflections off Pluto's polar ice caps.

Charon takes 6.4 Earth days to orbit Pluto, so during the mutual-eclipse period the two bodies are in eclipse once every 3.2 days—when Charon goes behind the planet, and when it comes in front. But for Binzel and his colleagues to observe the phenomenon—discovered in 1985—the planet must be on the near side of the sun, and must appear above the horizon, away from a full moon, on a clear night.

One of Binzel's most recent tasks has been to plot all the observable Pluto-Charon eclipses in the next year and reserve the appropriate MIT telescope for those nights.

"This is really our best chance in the next 100 years to learn more about Pluto," he says.

Astronomy's incremental gains are building toward important findings in the next 10 years, Binzel hypothesizes—like a possible answer to the age-old question, Who else is out there?

"I think the most dramatic thing is determining whether or not we're alone in the universe," Binzel says. "I do not expect that we will run into aliens in a space ship or get a communication or anything like that. Statistically, there should be [life]. But I think what we're going to find is that we'll have better and better techniques of determining more about other planetary systems, and more about how other planets formed around other stars."

Binzel hopes his work will contribute to those findings. But he also sees more earthly ends for space research:

"It's important that we study all the known planets to better put the earth in context. Right now the greenhouse effect is a popular topic—but that's really been studied most effectively by studying other planets. The more we study other planets, the better framework we have to study the earth, and in many cases that knowledge will apply directly to Earth."



From geologist to scientific policy-maker—David Pasho '67 in Ottawa.

Physical geology was going to be a breeze. At least that's what David Pasho thought when he enrolled in the course to fulfill his science obligation at Macalester in the mid-1960s. At the time, Pasho was more interested in studying history, and he says he had "your typical liberal-arts aversion to math and science." Pasho figured geology was the least science-oriented of the sciences, and thus least likely to disturb his historical perspective.

Boy, was he wrong.

"The course was taught by a guy named Tom Bower. He just fascinated me," Pasho says. "By the time I finished the first semester, I really wanted more."

Pasho hasn't altogether lost his early interest in history. But since graduating from Macalester in 1967 with a geology major, he has slowly—sometimes reluctantly—evolved from a "pure scientist" to a scientific policy-maker, balancing scientific objectives with geopolitical realities.

Pasho is director of the ocean-mining division of the mineral-policy sector of Canada's Department of Energy, Mines and Resources—the rough equivalent of the United States' Department of the Interior. In that position, Pasho oversees all deep-sea mining of non-fuel resources for Canada, which has the longest shoreline of any country in the world.

He is charged with assessing the potential of offshore mining, with all the attendant financial, political and environmental considerations, and he was an influential member of the 1975 Canadian delegation to the United Nations' "Law of the Sea" Treaty negotiations. Pasho has also convened several international conferences on ocean mining, and he has developed a course on offshore non-fuel minerals for developing countries for the International Centre for Ocean Development (located in Halifax, Nova Scotia). Next year, he will lead training courses for the Centre in Ghana, training Ghana officials to assess the possible benefits of off-shore mining.

As Macalester's top graduating senior in geology, Pasho was a recipient of the H.S. Alexander Award (named for a longtime professor of geology who retired in 1948). Pasho earned his M.S. in marine biology at the University of Southern California, then briefly taught physical geology at Pierce College in Woodland Hills, Calif., later moving on to the Los Angeles-based Global Marine Development Inc. There, he worked his way up to chief geologist, spending much of his time on mineral exploration between Los Angeles and Hawaii. (When not aboard ship, he took long backpacking trips around the Hawaiian islands, Pasho fondly recalls.)

Through this work, Pasho became well-versed in the fact that private-sector companies cannot justify scientific experiments for their own sake; they need to see a profit. That bottom-line need is no different in government, he says, although in his current line of work he must consider the political as well as the financial ramifications of deep-sea mineral exploration.

Pasho says he's learned that a solid base in science is sometimes essential to political decisions and negotiations. As an example he cites the work of U.S., British, and Canadian scientists—including Pasho—on offshore mining of manganese, an element valuable for its use in the steel industry.

The "Law of the Sea" Treaty set up by the United Nations General Assembly in 1967 was to a large degree predicated on the idea that sizeable deposits of manganese nodules could be exploited in the near future, Pasho says, with the profits used to assist developing countries. Negotiations were made more contentious because the potential size of the profits was somewhat exaggerated, a fact established in the mid-1970s by Pasho and oth-

ers who researched the size of the manganese nodules and their potential market.

"Science and politics mixed in a very interesting way" during the manganese negotiations, Pasho says. His academic background in politics—he minored in political science—helped him more than he ever imagined, he adds.

"Macalester's general liberal-arts courses—and [political-science professor] Dorothy Dodge's courses in particular—were really very helpful in the context of the U.N. negotiations, in which we [the Canadian delegation] played a very active role," Pasho says. "I did an awful lot of work with African delegations, and spent some time in Africa lobbying. 'African Governments,' one course I had taken from Dorothy Dodge, was absolutely invaluable."

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## Geologist David Pasho calls his U.N. experience 'a very large classroom' for learning about resource management, environmental protection, and international cooperation.

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While the U.N. negotiated the treaty, "the preconceived notion of infinite resources was very hard to shake," he says. Armed with information to the contrary based on solid scientific research, Canada's arguments for limitations on mining carried a lot of weight in the negotiations, according to Pasho.

Beyond new scientific findings, the negotiations brought about a structure for managing, licensing, taxing, and legislating explorations and exploitation of the earth's finite resources among the international community. Pasho calls his U.N. experience "a very large classroom" for learning about resource management, environmental protection, and international cooperation.

In Canada, environmental protection is (as he says) "the number-one issue" for scientists and voters, and hence politicians. Pasho hopes his work will influence other countries—including the United States—which now rank environmental concerns lower than does Canada.

Another Pasho goal is to yoke science with such current government objectives as regional development, ecology, and employment—"promoting good science that lays the groundwork for economic benefits," he says.

"It's a monstrous jigsaw puzzle, and it is fantastic. I love it."

Science is hardly confined to laboratories. Ruth Powers Yaffe has been teaching this for the better part of 30 years, but her thesis was dramatically underscored during a recent trip to Africa.

"We were traveling near the equator, and the man stopped at a point 50 feet north of the equatorial line," Yaffe says. "He [the tour guide] held a funnel and some straws. He poured water through the funnel, and the straws went around clockwise. Then he went 50 feet south of the equator, poured the water, and the straws went down counterclockwise. Standing on the equator, the straws stayed still. Now, a scientist would tell you that's the Coriolis effect, but he didn't have to tell us that; he *showed* us. Did you ever think about how the water goes down your drain, or that on the other side of the equator it goes down the opposite way?"

Obviously, Yaffe, class of 1948, has thought a great deal about such things. For much of her life she has attempted to bridge the gap between those who perceive science as a pedantic, tedious exercise best confined to textbooks, and those alive to science as a discovery of the mysteries and curiosities around us.

That mission is at the root of her recent accomplishments: Yaffe was chosen outstanding professor at San Jose State University in 1983, and the following year she was selected from more than 20,000 faculty in 19 universities statewide as California's outstanding professor.

Trained as a nuclear and radio chemist, Yaffe has offered courses including nuclear chemistry, radio chemistry, and radiation safety. But about 15 years ago, when Yaffe says she convinced her university to hire another nuclear chemist, she began to concentrate on teaching freshman chemistry.

Most professors would probably choose to focus on advanced courses. Why not Yaffe? "I believe that the foundation determines what the entire structure is like," she explains.

Yaffe's teaching career began by accident, she says, when she was a sophomore chemistry-mathematics major at Macalester. World War II had just ended, and the wartime shortage of male graduate students (mainstays of any science program then) was still acute. So when her professor took ill, Yaffe stepped in.

It was a quick primer on a career that would consume her life, and an early indicator that Yaffe was a leader. Since then, she has proven to be something of a pioneer in science education, developing a wide variety of unique science courses and spearheading the cause for a nuclear-science facility at San Jose to teach students to work with radioactivity. She has also developed a freshman honors course, together with scholarship programs funded by the U.S. Department of Energy (with which she had a research fellowship while obtaining her Ph.D.

at Iowa State University).

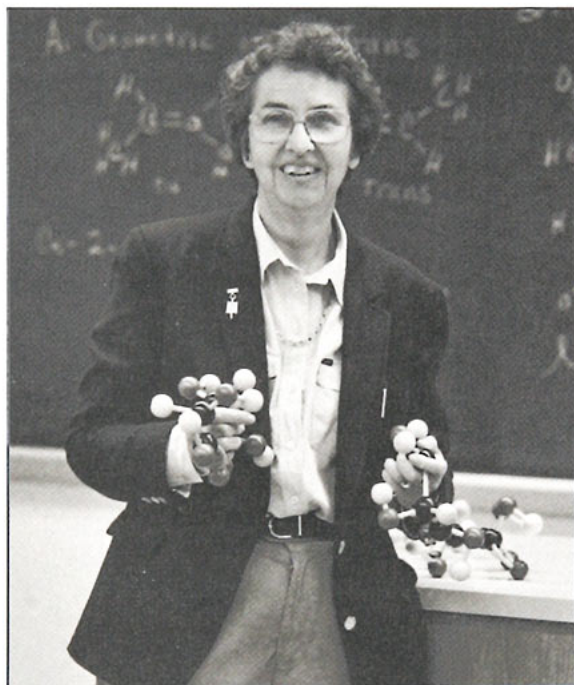
Over the years, Yaffe has worked from both ends to enhance communication and understanding between scientist and nonscientist.

"There is a stereotype—a false stereotype—of the scientist in the ivory tower," she says. "The scientist doesn't bother to communicate with the non-scientist, so [the lay community] has always perceived [science] as a combination of Dr. Jekyll, Mr. Hyde, and God. They either think we are mad scientists, or that we should be able to cure AIDS."

To help alter that perception, Yaffe has taught a technical-writing course for science majors. "Modern scientists have to also be expert communicators," she says.

Yaffe has also created an academic concentration at San Jose, "science technography." This discipline (in which students can declare a minor) focuses on *understanding* rather than *doing* science—"a science course that the nonscientist would find interesting," she says.

"What difference does it make to them if the formula for sulfuric acid is  $H_2SO_4$ ? [But] it makes a



LARRY STRONG

Making chemistry real to nonscientists is the mission of award-winning San Jose professor Ruth Powers Yaffe '48.

great deal of difference for nonscientists to understand that medications for high blood pressure may leave a man sexually dysfunctioning.

"Nonscientists make decisions dealing with science every day, often without sufficient information or background: Congress votes on money to fund scientific projects, the voters are going to vote on AIDS initiatives," she continues. "They may vote on knowledge, or they may not. They may vote to

## A Pocketful of Science

by Terry Andrews



Introduced to the chemistry of biological processes at Macalester, **Wray Hughes Huestis '67** is a full-time professor of chemistry at Stanford University, where she was the first woman tenured in the department. She teaches organic and physical chemistry and conducts research on the molecular mechanisms of cell surface processes, and she's married to David Huestis '68. The recipient of several awards and honors, Huestis is currently studying lipid protein interaction and lipid metabolism, research that has implications in blood dynamics, hemostasis, and problems of the immune system.



With a major in environmental studies, **Durjoy Mazumdar '86** is a geologist and database manager for Bay West, Inc., an environmental consulting company in Saint Paul. The company handles environmental cleanups in the United States and Canada. "We do a lot of computer modeling to try to predict what the contaminant will do," says Mazumdar, who does both office and field work. "There's no such thing as a textbook case once you leave the classroom."



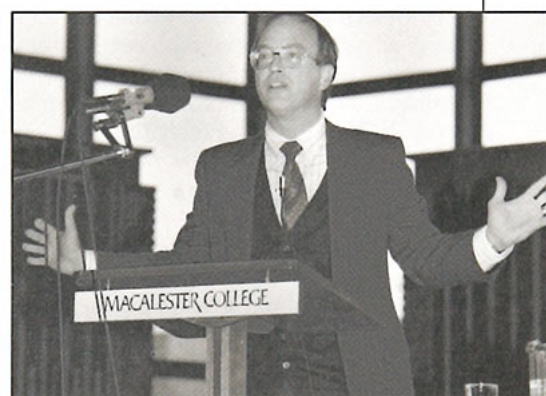
**Michael A. Mikulich '70** studied physics, physiology and kinesiology at Macalester, subjects that grounded his interest in his current profession. In 1972 he joined a new company, American Medical Systems, a Minnetonka (Minn.)-based manufacturer of urological devices (now the third-largest in the world). Now vice-president of research and development, he has been involved in production engineering, quality assurance, and design, working directly with surgeons to develop products. Mikulich holds five patents as co-inventor of penile prosthetic devices and instruments to aid in their implantation.



**Patricia Thiel '75**, associate professor of chemistry at Iowa State University, researches surface chemistry, often for industry. "A lot of the phenomena you encounter in everyday life, like the corrosion of your car, are surface problems," she notes. Thiel looks at those problems on a molecular scale to determine why they occur. She is currently studying fluorinated ethers (used as industrial lubricants) as well as oxidation of metal surfaces. The recipient of a five-year National Science Foundation grant, Thiel likes to tackle unique problems: "I don't want to jump on bandwagons. I'd much rather be the first to do something."



**Harland G. Wood '31** traces his interest in biology, particularly microbiology, to coursework at Macalester. Wood, who married classmate Mildred Davis, is an emeritus professor of biology at Case Western Reserve University's School of Medicine. He studies the biology of living matter. As a graduate student he began to challenge and disprove existing assumptions in microbiology. Liking research to solving a puzzle, he examines processes essential to life itself. In 1986 he received a five-year National Institute of Health grant to study the structure of biotin enzymes—work that may help us understand genetic disease.



William Schopf, one of five distinguished Wallace-sponsored scientists who visited Macalester last year, spoke in March on "Origins of Life."

JIM HANSEN

close nuclear-power plants—and I may think that's a terribly wrong decision" (she does). "They're going to take pills; they're going to clean their ovens, put gasoline in their cars, and they're going to dispose of their toxic waste. These are day-to-day living things that affect nonscientists mightily."

Although the science-technography area is new to SJSU, the class "Drugs, Disease, and Human Welfare" has already become popular, Yaffe says. The course covers everything from aspirin and birth-control pills to illicit drugs. This year, another Yaffe course, "Chemistry and Art," examines such subjects as authenticating artworks (and cleaning them), "salt creep" in Egyptian pyramids, the impact of acid rain on marble sculptures, and anthropology through chemical analysis (studying primitive tribes by the materials and dyes they used).

Yaffe credits her natural curiosity and her liberal-arts upbringing with her interest in such courses.

"I'm a firm believer in the liberal-arts background," she says, and in the need to make science more accessible. "People with a narrow focus may not see the rest of this world."

"I like the world. I read. I've been to Egypt and seen the tombs of the Pharaohs, and listened to people worry about their condition. I go to art museums and see the deterioration of great paintings. I love to go to the theater, to concerts," she concludes. "I want people to be as excited about chemistry—and the other sciences—as I am about Shakespeare."



*Jon Tevlin, whose sole memory from high-school chemistry is the formula for sulfuric acid (but who loved college astronomy), writes for several Twin Cities magazines and for Travel Holiday. He lives in Minneapolis.*

# Hands-on Science in Wading Boots

The classroom Dan Hornbach uses some days is smaller than most at Macalester, but the view is terrific and most of his students prefer it. The only real drawback is that sometimes Hornbach, associate professor of biology, has trouble getting the outboard motor started.

Hornbach's "classroom"—one of them, anyway—is a pontoon boat floating on a small backwater lake at the Katharine Ordway Natural History Study Area, 285 acres of land (donated to Macalester in the 1960s) that border the Mississippi, about 20 minutes south of Saint Paul. The boat, which is also frequently hauled around the state in search of new waters to explore, is a floating laboratory, think tank, and instructional tool from which Hornbach and his students can get a look at the stuff of life, up close and personal. From the bow, they can mingle with minute pond creatures and debate how to save them from sundry aquatic thugs.

It is all part of Macalester's philosophy that to learn the process and product of science, you must frequently close the books for an afternoon and get deep—sometimes knee deep—into your subject matter. It's hands-on science in hip waders.

Getting close to nature's wonders is what first drew Hornbach into his work.

"I started off studying fossils," he says. "I grew up in Cincinnati, and there are an awful lot of fossil beds beside the roadways, so it's an easy thing for a kid to get interested in." But the University of Dayton, where Hornbach became a scholarship student, had no paleontology department: "Biology was about the closest I could get. So instead of studying animals of the past, I began studying animals of the present."

Hornbach is typical of Macalester science instructors in his desire to balance



GREG HELGESON

Biology professor Dan Hornbach prepares to immerse lakewater samples in Bald Eagle Lake, north of Saint Paul. With the two bottles (one opaque, one light-permeable), Hornbach measures the amount of oxygen released through photosynthesis at various depths, thus determining algae growth.

classroom study with computer work, lab work, and field experience. The biology department mandates that all majors complete a research project to graduate; even those whose career interests lie outside the laboratory must—at the very least—do scientific library research in their programs. Other Macalester science departments are heading toward required seminars or research for seniors, Hornbach says.

But most students, he guesses, don't need to be coaxed into fieldwork.

"They seem to like it quite a bit," Hornbach says—"especially when we can get out on the boat."

On one sunny afternoon, he scuttles up a hill ahead of his students, through thorny branches that snag at sweaters, past clumps of ragweed and prairie flowers, thistles snatching at argyle socks. At one turn, a tree has snapped, leaning menacingly over the path. "Tree fell. Have to get a chain saw," he says.

The students crawl under the limb; there are ponds to map. Down at the pond, students submerge small homemade contraptions holding glass slides, to be retrieved later and analyzed for life forms congregating there. This is a warmup for a later trip to the Boundary Waters Canoe Area on the Minnesota-Canada border, where the class will study local freshwater habitats and the possible effects of outside influences—such as acid rain.

"This is to show that they can conduct experiments out here," Hornbach explains. "Nature provides the opportunities, and the boundaries."

Such close fieldwork with undergraduates was new to Hornbach when he came to Macalester five years ago. At his earlier University of Virginia teaching position, he was restricted to lectures in front of classes of 600 students. Today, Hornbach, who received his Ph.D. in zoology from Miami University (Oxford, Ohio), teaches introductory biology, zoology, comparative animal physiology, and limnology—the study of lakes. His classes never exceed 30, and his labs usually contain no more than a dozen.

Even given that intimacy, Hornbach says that with between 25 and 30 biology graduates per year, and about 60 majors at a time, it can be a challenge to have as much contact as he would like with every student.

Hornbach knows from experience that working one-on-one with a professor is important to a young scientist's development. Mentors at the University of Dayton, where he did his undergraduate and master's work, encouraged his pursuit of biology.

"It's really crucial at this stage, especially in a day and age when we have a greater and greater demand for scientists and yet seem to have fewer students interested in the sciences," he says. "We really need more emphasis [early on] to really get students to see science as a way of *doing* things, rather than as just a body of knowledge.

"At a school that emphasizes research, students really learn about the real activities of science," he continues. "They become *practitioners* of the discipline. I think it's *doing* science that excites students and makes them want to continue."

And Macalester does emphasize research. "Since I've been here, more than a half-dozen students in the biology department have co-authored papers with their teachers; that's impressive for an undergraduate." Under a grant from the Waterways Experiment Station of the Army Corps of Engineers, Hornbach's students have also co-authored papers related to his research. Tony Deneka '88, for example, co-authored two papers: one on sedimentation effects on benthic



Left, Hornbach and two students, Gregory Miller '90 and Marcum Bell '88, fill sample bottles from a Van Dorn water collector, which allows them to collect water at different levels of the lake. Inset, above: Bald Eagle Lake, with Hornbach's pontoon "classroom" visible at far left.

GREG HELGESON

(lake-bottom) organisms, and the other (with Hornbach and associate biology professor Russ Whitehead) on the ultra-structures of freshwater clams' gills.

Hornbach is in the second year of a two-year contract with the Army Corps of Engineers to study the effects of barges and other river traffic on such water-bottom communities as mayflies and midge larvae, which serve as food for fish and ducks. The corps will use the work of Hornbach and his students, who aim to discover the factors most important to a species' richness and diversity, to devise management schemes protecting backwater lake habitats. Hornbach is also beginning work in the upper Mississippi River (under a long-term grant from the corps' St. Louis arm), studying the effect of river traffic on mussels.

Hornbach says it's difficult to separate his "teaching" duties from his research, since they are in essence one and the same. Each year, several students par-

ticipate in Hornbach's lake fieldwork, so while he's doing research he's also teaching.

During the next year and a half, a new microcomputer laboratory at Macalester, funded by a National Science Foundation grant this past June, will become an integral part of Hornbach's research—and an important component in the education of many biology students, he says. Though far removed from the living, breathing ecosystem of the nature-study center, the new computers will be tools by which to study data collected in the field.

Hornbach has used computers in his research work for several years; in a recent project for the University of Dayton, he created computer-generated ecological simulations of "appropriate technology" for increasing African food production without altering social or ecological conditions, for example. He says he finds that mastering the computer allows him to analyze his findings, as well as to acquire data and to construct sim-

ulations of an organism's habitats and evolution.

Technology is becoming increasingly dominant in all the sciences, making it harder to maintain a vital department, Hornbach believes.

"That's probably the most crucial area in science education right now," he says. "The faculty here is keeping up with developments and research, but new technology is more difficult to keep pace with."

Grants from businesses and organizations such as NSF have helped considerably, Hornbach says. For example, a recent five-year, \$800,000 grant to Macalester from the Howard Hughes Medical Institute to encourage study in biomedical research allows curriculum development for faculty, provides money for increased student-faculty collaboration through summer-study stipends to students, and helps buy more equipment.

While all departments understandably focus on the students majoring in the subject, Hornbach says, the science faculty in particular need to make their disciplines accessible, relevant, and interesting to non-majors.

"We've been talking about what role we should play in the education of non-majors," he says. "We've talked about using fewer facts and figures and [emphasizing] the process of science more." (Right now, non-majors have no lab requirement.) "I don't know, for example, how crucial it is for non-majors to name all the parts of a frog, but they should be able to know how to recognize a problem and analyze data. They should know what to do with all that information released by the surgeon general, for example."

Back at the pond, students slog through muddy weeds to plant stakes at the water's edge, learning how to plot the shape of a body of water. Perhaps they are learning something with practical application to their future careers—but, more importantly, they are learning that science can be fun.

At one end of the pond, a student plots her stake's angle, then yells across the pond with instructions for another student.

"I really love this," she says, switching to a normal decibel level. "Out here, you can really let out your aggressions."

—Jon Tevlin

# As Others See Us



*"For a tiny Midwestern college," Edward B. Fiske has observed for many years at the beginning of his description of Macalester in the annual Fiske Guide to Colleges, "Macalester manages to gain for itself a surprising amount of national publicity."*

*It makes sense: The activities of Macalester students, faculty, and staff have traditionally caught the eyes of reporters around the world—as this sampling of articles from the past year shows.*

—Randi Lynn Lyders '83

## From "Rise in Black Applications Reported by Many Colleges" by Deirdre Carmody, *The New York Times*, May 19, 1988:

Many colleges are reporting sharply higher numbers of applications from blacks this year, suggesting more blacks may be on campus next fall after several years of intense recruiting of black high school students.

The increase in applications comes on top of a significant rise in the number of black students taking Scholastic Aptitude Tests and a small but steady increase in their scores.

"I think you would find a consensus among top universities that things are starting to happen," said William Fitzsimmons, director of admissions for Harvard and Radcliffe. "At Ivy League colleges and similar colleges, we are reaching an enormous percentage of top minority students through direct mail, receptions for minorities and a whole series of special events. There really aren't many that are being overlooked...."

Schools reporting large percentage increases in black applications include these: Bowdoin College in Brunswick, Me., an 84 percent rise; Hampshire College in Amherst, Mass., 55 percent; the University of Colorado at Boulder, 48 percent; Hood College in Frederick, Md., 43 percent; Dickinson College in Carlisle, Pa., 42 percent; Georgia Institute of Technology in Atlanta, 37 percent; Brandeis College in Waltham, Mass., 35 percent; and Macalester College in St. Paul, 22 percent.

## From "Tracy Villinski Signs for Minnesota College," *Expat Philipines* (Manila, Philippines) May 14, 1988:

Tracy Villinski, a graduate of International School of Manila and daughter of Mr. and Mrs. Ted Villinski with the American Embassy, San Francisco, will attend Macalester College in Saint Paul, Minnesota, this fall. William M. Shain, dean of admissions, announced that Villinski will join approximately 400 other academically talented students from around the world in Macalester's class of 1992.



MIKE HABERMANN

## From "How to Lead a Meeting" by Walter Kiechel III, *Fortune* magazine, Aug. 29, 1988:

Considering the dismal view most business people take of meetings, one would have to conclude that most managers come up short. Roger Mosvick, a professor of speech communications at Macalester College in St. Paul, wrote one of the best books on the subject—coyly titled *We've Got to Start Meeting Like This!* He notes the paradox: "All the studies, including my own, indicate that managers live in a swirl of meetings. But even at some of the best-run companies, they can't manage meetings. No one teaches them how...."

Begin the meeting with a bang, or, more precisely, with some version of what Professor Mosvick calls the chairperson's orientation speech. In its full glory, this three- to five-minute set piece, which Mosvick argues is the single most important act of a business meeting, covers the following: the goal of the meeting and the procedures to be followed; the history of the problem and its likely consequences; the range of possible solutions and the constraints that any solution must fit; the tentative agenda—speak now to change it or hold your peace; and the appointment of a recorder.



JIM HANSEN

President Gavin pulled weeds last September for a freshman community-service project.

**From "South African Students Say They Must Go Home Again" by Howard Sinker, Minneapolis Star Tribune, Nov. 20, 1987:**

Anxieties about going home are a price that a handful of South Africans pay to study in Minnesota.

"Most of us fail to realize the deep sense of commitment South Africans have for their country despite apartheid, and despite the atrocities committed under apartheid," said Robert Jones, a University of Minnesota agronomy professor who recruits black South Africans to study in the United States.

Msawenkosi Mahaye... will return home next year with a mathematics degree from Macalester College in St. Paul. "People always ask, 'Why do you want to go back?'" he said. "Home is where the people understand you, and you understand them...."

"I know there will be some people working for the government who will be following me around to try to find out what kind of influence I'll be bringing back to South Africa."

What [Mahaye] will do depends on what he finds upon returning. To some extent, those conditions are a mystery. In June 1985 the government imposed a state of emergency, still in effect, that severely limits public assembly. More stringent press censorship was included, and stronger news-media curbs were added last December. Students said they are reluctant to ask about political matters on calls home for fear that authorities are listening to the conversations.

"I'll have to wait and see what people there are doing before I know what I'm going to do," Mahaye said. "I can't go home and tell people who have been there the whole time, 'This is what we have to do.'"

**From "Community Service Helps Mac Freshmen Get Feet Wet" by Julie Anne Hoffman, St. Paul Pioneer Press Dispatch, Sept. 4, 1988:**

A well-rooted green weed topped with delicate lavender flowers put up a good fight against an energetic group of Macalester College freshmen sloshing around Lake Snelling on Saturday.

"OK, one, two, three, pull!" yelled an 18-year-old to six of his classmates playing tug-o-war with the purple loosestrife.

Kerplunk! The weed lost, but its uprooting sent Jessica Schanberg, 18, of New York City, into the lake.

"It's OK, I'm just a little wet," Jessica said. "But I'm taking a break!"

Schanberg's baptism-by-doing was all part of a new orientation program at the college aimed at acquainting the freshmen with the Twin Cities through community volunteer work. Pulling noxious weeds at Fort Snelling State Park was just one of many freshman projects; others range from taking children to the Renaissance Fair to dishing up meals at local shelters for the homeless.

About half the freshman class of 438 students signed up, said Macalester president Robert Gavin, who joined about 15 freshmen at the lake.

**From "A First: 12 Candidates, 1 Debate" by Richard Benedetto, USA Today, Dec. 1, 1987:**

Voters get their first chance tonight on NBC-TV to see all 12 Republican and Democratic White House hopefuls debate on the same stage.

"It's a time for window shopping, but not for major purchases," says ex-Reagan political aide Mitchell Daniels....

With so many debaters on stage, images could overpower issues, said W. Scott Nobles, debate coach at Macalester College, St. Paul, Minn.



**From "Macalester's Mayor's Forum: Discovering the Best," an editorial by Deborah Howell, *St. Paul Pioneer Press Dispatch*, Dec. 15, 1987:**

The current issue of *U.S. News & World Report* not only elevates St. Paul Mayor George Latimer to the top of the class among America's mayors, but it also increases the currency of the obscure but innovative Mayor's Forum at Macalester College.

The forum, now in its third year, is the brainchild of Dr. David Lanegran, head of Macalester's Geography Department and also chairman of the St. Paul Planning Commission. Mr. Latimer, an adjunct professor of urban studies at Macalester, has been the forum's convenor and has helped select featured speakers.

The forum, which hopes to expand its focus beyond the United States and Canada to Asia and Europe in 1988, draws financial support from First Bank System and The St. Paul Companies. Mayor Latimer and Dr. Lanegran want to edit the presentations and compile them into a book. The presentations also have been shown on cable television channels.

Of the 20 American mayors who made the best of 1987 list of *U.S. News & World Report*, eight have spoken at the Mayor's Forum and a ninth, Raymond Flynn of Boston, is scheduled for mid-February [1988]. Besides Mr. Latimer, who spoke last month, others among the eight are Charles Royer of Seattle; Richard Arrington Jr. of Birmingham, Ala.; Henry Cisneros of San Antonio; Joseph Riley of Charleston, S.C.; Bernard Sanders of Burlington, Vt.; Terry Goddard of Phoenix, and William Hudnut of Indianapolis.

At a time when house calls on ailing cities has dropped on Washington's priority list, the Mayor's Forum attempts to recognize mayors who have developed new and successful medicines.

Judging from the high degree of correlation with the magazine, the Macalester program has chosen well and has given audiences here a unique chance to become acquainted with the best residents of mayors' offices in the United States today.



JIM HANSEN

**From "It's Nail-Biting Time for Admissions Officers: 'Is the Waiting List Large Enough?'" by Michael W. Hirschorn, *The Chronicle of Higher Education*, April 27, 1988:**

Early last week, the mail brought William M. Shain 15 deposits for next fall's freshman class. The Macalester College admissions director then waited for two days during which only one letter arrived accepting an offer of admission.

"You feel vulnerable," he says with an uneasy laugh.

Mr. Shain should be flying high. After a 30-per-cent rise in applications last year, Macalester had another jump this year—15 per cent. But these are strange days for college admissions.

All over the country this year, more students with better qualifications inflated the applicant pools at many selective colleges.

As a result, institutions ranging from small liberal arts colleges to large public research universities this month mailed rejection letters to applicants for whom they would have rolled out a red carpet just a few years back.

Mr. Shain says that for the first time this year, Macalester found itself rejecting National Merit Scholarship finalists and class valedictorians.

Admissions directors like Mr. Shain fear, however, that the ballooning num-

bers are illusory and that the high-school yearbook editor with a 1400 Scholastic Aptitude Test score and a 3.8 grade-point average who was accepted at Macalester was the same one accepted at other highly selective colleges.

"You alternately feel, 'Oh my goodness, what are we going to do with them all?'" he says, "and on the other hand, 'Is the waiting list long enough?'" Mr. Shain has placed 250 students on this year's list.

**From "Asides: Hill Tribes," *The Wall Street Journal*, Dec. 18, 1987:**

Anthropologist and former congressional aide Jack Weatherford has circled the globe to study primitive societies but he still thinks "Washington is far more frightening" than any [other] place he's visited. Mr. Weatherford, now at Minnesota's Macalester College, wrote a book on the tribal rituals of Capitol Hill. He says that



the Iran-Contra hearings were akin to a jungle exorcism. The guerrilla politics of Senator Jesse Helms remind him of the Yanomamo tribe of Brazil. He told the newspaper *Roll Call* that Judge Robert Bork's confirmation hearings resembled an Aztec human sacrifice, though the ceremony "may not have been quite as bloody." Still, we expect the tribe to offer up other victims.



JIM HANSEN

From "Picking College Guide: No Easy Task" by Deirdre Carmody, *The New York Times*, Dec. 2, 1987: They line the shelves of bookstores, an array of interchangeable titles: "College Guide," "Selective Guide to Colleges," "Comparative Guide to American Colleges," "Insider's Guide to the Colleges," and so on. That is the first clue that selecting the right college guide can be just as daunting as selecting the right college.

"The public wants anything that will rate and compare colleges," said R. Miles Uhrig, director of admissions at Tufts University in Medford, Mass. "We pick up these guides and say, 'What did they do to us this year?' Sometimes you're horrified and you start getting calls from alums, but colleges have just got to live with it." . . .

The guides are read by hundreds of thousands of students and their parents, giving college officials ample reason to care whether their student body is described as a collection of nerds and wimps or in more flattering terms.

The principal descriptive guides are the "Insider's Guide to the Colleges," by the staff of *The Yale Daily News*, and "Selective Guide to Colleges," edited by Edward B. Fiske of *The New York Times*. Citing the better part of valor, most colleges decline to criticize their critics.

"It's a difficult situation because nobody ever describes you as you would

describe yourself," said William M. Shain, dean of admissions at Macalester College in St. Paul.

Both guides, which come out annually, include vital statistics supplied by the institutions. These include enrollment, Scholastic Aptitude Test scores, percentage of applicants accepted and percentage enrolled. But the real drawing card is that the descriptions in both books are based on what students have to say about their own colleges, warts and all.



JIM HANSEN

Translated from "Fremde Sanger" by Marianne Gebauer, *Deutsches Allgemeines Sonntagsblatt* (Hamburg, West Germany), Jan. 3, 1988: Mexico has many charming colonial towns, but Taxco. . . ah, Taxco is the most charming of them all. The plagues of tourists that befall Taxco during the day, almost plundering its "platerías,"

have returned to Mexico City. I'm glad that I can stay on—only tomorrow will I take the bus to Acapulco.

As I look down at the almost silent activity of the Zocalo from the tiny balcony of a restaurant, placidity suddenly begins to give way to animation. Among the dark figures there appear tall, blond young people, the women in long kilts, white blouses with stand-up collars and black velvet bows, the men in their Sunday best. They seem to have drifted down from some other planet. And then they form a circle and begin to sing an old English folk song. Scottish? English? . . . for that the tartans aren't "clannish" enough. Scandinavian? Maybe German?

I've just decided they must be Dutch or Swiss when the indefinable beings start moving off toward Santa Prisca. Now I have to know. I leave my beer standing, pay as I rush out the door, and still get to the church only after the group has gathered beneath the High Altar and begun to sing a madrigal. They sing like angels on earth, even here where they are surrounded by hundreds of saints and angels made of silver. The seven (yes, seven) altars that reach up to the arches in the church are laden with figures made of pure silver: Taxco was once a center of silver mining in Mexico.

The program presented by the choir ranges from songs by Thomas Morley to pieces by Bach, Mozart, Mendelssohn, and Leonard Bernstein. . . English, German, Spanish, French, and Italian, all in immaculate harmony. With obvious pride in herself and the choir, a pretty blonde announces the titles in all these different languages. But in the meantime I know: On the program in cornflower blue on the deckle-edged paper it says: "Macalester Concert Choir, Macalester College, St. Paul, Minnesota." That's it, then. These sons and daughters of finer society, who sing so divinely and look so old-fashioned—almost too well-behaved—are from the supposed cultural wasteland of the Middle West.



## An 'imp' creates a wimp—and a dashing computer game

by Rebecca Ganzel

If your idea of a computer game is a yellow video circle gobbling up dots (and your quarters), think again. Since 1979, Infocom, a Massachusetts-based company, has been quietly putting out computer games that resemble on-screen novels. Although their plots are a bit simplistic, and they rely heavily on the genres of adventure, science fiction, and fantasy, Infocom's "interactive fiction" games appeal to a surprisingly broad range of ages and tastes.

Last year, however, one of Infocom's 30-odd titles broke the adventure/sci-fi mold to blaze new trails in interactive fiction: the romantic adventure, replete with to-swoon-for touches. And the power behind that game was writer Amy Briggs '84, then employed by Infocom.

Infocom does not, as a rule, release sales figures, but the company's public-relations associate, Eileen Milauskas, estimates that "Plundered Hearts" has sold between 200,000 and 300,000 copies since its release in December 1987.

That doesn't surprise Briggs, who convinced Infocom to let her try her hand (as an "implementor"—"imp" for short) at writing her own game after a year and a half of testing other game-writers' work.

"You play games from 8 to 25 hours a day," Briggs says, relaxing over coffee in a restaurant near Macalester. "It sounded like heaven, which it was."

Just the ticket for a former English major, "Prairie Home Companion" usher, and short-term Honeywell employee who, thanks to a boyfriend whose family "bought computers as gadgets," got hooked on several Infocom games during her undergraduate career. In fact, as Briggs tells it, Infocom—staffed mostly by people in their 20s—often resembled an all-night study session followed by an all-day party.

"The men I worked with were amazing—creative, funny, knowledgeable people," says Briggs, who was the company's first female writer.



PHOTO COURTESY OF INFOCOM INC.

Writer Amy Briggs '84 is capturing hearts with her computer game.

Briggs' tale is set 300 years ago, on and around a (fictional) West Indies island appropriately named St. Sinistra. There, the heroine/player eventually finds the villain's gala ball in full swing above the prison cell where her father languishes. The object of the game is to rescue the father and defeat the villainous Lafond, hampered not only by crocodiles and pirates but also by the well-meaning efforts of a rather effete hero. ("I've had some people write that the hero is a wimp," Briggs told the magazine *Technology Review* last summer. "I personally like to think of him as a sensitive wimp.")

"Plundered Hearts" took seven months to write and program, another six months to be tested, and several more months to be translated from the Infocom programming language into something that could

be read on a home computer. (It's still available in computer-game stores for between \$35 and \$40, depending on what kind of computer you plan to play it on.) But along the way, Briggs decided that "Plundered" would be her last Infocom game.

This past June, Briggs and Infocom parted ways "very amicably." Now Briggs and her Macintosh SE are based at her parents' Wisconsin home while she completes her application to the Iowa Writers Workshop, the intensive University of Iowa-based writing program she hopes to enroll in next year.

The short stories Briggs is writing to submit with her application doubtless feature less florid prose than her Infocom adventure. Presumably the Iowa admissions committee, unlike 200,000-plus loyal game-players, would fail to appreciate the panache of such passages as this segment, one of four alternate endings to "Plundered Hearts":

Nicholas removes a gold ring from the dead man's finger, throwing his own cheap copy into the surf.

Far above him, Crulley moves down the stairs.

> **Nicholas, look**

He fails to notice you've spoken. Crulley is levelling the pistol, feet apart, braced by the cliff wall.

> **Fire the pistol at the sky**

You fire the pistol into the air. Startled by the loud report, Crulley jerks his pistol and fires, aiming not at Nicholas, but at you. You hear a distant scream, your own, and watch, as though from afar, your father wrestle Crulley to the ground. You feel only numbness as loving arms take you up, and Nicholas kisses you into death, his tears damp on your cheek. \*\*\* You have died \*\*\*

In 268 turns, you have achieved a score of 25 out of 25 points. Thus you have finished the story of PLUNDERED HEARTS, earning the title "Love Transcending Death." There are other, perhaps more satisfying, conclusions.



# Scouting pioneer going strong after seven decades' devotion

JOE ROSS/ST. PAUL PIONEER PRESS DISPATCH



Girl Scouting pioneer Zylpha Sharpe Morton '16 in spring 1987, as she looked back on 75 years of the Girl Scout movement.

by Ellen Tomson

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She remembers when girls donned skirts to go camping and when parents worried that khaki uniforms and wide-brimmed canvas hats made their young daughters look too much like the doughboys just returned from World War I.

And she remembers when there were no Girl Scouts.

Zylpha Sharpe Morton ['16], 94, helped establish Girl Scouting and has lived long enough to observe the 75th anniversary of the movement [in March 1987].

While still a young woman, Morton went to Savannah, Ga., to meet Juliette Low, the founder of the Girl Scouts. What she learned from Low, she brought home to Minnesota. She organized one of the state's first Girl Scout troops in 1920, the year the Constitution was amended to give women the right to vote. A year later, she was appointed the first executive director of the Saint Paul Area Girl Scout Council.

But those events are just parts of her story.

Encouraged by her father, who worked in a newspaper printing shop, she graduated from Macalester College in 1916. In the years since then, she has taught English and German, read widely, traveled to 14 countries, written articles about what she saw and learned, and

marked the passing of the years by the seasonal changes in her beloved garden.

Curiosity is what sets her apart from other people, she believes. It keeps her learning and growing at a time in her life when "it seems to me that I've outlived everybody that I knew."

She was curious, more than 67 years ago, when she walked over the High Bridge [in Saint Paul] and noticed little children playing near ramshackle houses on the shore below.

"I walked down the steps and the people there ran away. But I remember one tiny girl was not afraid and she was playing with a ball. When she lost it, I threw it right back to her, and by and by the other girls came to play. That was the entrance. That's how it started...."

What started was a Girl Scout troop. The girls who had played under the High Bridge, daughters of Italian immigrants, were soon among the first Girl Scouts in Saint Paul. They also were among the first to attend the first Girl Scout camp in the area, at Square Lake, near Stillwater.

The movement "grew just like mushrooms," she says. "The girls were just keen about it."

By 1923, two years after Morton was appointed the first executive director of the Saint Paul Area Girl Scout Council, 475 Girl Scouts were registered in 33 troops. During the following years, Mor-

ton trained troop leaders and spent a lot of time camping.

When she married in 1927, "I didn't really know how to cook except over a camp fire," she declares with some pride, remembering her new husband's dismay.

Girl Scouts of the 1980s are as likely to explore computer science, business, and architecture as they are to cook over campfires. And the number of them in the local Girl Scout Council of Saint Croix Valley, which includes 11 counties in Minnesota and Wisconsin, has grown to include about 16,000 girls and adults.

While being interviewed, Morton sits in a mauve brocade living-room chair. She is wearing a green plaid wool dress with a small cream collar and a gold circle pin at her neck. She says she has never worn trousers and never will.

"I've never had a pair of slacks on. Even to garden I wear a skirt."

Morton is devoted to her garden and waits with great impatience for spring to come. She continues to write and waits eagerly for the mail to arrive with news of yet another acceptance of an article for publication. Her latest article, about scientists' theories on the phenomenon of the Star of Bethlehem, was submitted for publication a year from now. Two years ago, when she was merely 92, she traveled to Jerusalem to do research.

In her lap is a scrapbook of photos from her early Girl Scout days. After all those decades, the memories of campfires, swimming lessons, skating meets, games, hikes, songs, and skits are still among the happiest of a lifetime.

"Think of it. The 75th anniversary," she says. "I don't think I'll be here for the 100th. But I'll try."

The St. Paul Pioneer Press Dispatch published this article in March 1987. In November 1988, when she celebrated her 96th birthday, Morton still resided in her St. Paul home, although she says her health restricts her activities more these days. She tries to keep active in her Presbyterian church, and she likes to accept invitations to events hosted by the St. Croix Valley Girl Scout Council. Morton says she gets a great deal of help from her "life-long friend" Margaret Day '35 and her son, Ian Morton '37 (professor of music at Macalester from 1951 to 1957). "I've been very busy all my life," she told us. "I've had a rich and long life, with a lot of travel."  
—Amy Weivoda '92

# ALUMNI & FACULTY BOOKS

by Mary Lou Burket '78

## 'Fast and full and worth observing'

### How to Prepare for Your High-School Reunion

by Susan Allen Toth

Boston: Little, Brown, 1988. 239 pp., \$16.95

Who is Susan Allen Toth? In the 1970s, when I lived near campus, I thought of her irreverently as "that English professor who drives a purple Dart." But to her readers, Toth, a member of Macalester's English department for 19 years, is known across the country for her memoirs—*Blooming*, about her childhood in Iowa, and *Ivy Days*, an account of her undergraduate years at Smith.

Once in a while, the several Toths merge, as when I picked up the travel section of *The New York Times* and read an essay by her, "A Traveler Returns," with its references to local institutions like Dayton's department store and a Minneapolis lake that I, too, have circled many times. Then Susan Allen Toth—professor, author—becomes a kind of neighbor, too.

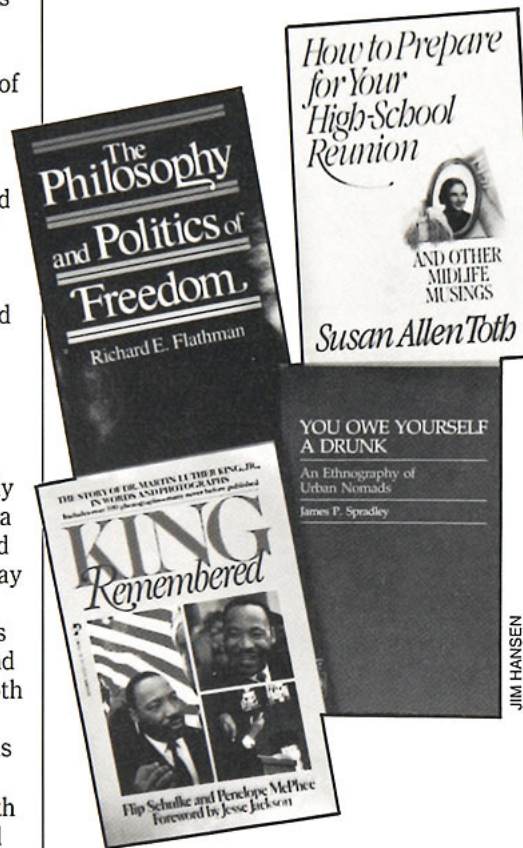
This collection of personal essays, culled from publications ranging from *Twin Cities* to *Harper's* to *Vogue*, loosely treats the changes of early middle age, a time that Toth, in her youth, considered a "dull expanse, something like a big gray parking lot baking in the sun." But the years between her mid-30s and mid-40s have seemed, on arrival, fast and full and worth observing. Unlike most of us, Toth has turned the forced reckonings that happen when we move or go to reunions into more than passing advantage.

Most of the pieces were written, Toth explains, "because something happened that made me want to put my feelings into words." During a summer storm, for instance ("Sounds"), she thinks about the noisy demands of modern life—appliances that break and phones that ring, her crying child. A break-in down the street ("Alarms") prompts her to buy an annoying array of security devices and to talk about anger and fear. More often a

cluster of events supports a theme, such as the dissatisfactions of dating or even the value of "foolish, free, and unquenchable" giggling.

One strains, in fact, to convey all that these essays are about. (Identity, perhaps, is the linking theme. Or self-acceptance.) In the end, it is the author's sensibility that joins them, especially her self-effacing humor and resolve, but also her pleasure in details.

Two kinds of readers should not be deterred from this book—those who think that essays say too much of dread importance, and those who think that essays say too little. I think that Susan Allen Toth says just enough.



*Jo Blatti '68, editor: Past Meets Present: Essays about Historic Interpretation and Public Audiences. Smithsonian Institution Press, 1987. 169 pp., \$19.95.*

How should history be presented to the public? These essays, written by museum personnel and academics, argue for multiple perspectives. A final section evaluates actual programs. Blatti, an historian, organized the 1984 "Past Meets Present" conference for the New York Council for the Humanities.

*Michael Boom '77: The Amiga: Images, Sounds, and Animation on the Commodore Amiga. Microsoft Press, 1986. 366 pp., \$19.95.*

A handbook of Amiga hardware, software, graphics, sound, and animation features. Boom is trained as a classical oboist and works as a consultant on microcomputers.

*Michael Boom '77: Music Through MIDI: Using MIDI to Create Your Own Electronic Music System. Microsoft Press, 1987. 302 pp., \$19.95.*

Musical Instrument Digital Interface (MIDI) is an industry standard that makes it possible to link electronic musical instruments. This book introduces MIDI to beginners and experts alike—to technicians, performers, composers, and instructors.

*Jean Thor Cook '51: Hugs for Our New Baby. Concordia Publishing House, 1987. 20 pp.*

In this picture book for children four to seven, two young sisters prepare for the birth of a sibling. "God has made each person to be special," their parents explain, assuring them that their places in the family are secure.

*Pj Doyle '68 and E. W. McDiarmid, editors: The Baker Street Dozen. Congdon & Weed, 1987. 354 pp., \$16.95.*

An essay accompanies each of these 13 Sherlock Holmes stories by Sir Arthur Conan Doyle and a directory of Sherlock Holmes societies, among other miscellanea. Contributors include John Bennett Shaw and Isaac Asimov.

*Richard E. Flathman '56: The Philosophy and Politics of Freedom. The University of Chicago Press, 1987. 360 pp., \$16.95.*

A professor of political science at Johns Hopkins, Flathman explores the nature of freedom, particularly its "negative conception" derived from Thomas Hobbes.



JIM HANSEN

## The World in Miniature

Freshman Rajeev Vibhakar (left, holding pencil), a native of Tanzania, was one of 75 students to participate in the "World Game" held in the Macalester Field House on Oct. 12. The game, developed by the late architect Buckminster Fuller (it has been "played" at the United Nations and in the U.S. Congress), involves a huge floor map, with each player representing about 1 percent of the earth's population. Over the course of three hours, Vibhakar (whose hat translates as "China") negotiated with other countries for such resources as literacy, food, oil—and nuclear weapons.

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