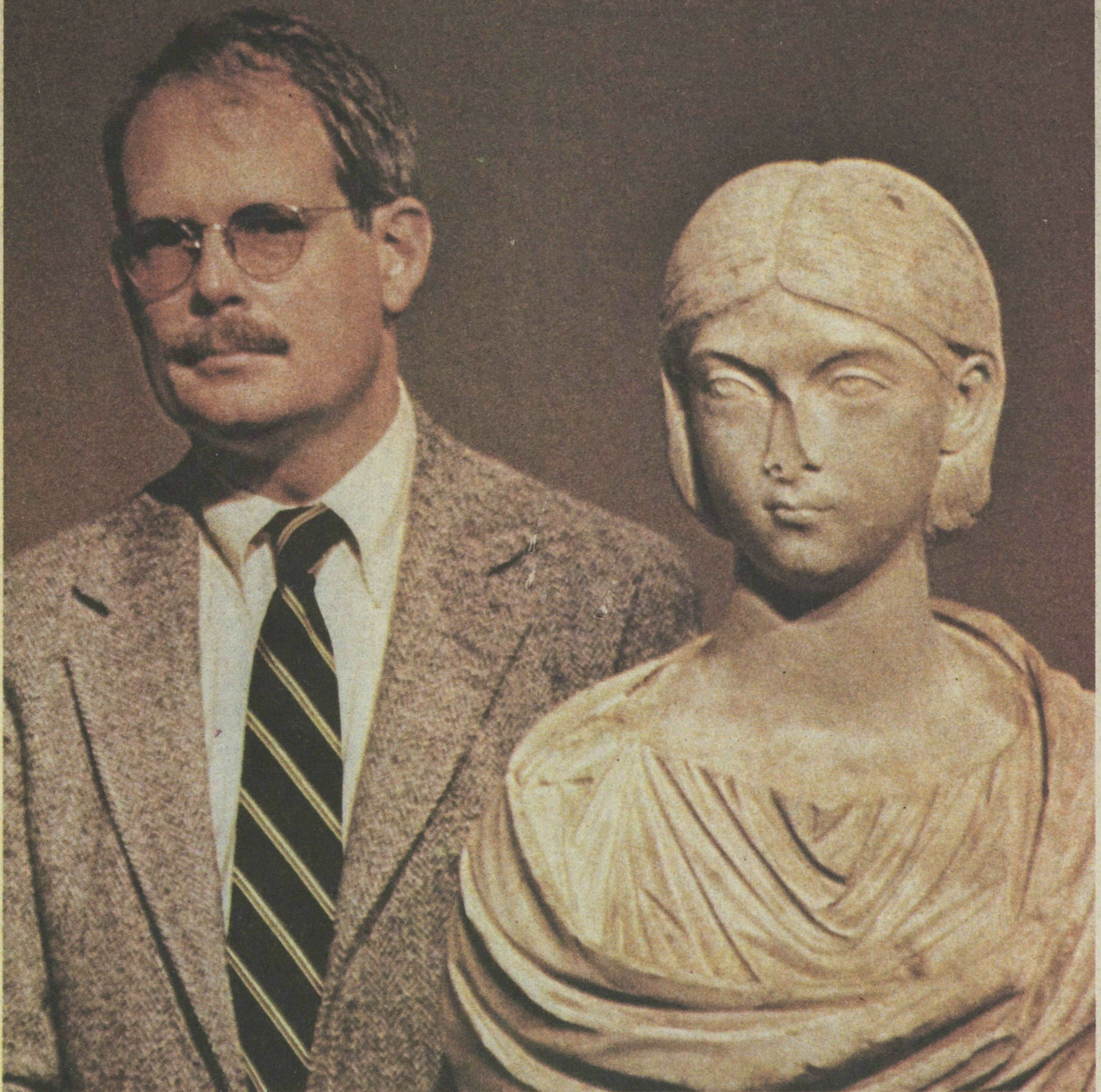


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# Michigan Today

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LIFE IN ANCIENT ROME: *The Grandeur That Wasn't*



***Classics Prof. Bruce W. Frier accompanies a Roman noblewoman, possibly an empress, who lived in the latter days of the plague-plagued Early Roman Empire. (See p. 1.)***

*Photo by Bob Kalmbach*

# Michigan Today

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AFTER DECIMATION by recurrent plagues, the European half of the Roman Empire (Italy, Sicily, Spain, Gaul, Germany and the southern and western Danube frontiers) did not reattain its 32.5 million population until the mid-1200s. The African-Asian part of the Empire (Turkey, Syria, Cyprus, Egypt, Libya) and the northwest Maghreb (Morocco, Algeria and Tunisia), didn't regain their ancient population level of 26.5 million until the mid-1800s. 'Demographers are still unraveling the mystery of why Europe rebounded so well and the African-Asian region did not,' says Bruce W. Frier, professor of classical studies.

## ANCIENT ROMAN LIFE

By John Woodford

Life in the Early Roman Empire (roughly the first two centuries A.D.) was indeed nasty, brutish and short, according to Bruce W. Frier, professor of classical studies, whose article on the demography of that era will be published in the forthcoming edition of *The Cambridge Ancient History*.

"We look at this ancient civilization as a well-spring of Western civilization, for we find a similarity of values between ancient authors and ourselves," Frier notes. "And we also acknowledge its organizational and administrative achievements. But despite these facts, when we examine something like life expectancy at birth — one of the fundamental measures of human welfare — we may conclude that in certain important respects, the Roman Empire's achievements were nil."

But Frier adds that in these respects, the Empire did not differ from contemporaneous societies. The picture of mortality, fertility and migration in the Early Roman Empire "generally corresponds," he says, "to what we'd expect of a pre-industrial society with limited medical development."

His and other scholars' "informed conjectures" about the far-flung empire that stretched from Egypt to Britain rest upon such scanty reliable data as tax documents, skeletal evidence and cemetery inscriptions, explains Frier, whose specialty is Roman law and social history.

### Filth, plagues and infanticide could make it nasty and short

Despite the lack of detailed local records like those that exist for the Middle Ages and Renaissance, it is probable that life expectancy for newborn females was around 25 years and 23 years for males, Frier reports. On the average, a year-old child would survive only to age 35, a 10-year-old to 46, and a 20-year-old to 50. A 40-year-old was likely to reach 60 — but only one newborn in eight could expect to reach 40.

The odds against living that faced any newborn can be expressed another way: Of a cohort of 1,000 newborn girls, fewer than half would live past 15; and of a similar cohort of boys, fewer than half would live much past 5.

These estimates are based on evidence that is somewhat skewed, Frier adds, "because the data tend to over-represent upper-class persons and families; for the population as a whole, life expectancy at birth was probably lower than these estimates put it."

Exploring why life was so short in the Early Roman Empire also reveals its nasty and brutish aspects.

The very high annual death rate of 40 to 44 per thousand resulted to a great extent from the pop-

ulation's virtual defenselessness against typhus, typhoid, Malta fever, malaria, tuberculosis, pneumonia, childhood diarrhea and other ailments.

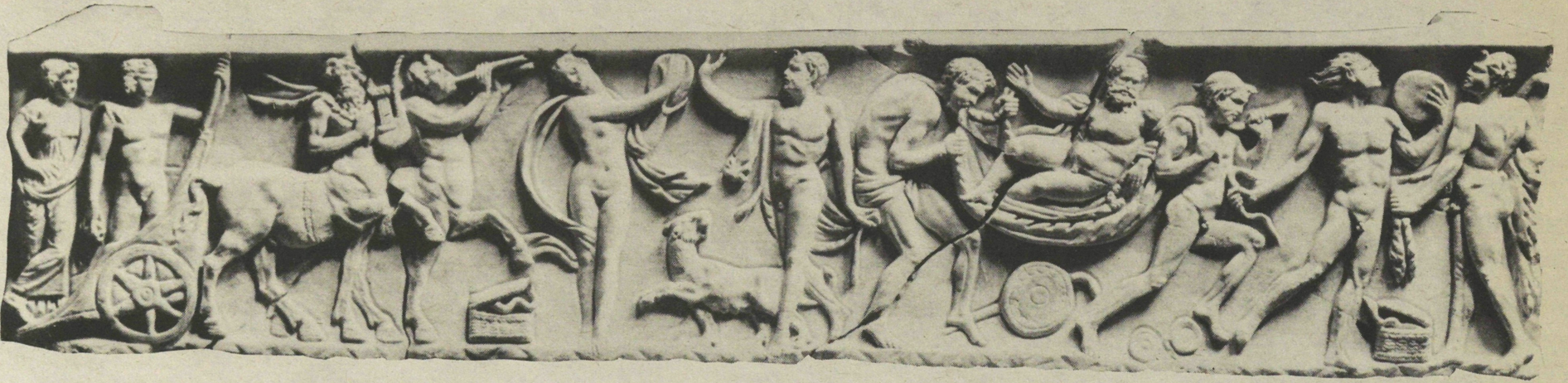
Poor nutrition — brought on by very low wages and by an inability to transport food overland from thriving areas to the famine-stricken in nearby cities — was probably a greater factor in the high death rate than was poor medical care. The latter, according to Frier, "probably had no effect on mortality one way or the other."

"The population also suffered a very high violence rate, and a high level of death by accident," he continues. "One reads on epitaphs, for example, of a man of 22 from Ephesus who died of a hemorrhage after drinking a massive dose of wine. Or of a 35-year-old African who died after being 'deceived by a bull,' as his widow put it." Surprisingly, violent deaths did not, in the main, result from military activity, which was extremely low. Less than half of a percent of the empire's population was in the army (about 350,000 men.)

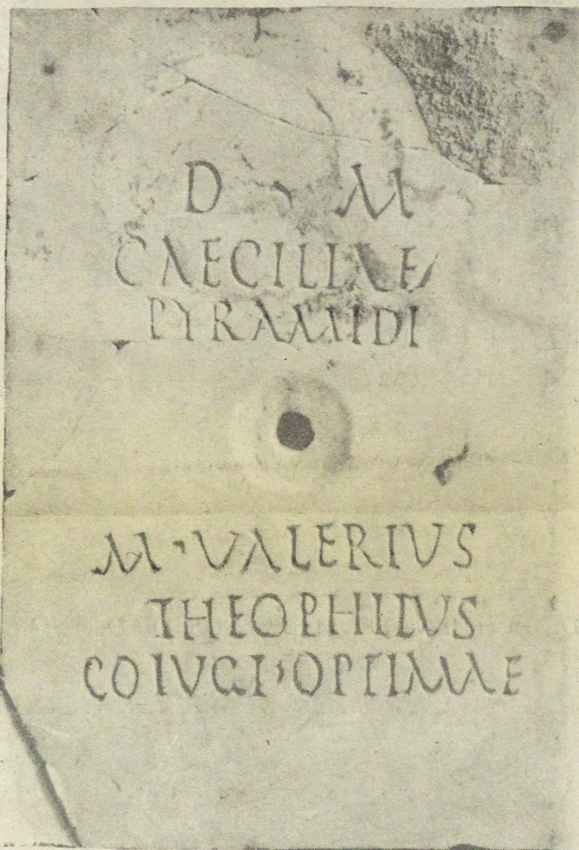
Sanitation practices took their toll, too, especially the dumping of a million cubic meters of human waste into the Tiber River each year. "That gives one pause," Frier comments, "when one reads of people bathing in the Tiber River. In fact, during the later years of this period, the physician Galen warned against eating fish caught in the Tiber."

At about this same time (A.D. 164), when the population of the Empire had presumably reached 60 million (a fifth of the world's total), Roman diplomatic and trading missions contacted China's Han Empire and also the

(Continued on page 2.)



THE SCENE on this stone coffin from the late 2d century depicts an allegorized 'nude' version of religious processions held by a cult of Bacchus. 'The cult promised adherents a blissful life in the hereafter,' says Prof. Elaine K. Gazda (see 'Polydeukion' story below). 'In view of her portrait-like features, the face of the swirling maenad in the middle of the sarcophagus probably represents the deceased. Bacchus and his wife, Ariadne, ride in the chariot at left; the sling at right holds the god's old teacher, Papposilenus.'



'TO THE HOLY SHADES. FOR CAECILIA PYRAMIS. MARCUS VALERIUS THEOPHILUS (erected this) FOR HIS SPLENDID WIFE.' The many inscriptions like this one indicate to demographers that settled family life was the norm in the Empire. Both Valerius and Caecilia had formerly been slaves. 'Slaves usually came from Anatolia Turkey and Syria from within the Empire,' Frier says. 'From across its borders, 10,000 to 15,000 a year were probably brought in from skirmishing along the Rhine-Danube border and the Armenian-Parthian frontier.'

## Ancient Rome

(Continued from page 1.)

Kushana Empire on the Indian subcontinent.

Roman traders may have imported more than silk and other luxuries upon their return. "Many scholars think smallpox, measles and the other plagues that afflicted the Later Roman Empire for several centuries were introduced into the Mediterranean by these contacts with Asia," Frier reports.

Whatever its cause, when Avidius Cassius and his army returned from Parthia (present-day Iran) in A.D. 165, the first smallpox pandemic struck, exacerbating the problem of everyday pestilence. "The plague rose and fell across the entire empire for 25 years," Frier says. "By 190, the city of Rome, which had a population of 700,000 to a million, was losing 2,000 residents a day to smallpox."

From the birth of Jesus to this time, the Empire's population had grown from 45 million to 60



Prof. Elaine K. Gazda provides the following commentary on the portrait of Polydeukion —

This white marble portrait is of a boy in mid-adolescence. It dates from Greece around 150 A.D. Polydeukion's name is recorded principally in inscriptions set up in his honor by Herodes Atticus, an Athenian philanthropist. Flavius Philostratus relates this anecdote about Polydeukion and Herodes in his *Lives of the Sophists*:

Herodes was disappointed in his own son, a poor student who was given to carousing, so he invited 25 youths, each of whose names began with a different letter, to live in his household. If his son could learn all of their names, the father's end would be accomplished.

Herodes raised this alphabet of boys as sons. Polydeukion was among three, particularly outstanding and beloved by Herodes, who met premature deaths. Herodes mourned them in an extravagant way. He commissioned statues of the boys and had them set up in his fields, among shrubberies, near springs and in the shade of plane trees.

The sensitive modeling of the face of the Michigan Polydeukion, considered the best of 18 replicas, suggests that it was meant to be viewed at close range, as does the introspective mood that invites intimate contemplation.

(The Polydeukion and other Kelsey Museum works shown here were purchased by the Museum, the Associates of the Kelsey Museum and the Cummer Fund.)



million, but the scourge reduced it by 5 million over the next three decades.

Countervailing these overwhelming agents of disease and death, however, was the fertility of the Empire's adults.

"For any population to endure over a long period," Frier notes, "each generation of women must reproduce itself, which means that, on the average, each woman who reaches menarche must have a daughter who does so."

It appears that the average woman in the Early Roman Empire, bore five to six children if she reached menopause, or 2.5 to 3 daughters per woman, a very high reproduction rate by modern standards.

Unwanted daughters were far more often the victims of infanticide and exposure than were sons, who tended to be accepted if they weren't unhealthy or deformed. Neither of these family-planning practices was considered immoral; they weren't outlawed until the late Empire.

Various methods of contraception and abortion also were practiced. Some were likely to have been effective, others were dangerous, but most were folk-magical practices with no effect — like the effort of teen-age girls to induce a miscarriage by tying wool around their ankles.

"The 'advantage' of infanticide and exposure to the Romans," Frier says, "was that it gave parents control in determining whether they would rear a male or female child in instances where a female child was unwanted. However, Jews, and the Christians who followed Jewish law, did not practice direct forms of contraception or abortion, but unlike most Romans, they did know about, and practice, *coitus interruptus*."

Taken as a whole, the several family-planning practices may have resulted in a population of 107 men for every 100 women.

"We read many complaints from men about their difficulty in finding marriageable women," Frier says. "This disproportion also shows up in the high number of girls who married early and in the many men who married women of lower status. According to evidence on inscriptions, 30 percent of the females were married by age 13, and 50 percent by 15. Men tended to be 10 years older than their first wives, many of whom were prepubescent. Records indicate that 95 percent of women of marriageable age were married or had been married. Celibacy was rare; Rome had no spinster class."

These estimates reflect statistics about women from well-off families that prized legal marriages and who were important enough to reach the tallies of census-takers and other data-keepers.

Many imperial residents, however, were barred from legal marriage: slaves, soldiers and sailors during the entire 20 years of their tour of duty and others. In addition, some Romans, such as freed slaves, were restricted in their marriage opportunities.

Men and women in these non-marriageable categories often entered into a relationship of concubinage, the Roman version of significant otherhood. The children of these unions were illegitimate.

Although the lack of data on illegitimate births is a problem for historical demographers, Frier says that there was probably no great difference in mores, fertility rates or other mating indices between persons living in concubinage versus those who were married.

"The Romans were relentlessly monogamous," he reports. "A married man was unlikely to have a concubine. But men and women who lived in concubinage weren't seen as 'living in sin.' Divorce was unregulated and could be initiated by a woman as well as a man, but it was uncommon, nonetheless, except among the upper classes. A man with a concubine seems to have been no



AS EMPEROR MARCUS AURELIUS (upper photo) lay dying in A.D. 180, he directed his friends to 'mourn not me but rather the general pestilence and death' that claimed 2,000 residents of the city of Rome a day. AUGUSTUS (below), the first Roman emperor (63 B.C.-14 A.D.), lived to be almost 80 but always looked like this in official portraits. His hairstyle, with the flat, curving strands and part over the forehead, was adopted by succeeding Caesars through the last of the dynasty, Nero, in 68 A.D. Sculptors, coin-makers and courtiers also copied imperial hairstyles, which helps historians date statues like that of the Roman woman of the Severan dynasty on our cover.

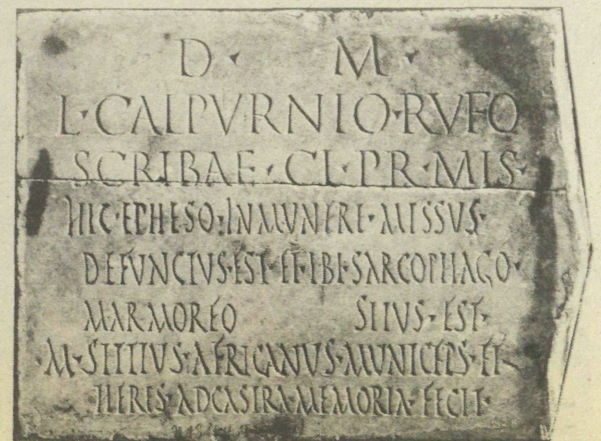
more likely to leave his mate than was a married man. On the whole, the image of Roman life as riotous is false. Stable domestic life was the norm."

From a demographic standpoint, Frier concludes, the Early Roman Empire's mortality and fertility rates may have influenced its population growth far less than did the migration that gradu-

ally shifted the center of gravity of its population from east to west.

"The scope and direction of this migration was made possible by Rome's political unification of the Mediterranean," Frier says, "and it was undoubtedly the most important and enduring demographic achievement of the Empire."

Even if a larger population gave no other edge to the Western Empire than greater numbers to survive the decimating plagues, that advantage alone was profound, Frier says. In fact, however,



'TO THE HOLY SHADES. FOR LUCIUS CALPURNIUS RUFUS, NOTARY OF THE PRAETORIAN FLEET AT MISENUM. HE WAS SENT HERE ON DETACHMENT FROM EPHESUS, DIED, AND WAS INTERRED THERE IN A MARBLE SARCOPHAGUS. M SITTIVS AFRICANUS, HIS TOWNSMAN AND HEIR BY MILITARY WILL, ERECTED THIS IN MEMORY OF HIM.' This inscription illustrates how the army helped in migration. 'Part of the genius of the Romans was their ability to defend so great a territory with so few soldiers,' Prof. Frier adds. 'During the first two centuries of the Empire, the entire Roman army was smaller than that fielded by Louis XIV of France.'

the population shift had a qualitative significance as well.

"The Empire had few formal barriers to movement within its borders," Frier points out. "As a result, many Easterners from the commercial and intellectual classes — Greeks, Syrians, Jews and others — headed westward to Italy, Spain and Gaul in hope of gain. They spread Eastern religions, including Christianity, which we can trace in the New Testament as Paul visits Jewish merchant communities on his way to Rome."

Slavery and slave migrations also greatly affected the Empire's growth and development. The chief suppliers of these "involuntary immigrants," who made up 10 to 15 percent of the Empire's population, were slave traders; next came the military.

Demographers theorize, Frier says, that the growth rate of the West Empire's population over its Eastern half "may have been accomplished entirely through migration."

During the first two centuries A.D., the Western portion of the Empire gradually assumed a population density comparable to that of the East. Regions like modern Spain, France and Britain, thinly populated by local tribes at the time of the Roman conquest, began to emerge as important centers of urban life and culture. Not even the great plague of 165 undid this fundamental change.

There is no doubt, Frier sums up, that the plague "ushered in or immensely complicated a host of social and economic problems, to cope with which a new imperial dynasty was ultimately required."

# BUSINESS AND THE LIBERAL ARTS



Roger B. Smith

Michigan Today will occasionally publish opinion pieces about issues vital to the U-M. Readers are welcome to submit subjects for these pieces or articles, themselves. The following piece by General Motors chairman Roger B. Smith was excerpted from a talk he gave this October to the volunteer leadership of The Campaign for Michigan.

By Roger B. Smith

**N**o one needs to be told that studying the liberal arts gives you information, skills and perspectives that contribute tremendously to your development as an individual and as a citizen of a democratic society. But the question you all too often hear is, "What can you do with a liberal arts education?" The notion seems to be that it's good for you, but it doesn't really prepare you for anything.

Well, I'm here to tell you that it does prepare you for a business career, in ways that you might not expect. In fact, there is a very special connection between an individual's liberal education and his or her success as a manager. And there's a connection between managers with liberal arts educations and a corporation's competitive edge.

Management is not only a science, it's also an art. And the art of management begins with vision — because whether you are carving a statue or reorganizing a corporation, you have to have an idea of what you want to create. You have to have a sense of how to turn your idea into reality by bringing different elements together according to an overall pattern.

Today, this sort of vision is as critical to the art of management as it has ever been — if not more so. In the past few years, we in the auto industry have seen new foreign competition, government regulation, and wide swings in economic conditions and con-

sumer preference. And in an environment of rapid and constant change, a company's competitiveness — and in some cases, survival itself — depends on managers with vision. We need people who can think of new strategies, as well as new ways of carrying out the old ones. We need people who can extrapolate on the basis of what worked in the past, people who can organize and reorganize operations so that economy is achieved and redundancy eliminated, people who can imagine how the course of events might be changed, and by what kind of interventions.

These mental processes can be acquired and sharpened in the study of the liberal arts. You're trained to recognize recurring elements and common themes in art and literature, in physics and history, so you learn to see the relations between things that may seem utterly different and to combine familiar elements into new forms. You learn to connect the seemingly unconnected. In other words, you learn about the kind of creativity that leads to visionary solutions to business problems.

If we're going to take full advantage of the creativity of our people, we have to provide an environment in which it can flourish. And that means that we need to encourage independent thought and action in the pursuit of our overall mission. That's why we at General Motors are decentralizing authority and cultivating entrepreneurialism throughout the length and breadth of our company.

Decentralized control was one of the main goals of our reorganization. We're going to have workers actively participating in many decision areas that used to be the exclusive territory of management.

In our labor relations, we're working with the UAW to improve the operating efficiency of our plants, so that our employees can more freely call upon the full range of their abilities. And we're becoming more and more open to our employees' suggestions, because, really, everyone is potentially an

expert on how to do his or her job.

I believe that people trained in the liberal arts can understand, function in and contribute to the kind of organization that General Motors and so many other businesses are striving to become. They learn to tolerate ambiguity and to bring order out of apparent confusion. And they learn the importance of intellectual integrity. All of this means that the liberal arts can prepare the student for a work environment of clear, strong values that are interpreted and implemented in an individual, personal way.

The successful company is also the one that can grow and diversify without straying too far from its essential business. But in these times of fast and complex change, it's not always easy to know what that is. There's just no way we can avoid being involved — deeply involved — in robotics, in computer-aided design and manufacturing and in fact in every form of computer-related high technology.

Here again, the liberal arts can prepare the student to make a contribution. How do you decide what kind of business your organization is really — or ought to be — in?

I would say that you need the kind of "sideways" thinking, the cross-classifying habit of mind that comes from learning the many different ways to look at such things as literary works, social systems, chemical processes, and languages.

Both the artist and the manager must have technical mastery of their materials and their crafts. Managers' materials are human talent, and their craft is their ability to organize that talent to fulfill their vision. And just as artists communicate their intent through their works, managers must be able to convey their vision in an inspiring and forceful way — in other words, to lead — or else that vision will never be fully realized.

To do that, you need communication skills and a sensitivity to people. If you can't communicate in a clear, concise and humane way, you'll have a hard time staying in touch with your customers, conveying your organization's values to your employees and helping everyone see the connection between individual and corporate success. And if you're insensitive to people, you'll find it difficult to harmonize individual differences, needs and work styles with the common goals.

All too few business people understand the importance of good, clear communication; all too few practice it in the daily performance of their job. But the successful students of drama, language, literature, speech and rhetoric have learned to arrange their thoughts in logical order, and to write and speak clearly and economically. The best of them can communicate with a real feeling for the flexibility and power of language and with a sensitivity to their own purposes and to the needs of their audience.

Along with communication skills, a sensitivity to people is also basic to the manager's craft. Here, too, liberal arts skills can help organizations achieve their goals. Managers with liberal arts backgrounds have been exposed to a wide variety of peoples, places and historical periods. They have studied the greatest achievements of the human race, and they know that the worth and dignity of men and women can be found in any place or time.

I hope I've made clear just how much we in business really do need the skills that a liberal education provides. We must import them by hiring liberal arts graduates. And we must impart them to the technical people we already have.

Neither process is simple. And neither can be carried out overnight. Nevertheless, we have to go forward — because of what I see as the ultimate impact of liberal arts on the art of management.

Capitalism seems to me the best system yet devised for creating wealth, and it has certainly come a long way since the excesses of years past. But it can be fine-tuned and improved, so that it works even more effectively.

If we pay more attention to the human element, we can, as I've explained, lead our organizations to more effective problem-solving, to a more acute awareness of their surroundings and to a rededication to product quality and value.

The ultimate impact of the liberal arts on the art of management, then, is to spur the evolution of an ethical and humanistic capitalism — a system that stimulates innovation, fosters excellence, enriches society and dignifies work. Pressed as we managers may be by our day-to-day concerns, we must nevertheless serve this higher obligation as well — and we must find and develop the people who can help us to fulfill it.

# HIGH-YIELD FISH-FARMING

By Sondra J. Covington

Most Americans don't worry about what their fish ate before it found its way from the market to the dinner table, much less realize that feeding fish involves ecological, economical and even religious considerations.

But to the Chinese, cultivating a major food source like fish is an art refined by centuries of practice — refined so well that other parts of the world are now studying them with keen interest.

That's the forecast of William Chang, a biologist in the Great Lakes Research Division of the U-M Institute of Science and Technology, who thinks the United States and other countries have much to learn from Chinese aquaculture systems.

During a recent visit to China to research tropical pond ecosystems, Chang studied the integrated system under which the Chinese feed their fish inexpensive, recycled waste, such as vegetation and animal feces. In comparison, the U.S. fish farms depend largely on pelletized feed, a much more expensive method.

Other countries, including France, Poland and Israel, also use animal waste to feed fish, although some, including Egypt and West African countries, shun pig offal for religious reasons.

In the Chinese integrated-aquacultural system, fish, crops and farm animals depend on each other for nourishment. It is a highly successful arrangement that produces high yields of fish at a low operational cost.

For example, the average fish farmer in China's Pearl River Delta area of the Yangtze River harvests 4,000 pounds of fish per acre, compared with the U.S. haul of about 1,200 pounds per acre.

To produce fish food, the Delta fishermen take advantage of two of their country's most common crops, sugar cane and silkworms.

The sugar cane's tender top leaves are placed into ponds for grass carp to eat. Other residuals of the sugar cane, the parts not used for sugar or fuel, are allowed to ferment and used as a substrate, or "soil," to grow mushrooms.

When the mushrooms are grown, the substrate residue is tossed into ponds as additional food. Part of these vegetative leftovers sink to the bottom, adding to the pond soil that is later dug up and used as sugar cane fertilizer.

The country's silkworm farms operate on a similar basis. Waste from the silkworm, which feeds on mulberry leaves, is fed to the fish. Leftover mulberry leaves also become fish food. Soil from the enriched pond floor is used to fertilize the mulberry trees.

Similarly integrated aquacultures have been established on rice farms, where fish grow in the rice paddies. The fish eat insects that grow in the paddies and stimulate the rice plants by stirring the soil around their roots.

Pig, cow, horse, duck, geese and sheep waste form part of the fishfood in Chinese ponds. Human waste and tall, coarse elephant grass are also fed to fish.

In northern China, wheat, soybean residue (the material left over after making soy sauce) and peanut cake (a meal created by squeezing the oil out of peanuts) are dumped into fish ponds.

The Chinese also take a "polycultural" approach to raising fish, in which several species occupy the same pond. Each species — grass carp, silver carp, bighead carp, common carp and tilapia — has a specific function, because each eats a different part of the natural food.

The grass carp eats vegetation, and their feces enriches the water for the growth of phytoplankton (passive plant life in water) and zooplankton (passive animal life in water). The silver carp and big head carp eat the plankton, and the common carp eat off the pond bottom. Tilapia scrape bacteria and algae off the pond surface and sides.

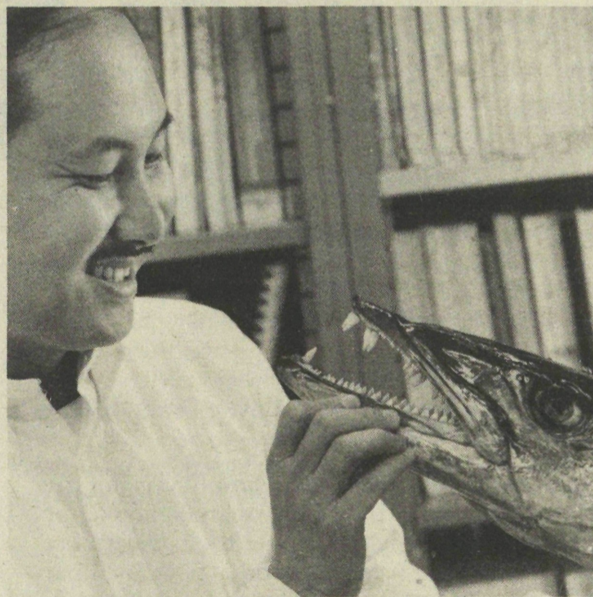
"The Chinese use of agricultural and animal byproducts in pond culture is very efficient because it not only eliminates waste but increases production," Chang says. "My purpose is to learn the basic ecological dynamics in controlling this system so I can apply them to ecologically different regions elsewhere."

Chang, whose research is funded by the National Academy of Sciences, hopes to apply the method to developing countries to increase food

## Waste-not, want-not system works in Chinese carp ponds



A FISHING COMMUNE gathers in the carp in this painting photographed for a United Nations study, Fresh-water aquaculture development in China. The common carp (*C. carpio*) was the single species eaten for at least 1,200 years up to the Tang Dynasty (618-906 A.D.), when fishing, sale and consumption of the species were banned because the emperor's name was similar to the colloquial term for this fish, li. This ban stimulated interest in four other species: the silver, bighead, grass and black carp.



WILLIAM CHANG contemplates the jaws of a barracuda. An assistant research scientist in the Great Lakes Research Division of the U-M Institute of Science and Technology, Dr. Chang has studied the Chinese' integrated aquaculture systems, whose high-yield fish harvests hold promise for the world's hungry.

production. Some of the concepts also might benefit the development of aquaculture in the U.S. and other developed nations.

One problem with introducing tilapia and carp is the palate of the potential consumers. Americans, Chang notes, like such cultured fish as the coldwater species of trout and salmon and the warmwater species of catfish, but carp, except among some ethnic groups, is not popular in the United States because of its "muddy" flavor. And tilapia, originally from Africa and introduced 30 years ago in China, is not extensively cultured in

North America; it became popular in China because it is very hardy, eats almost any organic waste and can be raised in high density.

However, a 1979 taste test conducted in the Philippines by the International Center for Living Aquatic Resources Management of Manila, showed that fish fed with animal droppings were preferred to other fish.

In China, where fish provide as much as 50 percent of the protein and where the economy has taken an upturn in recent years, consumers have become more selective in their eating habits. Some of the populace who prefer the taste of grass-fed carp to that of carp raised on silkworm waste, are now willing to pay higher prices for the grass-eaters.

Meanwhile, the U.S. has experimentally employed some aspects of the pig-fish integrated system. In Louisiana, crawfish are cultured in rice fields, and pig and cow waste is used to grow carp in a few experimental sites in Illinois.

"The use of untreated animal and human feces in U.S. lakes and streams probably would not be tolerated because of pollution standards," Chang says. "Scientists are concerned about the health aspects of eating fish fed with human and animal waste. Parasites have been a problem in China, and scientists are trying to see if there is a strong connection between waste-fed fish and parasites in humans."

But concern for health was not the top issue in China since the main need was to produce enough food for China's one billion residents, Chang adds.

"First you have to feed the people," he says. "Food shortages used to be a major problem in China. But as a result of such improved production techniques as the integrated method of culturing fish, and new economic initiatives instigated by the Chinese government, the shortages have diminished."

# ADOLESCENCE

Hang-ups and rebelliousness are not the norm, an expert says



JAMES DEAN's anguished and rebellious Rebel Without a Cause image influenced teen-agers only superficially, says Joseph Adelson. Dean is pointing toward two teens who are more typical, according to Adelson's research...



JUDY GARLAND and Mickey Rooney (in Love Finds Andy Hardy) present images nearer to adolescent reality, Adelson says — emotionally secure youngsters who are not on the other side of a generation gap. Adelson traces erroneous views of adolescence in part to mental health researchers' concentration on males, especially troubled males.

The conventional wisdom about the state of adolescence seems to be all wrong, Michigan Today learned in this interview with Joseph Adelson, professor of psychology and editor of the Handbook of Adolescent Psychology (Wiley-Interscience, 1980).

**MT:** You've been studying adolescence for some time now. Have you reached any conclusions?

**JA:** Only that the prevailing view of the adolescent is wrong, has always been wrong and in all likelihood will continue to be wrong.

**MT:** That's a sweeping statement. How did you reach that conclusion?

**JA:** Some years ago I took part in a large national study, done right here at the Institute for Social Research, on the psychology of adolescence. Three-thousand youngsters were carefully sampled; it was the first study of its kind, and still one of only a handful available. Reading through many of these interviews, and studying the data, it was evident enough that what all of us believed

about the adolescent period simply was not true. Taken as a whole, they were not rebellious, nor were they impulsive, nor were they discernibly disturbed. They were not at odds with their parents, or with society or with man's wretched destiny on this earth. They were not Holden Caulfields, nor were they James Deans — the prototypic adolescent figures of the time.

Thereupon I thought to make these findings known, published a paper reporting them and, in my blessed innocence, sat back and waited for the data to carry the day, for truth to supplant error. That did not happen then, nor has it yet. Since our work appeared, there have been other studies, using different methods and different samples. All of them reached the same conclusion: that the idea of adolescent upheaval and alienation and defiance is a wild exaggeration. But the truth has not had much effect.

**MT:** Are you saying that the average citizen has not yet caught up with what the researchers have discovered?

**JA:** No, not at all. It is the specialists in adolescence, particularly those in mental health practice, who are most resistant to the scholarship.

Let me give you an example. A few years ago, I attended a program at a psychiatric convention on today's adolescent, or some such. One of the speakers was an adolescent psychiatrist who delivered a lecture every sentence of which was demonstrably untrue. The man discussing his talk pointed this out, rather tactfully I thought. To which the speaker responded in a most lordly fashion, "I don't care what the data say. I know what my young patients tell me."

There you have it in a nutshell, alas. Much of what we know or think we know about adolescence derives from clinical work, and hence with youngsters who are atypical by definition. Beyond that, we tend to see what we expect to see — that is an iron law, and it applies to social scientists too, unless they monitor themselves scrupulously. So what we have, to some considerable degree, is a theory of adolescence made up of observations of troubled youngsters, from observers who have come to believe that being disturbed or rebellious is the normative condition in adolescence.

We have had an interesting confirmation of this recently. Daniel Offer and his associates at Chicago have developed a very good self-report inventory which gives us a good sense of how adolescents think of themselves. They had the clever idea of asking a group of mental health specialists to take that test as they imagined the typical adolescent would. The professionals imputed a high degree of pathology to their imagi-

nary adolescents, so much so that the "normal" adolescent was depicted as rather more pathological than genuinely disturbed adolescents.

**MT:** *The major problem, then, is that we see a bit of madness in all adolescents?*

**JA:** It's a major problem, though not the only one. We tend to see adolescents as a breed apart. We accentuate differences. The best example that comes to mind is the "generation gap," largely a fiction of our own devising.

**MT:** *No generation gap? Isn't there anything we can "believe in" about adolescence?*

**JA:** A little: It's likely that there is something of a gap in such things as clothing, hairstyling, preferences in music, modes of substance abuse — the cosmetic side of life. But when we get to more central values, children tend to be like their parents. They are not clones; the correlations are small, but they are consistently positive in most of the matters that count — politics, religion and the like.

So the generation gap is an illusion, although an understandable one. It illustrates the tyranny of the visible, our tendency to be captured by what is new and striking, and to generalize from that. A few days ago, I was at a gas station, pumping gas, and I noticed, smooching in a phone booth, an adolescent girl with a punk haircut — half of her head was shaved. When I went to pay, a girl of the same age was behind the counter. As I paid her, she said, "What do you think of our circus?" I asked her what she meant. "Them!" she said, disdainfully, nodding her head at the couple. "What do you think her mother thinks of her?" Now, that young woman is unquestionably far more typical of her generation than the one with the half-bald head.

We fail to grasp that the important gaps are to be found within generations, rather than between them. During the Vietnam War, we imagined a conflict between hawkish adults and the dovish young. In fact, there were hawks and doves at all ages, and for that matter, the young were slightly more hawkish than others.

**MT:** *Are there other overly visible groups among the young?*

**JA:** Above all else, upper-middle-class youngsters, those near and dear to the writing classes — journalist, professors, psychotherapists and so on. They are not typical of their generation but, through the attention they gain, they are too often seen as characterizing it.

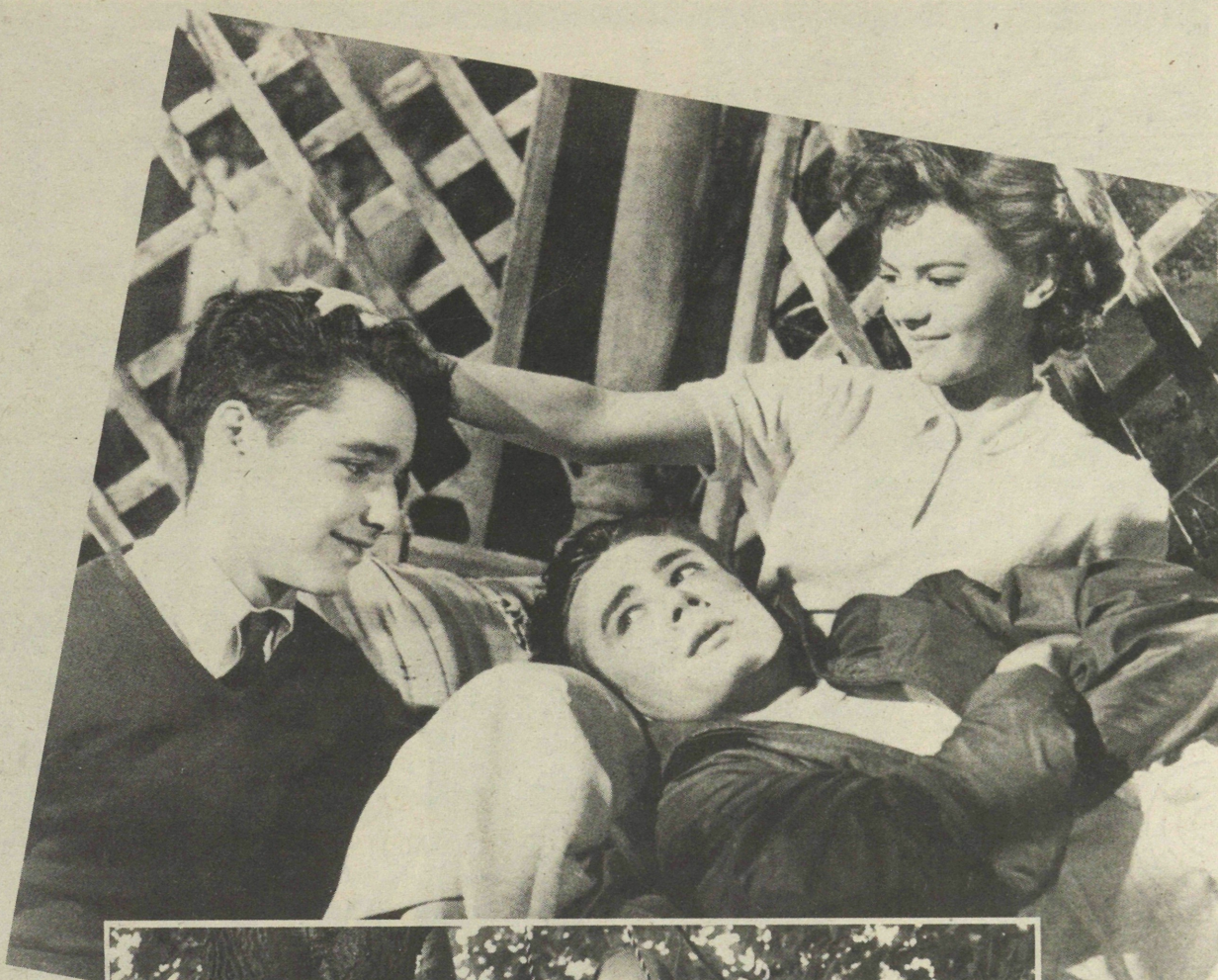
**MT:** *You sound pessimistic about the rate of progress in the field.*

**JA:** Frustrated and impatient. It is a very neglected field of study. That was brought home to me when I edited the *Handbook* and found I could not get chapters in certain areas because there was not enough reliable information available. I could not get a chapter on female adolescents because there was not enough research to warrant a chapter. That has changed dramatically, by the way. I could not get a chapter on the family because the writing was mostly smoke.

It surpasses understanding why we know so little. We know less than we do about infancy. Do you know how hard it is to do research on infants? You have to schlep them into a laboratory, one at a time. They are not gathered in schools, as teenagers are, and you can't give them long, probing, sensitive interviews. Nevertheless, we have had close to a revolution in our grasp of infancy and nothing like that in our understanding of adolescents. Things are getting better, but very slowly.

**MT:** *Where do you see this improvement?*

**JA:** First, we are beginning to gather the fruits of longitudinal work undertaken several generations ago. When you look at things prospectively — that is, from the past to the present — you get a very different perspective than if you look at the same phenomenon retrospectively, as we normally do. The findings from prospective longitu-



**JOSEPH ADELSON** has seen an older set of children (three sons) move through adolescence to adulthood; now he's tending to (l-r) David 9, Gretchen 3 and Eric, 11. The psychologist says, "The cost of clarity about adolescence is eternal vigilance." That advice might have helped the reel-life parents of the trio above from *Rebel Without a Cause* — Sal Mineo, Dean and Natalie Wood, all of whom had psychological problems that shortened their real lives.

dinal research are too various to discuss here, but it is really very exciting.

A second important new direction stems from economic demography, believe it or not. There is a very strong relationship between the size of crowdedness of a generation and the degree of pathology and personal failure found among members of the "crowded" generation. Since there is so little we are able to predict, it is really thrilling that the demographers have been able to make accurate predictions about the recent decline in the rates of social pathology among the young.

A third new direction may be an invigorated study of adolescent thinking. There is a significant leap forward in the quality of thinking in the pre-adolescent and early adolescent years. The

topic has been neglected and when not neglected, studied without sufficient flexibility and imagination. That may now be changing. Let's hope so.

**MT:** *Your mentioning of pathology and failure in adolescence brings up a brass-tacks question: How would a parent tell if an adolescent child was sufficiently troubled to need help?*

**JA:** That's a question that doesn't allow a simple answer. The parent usually does not have enough experience with a range of adolescents to be able to make the necessary judgments as to what is transient and what is liable to be enduring, what is minor and major, what is truly deviant. And of course the parent is too close to the situation, and either too anxious or — more often — too defensive. The resource I would use is the school, especially those teachers whose judgment you trust. School teachers are very undervalued, in my opinion, here as elsewhere. They see a lot of youngsters and have a good sense of what is normative and what is not.



# SPY PLOTS

## Espionage fascinates in fact and fiction

By Terry Gallagher

The stories of real-world espionage echoing and re-echoing in the news media these days seem stranger than fiction. In fact, according to Joseph Blotner, an English professor who teaches a course on espionage fiction, the novels in his syllabus ring truer with each twist and turn in the spy plots unfolding in the world's capitals.

"After what I've read in the papers just these last few months, and disregarding everything I knew before that, I would say that the view of the world presented in espionage fiction is a realistic one," Blotner says.

Blotner, who is widely known for his biography of William Faulkner, contends that spy novels should not be shunted off to the literary hinterland known as "genre fiction." Recent headlines have shown that "this whole area is so much a part of modern life, that this fiction is mainstream in a sense," he says.

To bolster his contention, Blotner's course includes works by authors not commonly considered spy novelists. "I was at some pains," he says, "to get in as many first-rate authors as I could, to keep the course from appearing to be that kind of lightweight offering you sometimes read about in college curricula." He concedes, nonetheless, that there are not many works of "absolutely top literary level" in this genre.

"I've assigned Kipling's *Kim*," he says, "and that's certainly a mainstream novel by a master — just as mainstream as *The Light That Failed*, or any of Kipling's other fiction. The same thing is true of Conrad's *The Secret Agent* and *Under Western Eyes*, where Conrad uses espionage as a setting for his perception of the human condition, to illustrate the corrosive effect of concealment and secrecy on the human heart and human relationships.

"If you were to broaden the definition of espionage enough to include terrorism and the actions of extremist groups," Blotner continues, "you could even include Dostoyevsky's *The Possessed*, which deals with revolutionary cells in Czarist Russia."

Drawing an analogy from the area he's best known for, the American South, Blotner recounts something Robert Penn Warren said about his novel, *All The King's Men*: "Warren acknowledged the resemblances between his protagonist and Huey Long and between his setting and Louisiana in the 1930s. But he said the novel was really more about the philosophy of pragmatism, with what happens when you do what's practical rather than what's morally justifiable.

"It is valid to say about the best of these spy novels that they ultimately address moral issues as well as pragmatic ones," Blotner says. "The novel of espionage becomes a conveyance for more complex subject matter."

Vicarious adventure, Blotner says, accounts for the strong appeal of most spy thrillers: "It's a fascination for the kind of things we would never do ourselves; things very different from our professional lives, which have their tensions and their rewards, but which are nothing like living on the edge. It's like the appeal of Louis L'Amour's Western heroes to readers who've never punched a cow, much less fired a six-shooter."

But Blotner thinks espionage fiction has an impact beyond escapism. "I think it raises awareness about the extent to which the covert is part of our lives in a national sense," he says. "Everyone is familiar with Clausewitz's axiom that war is a political instrument. Espionage could be considered an intermediate step — an extension of politics short of war."

Even if it can't guarantee that a nation will keep whatever edge it hopes it has in a particular area, Blotner argues, intelligence-gathering can help keep the peace because "accurate intelligence-gathering prevents countries from making mistakes."

Perhaps because of his interest in fictional spies, Blotner has been following recent real-life spy stories with special attention.

"I've followed the John Walker case [the retired Navy warrant officer charged with organizing a family spy ring], and one of the differences between it and cases of the past is the Walkers weren't motivated by ideology," he says. "There may be some appeal derived from the idea that this is glamorous work. But the lure is money, really."

Blotner contrasts the Walkers with Philby, Burgess, Maclean and other agents in the circle of British spies who believed that by giving British secrets to the Soviets, they were advancing communism.

If would-be spies who are motivated by avarice read more espionage fiction, Blotner says, they would drop the notion that it's a get-rich-quick field. "Once you have delivered the first item," he points out, "they've got you. You're a prisoner of whomever you spied for."

In his course, Blotner illustrates this point with an episode from his own experience: "I was a prisoner of war in Stalag Luft III in Germany during World War II. In confinement, we enjoyed listening to news from the BBC over a secret radio. The more veteran prisoners had put together the radio after bribing a German guard to supply one tube.

"Of course," Blotner says, with a sardonic chuckle, "once he supplied that, they had him. They used the tube to blackmail the guard into delivering the rest of the parts."



Ronald Lippitt

## FROM BED WETTERS TO INFILTRATORS

Prof. Ronald Lippitt (Emeritus), a social psychologist who once headed the Research Center on Group Dynamics of the U-M Institute for Social Research, has made community development his life's work.

But as an intelligence officer in World War II, he used his expertise to teach U.S. spies how to break down the morale of troops and other enemy groups in Japanese-occupied areas of the Far East.

"There was a tremendous mobilization of all the social scientists who were interested in the Far East," recalls Lippitt, who worked for the Office of Strategic Services (OSS), the forerunner of the CIA. He was doing group therapy with bed wetters in the Navy when Kurt Lewin, who had been his mentor in graduate school, and Margaret Mead, the anthropologist, persuaded the chief of the OSS, Gen. William (Wild Bill) Donovan, to assign Lippitt to the newly formed outfit.

At a secret compound in Virginia, Lippitt trained operatives in the techniques of "black" psychological warfare, as they called the effort to demoralize imperial Japan from within. ("White" psychological warfare was the name given to the effort of a competing agency to demoralize the Japanese from outside Japan.)

The curriculum for Lippitt's students — besides jungle jeep-driving and pistol practice — included how to resist torture without surrendering information and how to interrogate prisoners. (Interrogation techniques were refined by social-science studies on such questions as the effects of Japanese child-rearing patterns on personality vulnerability.)

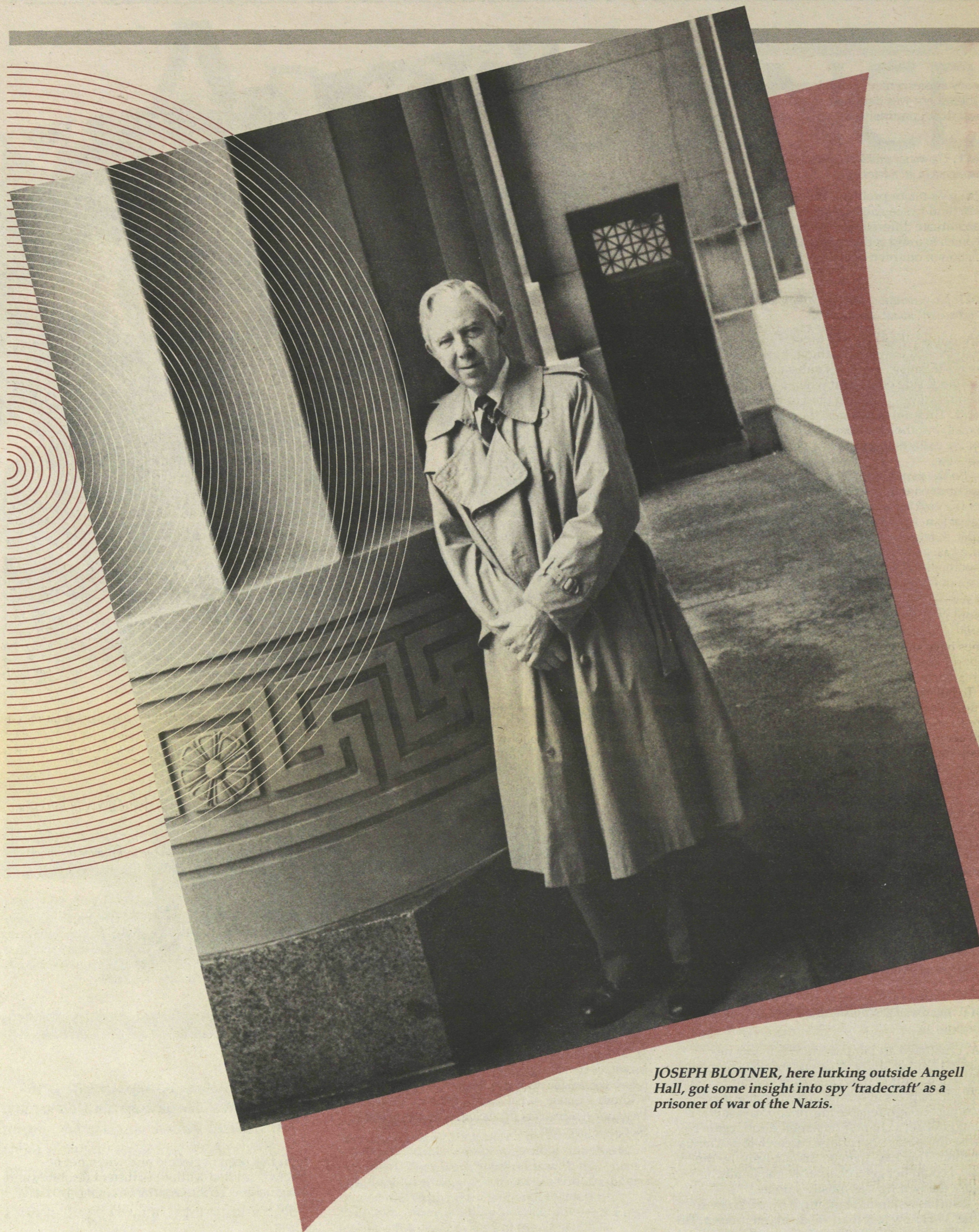
After training, the agents would be inserted by parachute, submarine, jeep, horseback or on foot, "anywhere from the Himalayas east," to sow discontent. Among the tools of the spy trade they took with them was a hand-operated printing press for producing leaflets and flyers to discourage the enemy.

"Say you learned that a particular Japanese camp in Indo-China was short on rice," Lippitt suggests for an example. "The enlisted men might wake up to find their barracks littered with leaflets saying that the officers had full bowls of rice."

Although the demoralization process was sometimes devastatingly effective, Lippitt also remembers "some fascinating failures."

It seems an American anthropologist knew of a Japanese myth that said when the leaves of the kiri tree fell, tragedy would soon follow.

"This specialist on Japan," Lippitt recalls, "convinced the OSS to manufacture leaves out of parchment and drop them on an entrenched position, in order to reduce the Japanese troops' will to fight. We lost a plane and crew dropping those leaves. Later, we invaded that position and found that these Japanese soldiers were from a rural area where that urban myth was unknown."



JOSEPH BLOTNER, here lurking outside Angell Hall, got some insight into spy 'tradecraft' as a prisoner of war of the Nazis.

### A SYLLABUS OF SPIES

Required Reading for English 318:  
ESPIONAGE FICTION  
Prof. Joseph Blotner



Conrad

JOSEPH CONRAD: *The Secret Agent* and *Under Western Eyes*. In two of the earliest works in the genre, Conrad explores a squalid terrorist underworld where plot and counterplot expose human capacities for loyalty and betrayal.

SOMERSET MAUGHAM: *Ashenden, or the British Agent*. In this landmark 1928 novel set during World War I, a playwright, neither courageous nor sensational, is recruited by British intelligence and sent to Geneva and thence to Russia. He waits for information, pays his spies and recruits new ones.

ANTHONY BURGESS: *The Tremor of Intent*. Burgess adopted the fixtures of espionage fiction for this book, which he subtitled "an eschatological spy novel."

LEN DEIGHTON: *The Ipcress File*. A British agent attempts to recover an abducted biochemist from the Soviets. Blotner says, "It was my interest and enjoyment of books by Len Deighton as much as anybody else's that gave me the idea of doing the course."

GRAHAM GREENE: *The Human Factor*. Issues of conscience and the responsibilities of the individual to society are wrought into a thriller concerning British spies in Africa.

ERIC AMBLER: *The Care of Time*. Ambler, who scored his first success with *A Coffin for Dimitrios* deals with terrorism in the Middle East as much as with espionage in this novel.

JOHN LeCARRÉ: *The Spy Who Came in From the Cold*. According to Blotner, the current case of the apparently repentant Soviet defector Yurchenko may be better understood in the light of this 1964 work in which British agent Alec Leamas "defects" in order to plant a story that will make it appear that the head of East German intelligence is a double agent.

ADAM HALL: *The Quiller Memorandum*. In the first book of a series, British agent Quiller goes to Cold War Berlin to quash a plot hatched by renegade Nazis.

CHARLES MCCARRY: *The Secret Lovers*. One in a series of books about an American agent, a member of an organization obviously modeled on the CIA. Blotner says McCarry reflects growing American expertise in the genre.



Cheerleading history

WHAT A LOW BLOW! The article "Historic New Cheerleading Squad" in the August issue with Pam St. John's quotation "the most historic cheerleading event in the history of the University of Michigan." With such a statement she is showing utter disregard for us "antiques" from the classic squads from 1938 to 1941 that produced one runner-up (Bud Keetch), two first place and one Head Cheerleader for the All-American Squads selected during those years. (The latter three of those positions were mine).

And what greater contribution to the art can there be to eclipse the famous "Grand Salaam" invented by the writer at the Minnesota-Michigan game of 1939? Since that introduction I have seen it performed after touchdowns at almost every game I have witnessed in person or on TV, coast to coast.

How many of the current crop will be able to boast of the dubious honor of being so important to the crowd reaction that they are "kidnapped" by the opposing squad and "forced" to lead Ohio State cheers at their pep rally at the Ohio Theater in Columbus, only to be released ten minutes before game time?

And how many will make a feature story in *Time* magazine (Dec. 11, 1939) and spend two hours doing aerial walkovers, spans and the like for their photographers, only to have the final picture printed upside down (showing me right side up)?

The hurt imposed by this article will not deter me from squeezing my size 44 frame into my varsity sweater (for a 30 inch waist) complete with All-American insignia, every New Years Day that Michigan takes the field. But it just may keep me from some day donating it to the Athletic Department, moth holes and all, for permanent reminder that, once, Michigan had such glory.

Andrew M. Ritter  
Audubon, Pennsylvania

*Time magazine wrote in 1939 that among the maneuvers contestants for cheerleading All-America status would have to perform was the Ritter Span, "invented two years ago by 20-year-old Andrew Mowbray Ritter, a University of Michigan junior. . . . [The span] is a complicated back flip in which a performer leaps into the air, twists his body into a horizontal arc 'which he holds momentarily,' then lights on his hands, flips his feet over his head and finishes as erect as a West Point cadet. 'Less than 30% of the [nation's top cheerleaders] are able to do it,' admits Ritter, who broke his wrist Ritter-spanning last year."*

*The article added that although "the most versatile" cheerleaders at Southern colleges were "dimple-kneed co-eds," women were not eligible for the All-America squad. Time said Ritter "scowled" as he reported, "Every year there is a campaign to take them in, but every year we keep them out."*

*We hope our lack of historical perspective will not keep reader Ritter from relinquishing his moth-eaten sweater.*



SWIVEL-HIPPED HALFBACK Jamie Morris will be darting through the Nebraska backfield when the Wolverines try to improve upon their New Year's Day luck at the Fiesta Bowl in Tempe, Ariz. After unleashing the air-arm of quarterback Jim Harbaugh in late season, U-M smashed pessimistic pre-season predictions by compiling a 9-1-1 mark in the regular season.

*Times have changed so much, however, that when the U-M's all-male cheering squad competes under Coach Bob Seymour in the fourth annual championship of the National Cheerleading Association Jan. 3-5 in Orlando, Fla., it will be the first and only male squad ever to qualify for the 20-team tourney.*

*The U-M co-ed squad coached by Pam St. John did not enter the Florida contest but will compete for a similar national cheerleading title this winter — Ed..*

Rowing update

IN THE APRIL 1985 issue I noticed an error in "U-M Rowing Team Pulls Together" by Alice Vining. There is a statement that Oregonian Doug Herland came to Ann Arbor in 1980 to volunteer as the men's team's first coach. I have all due respect for Mr. Herland and the job he did for the Rowing Club, but I joined the Club in the spring of '77 and trained and coached men's and women's crews voluntarily until I left Michigan in May 1980. Therefore, to set the record straight, I believe I was the first men's team's coach, or else someone before me that I'm not aware of.

Don Dosett  
Bothell, Washington

Letters 'sickened' them

THE THREE anti-Gypsy letters in the last issue shocked and sickened me. How can we put an end to such hysterical hatred of entire ethnic groups?

David Strecker '84  
Cincinnati

I WAS APPALLED by the sneering, hostile responses to Prof. Lockwood's research on Gypsy culture. It amazes me that supposedly educated people would scuttle forth with such slaving eagerness and pride to expose their abysmal ignorance and crude race prejudice (not to mention their masochistic pleasure in exhibiting their idiotic susceptibility to cheap con artists) for all to see in their dear old Alma Mater's mag. Now here is a subject for scholarly study, preferably by a PhD in abnormal psychology. Why do you bother to publish these disgusting letters? They belong in some neo-Nazi newsletter, not in our *Michigan Today*. For shame!

Anne Sharp '84  
Livonia, Michigan

P.S. Long live Django Reinhardt!

To enrichen'?

PLEASE SEE the folks in the writing program you described on page 6 about "enrichen" (column 3, line 3, page 1). Those of us who took Daily Themes at Yale would have wonderful fun commenting on the meaning of this "Midwestern" word — or is it Old English?

John H. Marble, JD '56  
LLM '57  
Cincinnati

Thank you, Mr. Marble, and also Mrs. James B. Hansen of Traverse City, Mich., and Elizabeth Duffy of Ann Arbor for calling this creative anachronism to our attention. — Ed..

Better balance needed

AS A CAREER counselor in a community college where enrollment includes 59% females, 41% males, I am disappointed to read a publication that is so male oriented. The articles and features are predominantly geared toward men. I'm certain that a balance of both — articles about men and women — could be achieved through conscientious time and effort.

Joyce L. Haver  
Monroe, Michigan

Correction

A caption in last issue's article on the exhibition of Tabwa art mistakenly said that the Michigan showing would take place at the Detroit Art Institute. In fact, as the text of the article stated, the exhibition will be held at the U-M Museum of Art in Ann Arbor, from April 21 to July 27, 1986; it will premiere Jan. 28 at the Smithsonian's National Museum of African Art in Washington, D.C.

We enjoy receiving readers' letters but regret that we cannot print or acknowledge them all, nor can we always print them in full — Ed.

This summer, we're playing your song:

**"I want to go back to Michigan, to dear Ann Arbor town..."**

Remember the best days of your life? They're still happening every day in Ann Arbor. The kinds of places where beer was something very grand . . . the restaurants you had to save up for even though they weren't expensive . . . the interesting little shops where it seemed there was something new every day and you wanted almost everything . . . the concerts and the movies . . . the interesting people you hoped you'd get to meet in the bookstores . . . they're here, in Ann Arbor. Only it's even better now—the ideal place for your company's next meeting, or a convention, or to simply get re-acquainted with yourself. This summer, spend a few days with us, and re-live the town you hated to leave.

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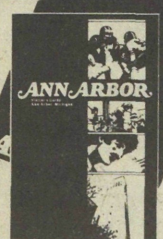
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MT

# THE STATE IS STILL OUR CHIEF PATRON

## Dean of the College of LSA Looks Back...and Ahead

By Peter O. Steiner

...the problem of making our receipts cover our expenses, without embarrassing our work, is still a serious one...the rate of compensation of many of our teachers is below that paid in other institutions of similar rank and in many of inferior rank...The progress of science and of education is constantly pressing new demands upon us. These we cannot ignore. Not to advance is to fall behind other institutions and to be unequal to the real needs of our students. Subjects must now be taught which thirty years ago we were not called to consider in our curriculum...All this enlargement and specialization of instructing involves increased expense. But for a University to make no change in the scope and manner of its work, as the research of scholars is rapidly widening the domain of learning, is to decline, to degenerate, to begin to die. Continually to advance is the indispensable condition of vigorous life. The friends of the University, the State of Michigan as its chief patron, may as well face the fact that the expenditures of the University must, not rapidly perhaps, but yet steadily and constantly increase, if the institution is to retain that eminent position of which the State has been so proud.

I might well have written the previous ten sentences in this autumn of 1985. In fact, they were written in September 1885 by James Burrill Angell, the third President of The University of Michigan. The more things change, the more they remain the same!

Yet not everything is the same as it was a century ago, and, indeed, the difference may seem decisive. Then LS&A had 458 students (443 undergraduates) of which 15% were women. This year we have 16,000 students (14,000 undergraduates) of which over 40% are women. Tuition then was \$20 for in-state students and \$30 for non-residents; even allowing for the decline in the value of the dollar, that's a long way from \$2,500 and \$7,000, roughly the tuition figures for today's students. The state appropriation to the entire

University was \$56,000 in 1885; LS&A alone will receive over \$50 million from the general fund in 1985. The library in 1885 boasted 56,000 volumes; today the number is 5.6 million.

But by 1885, the University was on the road to becoming what it was by the end of President Angell's brilliant 38-year presidency: a world-class University that ranked with the best of the endowed universities. During Angell's presidency we became a university known for its dedication to excellence in both teaching and research, truly the Harvard of the West, despite being a state university.

President Angell's presidency began in 1871, when the future of the University was uncertain; many believed that it was a second-rate institution. Academic freedom was not secure in the face of the Regents' dismissal of earlier presidents, and faculty were not consulted about major policy issues.

Angell had a deep faith in the future of the University and of the State, and believed that the prosperity of the one was bound up in the prosperity of the other. He encouraged Michigan's citizens to regard themselves as stockholders in the University, and he encouraged Michigan's schools and teachers in the understanding that they and the University were parts of one united educational system. Angell demanded independence from outside interference for the President and faculty and relied heavily on faculty meetings and committees in all policy decisions.

Although President Angell realized that in a state university the undergraduates must receive first



Peter O. Steiner

consideration, he saw the importance of advanced study to the University's future. He appealed to the Regents for funds for graduate study, pointing out that without it state universities would sink to the level of second-class institutions.

Angell was a great advocate of co-education and set an example followed by other universities. During his presidency, too, the curriculum was liberalized and expanded, and entrance and graduation requirements increased. He sought great scholars and teachers for the faculty, saying that, "We make universities out of men and not out of brick and mortar." He understood that a strong college of liberal arts, letters and sciences was fundamental to a great university and took a direct hand in the activities of that "department."

The challenges Angell faced a century ago — improving the curriculum, improving faculty, maintaining a cosmopolitan student body and engendering financial support — are still with us. They always will be with us because money is always scarce and investments in human capital seldom can be expected to have their pay-off until the next administration and the next generation.

Let me close with one last quote from Angell which may not be true today: "Our graduates are becoming so numerous that they...loyally represent us and enthusiastically report our work to their neighbors. We confidently believe therefore that the University will gain a stronger and stronger hold on the respect and admiration of the State." In the climate of the 1980s, quality public education seems to many to be too expensive for the State to support adequately. When times are tough, it is easy to cut expenditures on quality education and to defer needed maintenance of buildings, labs and libraries. When times improve, it is tempting to cut taxes rather than to restore lost funding.

One part of our challenge today, as always, is to use as well as we can the resources we can muster. But another, big part is to fight to see that those resources are sufficient to the main challenge: keeping Michigan the exceptional place it became in Angell's day. It won't be easy, but we sure must not fail to do so if we are to be worthy of our history.

Dean Steiner's article first appeared in LSA, the publication of the College of Literature, Science, and the Arts.

By Elizabeth Duffy

John Anderson was proud of being designated "the campus radical" when he was an undergraduate at the University of Wisconsin — it was a respected title one had to earn back during the Great Depression.

But jobs were scarce when Anderson graduated in 1931, so he migrated to Detroit and got an assembly-line job at General Motors. His new job led to a career of labor union activism in the UAW.

Last summer, at the age of 79, Anderson who lives in Dearborn, Mich., said he again found himself the campus radical when he returned to college to participate in the U-M's Elderhostel program. The University is one of 750 campuses worldwide that host the week-long educational and cultural programs for persons 60 and older. Elderhostel was founded 10 years ago; the U-M has participated since 1981.

## ELDERHOSTEL KEEPS LEARNING ALIVE

The '85 session, which included two courses on the impact of computers and one on interpersonal communication, was of special interest to Anderson because he was composing his recently published booklet on the labor movement, *From Sit-Downs to Concessions*, on his new personal computer.

Retha Fant, 65, of Detroit was an Elderhostel classmate of Anderson's. It was her second session.

"I was struck at my first session by

the diverse backgrounds of my classmates," she recalls. "There were teachers, nurses, people from all walks of life. One man was a retired Harvard professor who had lost his wife the year before. I met so many interesting people. I said, 'O my soul! has Elderhostel been in existence all this time!' I wondered why it wasn't better known. I thoroughly enjoyed it."

In the summer of '86, two week-long sessions will be offered at the

U-M. The first session will be held June 1-7. Courses offered include "Science, Society and Values" (Nicholas Steneck); "Through the Looking Glass; how our minds work, and how we got the way we are," (Curtis VanVoorhees); and "Treasures of Civilization" which will explore world history and cultures (Jim Crooks). The second session, June 15-21, will offer "The Life and Poems of Emily Dickinson," (Leo McNamara); "Making Yourself Understood" (Sheila Feigelson); and "Visual Media in Environment Monitoring," which details how images collected from aircraft and satellites are helpful in monitoring environmental quality (Chuck Olson).

The cost of the program is \$205. Scholarships are available. For more information about next summer's program, write or call Nancy D. D'Angelo, Elderhostel Program, U-M Housing Division, 112 W. Quad, Ann Arbor MI 48109.

Not long after Richard Queen arrived in Teheran for his first assignment with the U.S. foreign service, Iranian militants seized him and more than 50 other Americans as hostages in November 1979.

"That began 250 days of virtual solitude for me," Queen told students at a West Quadrangle seminar. "But I got through it by retreating from reality — day-dreaming, reading and praying."

Most of the other hostages were held for 444 days, but Queen was released early after an illness he contracted was diagnosed as multiple sclerosis, a disease for which there is no cure and whose onset has been officially linked to the stress of his captivity.

Queen, who received an M.A. in European history from the University in 1977, was on campus as the guest of the West Quadrangle College Community Program, which is sponsored by the College of LSA and the Housing Division. When he was at U-M, he'd planned to earn a PhD but surprised himself by clearing the hurdles of exams, interviews and security checks that are prerequisites for joining the State Department.

His duties in Teheran chiefly involved arranging visas for Iranians who wished to travel or move to the United States.

"People, especially from the middle class, were desperate to get out," Queen recalled of the days when Iranian society seethed with the upheaval of the Shah and the coalescence of the fundamentalist Islamic regime headed by Ayatollah Khomeini. "It was difficult to 'play god' with their lives, but that's what we had to do — to sort out those who had legitimate reasons to come here from those who didn't."

When several hundred demonstrators began cutting through the chains on the gate of the Embassy on Nov. 4, 1979, a U.S. marine burst into the offices and told Queen and his colleagues that they had better flee.

"A few turned one way and made it to the Canadian Embassy, where they were hidden and secreted out of the country," said Queen, who grew up near Ossining, N.Y., and graduated from Hamilton College. "But the group I was with turned the other way and was captured."

Queen told the students that he is not bitter toward his captors. "A few

## ALUMNUS RECALLS CAPTIVITY IN IRAN



FORMER HOSTAGE Richard Queen (MA'77) of the U.S. foreign service tells students in the Warner Lambert Distinguished Visitors Suite in the East Quadrangle about his 250 days of captivity in Iran. Queen, who became ill, was released by order of the Ayatollah Khomeini, himself. The students are (from Queen, l-r) Julie Mottl '88, Boston; Carolyn Fairman '89, Grand Rapids, Mich.; Kate Young '88, Bronxville, N.Y.; Sarah Ream '88, Kalamazoo, Mich., and Ken Cohen '88, Pittsburgh.

were really rotten, but some were decent fellows who had to 'out-militant' the militants to escape being victims, themselves," he said.

"Some even seemed to have liked the Shah. They told us that as long as we weren't Communists or atheists, they hoped we'd survive. Of course, once they blindfolded us and took us before a firing squad. It was a chilling experience. Luckily, either they were faking or our execution was canceled."

Queen also harbors no ill feelings toward "certain individuals in the

State Department who apparently failed to gauge the situation properly" as the moderates began to lose power in the post-Shah government. And he calls former President Jimmy Carter, who ordered an ill-starred rescue attempt in his obsession to end the crisis, "the most decent and humane man I've ever met."

"I was very mad when I got the disease, however," he continued. "I think it and the hostage experience have made me appreciate how wonderful it is to have a plain ordinary

life. I'd just like to get married and raise a family."

Queen, who is completing a consular assignment in Toronto and hoping to be transferred to northern Europe, said his captivity also confirmed his sense of the importance for Americans "to learn other languages and the histories of other cultures, to realize that the world doesn't end at England."

Ignorance of the dynamics of Iranian society was probably the major contributing factor to the American hostage fiasco, he said.

Prof. Ali Mazrui of the Department of Political Science is in the final stages of completing a nine-part, \$3.5 million television documentary for the British Broadcasting Company (BBC) and the Public Broadcasting Service's station WETA-TV in Washington, D.C.

The series, called *The Africans*, will premiere in Britain and the United States in the fall of 1986. Prof. Mazrui is the host for the series, which will be offered for college credit nationwide; he is also writing an accompanying book to be published by Little Brown.

"The BBC film crew and I are trying to film in a third of the 50 or so African countries," Mazrui told *Michigan Today*. "We are exploring what I call Africa's triple heritage: what is indigenous, what was contributed by Islam and what has been imposed by or acquired from the West."

Charles Hobson, the series' American co-producer, said that

## KENYAN-BORN SCHOLAR TO HOST 'THE AFRICANS'

Mazrui was selected as the host because of his "eminence" as an African scholar. *The Africans* is thought to be the first television series on Africa to be hosted by an African scholar, he added.

The son of a Kenyan judge, Mazrui received his doctorate from Oxford. He was professor of political science at Makerere University in Uganda and now holds a research professorship at the University of Jos in Nigeria in addition to his U-M post.

Mazrui believes that Westerners who know little about Africa will probably be most surprised by the indigenous and Islamic sides of the African heritage. He said his mission is to "show Africans as they are and interpret Africa as I see it, even though the truth may confirm some negative images of Africa held by Westerners and refute others."

Mazrui hopes the series will also counter what he calls the "dis-Africanization of African-Americans" by a society that "gives them the



Ali Mazrui

message: Forget that you are African; remember that you are black."

"Such dis-Africanization," he said, "destroys the African-Americans' capacity for nostalgic pride. They cannot form as strong a lobby for African interests as can other American ethnic groups whose cultural ties to their homelands remain strong."

## FORD CITES 'STRONG MICHIGAN SPIRIT'

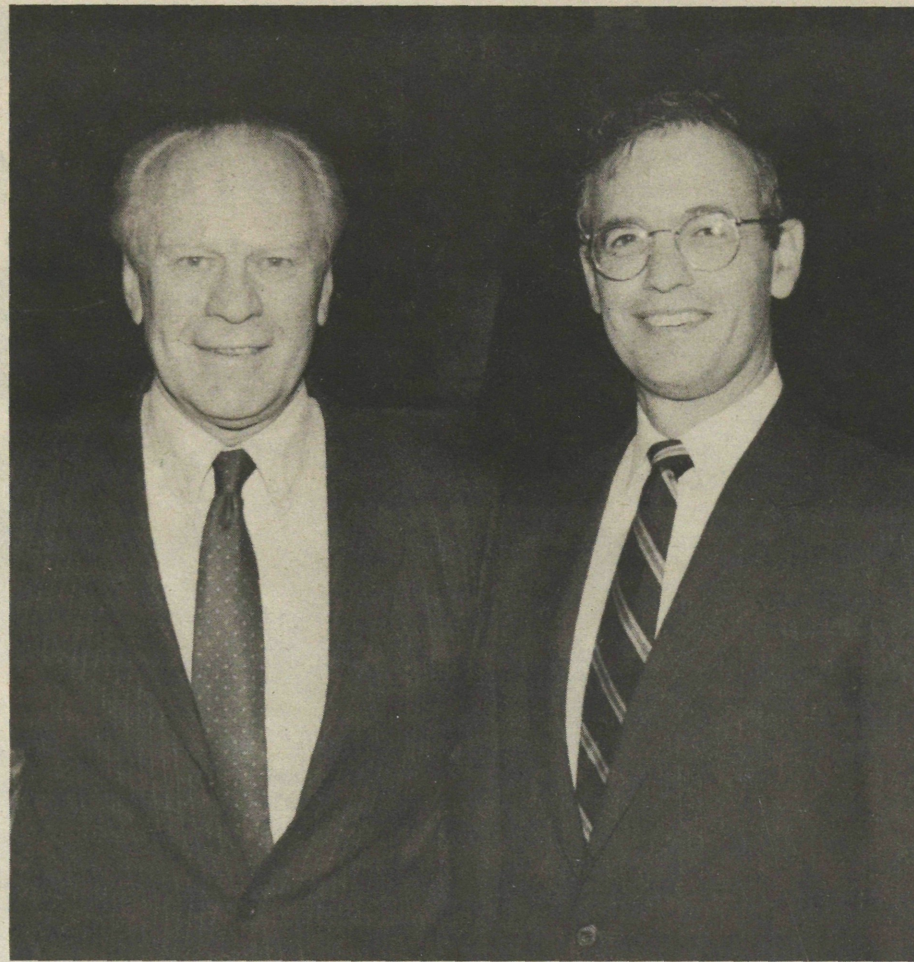
By Jane Elgass

Volunteer leaders of The Campaign for Michigan met in Ann Arbor in late October to discuss how the Campaign will complete the last third of its goal to raise \$160 million for the University.

The more than 150 volunteers celebrated the fact that they are two-thirds of the way to the goal. Campaign leaders announced that at the end of October, they had received \$108.5 million in gifts and pledges.

Volunteers from across the country heard from former President Gerald R. Ford, honorary Campaign chairman, and from Roger B. Smith, honorary co-chairman. They were joined by U-M President Harold T. Shapiro and Robert E. Nederlander, chairman of the Campaign who discussed Campaign progress and future strategies.

In reporting on his contacts with U-M alumni and supporters over the last two years, President Ford said, "There is a strong Michigan spirit among all of you here and among the people I've met — a spirit we all share, and that I know is equal to the challenge this Campaign poses for us. I doubt if there's another school with an alumni body more enthusiastic about its alma mater than ours."



Presidents Gerald R. Ford and Harold T. Shapiro

Ford noted that Michigan alumni feel good about their U-M experiences and are happy to be able to share their resources so that "the kind of investment made in them will continue to be possible for generations in the future."

Ford expressed confidence that the momentum generated by the Campaign so far would help U-M meet its monetary goal by 1987. He added, however, "Our success will have to be measured in another sense as well, and that is how close we come to achieving all of our orig-

inal facility and endowment objectives."

Nederlander outlined the task ahead for the volunteers, explaining that an additional \$78 million needs to be raised to meet all of the Campaign's objectives. Nederlander called on the volunteers to place a new priority on successfully funding all of the original Campaign goals and objectives, explaining that there are a number of Campaign goals that "require a special push from us if the goals are to be met."

Although the majority of the



Campaign gifts to date — \$65 million — has been targeted for facilities, three still require substantial support. The \$20 million effort for the Replacement Hospital Program needs more than \$5 million. New facilities for the College of Engineering require nearly \$10 million more in gifts to be completely funded. Of the \$20 million needed for the Chemical Sciences Project, nearly \$15 million must still be raised.

Half of the Campaign efforts are dedicated to raising \$80 million in new endowment funds: \$40 million for faculty support, \$30 for student support and \$10 million for support of libraries, research and special projects. To fully meet the endowment goals, Nederlander explained, we must still raise an additional \$25 million for faculty support, \$15 million for student support and \$7 million for teaching, research and libraries.

President Shapiro said that through gifts for new facilities and endowment and the new intensity in fundraising it has created, the Campaign is building a legacy that will extend well beyond the program's timetable.

He reminded the volunteers, as he had when the Campaign opened two years ago, that "the future is not a matter of chance but of our own achievement. The Campaign is setting foundations for things yet to come and serves as a reaffirmation of our view of the future and helps reinforce our vision of the University's distinction."

## RENOVATION OF TAPPAN HALL QUADRUPLES STUDENT SPACE

By Jane Elgass



AN ELEGANT three-story arch on the south facade of the addition to Tappan Hall is scaled to surrounding structures on South University, a major campus thoroughfare. The Tappan Hall addition was designed by the Birmingham, Mich., architectural firm of Luckenbach/Ziegelman & Partners, Inc.

An addition to Tappan Hall, the third-oldest academic building on U-M's Ann Arbor campus, was dedicated on Nov. 15 during ceremonies presided over by President Harold T. Shapiro and LS&A Dean Peter O. Steiner.

Built in 1894, Tappan Hall houses the U-M's Department of History of Art and the Fine Arts Library.

The Tappan Hall project, which includes extensive renovation of the older portion of the building as well as the construction of the addition, cost \$2.3 million. More than \$1.4 million for the project was raised as part of The Campaign for Michigan. Campaign volunteers were led in that fundraising effort by Vivian B. Shapiro and Bruce Benner.

"One of the most rewarding experiences I have had has been to work with Mrs. Shapiro and a fine group of volunteers and faculty on this important project," Benner said at the ceremonies. "I became involved in the Tappan Hall Project because I care deeply about the beautiful collection that is housed there. Each day I worried about the possibility of a fire or water damage."

Family members whose gifts sponsored particular areas of the new facility were introduced at the ceremonies. They included Dr. and Mrs. Joseph A. Gosman, whose gift supported the Marvin Felheim Seminar Room; the Elaine S. Hoffman Foundation, which supported the rare book area; and Max R. Schroyer and Mr. and Mrs. Robert M.

Schroyer, who together sponsored the Schroyer Family Student-Faculty Lounge. Additional leadership support was received from Cruse and Virginia Moss, the McGregor Fund, Helmut F. Stern and Margaret Dow Towsley.

The addition, containing 10,000 square feet of climate-controlled library and storage space, was built to accommodate the department's extensive collection of slides, photographs, books and periodicals, according to Prof. David Huntington, department chairman.

"Every year we were having to sift through our collection to disperse portions of it to storage elsewhere on campus," he said. "We were bursting at the seams. Having everything under one roof is particularly salutary; the work space for students is perhaps four times larger than before."

The department's collection of slides and photographs of artifacts, Huntington explains, may be worth well more than \$4.5 million and is used extensively by U-M students and faculty. Reproductions from the collection are sold to other institutions on a non-profit basis as a resource for scholars and students worldwide.

Tappan Hall is named for Henry P. Tappan, the University's first president, who served in 1852-63. A sculpture of the president, in storage since 1967, has been installed in the foyer of Tappan Hall.

# GAMMA CAMERA MAKES THE HEART TELL TALES

By Frank Blanchard

The fuzzy image of the heart snapped by a gamma camera is pulled into sharper focus by a U-M Michigan computer program, making the picture more valuable in diagnosing coronary disease.

Gamma cameras help in such diagnoses by producing a likeness of the heart in action. A patient is injected with a radioactive drug visible to the camera, which then builds a composite image by taking repeated exposures at the same plateau in the heart's pumping cycle.

The "shutter" on a conventional gamma camera is controlled by a switch that cannot distinguish between normal and abnormal beats. If irregular beats occur, they trigger the camera to snap an exposure that can fog the composite image.

The computer program developed at U-M serves a dual purpose: It analyzes each heartbeat (one way to detect abnormalities), and it helps produce a crisper image by tripping the camera's "shutter" only during normal beats, thereby creating a picture of the heart's shape while pumping — another way to detect abnormalities.

"Abnormal beats muddy the picture," explains Janice Jenkins, associate professor of electrical engineering and computer science, who developed the software with graduate student P. W. Hsia. "By rejecting bad beats, it gives a clearer picture."

The computer analysis reveals any sign of oxygen deficiency in the heart and catalogs each beat under one of eight headings ranging from normal to aberrant beat (normal, premature ventricular beat, premature atrial beat, nonconducted beat, ventricular escape beat, long RR interval beat, compensatory pause and aberrant beat).

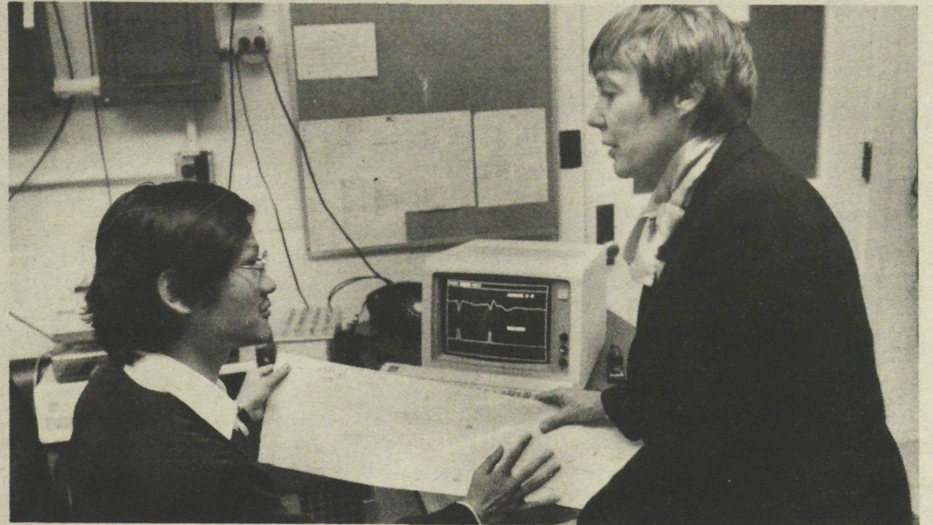
"It combines mechanical information from the gamma camera with electrical information from the electrocardiograph to make the diagnosis much more sensitive and specific," Jenkins said.

The accuracy of the program was assessed by Dr. John Santinga, associate professor of internal medicine at U-M. He analyzed the heartbeat

records of two groups of about 15 patients and compared his conclusions with those obtained using Jenkins's software. The computer and doctor concurred on 98.4 percent of the abnormal beat patterns and 99.4 percent of all patterns.

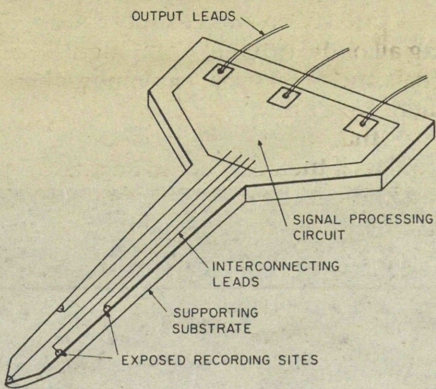
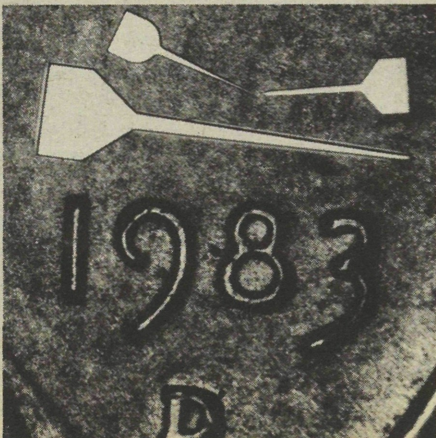
Santinga said the computer software demonstrated the greatest potential as a tool for diagnosing coronary artery disease. "It has promise and should be further evaluated," he said.

The first gamma camera built with the new computer software was placed on display at the 58th science sessions of the American Heart Association Nov. 11-14 in Washington, D.C.



P. W. Hsia and Janice M. Jenkins

## MICROCHIP DESIGNED FOR THE HUMAN BRAIN



*A LITTLE THING (comparison is with a penny), the Chronically Implantable Intracortical Microelectrode Array, or 'brain chip,' has a big potential. Developed by Prof. Ken Wise, the single-chip device can record the electrical activity of several neurons simultaneously. It promises to further understanding of neural signal processing in healthy and unhealthy states and may lead to brain implants that will minimize disorders.*

By Frank Blanchard

Microelectronic brain probes designed at The University of Michigan may one day help scientists learn how to steer brain signals around damaged nerves to revive paralyzed limbs.

The technology, exclusive to U-M, also may someday help restore sight to people with nerve-related blindness and help return hearing to people whose deafness stems from neural injury, says Ken Wise, professor of electrical engineering and computer science.

A research team led by Wise has designed a microcircuit the size of a pin head that can be inserted safely in the brain to record the individual signals of several neighboring nerve cells.

Much already has been learned about single neurons by using metal microelectrodes, usually in the form of sharpened pins. But relatively little is known about the organization of neurons as functional circuits, Wise reports.

"Now we'll be using a recorder with state-of-the-art silicon technology to open up potentially a whole new area," says Wise, whose research is funded by the National Institutes of Health (NIH). "If it's successful, it will have a major impact on the field of neurophysiology, and later on rehabilitation, letting us look at effects we've been unable to see before."

The recording of individual nerve signals in small clusters throughout

the brain is expected to yield new clues to the code with which neurons communicate. Deciphering the code is one step toward developing electronics to artificially control muscle movement or sensory activity.

The chip, designed by Wise and graduate students Khalil Najafi and Ken Drake, can be implanted without injury, virtually floating in brain tissue. Each chip holds 12 recording sites and an array of electronics to amplify the nerve signals recorded by each site and combine the signals for transmission from the probe over a single thread of wire.

Limiting the number of wires tethered to the probes helps reduce the chances of a short circuit — because fewer electrical connections are required — and poses less risk of infection when implanted.

U-M's integrated probe is being fabricated, and Wise hopes to have a prototype available soon.

U-M scientists already have tested a passive form of the probe, one that lacks the on-chip electronics. David J. Anderson, professor of electrical engineering and computer science and director of the bioelectrical sciences laboratory, and engineering Prof. Spencer Bement have evaluated the passive probe in electronic bench tests and in the brains of gerbils.

"It can record separate neural activity in individual sites on the electrode over extended periods of time — several hours," Anderson says.

When chip fabrication is completed, Anderson will begin testing the new chip both electronically and in gerbils. The next step will be collecting neurological chatter for analysis.

Wise says silicon is uniquely suited for use as a computerized brain probe because it already is used to make integrated circuits, has the necessary mechanical strength and is benign in the body.

"It's a fortunate blend of technology and materials that allows us to do this," he adds. "So far, all the technology just fits."

In a separate project also funded by NIH, Anderson and colleagues at the Kresge Hearing Research Institute at U-M will modify the chip to stimulate nerve cells and use the stimulator in research that one day may help develop a central nervous system device that can give hearing to the deaf.

Research along similar lines is being conducted under NIH funding at universities across the nation.

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# Michigan Today

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**THERE'S SOMETHING FISHY** about this issue of Michigan Today. On page 4, you can read about high-yield fish-farming of the common carp (upper fish) in China. The watercolor fish from the U-M Kelsey Museum's DeCriscio Collection dates from the wall of a house in Puteoli (modern Pozzuoli) during the Early Roman Empire, the subject of our cover story.



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