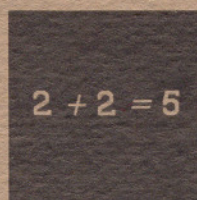
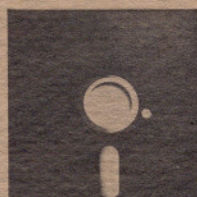


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PRESIDENT'S REPORT 1985

OAKLAND UNIVERSITY



NON-CIRCULATING

PRESIDENT'S REPORT 1985 OAKLAND UNIVERSITY

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Humanity, science and technology form a winning partnership at Oakland, where collaboration among disciplines is a tradition.

What is technology?

Is it the road to economic success and startling new developments? Is it a key to solve problems that face us now and in the future? Or is it a malevolent force that will dramatically alter the way we live?

It may be parts of all those things, but it is also something more.

It is a tool used by people for people. At its root are people — developing new techniques for communication, finding the secrets to longer and healthier lives, creating new ways to help each other succeed. These people strive for a future in which all of us will work smarter, not harder.

Technology is not an automaton that runs our lives, or at least it shouldn't be. We must neither be afraid of technology nor let it dominate us. Recognizing the obvious presence of technology in our society and learning how to respond to it is the challenge we all face.

But what is the role of the university, and specifically Oakland University, in preparing students for the so-called technology explosion? The successful university prepares its students for a life of change — change that can only be appreciated through the knowledge of who we are, where we came from, and where the future may lead us. This knowledge gives us the creativity and flexibility to cope with the demands technology will place upon us. Technology may enhance — but it will never replace — an individual's ability to think, communicate, feel, or create.

For this very reason, Oakland adheres to its fundamental philosophy that a strong foundation in the arts and sciences is an absolute corequisite to a complete undergraduate education. This recognition has been strengthened by a recently enacted general education core curriculum and stronger admission standards. Oakland's commitment to offering an education grounded in the arts and sciences, as well as solid professional training, led in 1985 to the university's highest enrollment ever.

The humanities — all those subjects related to the study of man, from history and language to philosophy and literature — are, in their own right, indispensable to the educational process. They also are essential to



the future of technology, and our own future. Providing an education limited to science, technology, and professional disciplines shortchanges the mind and guarantees rigidity, obsolescence, and failure.



Oakland continually strives to modernize its approach to its founding values. Recognizing the needs of society, Oakland emphasizes the importance of rigorous preparation in fields related to science and technology, as well as the liberal arts. Higher education cannot lag behind and still prepare its students well for the future. It must be on the cutting edge of technological advances — not as an observer, but as a participant.

At Oakland University, we are forcefully creating opportunities to help shape technological growth, but never with an intent to diminish our fundamental philosophy of a broadly based educational experience. In this report, you will see some ways we went about it in 1985.

Our significant role in the development of the Oakland Technology Park, a cooperative venture among higher education, business, and local and state government, is one example. Another is Oakland's achievements in research and development, which drew record external funding support of \$5.4 million last year.

Oakland's success — in research and cultural enrichment, in economic development and community service and, most importantly, in the classroom — is a reflection of its determination to pair, in innovative ways, technological skills with human values. Just as Oakland's faculty eagerly seeks new ways to pair these skills and values, this report does the same with an exploration of how the university is responding to technology with a human touch.

Blending the arts and sciences with technology is more than a worthy goal. It is a prescription for the successful twenty-first century person. Ignoring the forces around us guarantees an inadequate and limiting education. Tapping their strength and direction will build a foundation on which human fulfillment can reach new heights.

A handwritten signature in dark ink that reads "J E Champagne". The signature is fluid and cursive, with the first and last names being more prominent.

Joseph E. Champagne
President
Oakland University



"Changing technology has always demanded that human beings learn new skills for survival. But survival for what? The humanities remind us of our human condition, both as members of a species and as a set of individuals striving against aloneness.

"We must survive — and technology may help us. But we must never forget what we are surviving *for*. Survival without meaning would be a brutish thing. The humanities exist in order to help keep human beings human."

— Dolores M. Burdick
Associate Professor of French

The history of technology is written in stone axes, cotton gins and computer chips. It is a history that gains a window to the future through archaeology.

Arrowheads and sherds of pottery coaxed from the ground cover the tables and walls of Richard Stamps' office. Next door, in a laboratory filled to bursting with bits and pieces of excavated history, three students are spending a frosty autumn morning poring over notes and artifacts as they prepare for a test.

To the uninitiated, archaeology in the late 1980s looks much as it always has: bowed heads, dusty fragments and notebooks crammed with observations, hypotheses and, always, questions. To Richard Stamps, though, it looks like a window to the future.

"We're trying to prepare our students for the unknown," says Stamps, associate professor of sociology and anthropology, and Oakland University's resident archaeologist. "Archaeology helps students prepare for the unknown changes they will be producing tomorrow.

"I tell them to plan to have three careers because we're going to be living longer. I tell them that, because of changing technology, most of them will retire from jobs that haven't even been invented yet.

"One of the things I've learned from archaeology is that those who refuse to accept the present aren't going to survive; they'll die with the past. You've got to adapt — that's survival, that's success. We must learn to adapt to a future that hasn't even been developed yet. So, we're training people to address questions that haven't been asked yet."

This is archaeology?

It is today. Archaeology is more than a backward look at ancient cultures. It is also the history of technology, a foundation for the future and, at Oakland, an important ingredient for producing well-rounded students. "We have a university program that can prepare the serious student for a career in archaeology, but we primarily educate people who will not be archaeologists," Stamps says. "The major focus of our program is taking the knowledge we glean from archaeology and sharing it with a broader base of students across the campus. We're trying to provide the leaven for the bread by offering the breadth that can come to a university campus by having a program in an area like archaeology."

Oakland is one of a handful of Michigan universities and colleges that provide opportunities to study archaeology. Michigan archaeologists number only about three dozen — in fact, Stamps can name them off the top of his head. Archaeology does not have an image as a forward-looking discipline, with its focus on "stones and bones" culled from the earth. But it truly is an area with modern import, says Stamps, because of its unique ability to trace the advances of technology and decipher the development and decline of other civilizations.

"The study of archaeology is really the study of technology changing through time, because what we see most clearly in archaeology are the tools people leave behind. All that's left are the things they made — and bones. Technological change has been very slow for 95 percent of human history, but it has been steady. Since the middle of the last century, probably the end of the Civil War, the rate of change has increased. What we see today is an information explosion — a technological explosion unprecedented in human history. Our great-grandparents saw some change, but the amount of change our grandparents and parents have





seen is really amazing. And for students today, the changes will be even more profound.

"Archaeology places this technological explosion in the proper perspective. It helps students be aware that they're living in a unique time, helps them put one foot in reality. We alert them to the problems of changing technology and hope they'll be better able to cope with it because they're aware."

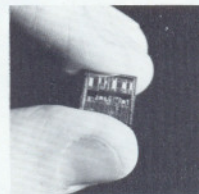
EXAMPLES OF HOW changing technology affects individuals are particularly evident in the modern workplace. Stamps cites two: "A 45-year-old worker has been trained as a machinist on old tools. His tool is changed — what happens to him? A 55-year-old secretary knows her job well but now has to cope with a new computer — what happens to her? And, how do we as a society deal with these situations? Engineers will tell you that the education they get in college is out of date in five to eight years. This is the impact of changing technology on people's lives.

"Students need to be aware that they can't rely on a college education for everything. It's a beginning, it's a stepping stone. It only builds the basics. We need to develop lifelong learning skills, and follow up with more professional training."

Stamps helps his students develop those skills through course work in anthropology and archaeological field work. Dovetailing with Oakland's tradition of developing strong interrelationships between disciplines, he marries his dual interests in archaeology and anthropology in his courses. He believes it gives students a deeper understanding of different cultures and civilizations.

"Anthropological archaeology differs from other kinds of archaeology in the sense that it's not only aimed at digging up stuff, it's also aimed in

Oakland students help unearth Thomas Edison's boyhood home in Port Huron, Michigan.





Associate Professor of Sociology and Anthropology Richard Stamps: "Archaeology helps students prepare for the unknown changes they will be producing tomorrow. Because of changing technology, most of them will retire from jobs that haven't even been invented yet."

a scientific way at finding out about past cultures," he said. "Theories about how cultures came about, how they changed — they all come from archaeology."

Archaeology is best studied through hands-on excavation and, since coming to Oakland in 1974, Stamps has directed students' field efforts at dozens of sites in southeastern Michigan. (Also an expert — "a student," he says — on Chinese culture, he has worked on excavations in China and leads tours there.) Archaeology is labor intensive; as a result, it is expensive, made even more so because each hour in the field requires at least four hours of follow-up lab time. In order to finance the digs, Stamps has cultivated public and private funding sources.

The arrangement provides students with first-hand experience in field work and helps them develop a greater appreciation for earlier generations. It also allows significant sites to be explored that might otherwise be developed and lost forever. One such example is the excavation of Thomas Edison's boyhood home in Port Huron, a project that has stretched over half a decade. Artifacts unearthed there will be housed in a museum Oakland is helping the Port Huron Museum of Arts and History and other local groups to establish.

OAKLAND'S ARCHAEOLOGY PROGRAM also helps government agencies and industry understand the environmental and historical impact of new development. For example, archaeological surveys must now be completed before land can be developed for expressways. Stamps' students have unearthed sites ranging from 19th-century farmsteads to Indian burial grounds for the State of Michigan and have helped fulfill contracts for more than \$75,000 of archaeological research. Stamps has completed more than 40 other environmental impact studies.

Studying the environmental impact of development is of particular interest to Stamps, partly because it ties directly to archaeologists' work in other areas.

"There's a delicate balance between humans and nature, and this is where it becomes exciting for students at Oakland," he said. "The connecting rod between humans and nature is technology."

"What we're finding is that other societies who mismanaged their resources came to collapse. They had problems of deforestation, erosion, salting up of agricultural lands. And there are some modern parallels, such as toxic waste dumps, polluted air and water, resource depletion — not that we can use ancient solutions to solve modern problems. But if we can use ancient problems to make us aware, we can use better, modern techniques to avoid many problems in the future. This is an area where archaeology can really contribute."

"The main connection between the humanities and the technological society in which we live isn't that the humanities make use of the technologies — although they do in such areas as computers — as much as that the humanities study the quality of human life in our society, which is now a technological society."

"So, we're really discussing what it's like to be alive today. In a broad sense the humanities study human life — both past and present — but with an emphasis on present day. This encompasses philosophy, the arts, history, religion."

*— Richard J. Burke
Professor of Philosophy*



"The relationship between technology and the humanities — it is developing literally as we speak — will evolve, probably, much like the relation between the humanities and the old heavy industry. It will be part complementary, part polar opposite, even part adversarial.

"Technology, of course, is a means. The humanities are concerned with ends. The relationship between technology and the humanities, therefore, is complementary in that the humanities consider the purposes, the impact, and the worth of whatever technology creates. It follows that the humanities and technology are polar opposites: one must emphasize thought; the other, action. And, therefore, the relationship must be, in part, adversarial in that the humanist wants to develop a skeptical, critical angle of vision; and the technologist wants to develop an efficient, clear-sighted course of action."

*— Brian Murphy
Associate Professor of English
and Director of the Honors
College*

Advances in technology are useless unless information passes from one person to another. Communication — between offices or between cultures — is the key.

Anthony Metzger, Jr., may never go to Japan.

But Metzger, account manager for Ford Motor Company's electronics division, is ready if the opportunity arises.

"Our department does a lot of business with Mazda," Metzger said. "I'm not currently on a Mazda assignment but we do rotate and, who knows — I may be on a plane to Japan someday."

A glimpse of that possibility motivated Metzger, like dozens of other executives in southeastern Michigan, to sign up for one of the cross-cultural training seminars offered during 1985 by Oakland University's Center for International Programs. The program helps local business people develop cross-cultural understanding and skills they can use to form productive partnerships with their Japanese counterparts.

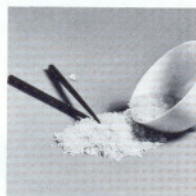
The Japanese project is the first in a series of cross-cultural training programs, says coordinator William Schwab, Oakland professor of linguistics. Japan was chosen to be the model program because so many businesses in southeastern Michigan — an area dominated by the automotive industry — are now launching joint ventures with Japanese businesses, Schwab said.

"Our original idea was to help Japanese executives in Michigan become acculturated to the Midwest while they improved their command of English through a program in English as a second language," Schwab said. "We planned to stress cultural aspects because teaching language without culture is like walking on one leg."

But, he said, Oakland President Joseph E. Champagne saw a greater need. He urged Schwab to refocus the program and help local business people develop an understanding of Japanese culture that would improve their business ventures. With more Michigan businesses turning to Japanese partners in order to upgrade their technological standards, a program designed specifically for local business people yet based on furthering international understanding was an idea whose time had come, Champagne felt.

From Oakland's faculty, Schwab pulled together a group of experts on Japanese culture (ranging from anthropologists to art historians), hired outside consultants and took on the challenge.

Originally funded by the Oakland University Alumni Association, the program rapidly became successful and garnered university funding — and a commitment to expand. Next, he expects the university will offer





Professor of Linguistics William Schwab (left) with Otto Langosch, a vice president of Vickers, Inc. of Troy, Michigan, who served as a consultant during development of Oakland's cross-cultural training program.

seminars on China. Eventually, the program may grow to include workshops focusing on Mexico, Brazil and European countries.

Schwab credits the program's success to two ingredients: expert faculty and executives' demand for cultural knowledge as they become increasingly eager to find innovative ways to work with Japanese businesses.

"IN TODAY'S HIGHLY COMPETITIVE global economy, executives cannot afford to leave to chance the possibility that a new venture may collapse simply because the two sides aren't communicating," says Asae Shichi, a visiting lecturer in Japanese language and a member of the cross-cultural training program's faculty. Yet, as more and more American firms embark on joint ventures with foreign companies, especially Japanese businesses, the opportunities also increase for seemingly harmless tactical errors to torpedo corporate strategy, she says.

"Many people who've never thought of doing it before are now representing their companies in international dealings," she says. "They are

put on the spot and the problems multiply. People aren't ready, but they're being pushed into it by the general trend of the joint venture.

"We believe many negotiations between Japanese and U.S. firms fail because neither side perceives why the other group acts the way it does. To be successful in international negotiations, understanding culture is more important than anything else."

Developing cultural understanding is the primary goal of Oakland's training programs, Schwab notes. There is no shortage of practical applications: the Japanese cross-cultural seminars examine the Japanese corporate environment and identify specific techniques for negotiating, networking, communicating with an interpreter and successfully navigating social events. But the main emphasis is on raising the consciousness of American executives doing business with Japanese executives and furthering cross-cultural understanding.

"One of our main objectives is to make our participants aware of contrasts in communicative behaviors between their own culture and the

target culture," he says. "They need to understand that behaviors of people are predominantly conventional within their native culture.

"To be effective in international transactions, negotiators should know what assumptions and values are held by their counterparts elsewhere."

FOR MANY COMPANIES LIKE FORD, foresight is leading to the creation of a large corps of employees who are able to understand and relate to foreign executives — both in their native countries and on assignment here in America.



Visiting Lecturer Asae Shichi uses traditional Japanese cuisine to demonstrate dining customs during a cross-cultural training seminar.

Ford's Anthony Metzger says one-third of his co-workers have participated in Oakland's cross-cultural training seminars, and more are planning to participate — even though few may ever travel to Japan on business. "It was thought that our whole department should eventually go through a program to raise some awareness of how Japanese conduct business," he says.

Executives at TRW, Inc. reached a similar conclusion, said Jim Burke, manager of training and development for TRW's steering and suspension division.

"We are doing some business with Japanese firms and anticipate doing more," he said. "We want to develop a deeper understanding with the Japanese business people we deal with and the key to building that foundation is to understand them — their culture, their value system, their business protocol.

"We felt Oakland's program did the best job of integrating those things and they were also willing to tailor the program to meet the specific needs of TRW." The company was particularly interested in learning to build a strong network of Japanese contacts, he said.

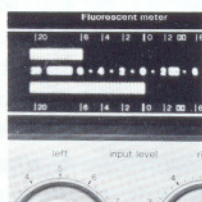
Burke is one of more than a dozen TRW executives who participated in the seminars during 1985 and he is scheduling more employees for the programs. Of those who have taken the course, only a handful have been to Japan on business trips, he said, but the information is just as useful for those who stay at home.

"The seminars helped broaden our perspectives in terms of thinking of the different protocol Japanese follow," he said. "It developed our cultural awareness.

"I probably won't go to Japan myself, but I will be dealing with the Japanese here. I'll be able to meet them on their own psychological ground, if not on their actual home turf. I feel that's as important."

"As a humanist myself, I have concerns that we don't become so wound up in a technological society that we forget where we are going. And, increasingly, people seem to be feeling this way. We are seeing more and more that employers don't want people who are just technologically proficient. They want people who can communicate, who can think, who can apply their knowledge to new situations. These are the skills the humanities teach. Students today need both, more than ever before."

— Johnetta Brazzell
Director of the Office of
Placement and Career Services



"The humanities are more important now than ever. There are decisions to be made that should be decided on the basis of human values. If the people making these decisions don't have a grounding in the humanities, the decisions may be based only on technology — that is, what machines can do. For example, computers can monitor work or they can be programmed to drop bombs when certain conditions are met, but does this deny the responsibility of leadership?"

"It's important for people in technology to have an understanding of the humanities, to have this sort of focus. It's important for teachers to reach people who have a technological orientation. And, it's important for teachers to have a clear understanding of technological advances so that they can make contributions to the debate of where technology is going — and where it should go."

— Helen J. Schwartz
Associate Professor of English

All of technology has a single source:
the human brain. It is a model for the
artificial minds of the future — and the
driving force behind their creation.

Peter Binkert and Christian Wagner taught their Apple computer how to do something just about everybody hates to do: diagram sentences. Not to make the lives of high school students and grammar teachers easier, but because it is one of the first steps toward developing a computer that can understand English and think like a person.

Binkert, associate professor of linguistics, and Wagner, assistant professor of engineering, envision a computer that will actually have its own experiences and perceptions of language — and be able to apply its knowledge to the storehouse of information banked in its memory.

"We're trying to get a computer to *know*. The problem is so immense no person in his right mind would try to tackle it," says Wagner. "On the other hand, as you tackle giant problems, you do come up with bits and pieces of solutions to your problem. I honestly think Peter and I will come up with a machine that can understand English because its understanding is built on experience."

Binkert and Wagner are on their way to reaching that goal. They are working the bugs out of a language-parsing program Binkert began working on three years ago, shortly before he and Wagner teamed up. Called a syntactic parser, the program breaks sentences down into the parts of language — nouns, verbs, modifiers, dependent clauses — and explains their functions and relationships. It can identify words that are missing from sentences and define even ambiguous test sentences like 'His will will will all to me.'

"But the computer has no idea what any of this means," Binkert says. "What Chris and I are trying to do is add meaning to everything else."

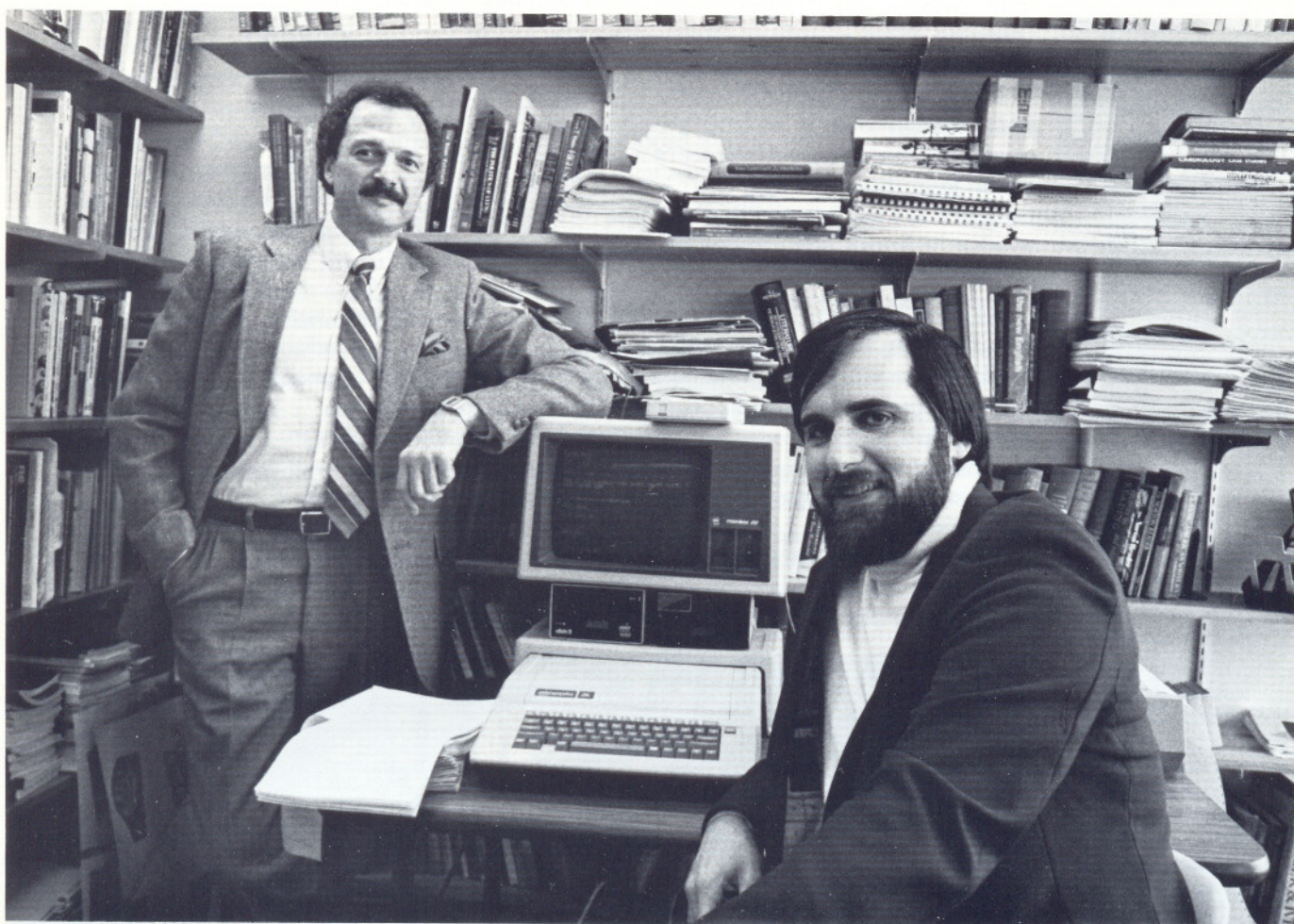
"Our immediate task," Wagner says, "is to try to implement the parser for the entire English language and get it to analyze the longest sentences we can think of with as much confusion and as many dependent clauses as possible and have it tell us what the structural relationships are. Once we've done that, we'll begin to go beyond syntax into semantics — the meaning of words."

"But computers will never be able to do a good job of semantic analysis unless they can have an awareness of the meanings of words and be able to use their knowledge, to access it."

"It is a huge problem to try to teach a machine to understand English," Binkert says. "Essentially, what we must put into the computer is the ability to understand an infinite number of totally new sentences."

EVEN THAT IS ONLY A BEGINNING, however. The researchers point out that definitions alone cannot take the place of experience. They plan to layer real meaning on top of dictionary defini-





tions and grammar rules. One way to do that, Binkert says, is by connecting the computer to a camera — adding a visual component to a machine's understanding.

By taking pictures of dozens of different kinds of coffee mugs, for instance, a computer may eventually come to understand the hundreds of forms and slightly different shapes mugs have. Add to that the more difficult concept that unrelated items, such as an upturned hat or a pencil holder, could represent coffee mugs and the basis for language comprehension begins to fall in place. Passing along to computers the human ability to leap from the concrete to the abstract is essential to developing a thinking computer, Binkert says.

"The fact is, if we're going to get a computer to understand images and metaphors — and that's what language is, people use metaphors all day long — we have to give it a true understanding of language in terms of its own perceptions, which are different from ours," Binkert says.

"Some things you can tell the computer. Other concepts, like taste, are more difficult to explain. How do you teach a computer what sour is? It's like teaching a blind person the difference between red and orange. How do you explain that? The answer is: as best you can."

Wagner explains it this way: "How do you take all the things up in your head and represent them on a computer? Secondly, once you can do that, how do you make a computer learn by itself? Those are the fundamental problems of artificial intelligence."

But Binkert and Wagner have the rapid pace of technological advancement working in their favor because many advances in the field relate to their research.

"As technology builds, we have a broader and broader base to work

Associate Professor of Linguistics Peter Binkert (left), Assistant Professor of Engineering Christian Wagner and one of the computer terminals they are using to develop a computer that can understand English and think like a person.

from," Wagner says. "The definition of artificial intelligence is constantly changing. What is artificial intelligence today will be standard operating procedure tomorrow.

"There are some artificial systems that reason well, but they're not smart enough to know whether their assumptions are right. In other words, you can feed them any set of assumptions you like and they can reason from those. But they don't know if the assumptions are correct or incorrect. If I tell a person that two plus two equals five, he applies that to what he knows, so he knows it's wrong. Computers don't have that capability. Yet."

ALTHOUGH THEIR GOAL isn't to make computers user-friendlier than they are, that would be a welcome side-effect of English-speaking computers — eliminating the need to decipher cryptic messages and make precise commands. Logging on to his computer, Binkert punches in a series of codes and his personal identification number in response to messages from the computer program. He stops and explains the frustration many users feel when confronting the obstacle course of computer access.

"There is no way, through trial and error, you could ever figure out how to log on to this computer," he says. "You could sit here and die before you'd figure it out. To use it, you have to learn the language. If I type

Computer science graduate students Thomas Schnesk and Frances Vallely (right) and linguistics graduate student Kathleen Malin (center) have provided invaluable research assistance to professors Binkert and Wagner.



'My name is Peter,' the computer will come back and say 'segment my not found.' It has no internal mechanism for understanding English."

Equally challenging is the prospect of developing ways for computers to gain access to the knowledge they do have. "If you tell a computer that two plus two equals six, it comes back with the idiotic message 'two not found,' even though it *knows* that two plus two does not equal six," Binkert says. "A computer can't access its own knowledge and it can't respond to that kind of question. Humans can, and we need to replicate that ability."

Over the past two years, this seemingly odd couple, professors of linguistics and engineering, have forged an unusual partnership from their diverse areas of expertise.

"I've known since high school that all I wanted to do was work on computers and find ways to make them smarter," said Wagner, who had been working on the use of computer programs to diagnose reading problems before he teamed up with Binkert.

Binkert, on the other hand, had never used a computer until three years ago when he borrowed one over Christmas break and taught himself how to use it, with the help of his wife — a student of Wagner's. He quickly exceeded the computer's limits and hooked up to the university's main frame computer system so he could continue working on the syntactic parser program he had begun. "I had had no training in computers at all, so I would call people up and say 'I need to be able to do

this, how can I?" The result is a very ugly program from a programmer's point of view, but it works."

Colleagues told him he ought to talk to Wagner, who was deeply involved in artificial intelligence research. So, Binkert called. They found they had many interests in common and began collaborating. And what first appeared to be a strange mix of disciplines developed into a very productive partnership. The U.S. Air Force found their work so promising, it awarded them \$40,000 worth of contracts for basic research. Binkert, Wagner and three Oakland graduate students spent the summer of 1985 pursuing their research at a Colorado air force base. The professors also team teach a course on natural and artificial languages.

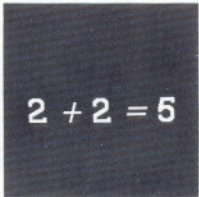
To Wagner, the relationship between computer science and disciplines like linguistics is hand-in-glove. "The central question of artificial intelligence is 'how do you make a computer smart?' At the present time, the best model we have to study is the human mind, and that's what the arts and sciences are all about," he says.

"Education, sociology, psychology — these all have direct application. And in this area we get into a lot of philosophical questions, like 'What is knowable?' In artificial intelligence, we like problems we can't solve. What we are doing is so exciting. Everybody we've talked to about our work has said, 'Wow! That sounds like fun.' And it is."

"This link-up between the humanities and technology is not widespread," Binkert adds, "but it's quite natural."

"The humanities faculty of Oakland University's College of Arts and Sciences have applied their talents and energies to interdisciplinary and cooperative activities — inside and outside the traditional curriculum — that make the humanities indispensable not only to the university but also to the external communities that support it. This extension of the humanities across disciplines and beyond the boundaries of the campus has been and continues to be a lively part of Oakland's tradition."

— Brian P. Copenhaver
Dean of the College of Arts
and Sciences


$$2 + 2 = 5$$

"Like other programs at Oakland, the journalism program merges the humanities and technology. Our core classes are technologically oriented — they're skill-building courses with the intent of helping students land on their feet running. We also require a wide range of liberal arts classes. It's extremely important for reporters to be exposed to a variety of disciplines within the humanities. I think it shows you can combine both to do a good job."

— Jane Briggs-Bunting
Associate Professor of
Journalism

The information explosion isn't a big bang. It is an accumulation of millions of thoughts and theories. Each one added individually. Each one contributed by a thinking person.

Last year, research was something that Marlene Rhodes and Sylvia Petts never expected to do.

But both of them, nurses at William Beaumont Hospital in Royal Oak, are doing it now. They're involved in an Oakland University pilot program designed to educate nurses on research methodology and create increased collaboration between Beaumont nurses and Oakland faculty.

Through the program, nurses are learning how to identify research projects, break them down into individual studies, determine how to attack specific problems and how to interpret the data.

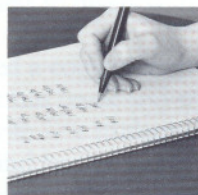
All its scientific methodology aside, however, at heart the program has some very human goals — which range from improving communication skills to building nontraditional interpersonal relationships at work. And the findings of nursing studies resulting from the project could expand knowledge in the health care community and improve patient care, says Carol Zenas, assistant professor of nursing and coordinator of the Oakland-Beaumont project.

The program encourages nurses to enter an area that they have historically steered clear of: research. It teaches nurses how to do their own research, how to communicate their findings to others, and that collaboration — with other nurses, physicians, researchers, students or university resource people — can help them focus their efforts. It also is designed to broaden nurses' professional horizons by fostering their interests in research, an area that rarely has been considered the realm of nursing in the past.

"Other hospitals have this type of program but none has quite the same arrangement of collaboration with a university," says Zenas. "In the past, the feeling has been that research was the domain of academia and practical application was the domain of the hospitals and never the twain shall meet. We want to get these two groups of people, academia and service, together."

Getting the groups together began when Mary Anne Keyes, associate vice president of nursing at Beaumont and a member of Oakland's Board of Visitors to the School of Nursing, broached the idea with nursing Dean Andrea R. Lindell in early 1985.

"Their idea was to encourage nurses to view research as a basis for their nursing practices," Zenas said. "Many of the things we do in nurs-



ing are rooted in tradition — they are not necessarily research-based. We're trying to encourage nurses to make use of the technological tools at hand for research and develop a knowledge base unique to our profession.

"Ultimately, our goal is better patient care. We want more nurses to consider research projects as ways of answering questions: If we care for patients this way, do they respond better? And why?"

TO THAT END, ZENAS SET UP two courses for Beaumont nurses based on courses taken by students in Oakland's baccalaureate program. One was an advanced class for nurses who had done some research in college or on the job. The other was for nurses who had never had any experience, and it was the one Marlene Rhodes and Sylvia Petts signed up for.

Rhodes, who had earned an associate degree in nursing from St. Clair Community College in 1983, was looking for a way to get back into an academic program, having decided she wanted to earn her bachelor's degree. For Petts, the class was the first she'd taken for credit since earning her nursing certificate 20 years ago at St. Joseph's Hospital in London, Ontario.

Through the class, the nurses were assigned to pick an area related to their work and develop a proposal on how to conduct their research. Rhodes and Petts decided to focus their efforts on a rarely studied aspect of one of the most standard pieces of equipment nurses use: the blood pressure cuff.

Both nurses in Beaumont's medical-surgical unit, Rhodes and Petts worked with patients with a variety of conditions — including many people with hypertension. They knew that it is sometimes possible to get a false reading when monitoring blood pressure. Most of the time, the variation isn't significant enough to make a difference in a patient's treatment, but false readings can be critical when the patient has a borderline case of hypertension.

"Textbooks will tell you if you use the wrong size arm cuff when taking blood pressure, you can get a false high reading," Rhodes said. "For people who have a borderline case of hypertension, a false high reading can commit them to a lifetime of medication they may not really need."

But there was not much research on when to switch from the regular cuff to a larger one. "And most of what there was turned out to be from the '50s and early '60s," Rhodes said. "Very little information was current. That surprised us; we expected there would be quite a bit of documentation." She and Petts decided to provide it. They proposed a controlled study on selected patients, monitoring their blood pressure using different size cuffs and noting significant differences among the readings.

Before the data collection could begin, however, Rhodes and Petts found themselves facing one of the most difficult aspects of conducting research projects: defining the study.

"I was amazed by how complicated that process was," Rhodes said. "It's not a case of just going out and doing it. There are many steps involved in setting up a good study. Sylvia and I worked through the whole thing together. We enjoyed working as a team."

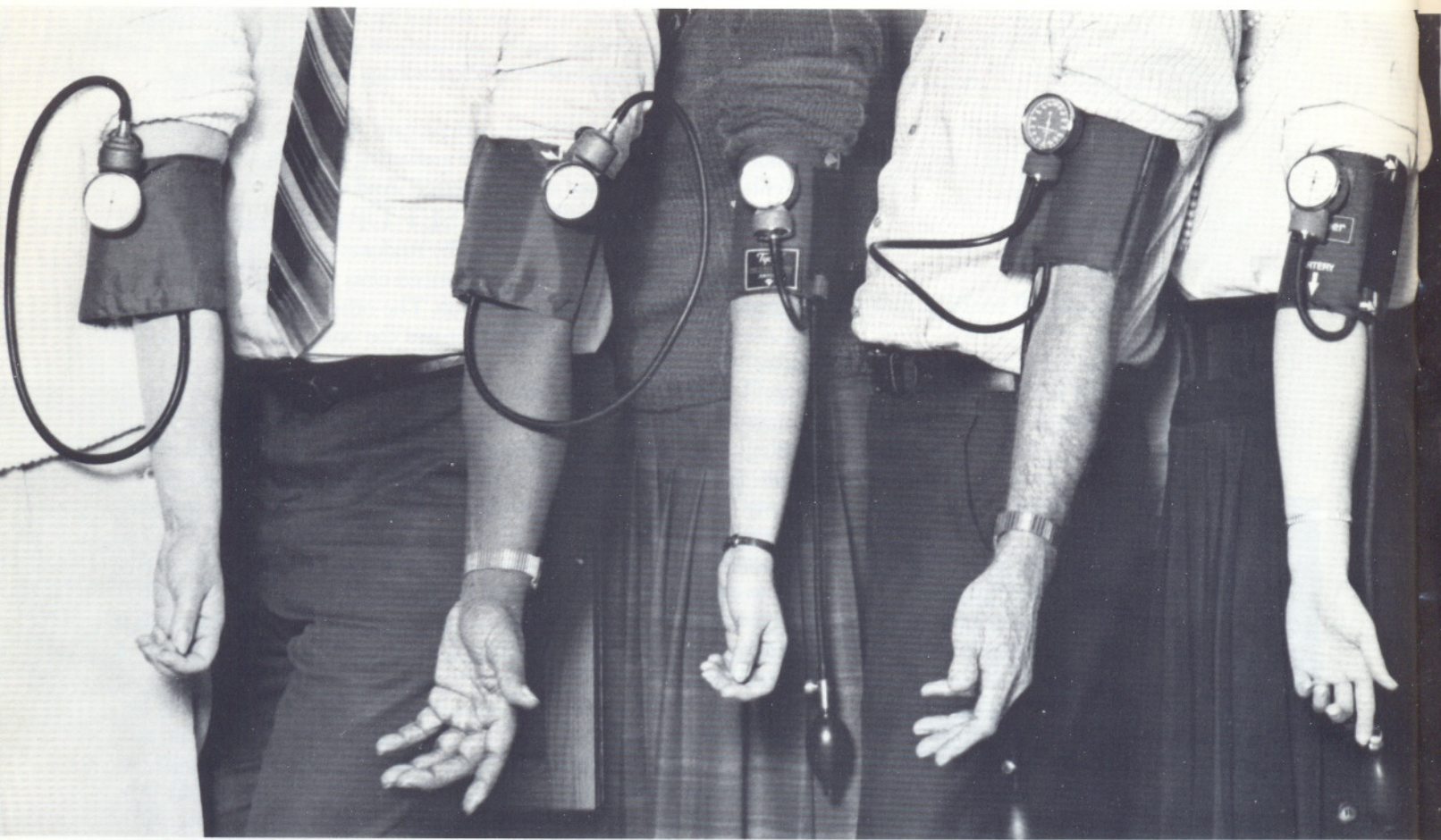
They began collecting data in early 1986, working with Oakland's Gary Moore, assistant professor of nursing, to interpret the results.

Their classmates tackled studies ranging from identifying ways to reduce low-back injuries among the nursing staff to conducting focus group interviews aimed at obtaining insight into effective ways to educate diabetics.

"These are small studies," Zenas says, "but they're exciting because these nurses have never done anything like this. Because they're working



Assistant Professor of Nursing Carol Zenas helps nurses at William Beaumont Hospital, Royal Oak, Michigan, make research a part of their everyday lives.



on projects related to their jobs, they can apply the things they're learning directly. They're making research a part of their everyday lives.

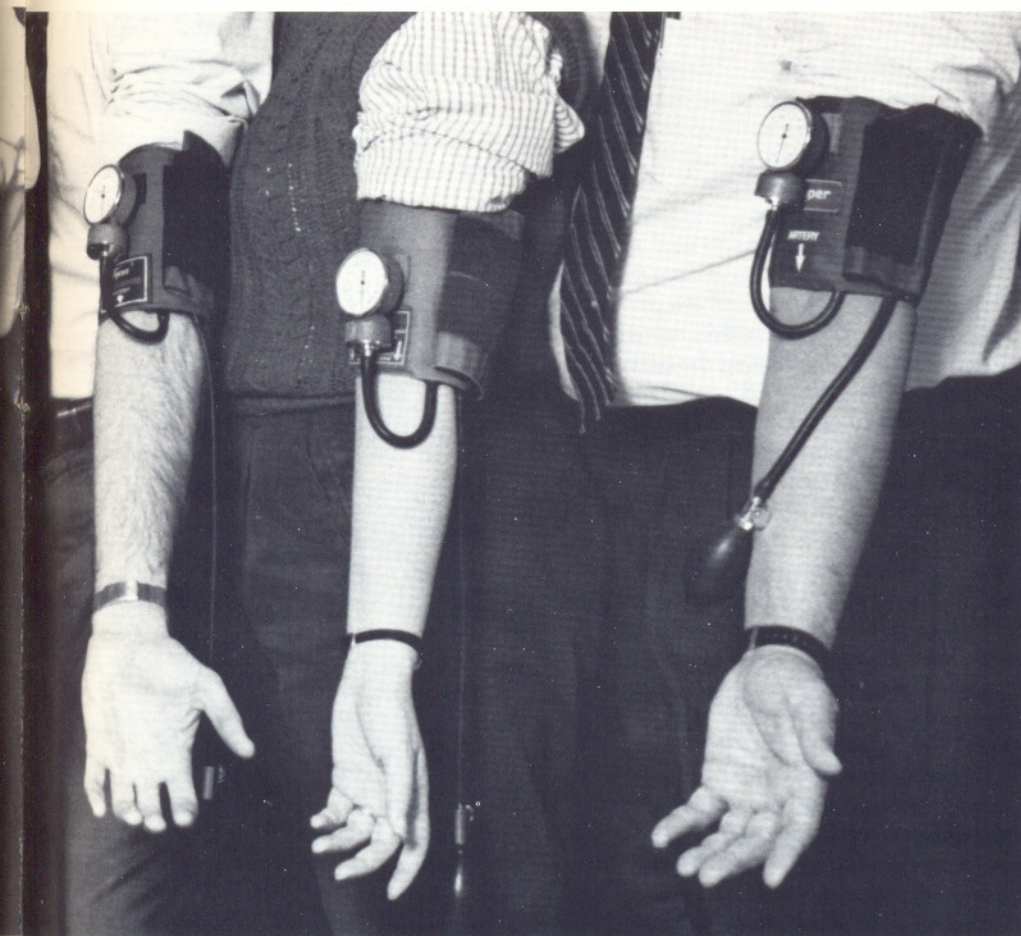
"If these nurses, who have never been involved in any kind of research before, can be a success in what they're doing and maybe go to a conference and present their findings to their peers — we'll have achieved fabulous things."

Petts agrees: "With nurses doing research in their areas of expertise, we could come up with many significant findings. I'd like to do more research."

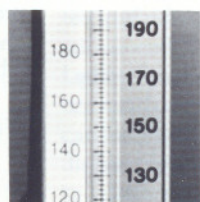
And whether Marlene Rhodes gets up to make a presentation at a conference or not, she thinks her research project will have plenty of positive results.

"Doing research makes nurses more aware of what they're doing and why, and how they're doing it," she says.

"We can use it to help the hospital find ways things can be done better; we can exchange information. And we can better understand the research projects doctors are doing. The more research we do, the more we'll understand their work and, hopefully, contribute to improving patient care together."



Collecting data on how blood pressure cuff sizes affect readings is just one step in a research project designed by two Beaumont Hospital nurses as part of a collaborative project with Oakland University. Significant research findings — as well as professional and personal development — are goals of the program.



"One way to show the value of the humanistic disciplines to society is to explain what they actually do. For example, what kind of people write dictionaries? Humanists. Suppose we want to negotiate with the Japanese — who is going to train our spokespersons to speak Japanese or to understand the Japanese people? Humanists.

"Doctors can pronounce a patient brain dead, but what do we do with that information? How do we deal with the horrendous problems that modern medical technology brings us up against? The humanities can go a long way in defining the ways the answers must be framed. What is meant by good or bad involves questions of value, and these can best be addressed analytically by that wide variety of disciplines we call humanistic."

— George T. Matthews
Professor Emeritus of History

1985 IN BRIEF

RECORD ENROLLMENT SPARKS OAKLAND'S SECOND QUARTER-CENTURY

Large increases in graduate enrollment, particularly in the School of Human and Educational Services, helped boost Oakland's 1985 fall semester to a record high of 12,586 full- and part-time students.

The figure tops the 11,971 students who attended in September 1984 and better the previous record of 12,084 students set in September 1983.

Oakland's graduate enrollment is now 2,271, up 430 students from the 1984 fall semester; graduate study programs in education and engineering showed the largest gains. Undergraduate enrollment also rose slightly, increasing by about 185 students from 1984 to a 1985 figure of 10,315.

IMPRESSIONIST ART SHOW MAKES A STOP AT MEADOW BROOK HALL

Meadow Brook Hall was one of eight sites worldwide chosen to exhibit a significant collection of French Impressionist and Post-Impressionist paintings and sculptures created by such artists as Claude Monet, Auguste Renoir, Henri Matisse and Vincent van Gogh.

The show, entitled "Selections from the Reader's Digest Collection," made Meadow Brook Hall its home in October as part of an eight-city tour that included New York, St. Paul, Chicago, Stuttgart, London, Milan and Paris. The exhibition, composed of 37 works chiefly of the French Impressionist and Post-Impressionist periods, is the largest number of works ever assembled for a single show from the Reader's Digest Collection.

The full collection of more than 300 works is the culmination of the collecting efforts of Lila Acheson Wallace, who co-founded *Reader's Digest* in 1922. Meadow Brook Hall was chosen to receive the master works because it provided an intimacy not available at the other locations, said Frances Chaves, curator of the collection.

ALUMNI CONTINUE STRONG SUPPORT TO OAKLAND

Oakland alumni contributed a record \$164,000 in 1984-85, helping the university to an all-time high of \$5.6 million in external financial support.

Alumni have historically been strong supporters of Oakland, said Alumni Relations Director Joan B. Stinson. Last year, 22.5 percent of Oakland alumni contributed financially — an extremely high percentage for a relatively new state university.

CENTER FOR THE ARTS HOSTS WORLD PREMIERES, EXPANDS OFFERINGS

World premieres and new levels of attendance characterized productions of the Oakland University Center for the Arts during 1985.

The Center for the Arts, under the direction of Carl F. Barnes, Jr., combines the talents of professional artists and Oakland students and faculty in its productions, which range from jazz and dance concerts to art exhibits and theatre.

Subscription sales to the Center for the Arts' series of plays and concerts rose 33 percent from 1984, setting the pace for a highly successful year of cultural events. The center also added a second Arts-for-Youth camp, tripled attendance at its annual Meadow Brook Estate holiday show, and hosted symposiums on the music of Gilbert and Sullivan and the art works of James Abbott McNeill Whistler.

In addition, the center hosted world premieres of two productions in which Oakland played a pivotal role.

The first, *Zoophabreaks*, was performed by the university's Mime Ensemble at the opening of the Meadow Brook Music Festival children's series. Several Oakland alumni created the show, providing the script, lyrics, music and direction.

The second was a new translation of William Mew's 360-year-old play, *False Magic*. Written in 1625, it was translated from its original Latin by Brian P. Copenhaver, dean of Oakland's College of Arts and Sciences, and John C. Coldewey, professor of English at the University of Washington.

TECHNOLOGY PARK BRINGS NEW GROWTH TO OAKLAND ENVIRONS

Development of the Chrysler Corporation's 530-acre technology center is planned for the near future, marking a new phase in the development of the Oakland Technology Park — a trend-setting venture between high-technology firms and Oakland University.

Chrysler's planned facility represents its first addition to the 1,800-acre technology park, which borders the southwestern edge of Oakland's campus. The automaker will join other facilities already in operation, including Comerica, Inc., which opened its new computer operation in the summer of 1985, EDS, Inc.'s midwestern data center, and the OakTek Office Centre, a 230,000-square-foot office complex that was developed by Schostak Brothers & Co., Inc. World Computer and GMF Robotics also are developing facilities in the park, among others.

Oakland University, the driving force behind creation of the park, is part of the original five-member consortium that provided the preliminary impetus to the park. Its partners were Comerica, Inc., Schostak Brothers & Co., Inc., Frankel Associates and Oakland Community College, which adjoins the park on the west.

Across from Chrysler's proposed development, the General Motors/United Auto Workers Human Resource Center is under construction. Several hotels, office buildings and retail complexes are planned for development along the I-75 corridor adjacent to the park. Some experts predict that the Oakland Technology Park will create more than 50,000 jobs there and in the surrounding area.

FORD, OAKLAND LAUNCH ONE-OF-A-KIND STATISTICAL QUALITY PROGRAM

Improved quality and lower costs of manufacturing and assembly operations for Ford Motor Company are the aim of a \$1.3 million statistical quality program between the automaker and Oakland University.

The program, announced in 1985, will allow Oakland students and faculty to work side-by-side with Ford employees on the automaker's new statistical quality programs. Ford also is supporting the establishment of a sophisticated statistical quality control lab at Oakland.

The joint effort is the first of its kind in the United States and supplements other Oakland/Ford programs that have grown over the past three years into one of the nation's most comprehensive ventures between a corporation and university.

"Over the next five years, Ford and Oakland University will work together to bring the application of statistical methods in the auto industry to a significantly higher plane," said Ford President Harold Poling.

OAKLAND CALLED A "BEST BUY" AMONG AMERICAN COLLEGES

Oakland University is one of 200 colleges and universities nationwide that offer high quality education at reasonable cost, according to *The Best Buys in College Education*, by Edward B. Fiske, education editor of the *New York Times*.

The book, published in 1985, profiles Oakland and other colleges and includes information on campus setting, enrollment, expenses, student-faculty ratio, library resources, financial aid available and rate of acceptance into graduate professional schools.

Of Oakland, Fiske says, "... in a little more than a quarter of a century this medium-sized public institution has earned a reputation for solid academics. It is one of the few schools around to offer students a private-school atmosphere at a public-school price."

OAKLAND DRAWS PROMINENT SPEAKERS

Two nationally known speakers were welcomed by the university community during 1985. The duo — sex therapist Dr. Ruth Westheimer and Dr. Robert Jarvik, developer of the Jarvik 7 artificial heart — had at least one thing in common: appreciative audiences.

Jarvik was featured at an October symposium on "Alternatives for the Treatment of Refractory Heart Failures" sponsored by Oakland University and St. Joseph Mercy Hospital. The symposium drew cardiovascular surgeons and university researchers, as noted heart specialists from around the world addressed topics in heart failures requiring extraordinary means of treatment, including artificial heart implantation.

Westheimer, the sex doctor of the air, drew more than 1,200 students, staff members and community residents to her sold-out lecture in November. Westheimer, also a member of the faculty at the New York Hospital-Cornell University Medical Center, described her emphasis on education, saying "I believe if a teacher can talk and teach in the area of human sexuality with a sense of humor, the students will go out and remember something."

HEALTH ENHANCEMENT INSTITUTE ADDS TO COMMUNITY SERVICES

Oakland University's Meadow Brook Center drew near to completion during 1985. The center, comprised of the Shotwell-Gustafson Pavilion and the Meadow Brook Health Enhancement Institute, will house the university's cardiac rehabilitation and health maintenance programs and serve as a conference facility.

The institute includes facilities for laboratory research, physical endurance testing, exercise and education. The institute staff, which was formerly housed in Lepley Sports Center, will expand the university's research efforts in the areas of cardiac rehabilitation and degenerative disease prevention, as well as its community health outreach services.

The 21,000-square-foot Shotwell-Gustafson Pavilion adjacent to the institute features a track one-ninth of a mile long. The pavilion will be used for conventions and conferences when it is not in use for the institute's exercise programs.

KRESGE LIBRARY RECEIVES GIFT OF RARE BOOKS

Fifty-four first editions and other rare books were donated to Oakland's Kresge Library by a long-time university benefactor, Mrs. George R. Trumbull of Bloomfield Hills.

Trumbull's gift included 17 works by Charles Dickens, including the original paper editions of *Bleak House* (1853), *The Pickwick Papers* (1837), *Little Dorrit* (1855-57), *David Copperfield* (1849-50), *A Tale of Two Cities* (1859), *Sketches by Boz* (1837) and *A Christmas Carol* (1843).

Eighteen works by Mark Twain also were donated, including a signed first edition of *The Adventures of Tom Sawyer* (1876), and first editions of *The Adventures of Huckleberry Finn* (1885) and *Tom Sawyer Abroad* (1894).

OUTSTANDING PROFESSORS HONORED FOR RESEARCH, TEACHING EFFORTS

Dolores Burdick, associate professor of French, and Gilbert Wedekind, professor of engineering, shared the university's annual \$1,000 Teaching Excellence Award, presented at fall commencement. Charles Akers, professor of history, received the annual \$1,000 Research Excellence Award.

The awards, given by the University Senate, are designed to encourage good teaching and to recognize superior accomplishment in the classroom and in research.

Burdick was cited as the "epitome of an inspired, dedicated and enthusiastic teacher, one with outstanding communication skills, commitment and knowledge of many scholarly fields."

Wedekind was cited for being "the ideal engineering instructor," and for incorporating experiential learning in his instructional laboratories. Wedekind was recognized for his teaching, advice, professional stature and the encouragement he offers students.

Akers, who has won national acclaim for his research on 18th century America, is the author of three books, including *Abigail Adams: An American Woman*. He was cited for being a researcher of exceptional quality, his outstanding contributions to historical literature on the 18th century and for capturing the richness of that era.

CENTER FOR ECONOMIC DEVELOPMENT LEADS THE WAY TO MORE JOINT VENTURES

The Center for Economic Development and Corporate Services was created in 1985 to ensure appropriate links between Oakland University and the economic development of southeastern Michigan.

Headed by Frank Cardimen, Jr., special instructor in management, the center is a coordinating office for the various programs and services Oakland offers area corporations. Its functions range from creating opportunities for new joint research projects to working with companies that need support for continuing professional education, Cardimen said.

"We're here to get people together, to create ideas," he said. "We work with organizations that are looking for all the unique applications a university can provide. We make them aware of all the resources we have to offer — students, faculty and campus facilities. This center is really an attempt to reach out to our corporate neighbors and convince them to use our services."

UNDERGRADUATE PRESENTS WORK AT INTERNATIONAL CONFERENCE IN NETHERLANDS

Undergraduates at many universities only dream of opportunities for meaningful research, but Gildana Hegyan has not only been published, she has gained the attention of the international science community.

Hegyan, a senior majoring in biological sciences, was the only undergraduate student chosen to make a poster presentation at the 13th International Congress of Biochemistry, held in the summer of 1985 in Amsterdam, the Netherlands.

Her project centered on an enzyme responsible for cleansing the human body of some free radicals, or atoms, that may be responsible for the aging process. The Bloomfield Hills resident's project evolved from her collaboration with two Oakland biological sciences professors, Egbert W. Henry and Virinder K. Moudgil, who also presented work in Amsterdam.

MEADOW BROOK THEATRE GREET'S 20TH SEASON

Meadow Brook Theatre opened its 20th season of professional theatre in October with the Shakespearean classic, "Romeo and Juliet." Since the theatre's debut in 1966, hundreds of thousands of theatre-goers have attended Meadow Brook performances.

Additionally, more than 30,000 Michiganders have attended the theatre's "On the Road" series, which plays to people in 30 Michigan communities, from Marshall to Escanaba and Port Huron to Petoskey.

"Our goal is to bring professional theatre to Michigan residents who rarely or never get the chance to see it — to share what professional theatre is all about," said Jim Spittle, the theatre's state tour director.

MEADOW BROOK LEADERSHIP ACADEMY WELCOMES PRINCIPALS BACK TO THE CLASSROOM

"If you've stopped learning, you're about to stop leading," said Ronald Barth, guest speaker at the opening session of the newly formed Meadow Brook Leadership Academy.

School superintendents and principals need to develop new skills and knowledge, too, says Gerald Pine, dean of Oakland's School of Human and Educational Services, which organized the academy.

So, the leadership academy was created in 1985 to offer them continuing education and professional development opportunities. Formed of representatives from Oakland University, the Oakland and Macomb intermediate school districts and professional associations of school administrators, the collaborative helps educators develop skills to motivate employees, improve staff morale, build solid instructional teams and further community support.

An equally welcome benefit of the academy is the shared information that results from the bi-county association.

"Educational institutions cannot afford to operate in isolation from each other," Pine said. "Through a collaboration, we obtain a broad base of knowledge, talent and expertise needed to address more effectively the issues confronting educational leadership today."

OAKLAND RESEARCHERS CHALK UP A BANNER YEAR

A \$594,000 grant to Oakland's Eye Research Institute from the National Institutes of Health was one of many research awards granted to the university during fiscal 1984-85.

In all, \$3.4 million was awarded to support university research programs and to upgrade equipment, said Mary Otto, director of the Office of Research and Academic Development. Total external support for research and development was \$5.4 million, up \$1.2 million from 1983-84.

The National Institutes of Health's grant was used, in part, to purchase state-of-the-art scanning and transmission electron microscopes and tissue culture facilities to be shared by researchers at the Eye Research Institute. The materials will enable the institute to expand its work in immunology, molecular biology and eye structure and form.

The School of Engineering and Computer Science also received significant research funding, including a \$194,000 grant from the U.S. Army to design and develop a robotics and computer vision lab, and a \$110,000 contract from the U.S. Department of Defense for research in an instrumentation program.

WALLACE D. RILEY ELECTED TO CHAIR BOARD OF TRUSTEES

Wallace D. Riley was elected chairperson of the Oakland University Board of Trustees in October. He succeeds General Motors Vice President Alex C. Mair, who continues to serve on the board as a trustee.

Riley is a founding partner of the Detroit law firm, Riley & Roumell. He is a past president of the State Bar of Michigan and the American Bar Association. Riley, who was appointed to the Board of Trustees in 1982, will serve a one-year term as chairperson.

David Handleman, chief executive officer of the Handleman Co., will serve a second year as vice chairperson of the board.

FINANCIAL HIGHLIGHTS

	1984-85	1983-84	% Increase (Decrease)
Summary of current funds revenues and expenditures:			
GENERAL FUND REVENUE:			
Student Fees	\$15,980,000	\$15,473,000	3.3%
State Appropriations	24,283,000	21,833,000	11.2%
Other	1,726,000	1,505,000	14.7%
TOTAL GENERAL FUND REVENUE	41,989,000	38,811,000	8.2%
DESIGNATED FUND REVENUE	2,612,000	2,170,000	20.4%
AUXILIARY ACTIVITIES REVENUE:			
Bookcenter	2,284,000	2,139,000	6.8%
Residence Halls	4,503,000	4,450,000	1.2%
Meadow Brook Music Festival	1,919,000	1,832,000	4.7%
Meadow Brook Theatre	1,320,000	1,122,000	17.6%
Meadow Brook Hall	1,309,000	1,126,000	16.3%
Katke-Cousins Golf Course	628,000	576,000	9.0%
Other	5,257,000	4,755,000	10.6%
Elimination of Rebilled Services	(3,885,000)	(2,873,000)	35.2%
TOTAL AUXILIARY ACTIVITIES REVENUE	13,335,000	13,127,000	1.6%
EXPENDABLE RESTRICTED FUND REVENUE	6,638,000	6,140,000	8.1%
TOTAL REVENUES	64,574,000	60,248,000	7.2%
TOTAL EXPENDITURES AND TRANSFERS	(63,844,000)	(59,865,000)	6.6%
REVENUES OVER EXPENDITURES AND TRANSFERS	\$ 730,000	\$ 383,000	90.6%
TOTAL EMPLOYEE COMPENSATION (ALL FUNDS)	\$42,225,000	\$38,298,000	10.3%
MARKET VALUE OF ENDOWMENT FUND	\$ 2,175,000	\$ 1,982,000	9.7%
INVESTMENT IN PHYSICAL PROPERTIES	\$86,239,000	\$81,944,000	5.2%
LONG-TERM INDEBTEDNESS	\$11,880,000	\$12,811,000	(7.3%)
DEBT SERVICE PAYMENTS	\$ 1,552,000	\$ 2,044,000	(24.1%)

Copies of this report, and of Oakland University's 1984-85 Financial Report, may be obtained from the Department of Publications and Creative Services, 119 North Foundation Hall, Oakland University, Rochester, MI 48063; (313) 370-3184.

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