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Nova Quarterly: The Magazine of the University of Texas at El Paso

The News and Publications Office, The University of Texas at El Paso

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NOVA

THE MAGAZINE OF THE UNIVERSITY OF TEXAS AT EL PASO

Q U A R T E R L Y



W I N T E R · 1 9 9 0

FROM THE EDITOR

The year is 2014. On a clear winter morning, blue skies and golden sunlight drape the landscape of 21st century El Paso/Cd. Juárez. To one El Pasoan returning to his home after 24 years, the view from the top of Mt. Franklin is breathtaking. It is reminiscent of growing up in the 1950s and 60s when fresh air in the City of the Sun was something we took for granted.

The whole area is now smog free and bustles with high-tech manufacturing and international commerce—products of the U.S.-Mexico Free Trade Agreement of the early 1990s. Just like the interplay of languages and cultures over four and a half centuries had forged a

“border” culture unlike any in the world, modern-day international cooperation and a commitment to education have created a vibrant social-economic order that, in turn, helps the region compete in the world marketplace.

Perhaps one of the most significant catalysts in the emergence of El Paso/Juárez as a cultural and high-tech manufacturing mecca, is the 100-year-old University of Texas at El Paso. By the year 1990, 90% of the University’s students came from the region and included the highest number of Mexican nationals at any university in the U.S. Community outreach and minority education programs began to create higher education opportunities for El Paso’s 70% Hispanic population. With the establishment in the late 1980s of long-term institutional programs like the now-famous Institute for Manufacturing and Materials Management and the Center for Environmental Resources Management, UTEP played a key role in technology transfer to assist in the development of a new industrial base for the region. UTEP-industry partnerships also tackled the many environmental, energy and water problems that began to plague the community during the last decade of the 20th century.

To the absentee El Pasoan, the evolution of the Pass of the North from afar occurred unsuspectingly. Transformation of this type seemed to have taken place as if by magic; in this case, it was born from the work and vision of community leaders, business people, educators, scientists, students, parents, artists, children...

A glimpse of UTEP’s contribution to this community vision can be found in some of the articles published in the Winter 1990 issue of *NOVA* — The Magazine of The University of Texas at El Paso.

VIEW OF UTEP

An aerial perspective of the UTEP Library at sunset.



NOVA



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"Paydirt Petey" Illustration
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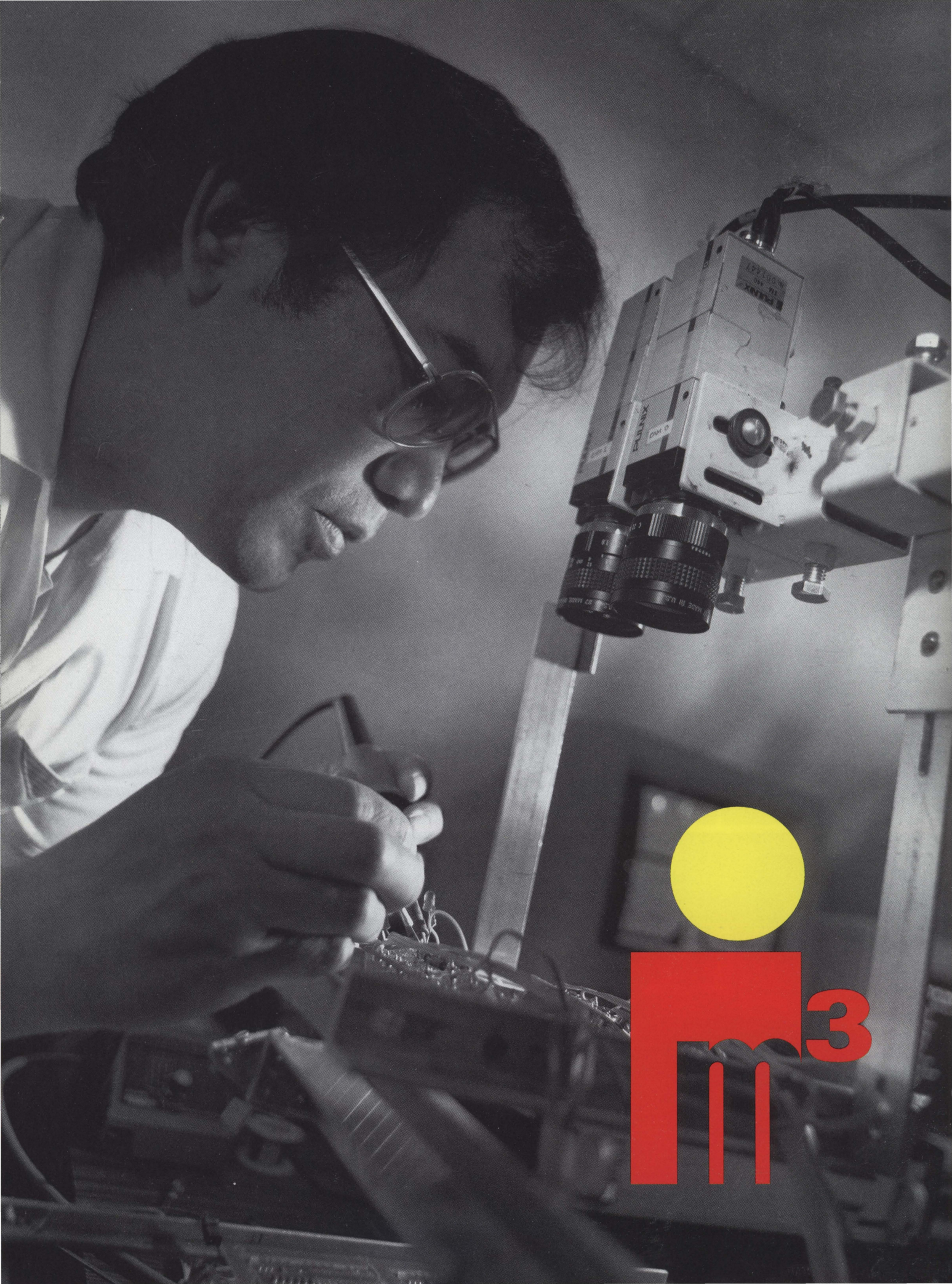
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*An undergraduate student and Dr.
Lawrence Murr conduct materials
engineering research on the Hitachi
Analytical Transmission Electron
Microscope.*





CATALYST FOR TRANSFORMATION

by S. Gail Miller

F In the early 1800s, an Austrian monk pattered about in the monastery garden, conducting independent scientific investigations on garden peas; using a cross-pollination technique and keeping a careful statistical analysis, Gregor Mendel developed a scientific explanation for hybridization. His conclusions were published in 1866 and he died in 1894, both his work and his passing leaving barely a ripple in the scientific community of his day.

If Mendel had lived in El Paso, Texas, in the 1960s instead of in Brno, Austria, in the 1860s, odds are good that this extraordinary individual would have been a graduate student at UTEP working on technological issues to improve U.S. competitiveness in the global market place. His ideas would have appeared in research papers, instantly and thoroughly scrutinized by the University's scientific community. His findings would enter society's conscience through a modern communications system—first through scholarly journals and scientific conferences, then school textbook publishers and educational television, then into popular fiction and magazines and finally, into the philosophical base of the medium that reaches the most members of a technological culture—the half-hour

(opposite page) UTEP Machine Vision Applications Laboratories design automated inspection systems for such companies as Honeywell, Texas Instruments, Dale Electronics, ASARCO, General Electric, and Ford.

television situation comedy. In time, his findings would have an impact on everyday life since scientific research today forms the base for millions of consumer products available to Americans seeking a higher standard of living.

F he transfer of knowledge from university classrooms and research laboratories in today's society is inextricably linked to the development of modern civilization. To a large degree, the success of regional universities in the future depends on their responsiveness within a specific community context. Increased awareness of the trend towards a one-world economic order, the need for greater U.S. industrial competitiveness and the special opportunities that exist along the U.S.-Mexico border, prompted UTEP to create the Institute for Manufacturing and Materials Management (IM³) in the mid 1980s.

In the past, as the Texas State College of Mines and Metallurgy, the University played a pivotal role in minerals extraction and processing. It trained skilled professionals and transferred technological processes to the mining industry in Mexico and the Southwest in an era when knowledge of natural substances was crucial to the industrial development of the region. As we hurtle towards the close of the century, the emphasis has shifted from plumbing the earth's depths to exploring the inner secrets of atomic and molecular structures of materials for the benefit of

regional business and industrial growth.

"Dr. Natalicio first ran this idea by me on an early trip to Washington right after she became President," explains Congressman Ron Coleman, a member of the Committee on Appropriations. "We were able to get \$3 million for fiscal 1989 from the Defense Logistics Agencies National Defense Stockpile Transaction Fund to finance IM³'s development. Some \$4.4 million followed in fiscal '90. This year's budget has \$1.75 million in it for fiscal '91."

The Institute for Manufacturing and Materials Management now serves as a catalyst and facilitator for combining the resources of the University with those of the community through technical support, technology transfer and materials research. In addition, IM³ supports the development of a Cooperative University Laboratory Network, including units which emphasize research in strategic materials technologies.

Research activities and partnerships with industry and government agencies are under way in the following research components at UTEP: Technology/Knowledge Transfer Laboratories (including database systems), Materials Performance/Evaluation Laboratories, Electronics, Sensors, and Controls Laboratories, Manufacturing Systems Laboratories, Welding and Joining Laboratories, and Waste Materials Management Laboratories.

After a nationwide search, Donald A. Michie was appointed director of IM³ in July, 1987. A University advisory committee decided Michie's broad knowledge of the area made him the best man for the job. Michie's record of attracting research funds that generate the hard statistics underlying the region's development and infrastructure are



Congressman Ronald Coleman's efforts to promote economic development have included support for UTEP's IM³.

impressive: a total of \$15.8 million, \$12.8 million from federal agencies and \$3 million from a variety of research awards over a ten-year period.

"When you take a critical look at industry, whether public or private, the need to reduce the total cost of business is obvious," says Michie. "A printed circuit board manufacturer will seek the environment where the end product is the least expensive. It's logical he would choose a **maquiladora** in Chihuahua, Mexico, rather than a company in Boston. Although labor is only one cost of doing business, the difference between \$6 per hour and \$38 is quite significant. But manufacturing plants in our area are no longer just assembly plants," Michie continues. "Gone are the days when the parent company shipped \$38 printed circuit boards here to be assembled and reshipped. Now the parent company **makes** the board here. This wouldn't have been possible twenty years ago, but the industrialization of the region has proved its people very adept at picking up high-tech skills."

Looking to the future, it's helpful to remember that printed circuit boards are not only components of T.V. sets and a host of other retail products but also essential components of airplanes, tanks, space satellites, and computers.

"In order for this region to reap the benefits inherent in its existing industrial base, we need increased cooperation in infrastructure development—long-range planning for transportation, water usage, industrial waste disposal, communications networks, housing and education. IM³ is designed to facilitate these functions because it encourages cooperative manufacturing research and problem solving," adds Michie.

An integral part of IM³ is the establishment of a database of information needed for economic planning and policy development. When complete, **BorderBase** will contain demographic information for the Paso Del Norte region and all U.S. and Mexico border counties, from California to the Gulf of Mexico.

The value of the database is no longer a secret. Out-of-state governors' offices call UTEP for information on U.S. parent companies with plants in Cd. Juárez. El Paso shelter operators call for lists of companies that supply

maquiladoras. National corporate marketing divisions want statistics to help them leapfrog their competitors. Future plans include public user access to **BorderBase** via a subscription service.

In September, 1989, Dr. Lawrence E. Murr, who holds a Ph.D. from Pennsylvania State University in solid state science, joined the UTEP faculty as the Macintosh Murchison Professor and Chair in the Department of Metallurgical and Materials Science Engineering. Considered by his peers as a pioneer in materials science and engineering research and teaching, Murr was named Associate Director of IM³ in early 1990.

"UTEP is a leader in this hybrid, 30 year-old science," says Murr. "Only about 80 of these departments exist in U.S. universities. Besides the ongoing transfer of technology to industry through our Cooperative Laboratory Network, we'll soon be offering a Ph.D. in Materials Science and Engineering as we hire the necessary faculty and build the program's infrastructure through IM³."

An historical precedent for the IM³ concept is the U.S.'s 100-year record of unparalleled success in agriculture. As American as apple pie, university agricultural departments and agricultural extension services have developed thousands of new products for agricultural applications—sophisticated chemicals, entire organic systems, complex computerization of statistical projections, and highly structured farm management formats. In an age of high-tech, institutes like IM³ at UTEP perform similar functions, except that their products are geared to the improvement of industrial manufacturing processes.

The transfer of technology has, of course, been going on between UTEP and the community for years. IM³ refines and broadens this function by linking faculty, research, students and industry under the IM³ umbrella.

"This campus has some very sophisticated equipment that can be matched by few around the world," says Murr. Called "analytical instrumentation for materials science and engineering," UTEP's research labs already contain instrumentation like the Hitachi 8000 analytical transmission electron microscope. Installed in the Metallurgy

IM³'s director Don Michie coordinates the business and economic development research activities of the Institute. For the past three years, IM³ research data has served as the basis for the enactment of federal legislation governing binational transportation which has resulted in substantial federal funding increases for ports-of-entry along the U.S.-Mexico border.

Michie is a co-founder of the Border Trade Alliance, serves on the board of directors of the El Paso Foreign Trade Association and the Texas/Mexico Authority, and is co-chairperson of the Texas/Chihuahua Regional Development Commission. He has testified before Mexico's Oficina de Aduanas in Mexico City and in Washington, D.C., before the U.S. House of Representatives Ways and Means Committee, the Surface Transportation Committee, the Commerce Committee and the Border Caucus Committee.



Department in May, 1990, it is one of only three of its kind in the United States. Using this million-dollar instrument in conjunction with Kirtland Air Force Weapons Laboratory and the NASA Johnson Space Center, UTEP researchers have analyzed test panels from a five-year old satellite retrieved from space. This capability has led IM³ to seek NASA support for a proposal to develop systems to characterize new space materials. Intricately involved in surface physics, electron microscopy, scanning microscopy and failure analysis, UTEP is developing a leading edge in the field of space materials analysis.

Of 17 different projects linked through IM³, the majority directly affect the region's manufacturing sector. Others are in progress through contracts with research institutions and private

businesses in countries other than the U.S. and Mexico.

The following examples illustrate how UTEP's expertise in materials science and engineering connects with industry.

Take top-of-the-line racing bikes for international competitions. They cost around \$5,000 these days. A small group of Mexican and U.S. businessmen have a fledgling company in Cd. Juárez whose ultimate goal is to capture the world market for lightweight bicycle frames. The company has highly skilled Mexican specialty welders and a clearly defined goal. But the materials to be used in the manufacturing process are very "high-tech" and industry knowledge of these materials is, at present, limited. Not for long, though.

"This is an example of how we can

help the little folks," says Murr, whose team is in charge of transferring technology to industry. "They know they need to use these materials to be internationally competitive. We know a great deal about them because of our work with NASA. So IM³ performs a link—a marriage between knowledge and need.

"And then there's the company that makes Taylor thermometers for ovens," continues Murr. Stamping machines cut parts from stainless steel sheets of a specific thickness—a "hardness" standardized by national certification. But the stamping machines kept breaking down and holding up production. The old-timers in the plant told management the cause was too much variance in the sheet hardness. They couldn't prove it, but they could feel and hear the discord even before the machines cranked to a

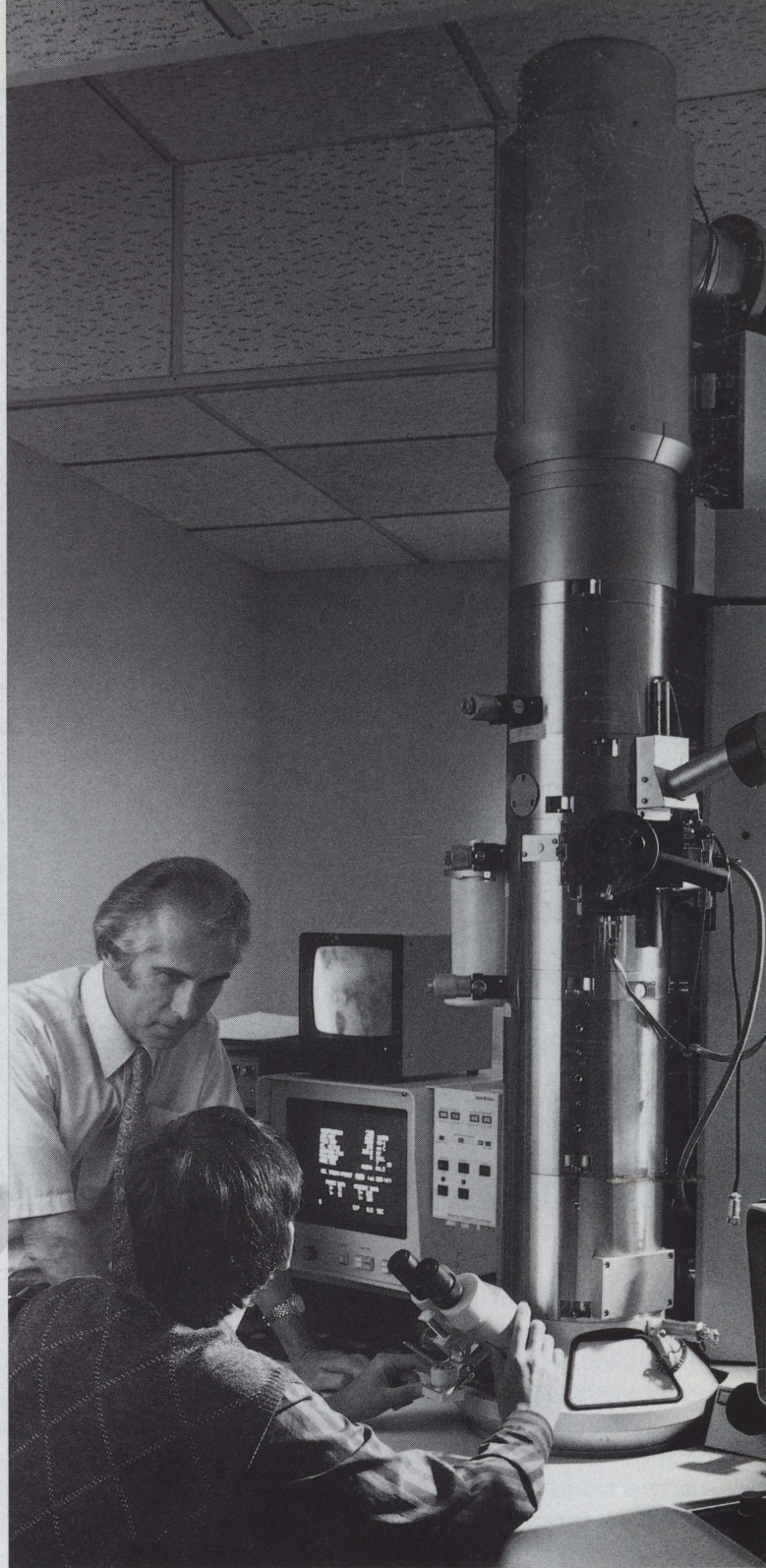
halt..."kind of like a choir master cringing inwardly as his charges start singing off-key," explains Murr. Through IM³, the company ascertained that the supplier's hardness certification numbers were inconsistent.

At UTEP's Machine Vision Applications Laboratory (MVAL), equipment and processes have already been developed and installed in the manufacturing sector in the Paso Del Norte region. Automated inspection, process control and machine control for companies like Honeywell (keyboard and optoelectronics divisions), Texas Instruments, Dale Electronics, ASARCO, DELMEX (GE) and Coclisa (Ford) are examples of ongoing projects.

Eulalio Rodriguez, a graduate of Mexico's National Polytechnical Institute and a Ph.D. candidate in UTEP's electrical engineering program, explains MVAL's industry involvement.

"The trend in industry is to automate through new technology which eliminates waste. Production lines aim for 0% rework—this conserves time, energy and cost, and so reduces the cost of doing business. For instance, in this lab we developed an automated P.C. board inspection system for DELMEX in Cd. Juárez. Last summer, Honeywell came to us because they wanted to find a way to reduce the high number of computer keyboards coming off their line with defects. We developed a system to check the boards for correct key position and imprint quality, using four cameras on keyboard sections as they move through the process." The new vision system increased production by approximately 50% and while Honeywell could have purchased a \$250,000 machine already on the market for this job, the MVAL lab developed a discrete process for them for around \$60,000.

The Machine Vision Applications Laboratory, as one component of the Cooperative Laboratory Network, is building UTEP's reputation in vision expertise, as well as providing hands-on training for industry personnel as they work directly with the lab's technicians during the development stages. When the project is tested and completed, UTEP students and faculty supervise the installation at the client location, and help train its operators.



Dr. Lawrence Murr, chairman, Department of Metallurgical and Materials Science Engineering, assists a student research associate. A satellite test panel is being analysed using the Hitachi analytical transmission electron microscope.

"There are several reasons why IM³ student research associates work with industry, not the least of which is the perspective they bring back to the classroom," explains Dr. Murr. "Situational problems and possible solutions provide case examples and this is a very powerful teaching tool. Matching theoretical concepts and devising pragmatic solutions provides students with a window to the real world. Not only are students exposed to live role models in the disciplines they're pursuing but they also start to build professional networks crucial to their careers."

As a result of the relative ease with which scientific knowledge is disseminated, IM³ researchers are active in the international scientific research community.

In Brussels, Belgium, the home of the European Economic Community, the national bank that prints 14 countries' currencies has entered into a contract with UTEP's Dr. Jean Robillard to develop a counterfeit-proof banknote.

"The 18-month project is nearing completion," says Robillard, a Sorbonne-trained physicist with over 100 patents. His research in thin film technology and nonlinear optical materials has led to the development of a non-light-sensitive x-ray film and an electronic system installed on Colorado ski slopes that alerts skiers to overexposure from cancer-

causing ultraviolet rays. Through IM³, Robillard has a subcontract with the University of Marseilles (France) for another optical materials research project.

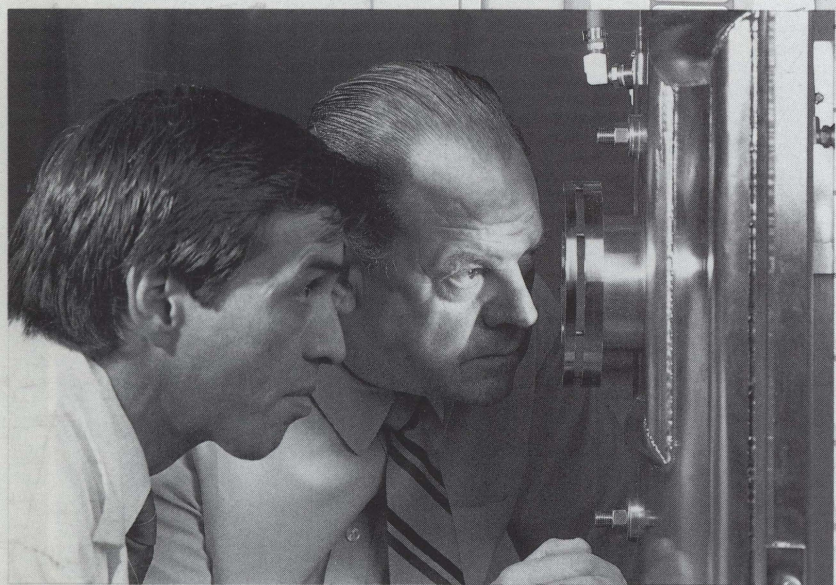
Robillard's work has been supported by industry and government in Japan and the countries of the European Economic Community, as well as by the U.S. Air Force, White Sands Missile Range, the U.S. Army and the Defense Nuclear Agency. In cooperation with UTEP's Materials Research Center of Excellence and IM³, Robillard was the principal organizer of the Nonlinear Optics Symposium at UTEP in October. The Symposium attracted scientists from Japan, the Netherlands, Belgium, Israel, Portugal, China and all over the U.S.

"Our research will lead to a revolution in the way computers work and are manufactured," says Robillard. "Without chips and at the speed of light."

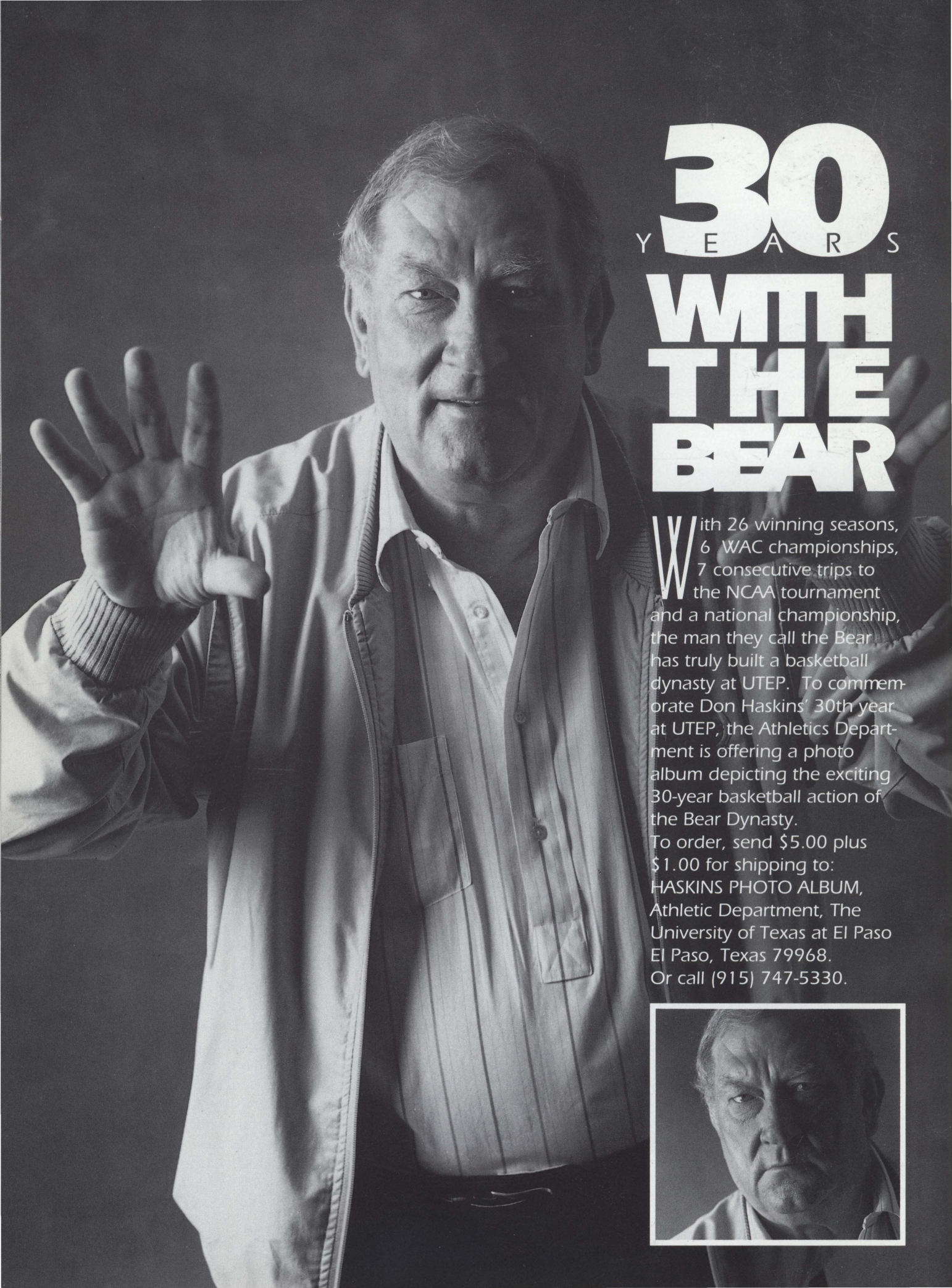
While Gregor Mendel's experiments in the 1860s were revolutionary, the imagination has only to stretch very slightly to realize the potential impact of IM³ on the Paso del Norte region. With the existing border industrial base and infrastructure improvements in the future, the region is strategically poised to incorporate new technological developments. Some university scientists envision an "optical valley" emerging in the El Paso-Juárez-Las Cruces, corridor during the 1990s.



**INSTITUTE FOR
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MATERIALS
MANAGEMENT**



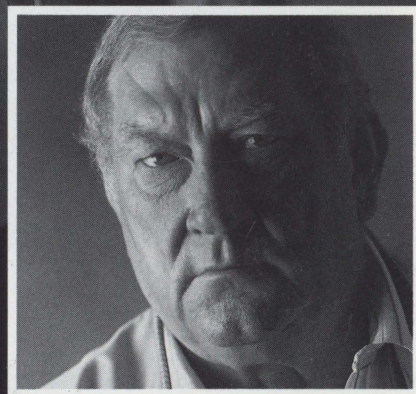
Rafael Torres, student research associate, and Dr. Jean Robillard, physicist, observe the formation of thin film through high vacuum evaporation equipment. The film is part of a pollution sensor development project.



30 YEARS WITH THE BEAR

With 26 winning seasons, 6 WAC championships, 7 consecutive trips to the NCAA tournament and a national championship, the man they call the Bear has truly built a basketball dynasty at UTEP. To commemorate Don Haskins' 30th year at UTEP, the Athletics Department is offering a photo album depicting the exciting 30-year basketball action of the Bear Dynasty.

To order, send \$5.00 plus \$1.00 for shipping to:
HASKINS PHOTO ALBUM,
Athletic Department, The
University of Texas at El Paso
El Paso, Texas 79968.
Or call (915) 747-5330.



EPNG: Setting Corporate Giving Standards

"More than any firm in our area, El Paso Natural Gas Co. sets the pattern for others, and we badly need a stirring example of corporate commitment to excellence for this college," Dr. Joseph M. Ray wrote to Hugh F. Steen in 1963.

The president of Texas Western College—to become U.T. El Paso four years later—then thanked the president of El Paso Natural Gas Co. (EPNG) for his company's record as "a good and generous friend in the past." The company went on to become a major contributor to the University's fledgling Alumni Fund for Excellence.

A detailed study of EPNG gifts over the years shows enormous versatility—gifts of equipment for engineering programs, materials for the Computer Center, trailers used at the Solar Pond and for work with the speech and hearing handicapped, and equipment for the Student Publications offices. El Paso Natural has regularly provided scholarship funds for students in engineering, accounting, computer science and athletics; cash awards for outstanding faculty members; journals, professional publications and technical books for the University Library.

El Paso Natural also has a long history of encouraging its employees to contribute to higher education by matching—dollar for dollar—their employees' donations. A higher percentage of employee gifts are made to UTEP

by EPNG employees than to any other institution of higher learning in the U.S.

Through the end of 1986, the largest single amount given was \$75,000, donated through the Burlington Northern Foundation. UTEP applied this large gift to enable the College of Business Administration to initiate the El Paso Community Professorship in Accounting; the \$75,000 accounted for 75% of the cost of establishing this important professorship.

Mindful of the steadily increasing financial burden incurred by college-bound students and the parallel increases in university operating costs, EPNG has continued to increase the size of its contributions for both scholarships and institutional infrastructure development at UTEP. In addition, EPNG continues its regular support of KTEP, the University's public radio station.

When \$100,000 was presented through the Burlington Northern Foundation in 1988, President Diana Natalicio observed: "The impact of a grant of this size to programs in the fine arts is enormous, and it will be felt for years to come."

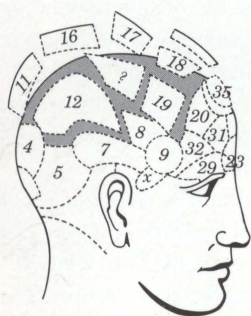
Early this year the purchase of long-needed equipment for the Language Resource Center was made possible through a \$75,000 grant from EPNG through the Burlington Resources Foundation. Dr. Natalicio, who first came to the campus as a modern languages professor, said: "It's exciting to contemplate the stimulating effect this donation will have on improved facilities for the Center."

As William A. Wise, president of El Paso Natural Gas Co. puts it: "El Paso Natural supports the University of Texas at El Paso for several reasons. The school is an important resource for our community and provides an opportunity for higher education that many of our citizens would otherwise be denied. Most importantly, we look to the University for those graduates who can provide the skills needed for our business. Our contributions are a tribute to the outstanding work the school is accomplishing."

Diana Natalicio presents UTEP's pictorial history book to EPNG President William Wise at an appreciation luncheon.



HIGH LIGHTS



ADM RESEARCH

The Departments of Psychology and Sociology have received a \$1,389,449 grant from the Minority Institutions Research Development Program (MIRDp) to fund research for alcohol, drug abuse, and mental health (ADM) over a three-year period.

Seven Principal Investigators will explore various topics—do teenagers hold exaggerated beliefs about their ability to avoid injury and illness; how do Hispanic and minority/non-minority faculty function in a public four-year comprehensive institution in the Southwest; what is it that contributes to patients' frequent non-compliance with

taking prescribed medication; a cross-cultural study on how the risk-taking behavior of teens influences their ideas about their immediate and long-term health; a study of the effects of a 15-year ongoing program for first-time DWI offenders.

About 25 UTEP undergraduate and graduate students will serve as research assistants and be encouraged to pursue careers in ADM research.

JOHNSTON HEADS STATE ADVISORY GROUP

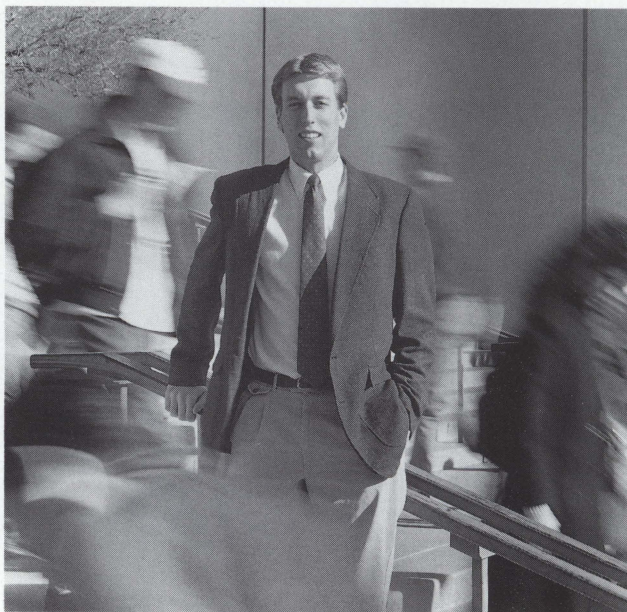
Jack S. Johnston, Jr., president of the UTEP Student Association, has been elected Chairman of the state-wide UT-System Student Advisory Group. The group was formed by Chancellor Hans Mark at the request of Louis A. Beecherl, Jr., chairman, UT-System Board of Regents.

The Student Advisory Group consists of 33

representatives—two students from each of the 14 components of the UT-System plus an additional representative from each institution with a graduate program.

"This Board of Regents is particularly sensitive to the state-wide capabilities of its higher education system," explains Dr. Sheldon Eklund Olson, special assistant to Chancellor Mark. "And it was particularly interested in developing a mechanism to open a direct channel of communication between itself and students across the entire system."

Susi Auh, an M.B.A. student, and Ramiro Castañeda, a junior history major, make up UTEP's delegation to the UT-System Student Advisory Group.





CHILD CARE UP AND RUNNING

A \$260,000 renovation of News and Publications' old home has transformed the building and grounds into a quality, 150-child capacity day care center serving students, faculty and staff five days a week from 7:30 a.m. till 10:00 p.m. at competitive prices.

"We're a full-service facility now," says Janice Nations, director of the Center on Hawthorne Street. "We opened in late August for 2-5 year olds and now we take 5-10 year olds from 4:30 p.m. till 10:00 p.m. In January,

we'll add infant care."

With the rising costs of child care due to the growing number of working mothers, child care has become a national issue. UTEP hopes that its Center will become a model support system for student parents who attend the University. In addition to traditional child care, UTEP's Early Childhood Education Department plans to develop innovative educational programs with Saracare, the Center's contract operator, for the children at the Center.

U.S.-MEXICO INTER-LIBRARY LOAN PROJECT

A network for sharing academic information between Mexico and the U.S. now links twenty-two libraries in the U.S. and seven in Mexico.

"We function as the U.S. referral center," explains Carolyn Kahl, UTEP's Inter-Library Loan Coordinator.

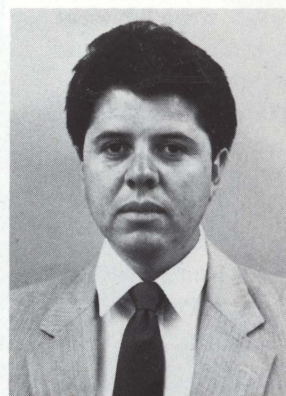
"We've received 426 inquiries since the project started ten months ago."

Almost half the requests received so far have been filled from UTEP sources—books, photocopies of journals and articles, microfiche and ERIC educational film materials. The UTEP Library routes requests it cannot fill to other participating libraries; and scholars receive materials by courier, fax and mail. Through this network, scholars from both countries are able to conduct research without having to travel long distances to view source information.

RECOGNITION

The U.S. Customs Service selected Special Agent Gerardo Pineda of El Paso to receive the Internal Affairs Agent of the Year Award. Agent Pineda's exemplary investigative work into the February 1990 homicide of U.S. Customs Inspector Timothy McCaghren, who died of injuries sustained at the Ysleta port of entry, was lauded by his superiors.

A native of El Paso, Pineda attended Austin High School and earned a Bachelor of Science in criminal justice at UTEP. Agent Pineda is also a captain with the Special Forces unit at Fort Bliss. He and his wife Martie have three sons.



Winnie Middagh, John's widow, stood with me at the graveside at Fort Bliss and just after the rifle volley and the ritual folding of the flag that draped Ray Past's casket, she asked me, "Who's going with you to John's grave now?"

These whispered words had to do with a custom that Ray and I followed after the death of our friend and UTEP's journalism chief, John J. Middagh, on February 18, 1973. For 17 years, on or as close to his death-date as possible, we visited John's grave (Section I, Grave 2337) at Fort Bliss. We told outrageous but mostly true stories about this *compañero* we loved as we stood there; we shared a half-pint of Cinco Equis brandy (one of John's favorite boozes) in his honor; we drove over the bridge to Ciudad Juárez and had a long lunch at Club Florida or La Fogata, or at Miguel's in downtown El Paso when the bridge traffic was bad; we drove back, talking about family. (Especially about the love of Ray's life, his wife Frannie, whose daily well-being following a disabling stroke several years ago became the focus of Ray's own daily well-being.)

In 1984, when two other of our UTEP friends, Bill Russell of Languages, and Steele Jones, director of Development (and the man who hired me as News Bureau director in 1966), died, we added them to our Fort Bliss February visitation list.

In 1989, when Ray went into Providence Memorial with a respiratory ailment that almost killed him, we delayed our visit to Bliss until May. Even though Wynn Anderson, assistant to several presidents at UTEP including Diana Natalicio, and Ray Chavez, former UTEP journalism instructor, now city editor of the El Paso *Herald-Post*, occasionally joined us on these expeditions, the idea of going to visit John Middagh without Ray Past was as unthinkable as going to visit *both* John Middagh and Ray Past.

My first encounter with Ray took place in 1961 when I was a 25-year-old

Remembrance of Ray & Things Past



by Dale L. Walker

journalism senior at Texas Western, not long freed from a four-year hitch in the navy, only two years in El Paso, married and with a couple of kids.

John Middagh, my journalism mentor, was responsible for all student publications—the *Prospector*, *El Burro* (now sadly defunct but in those days the feisty "variety magazine" edited by and published for TWC students), and the *Flowsheet* yearbook. I worked on the first

two and with Henry Rettig served as co-editor of *El Burro*. Ray Past, then an English professor, was Middagh's best friend and served as faculty advisor to student publications.

These were simpler times, better times.

In 1961, Henry Rettig and I had an *El Burro* controversy on our hands (the magazine had controversies like clockwork: at least one every four issues) and Middagh, Ray Past, and Ralph

Lowenstein (then a journalism professor) had to resolve it. We had received from a Texas Western graduate, William C. Crawford, a chapter from his forthcoming Korean War novel, *Give Me Tomorrow*, and we wanted to run it in *El Burro*. The chapter had a lot of profanity, including some scatological references in it—soldier talk—but was beautifully written and we felt it was an honor that Bill Crawford, a combat Marine in Korea, would let us use this piece from his first novel, soon to be published by Putnam's, a big New York house.

Ralph Lowenstein was against use of it in *El Burro*—he didn't think it was appropriate for a variety of reasons, all of them, in retrospect, sound. Middagh was on the wire: Crawford had been his student, he was a former combat infantryman himself (in the Bulge in World War II) and he admired the grit and truth and brilliant prose of the chapter. But he also knew it

would cause trouble and he tended to side with Lowenstein on that issue.

Ray Past was called in to read the

Crawford material and Henry Rettig and I met him at a meeting Middagh called in which Ray was to give his impressions of the work and its appropriate-



ness, or not, for use in *El Burro*.

Ray never changed much over the years. I remember him in 1961 as a short, handsome, dapper man with wavy hair, a Douglas Fairbanks moustache, a sly kind of smile and a slightly cocky manner. He dressed Western (he was from Jamestown, North Dakota)—boots, Western shirt with snaps, bolo tie.

What impressed me about him, a characteristic that was immutable as his moustache, was his self-assurance and utter candor about everything: He thought the Crawford chapter was very, very fine, professional stuff; it was an honor to have a chance to publish it and to hell with all the fretting over what kind of "controversy" its publication in *El Burro* would create, let's do it and let Joe Ray (then president of TWC) worry about the lunatic fringe who would find it shocking and sacrilegious and who would write letters to the newspapers, to the Board of Regents, and try to threaten us. To hell with all that, Ray said. We are supposed to be a place open to all manner of ideas and points of view, and some of them are going to be unpalatable to some people some of the time. But students have rights, too, and we all have First Amendment rights....

He was, on this occasion and on others, slightly cantankerous and snappish, funny, brilliant and very impressive to a person like me, a student hanging on the words of my betters.

Cooler, if not correcter, heads prevailed, and we never used the Crawford chapter. Ray didn't grouse about it: He had made his points, knew he was right, and no doubt he and John Middagh batted the whole thing around out on the desert somewhere, where they were forever camping and swapping war stories and paying reverence to their forebears, chief among them Old Granddad.

When Middagh died in 1973 I wanted a tribute to him in *Nova* and naturally asked Ray Past, a fine, facile writer and John's dearest friend, to do it. Very quickly he wrote the piece titled "Salute to An Absent Friend" which ran in the June, 1973 issue of the magazine and El Paso artist Tony Piña did a superb pencil sketch of Middagh for the cover.

In that story, one of the best I ever had the privilege to publish, Ray wondered about the great and lasting affection so many people had for John

Middagh. "I loved him too," Ray wrote, "and though it never occurred to me to wonder why, the question tantalizes. What was it about him?"

To me, the answer is easy: They were *Doppelgangers*, those two.

In his post-mortem accounting of why John J. Middagh, Jr. was beloved by those who really knew him, Ray wrote of John's unimpeachable honesty, hatred of fakery, belief "that a man should always be willing to stand up and be counted." Middagh, said Past, "was a damn gentle man," fond of pets (which included in addition to the customary dogs and cats, a raven, a bobcat and a Gila monster) and more fond of people, a catholic with a lower case "c," a good man, a lover of family and of history, a devoted New Deal, Fair Deal, New Frontier, Great Society Democrat with Harry Truman a personal hero.

All this—all of it—is a precise word portrait of the man who wrote it as it is of the man for whom it was written and it cannot be much improved upon.

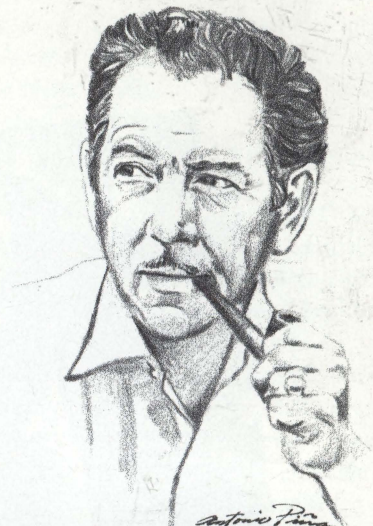
Except to add: Ray ended his tribute to John Middagh with these words, Antony referring to Brutus, from *Julius Caesar*:

*...the elements
So mixed in him
that Nature might stand up
And say
to all the world,
"This was a man!"*

For Ray Past, I'd pick those words too, and add these from *Hamlet*:

*He was a man,
take him for all in all.
I shall not look upon
his like again.*

Editor's note: A scholarship fund has been established in memory of Raymond E. Past. Contributions may be made through the Development Office, UTEP, 79968.



Raymond E. Past

1918-1990

Ray Past, born in Jamestown, N.D., earned his A.B. degree at the University of Pennsylvania in 1941, his M.A. and Ph.D. at the University of Texas at Austin in 1947 and 1950.

In World War II he served in the navy in the Pacific as an aviation gunnery officer. He married in 1942. His stepdaughter Elizabeth Wood resides in Dallas; his wife Frances and son, Alvin W. "Chip" Past, in Beeville.

Dr. Past joined the then-Texas Western College English faculty in 1952 and retired in 1984.

He was a pioneer in the study of English as a second language, author or co-author of such works as *Language as a Lively Art* and *Say It in English*, developer of ESL and linguistics courses at UTEP, and the founding chairman of the UTEP Department of Linguistics.

He served and chaired many important University committees, was twice chairman of the Faculty Senate, president of the UTEP chapter of the American Association of University Professors, and said in his official 1980 Faculty-Staff Biographical Data sheet, "sometime chairman of more g-dam committees than ever cropped up in your worst nightmare."

He died on August 25, 1990, at Providence Memorial Hospital in El Paso.

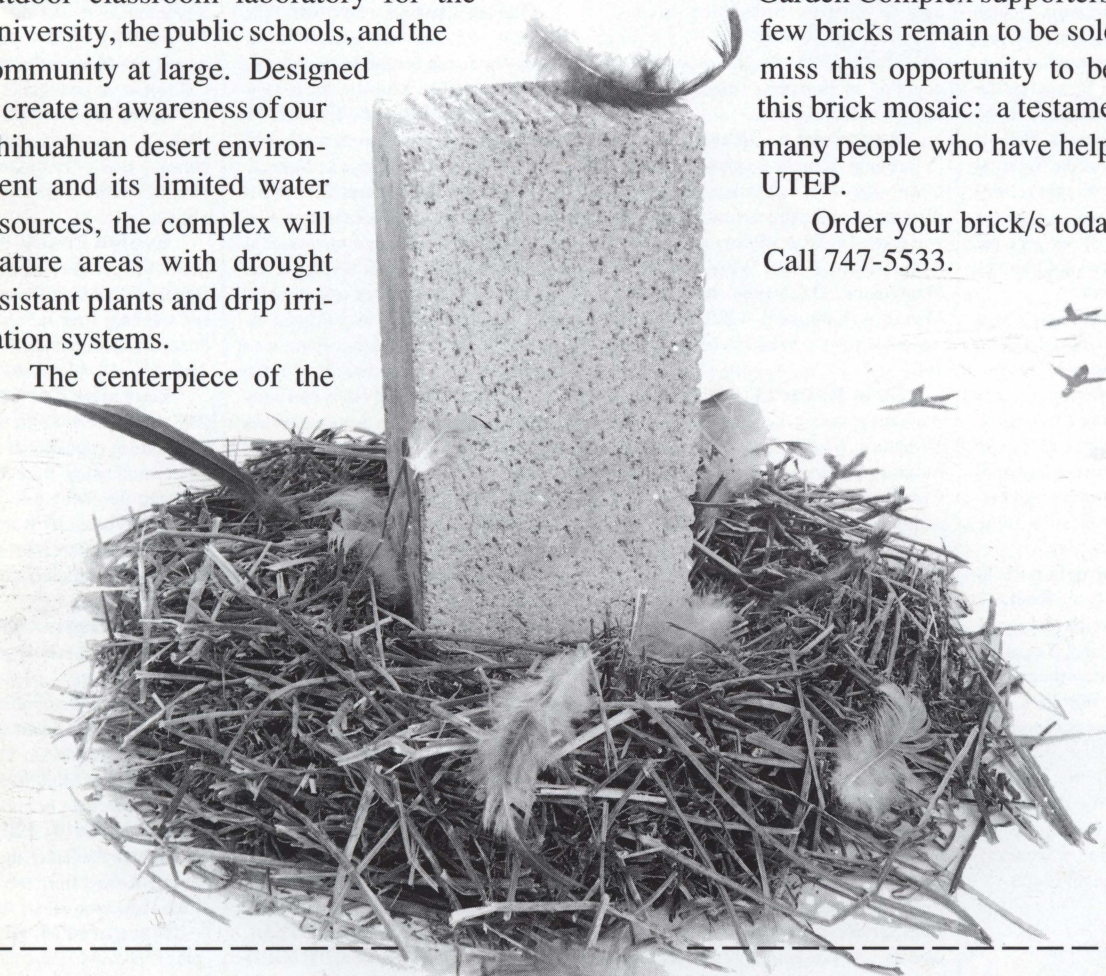
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Museum's brick mosaic entrance will feature individual bricks inscribed with the names of the Garden Complex supporters. Only a few bricks remain to be sold. Don't miss this opportunity to be part of this brick mosaic: a testament to the many people who have helped build UTEP.

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3rd, brick

[illegible]**DEADLINE - JANUARY 31, 1991**

For more detailed information see the June, 1990 issue of *NOVA Quarterly*.

Please make checks payable to UTEP. Forward with this form to:

Development Office, The University of Texas at El Paso, El Paso, Texas 79968-0524.

Contributions are tax deductible to the extent provided by the law.

ALUM NOTES

▼30s

Corinne Howell Wolfe (B.A. '33), who received an honorary Doctor of Law from New Mexico State University in 1985, has been named an Outstanding Woman of New Mexico by the governor and has been inducted into the 1990 New Mexico Women's Hall of Fame. She has also received the National Association of Social Workers 1990 President's Award for Lifetime Achievement in Social Work and the New Mexico Conference of Churches 1990 Humanitarian Award.

Ruth Dyer-Price (B.A. '35), a founder of Fidelis Chapter of Alpha Delta Kappa, a national sorority of professional women in education, continues her work in the organization. She retired from teaching ten years ago and lives in Missoula, Montana, where her husband, William H. Fisher, is a professor of history and philosophy of education at the University of Montana.

Sheldon P. Wimpfen (B.S. '34; Outstanding Ex 1954) and **Robert Estes** (B.S. '34) held a mini-reunion of the class of '34 in Midland, Texas, in October and then reconvened at Terlingua where Hilda Wimpfen participated in the 24th annual chili cookoff of the Chili Appreciation Society. Wimpfen, a member of the National Defense Executive Reserve since its inception 30 years ago, has been appointed to another three-year term by Secretary of the Interior Manuel Lujan.

▼40s

James R. Harper (B.A. '40) was mentioned in a recent *Time* magazine as "one of America's best tax lawyers."

Eldridge D. Flournoy (B.A. '47) and his wife, the former Alice Metzler, live in San Diego, California, where he is in the insurance business.

▼50s

Frances Downing (B.A. '50; M.A. '51) is retired from advertising and lives with her son in Memphis, TN.

Maxwell S. McKaye (B.S. '50) is the owner/manager of a small oil and gas operating company, Follett Operating Co., in Follett, Texas.

Ken Chesak (B.B.A. '51) retired with the rank of colonel from the Army in 1981 after more than 29 years of service. He is an assistant program manager for Teledyne Brown Engineering.

Bill Cogburn (B.B.A. '56) has retired after 30 years in corporate accounting in Houston, Texas. He now resides in San Antonio.

Raymond S. Chavez (B.B.A. '57) retired from the Department of Defense after 25 years where he was a director of audit and investigation. He was named in Who's Who Among Latin Americans, 1983; Who's Who in Washington, D.C., 1984; International Men of Achievement, 1986; and International Who's Who of Intellectuals, 1987.

Dale Roberts (B.A. '58), is an account executive for KAVZ-TV, a CBS affiliate, in Wichita Falls, Texas. He was formerly a district sales manager for the Chevrolet Division of General Motors and resides in Lawton, Oklahoma.

▼60s

Winfred E. Bernard (B.S. '61) retired in 1989 after 28 years with Bell Telephone (U.S. West Communications). He lives near Denver, Colorado, with his wife, Peggy.

George M. Fielding, Capt. USNR, (B.B.A. '65) has purchased BMI Orthodontics, an international dental/orthodontic supply firm in Lubbock, Texas. He is a member of the U.S. Naval Reserve and has been awarded both the Joint Services and Navy Commendation medals. At present, he serves as commanding officer of a reserve intelligence unit at the Naval Air Station in Dallas, Texas.

Moselle Alden Ford (B.A. '61; M.A. '66) is an associate professor of English at Amarillo College (Texas) where she is co-coordinator of a Writing Across the Curriculum (W.A.C.) Program. She received a grant from Amarillo College to complete work on a W.A.C. national survey.

Nolan Richardson (B.A. '65) and **Bobby Jo Hill** (1965 etc.), former Miner basketball greats, recently coached teams composed of players from the classes of 1951-56 at a Douglass High School reunion in El Paso.

Margarita Espino Calderon (B.A. '66; M.A. '72) moved from the

University of California at Santa Barbara to the directorship of UTEP's Study Skills and Tutorial Services Center; she is also an associate professor in the Department of Educational Psychology.

John Trollinger (B.A. '67) is district manager for the Social Security Administration in Daytona Beach, Florida. Prior to taking this position, he was chief spokesman for the Social Security Administration at its headquarters in Baltimore, Maryland. **Dixie Woltz Trollinger** (B.S. '69) has been nominated for the 1990 Teacher of the Year Program sponsored by IBM and *Classroom Computer Learning* magazine. She teaches calculus and trigonometry at Mainland High School in Daytona Beach.

Dallas Lindsey Brown (B.A. '68; M.A. '75) has been elected to the board of directors for the Munich International School in Munich, West Germany. **Louis Brown**, LTC/USAF (B.S. '76), is director of broadcast operations for Radio Free Europe in Munich.

Richard A. Eason, CPT./USN (B.S. '69), received the Meritorious Service Medal for his outstanding service as commanding officer of the Strike Fighter Squadron 82. His squadron was awarded the Commander Naval Air Force, Atlantic Fleet Battle "E" identifying it as the finest strike fighter squadron in the Atlantic Fleet for 1989. He is currently serving aboard the USS Saratoga in the Arabian Sea and Mediterranean. His residence is in Orange Park, Florida.

Pat Ellis Taylor (B.A. '69; M.A. '76), of Austin, who was awarded the Paisano-Dobie Fellowship in 1986 and was the first graduate student to receive an M.A. in Creative Writing from UTEP, is a published author of fiction and poetry. Her pen name is "Pat LittleDog."

▼70s

Ruth E. Jacobson (B.S.Ed. '70) is physician marketing coordinator for Providence Memorial Hospital in El Paso.

C. Timothy Lambert, M.D. (B.S. '70), has been elected president of the Texas Academy of Family Physicians, a state association of 4,200 family doctors and students.

John M. Burton (B.A. '72) was recently appointed vice president of Mithoff Advertising Inc., El Paso. He was previously advertising sales manager of Comcast Cablevision, Mobile, Alabama.

Margo J. Ford Vargas (B.S. '72) is a program specialist and adjunct professor at Collin County Community College in McKinney, Texas. A recent graduate of Leadership Richardson, she serves on the board of both the Richardson Public Library and the Richardson YWCA.

Charlie R. Beasley (B.B.A. '73; M.Ed. '74), a former education specialist at the Fort Bliss Air Defense School, is an adult basic education teacher for the

Fort Worth Independent School District in Fort Worth, Texas, where he organized an adult learning center to assist recipients of aid for dependent children.

Jose L. Mercado (B.M. '73) received his Master of Arts from San Diego (California) State University and taught in San Diego schools for 13 years. Mercado is the owner/manager of a San Diego real estate brokerage firm.

W. Patrick Resen, LTC/USAR (B.A. '73), was promoted to his present rank in the U.S. Army Reserve at ceremonies at the Presidio of San Francisco Facilities Engineering Area Support Center. Resen, an attorney, practices in San Ramon, California. He sits as both a judge pro tem of the Contra Costa Superior Court and the Mount Diablo District Municipal Court and teaches law at St. Mary's College in Moraga, California, as an adjunct professor.

John Edwin Ryan, LTC/USMC (B.A. '73), is commanding officer of a Hawk Missile Battalion stationed in Saudi Arabia with Operation Desert Shield.

Evelyn Posey, Ph.D. (B.A. '74; M.A. '81), returned to the UTEP English Department this fall as assistant professor teaching rhetoric and composition. Posey was a founding director of UTEP's Academic Development Center.

Lorraine Terrill O'Donnell (B.S. '75; M.Ed. '85) is working on her doctorate in educational administration. Since graduating from UTEP, she has received the Volunteer Service Award from the Volunteer Bureau of El Paso and has become an International Dance-Exercise Association certified aerobics instructor.

Nina Deeter Ellis (B.A. '76) has published a family genealogy book entitled *Deeter/Dietrich Family, Tales and Trails, Ten Generations, 1753-1988, Volume I*. Now a member of the Daughters of the American Revolution, she discovered her eligibility for the group while researching her book.

J. James Rohack, M.D. (B.S. '76), recently received the Distinguished Service Award from the Texas affiliate of the American Heart Association.

Margaret M. Clark (B.S. '77) completed an M.A. in education at Lesley College in Cambridge, Massachusetts, in August, 1989. She teaches in the Ysleta Independent School District in El Paso.

Linda Gonzalez-Hensgen (B.B.A. '77), director of UTEP's Office of Student Financial Aid, was selected as one of the Greater El Paso SER Pillars of Achievement for 1989-90.

Martha Alice Medrano, M.D. (B.S. '77), has been selected as one of *San Antonio* magazine's "40 Under 40" emerging leaders. She is clinical director of the non-profit Community Guidance Center in San Antonio, Texas.

Shirley Hanley Blalock, Major./USAF (B.S.N. '78), was recently transferred to Wilford Hall Medical Center at Lackland AFB as nurse manager for the intensive care unit.

John K. Nakamura, Maj./U.S. Army (B.A.'78), is an advisor to the 164th Air Defense Artillery Brigade Headquarters of the Florida Army National Guard in Orlando, Florida.

80s

Winston E. Watkins Jr., M.D. (B.S. '80), is in private practice in Houston, Texas where he specializes in internal medicine. He and his wife, Rachel, are the parents of two children.

Clifford L. Williams (B.A. '80) is the senior counsel for the Judiciary Committee of the Louisiana House of Representatives.

Ennio Antonio Chiocca, M.D./Ph.D. (B.S. '82), was the first graduate (in 1988) of the M.D./Ph.D. program at the University of Texas Health Science Center at Houston and the recipient of the Walter G. Sterling Outstanding Student Award. He is a third year resident in neurosurgery at the Massachusetts General Hospital Harvard Medical School in Boston, Massachusetts.

Bennett Chin (B.S. '82), who received his medical degree in 1987 from the University of Texas Medical Branch, Galveston, has completed a program in internal medicine at Methodist Hospital in Dallas and is a fellow at the Harvard Joint Program in Nuclear Medicine in Boston, Massachusetts.

Cris de la Torre (M.B.A. '82) completed his Ph.D. in Finance from the University of Texas at Austin and is currently an assistant professor at the University of Nebraska in Lincoln. He is married to the former Rebecca McDonald whose father, Charles Carlos McDonald, is a professor of electrical engineering at UTEP.

Dr. Robert M. Bade (M.Ed. '83) has returned to El Paso from Hannibal, Missouri, as minister of education and administration at Immanuel Baptist Church.

Susanna M. Chiocca, Ph.D. (B.S. '83), received her doctorate from the University of Texas Health Science Center at Houston in 1990 and was the recipient of the John P. McGovern Student Award in 1989. She is doing post-doctoral work at the Swiss Institute for Experimental Cancer Research in Lausanne, Switzerland.

Vicki K. Icard (B.A. '84), former public service director at KTSM Radio, El Paso, is now the fund raising director at the Life Management Center's mental health and mental retardation services office.

Laura Jane Bosma (B.S. '85) teaches consumer science at Fontana High School in Fontana, California, where she is also a mentor teacher. She is also doing graduate work at Azusa Pacific University.

Carla Gonzalez (B.A. '85) is director of marketing and public relations for the West Texas Diagnostic

Center in El Paso. She is a member of the El Paso Advertising Federation and is on the board of directors of the Rio Grande Chapter of the Public Relations Society of America.

Beth Ann Davis Shook (B.A. '85) received her Master of Fine Arts degree in May from Arizona State University.

Eric Thompson (B.S. '85) and his wife, **Lisa Thompson** (M.Ed. '87), became the parents of their first child, Jake Even, on July 25. Eric is a manufacturing engineer at Baxter Convertors. Prior to becoming a full-time parent, Lisa taught home economics at Parkland High School and was a counselor at Vista Hills Elementary School.

Rosemary Morales Marin (B.S. '86) is a third year law student at Texas Tech University School of Law and is co-authoring an article about the use of bilingual skills in the work place.

R.C. Scott III (B.S. '86) is in his fifth year in the combined M.D./Ph.D. program at the U.T. Medical School in Houston. He recently received the Medical Student Research Award from the Society of Pediatric Research.

Alex N. Chavez (B.B.A. '87) is the computer network administrator at Carlson Marketing Group, a multi-billion dollar coupon redemption twin-plant company in El Paso.

Cheryl Malooly (B.S. '87) has joined the family business of House of Carpets/Casa Carpets Wholesale Distributions in El Paso.

Steve Pittsenbarger (B.B.A. '88) has joined Continental National Bank in El Paso as a loan administration department vice-president.

Daniel C. Ruacho (B.A. '88) is the communications director for the El Paso Metro Division and Panhandle-West Texas Council of the American Heart Association.

Marlene Moore (B.A. '89) placed second—winning a \$1,000 scholarship—in a national vocal competition held in Minneapolis. The contest was conducted by the Sigma Alpha Iota International Music Fraternity. She also received a scholarship to the New England Conservatory of Music in Boston.

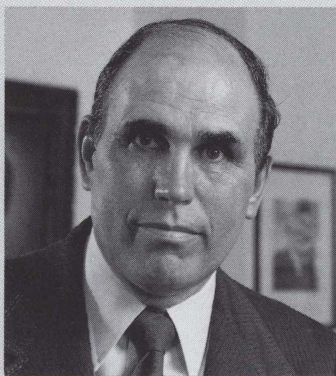
Leslie Robbins (M.S. '89) is a psychiatric resource nurse coordinator assigned to Sun Towers Hospital in El Paso.

90s

Ann Quiroz Gates (M.S. '90) is one of 50 Junior Fellows in the General Electric Foundation's Faculty for the Future program. The first-year graduate fellowship includes full tuition, fees and a \$12,000 stipend which has enabled Gates to enroll in New Mexico State University's doctoral computer science program.

OBITS

Roger G. White (M.Ed. 1969), October 24. Survivors include his wife, Ursula, and two sons.



David Carrasco (B.S. 1942), October 16. He was Director of the El Paso Job Corps Center since 1970. Upon his graduation he began a teaching-coaching career that took him from Bowie High School in El Paso to Montgomery Blair High School in Silver Spring, Maryland, and American University, Washington, D.C. In 1969 he returned to El Paso as regional representative of the U.S.-Mexico Commission for Border Development. For the past 13 years, Carrasco's facility has been named best Job Corps Center in the entire nation by the Department of Labor. Survivors include his wife, Marjorie; his son, David Lee Carrasco, of Boulder, Colorado, and his brother, Eliseo Carrasco, of Kensington, Maryland.

J. Marshall Downey (B.S. 1946) February 23. He is survived by his wife, Helen Gault Downey (B.A. 1944), a son and two daughters. Downey was retired from Brown and Root after 18 years service as a project engineer.

Raymond E. Past, professor emeritus of Linguistics, August 25. A graduate of the University of Pennsylvania, he received his Master's and Ph.D. degrees at the University of Texas at Austin and joined the UTEP faculty in 1952, serving as professor and chairman of his department until his retirement in 1984. Survivors include his wife, Frances, one daughter and one son. A memorial scholarship fund in his name has been established with the UTEP Development Office. (See profile by Dale L. Walker in this issue.)

A.R. "Rusty" Hyde (B.S. 1963), of New Braunfels, Texas, July 9. Hyde served with the U.S. Navy in World War II and with the U.S. Coast Guard Auxiliary for 19 years. He was a retired teacher and is survived by his wife, Beverly, one daughter and two sons.

Doris JoAnn "Josie" Kolliker Brown (B.S. 1958), August 4. Brown was an active El Paso volunteer. Survivors include her husband, Bruce, one daughter and two sons.

Gerald Ward Stowe (B.A. 1957), August 11. He taught in the El

Paso and Ysleta School Districts for over 30 years. Survivors include two sisters, a brother and one grandson.

Rachel Cathryn Myers (B.A. 1944), August 1. She is survived by her husband, James R. Myers, one son and three daughters.

Michael I. Green, Capt./USA, ret., (B.S. 1965; M.S. 1969), August 6. He had been a resident of El Paso since 1958. Survivors include his wife, Dorothy and two daughters.

Yolanda Saenz (B.A. 1979) October 20. A lifelong resident of El Paso, she was employed as a social worker at the El Paso Center for Mental Health and Mental Retardation and the Department of Human Resources, and most recently as a teacher in the Ysleta Independent School District. She is survived by her husband, Mario and three sons.

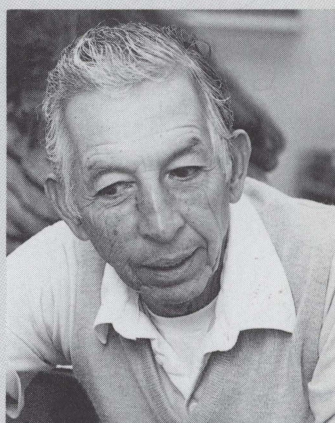
Rose M. McGovern (M.A. 1970), retired El Paso teacher, October 26. She is survived by one son and three daughters.

Walter A. Krakauskas, LTC/USA ret. (B.B.A. 1975), El Paso resident, October 10. Survivors include his wife, Charlotte, four daughters and two sons.

Roger G. White (M.S. Ed. 1969), assistant post historian at Fort Bliss, October 24. He is survived by his wife, Ursula, and two sons.

Si H. Ehrenstein (B.B.A. 1951), a life-long resident of El Paso and retired real estate salesman, October 14. He is survived by his wife, Estella, and two sons.

Claud Chilton Boykin (B.S. 1928) August 9, in Corpus Christi. Until his retirement, Boykin was active in the oil business in the Taft, Texas, area. Survivors include his wife, Jewel, and one son.



Miguel "Mike" Izquierdo (B.S. 1948), assistant professor of electric engineering and a research scientist at UTEP, September 16. Survivors include his wife, Ruth, three sons and four daughters.

Charles H. (Red) Coldwell (B.S. 1935) July 2, in Dallas, Texas. A retired geologist, he is survived by his wife, Charlee Hendricks Coldwell (B.A. 1942), four sons and one daughter.

CONVOCATION FALL 1990 ADDRESS



delivered by President Diana Natalicio

At Fall Convocation, we review last year's accomplishments and consider the challenges of the years ahead. This year marks the end of the 1980s, a decade of opportunities and constraints that tested the institution's capacity for resilience and adaptability, requiring major shifts in defining the University's mission, its programs and their implementation. I believe that we can all be proud of our success because UTEP is today a stronger and more self-confident institution; faculty, staff and

students have all played a significant part in surmounting these challenges, difficult though many appeared at the time.

The first fundamental change occurred with the downturn in the state's economy which produced a decidedly negative effect on appropriations to state institutions of higher learning and resulted in a major shift in the university's funding base. Reductions in some budget categories and little or no increases in all other categories have forced UTEP to manage growth with fewer state

resources and to look toward other funding sources for support. In 1980, UTEP received 61% of its \$40 million annual operating budget from the state; by this year, only 42% of an \$80 million budget is derived from state sources. Nevertheless, UTEP doubled its total budget during the 1980s. Major credit for this achievement goes to faculty and staff who worked effectively through the Office of Sponsored Projects in the preparation of highly competitive research and student support program

proposals which have attracted funding from federal and state agencies, foundations, and corporations. The massive increase in external funding is most noticeable when 1980 and 1989-90 figures are compared: UTEP received \$2.8 million in contract and grant funding in 1980 and over \$15 million in 1989-90.

External funding rarely augments the institution's day-to-day operations because it is applicable only to the project or program it supports. So even though the the University is engaged in a broad range of new research and student support programs, the infrastructure to support such activity must stretch ever further as State appropriations fail to support such growth.

Other non-state-appropriated income during the 1980s was derived through tuition increases mandated by the Texas Legislature in 1985. In-state tuition, comparatively inexpensive, increased from \$4 to \$18 per student credit hour since 1980. Non-resident tuition increased more dramatically, from \$40 to \$122 per student credit hour. This increase caused a particular hardship on Mexican students who traditionally enroll at UTEP in large numbers; peso devaluation further exacerbated Mexican students' ability to attend the University. The University's response was immediate and creative. In 1987, a bill sponsored by El Paso's delegation, passed the Texas Legislature permitting Mexican nationals who can demonstrate financial need to enroll at UTEP at the Texas-resident rate.

Throughout Texas, California and Arizona and in numerous U.S. and Mexican government agencies, this legislation is often cited as model legislation that solves a barrier to education in similar settings. Student fees also rose during the past decade, as Texas' political leadership decided students should pay a greater share of the cost of their education at public institutions. Simultaneously, at the federal level, there was a shift in student financial aid—fewer grants, more loans. This change has had, and continues to have, a negative impact on students at UTEP, a majority of whom depend upon some form of financial aid to pursue their educational aspirations.

A second major institutional transition that occurred at UTEP during the 1980s involved increased emphasis on research. UTEP's predominantly undergraduate student body has benefited from programs



such as MBRS and MRCE, through which the pursuit of research has served as a major enhancement to student instruction. The challenge is to ensure that the natural tensions between teaching and research remain balanced so that both activities serve to energize and stimulate faculty and students.

UTEP faculty members' research endeavors to be supported by external funding in 1990 greatly exceed past figures. The Colleges of Engineering and Science continue their traditionally strong record in attracting research support from industry and federal and state agencies.

***... the importance of our role
in Mexico is likely to increase
substantially as progress is
made in enacting a Free Trade
Agreement between our
two countries.***

For example, the Computer Science Department has received a National Science Foundation award of \$1.5 million in addition to receiving a major commitment from IBM of a 37-station instructional laboratory valued at more than \$500,000. The Energy Center generated \$2 million in newly funded projects, and Professor Soheil Nazarian in Civil Engineering received over \$1 million in grants to support his research efforts.

In the College of Liberal Arts, the Departments of Psychology and Sociology have received a 3-year grant of \$1 million from the National Institutes of Health and the College of Nursing and Allied Health has been named the recipient of a Kellogg Foundation grant of \$950,000 for a school-based health careers recruitment and education program.

A third transition to occur at UTEP

during the last ten years concerns a highly significant change in demographics. At the start of the decade, UTEP's student population was 42% Hispanic; today Hispanics account for over 57% of the UTEP student body. In 1986, we became a majority-minority institution. This demographic transition thrust UTEP into national prominence as the largest Hispanic-majority university in the continental United States. As one of the few minority universities with a robust research agenda, UTEP became increasingly recognized as a source of high quality graduates, and increasingly successful in the pursuit of external funding support.

These demographic changes have also required that the University undertake efforts to ensure that all faculty and staff clearly understand the special nature of this institution and the opportunities and challenges that it presents to them. To be effective, an institution's mission must relate to its context and it must be well communicated to all who are expected to carry it out; to the credit of all staff and faculty, UTEP has successfully integrated its programs and goals with the needs and aspirations of the region it serves, while at the same time protecting the traditional academic values to which we are all committed.

The decade of the 1980s was also characterized by a trend toward inter-institutional cooperation. UTEP and other universities in the state, notably UT-Austin, have worked to bring academic programs to the El Paso area; the Master's degree in Social Work program has already graduated over 100 professionals. Such programs are likely to expand in the 1990s in such areas as education and health. At the local level, UTEP became much more active in extending its resources and its interests through partnerships with local school districts and the El Paso Community College. UTEP's outreach programs in area school districts, many of which are supported by grant funding, are considered models for a metropolitan university's commitment to the community it serves.

Finally, the 1980s witnessed a major increase in UTEP's involvement in economic development activities. The Bureau of Business and Economic Research, a stable source of professional expertise and advice for the El Paso-Juárez business community, joined UTEP

initiatives like the Manufacturing Consortium in Engineering and the Institute for Manufacturing and Materials Management. UTEP is clearly viewed as a partner in the human and economic development of El Paso-Juárez, and university faculty and staff are increasingly called upon to apply their knowledge and expertise to addressing the many challenges facing this binational region.

Let me share with you now just some of the accomplishments with which UTEP ended the 1980s. What is striking about them is their broad base. Excellence at UTEP is not defined in terms of one or two outstanding programs or projects; UTEP's ambitious agenda is contagious, and departments across the campus are participating in it.

In the area of academic programs, developments include a major restructuring of teacher education programs to conform with requirements of recently enacted state legislation. Faculty in the Colleges of Education, Liberal Arts, and Science now share responsibility for teacher education. Effective teacher preparation is a goal to which we are all committed since the quality of UTEP's future students and of life in this region is at stake.

New degree programs include the Ph.D. in Electrical Engineering, UTEP's second doctoral program in which eight students are already enrolled. Approval was also given for Master's degrees in Special Education and Manufacturing Engineering. Awaiting Coordinating Board approval are a Master's degree in Developmental Education and a Ph.D. degree in Psychology. Considerable progress has also been made in preparing a proposal for a doctoral degree in Materials Science and Engineering, a program which has been greatly strengthened through the support UTEP has received from the NSF-sponsored Materials Research Center of Excellence and federal appropriations to the Institute for Manufacturing and Materials Management.

Increased funding has facilitated the development in UTEP's infrastructure in several departments: new laboratory facilities in Metallurgical and Materials Engineering include the installation of an analytical transmission electron microscope; a complete interdisciplinary research unit in the Center for Environmental Resources Management; the reorganization of Purchasing and



Receiving departments into a Materials Management unit. Upgrading of infrastructure assures that UTEP will be able to generate future research initiatives.

Several instructional programs at UTEP benefited from the introduction of new technologies and the renovation of their physical facilities. In a partnership with IBM, UTEP's Academic Development Center responded effectively to the diagnostic and remediation challenges presented by the legislatively mandated Texas Academic Skills Program. In the College of Science, two new computer-assisted instructional laboratories promise to enhance introductory courses in Chemistry and Biological Sciences. In

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Chemistry, the University is proud to be the site of the first interactive laser-disk computer laboratory of its kind in the United States. Purchased with funds provided by the NSF-sponsored Comprehensive Regional Center for Minorities, this laboratory enables chemistry students to conduct laboratory experiments via computer simulation. A similar effort will be undertaken in Biological Sciences in the soon-to-be-dedicated Anton Berkman Learning Center, made possible by an endowment from National Medical Enterprises and Dr. Berkman's former students. In the College of Business Administration, a new artificial intelligence laboratory has been established, thanks to a major equipment gift from the Hewlett-Packard Corporation. And,

supported by the Burlington Resources Foundation through El Paso Natural Gas, the Liberal Arts Building will soon house an innovative Language Laboratory utilizing television links to foreign language programming worldwide.

In other technological advances, the Computer Center commenced installation of a fiber optic network which will improve communication on this campus as well as link users to databases and networks worldwide. Touchtone registration was successfully implemented to enthusiastic student response.

The most visible project has been the transformation of the Old Library Building into a teaching-research facility for the Department of Geological Sciences. This \$6.8 million, PUF-funded project will provide a much-needed home for Geology in addition to creating a "border Bhutanese" presence in the center of the campus. And, all the University's buildings will soon be made more "user-friendly" through a comprehensive plan recently designed to indicate building location and directions in a more attractive manner.

UTEP's enrollment growth to nearly 16,600 students this Fall has exceeded the estimates of even the most optimistic prognosticators and reflects the entire University's commitment to serving its student population, from outreach efforts of many UTEP departments to the generosity of donors who provide much-needed scholarship support to the region's most talented young people. Parents whose children transferred to UTEP from universities throughout the country frequently tell me that UTEP's responsiveness to the particular needs of undergraduate students makes the education UTEP provides equal to or better in quality than that offered at other, better-known universities.

Higher enrollment necessitates expanded student services. A child-care center at the south end of campus is a major addition this year. The facility's 150-child capacity provides day and night care for children of students, staff, and faculty in an innovative and stimulating pre-school learning environment. A comprehensive disabled student support program has been established. In response to the high demand for inner-campus parking, a shuttle bus service has been inaugurated to encourage the UTEP community to use remote parking lots which, for the most part, remain empty. Improvement of recreational facilities at

Charlie Davis Park have begun with the site preparation of a soccer field complex. In time, we hope to locate all of UTEP's outdoor recreational facilities—soccer, tennis, softball, and swimming—in that area.

But universities are more than buildings and budgets. They are fundamentally human organizations whose primary goal is to provide opportunities for people to develop their full potential. The University strives, therefore, to assemble the best qualified, most committed people we can identify. I am pleased to say that during the past year we have added many new faculty and staff whose qualifications and commitment to UTEP's goals should greatly contribute to our growing success. Deans, department chairmen, directors, and, especially Richard Adaauto in the EEO office, deserve the credit for this major achievement in a highly competitive recruiting environment.

1989/90 brought national visibility to UTEP for its many achievements. Let me cite just a few examples.

UTEP's Dinner Theatre was selected as one of only six university companies out of 466 that competed for the privilege of performing at the Kennedy Center in Washington, D.C. The Music Department's choir and the Lab Band were invited to make European tours, the latter for a return performance at the prestigious Montreux Jazz Festival in Switzerland. In team activities, the forensics squad brought numerous national honors to UTEP, as did the fencing club; and the UTEP soccer club won the National Collegiate Club Championship. UTEP's intercollegiate athletic teams brought us a WAC basketball championship, and national rankings in indoor and outdoor track, rifle, and golf. *NOVA*, UTEP's alumni magazine, placed third among 266 competing publications nationally, for its design. And, last but certainly not least, faculty and staff continued to bring honors to UTEP through their many publications, presentations, fellowships, and awards.

On a regional level, UTEP's visibility received a major boost from the publicity attendant upon the Diamond Jubilee celebration. In addition, the Centennial Museum continued its fine efforts to expand the horizons of residents of this region, especially young people, with stimulating exhibits and special events; a record 54,000 people



visited the Museum last year. El Paso's retired community now finds a source of intellectual and cultural stimulation through UTEP's Center for Lifelong Learning, a promising new initiative undertaken by the Center for Professional and Continuing Education. Under the able leadership of Herbert Schwartz, and with the cooperation of many UTEP faculty, the Center will begin its first series of organized classes this fall; they even convinced me to dust off my linguistics books and teach a couple of classes!

We can all take great pride in what this university has been able to accomplish during the past several years, and each year, those accomplishments grow more impressive, much as interest compounds on initial investments. The University of Texas at El Paso is a very special institution, and, importantly, we are not the only ones to know that. Three factors make us distinctive:

First, our location on the U.S.-Mexico border creates great opportunities for academic, cultural, and research programs with counterpart institutions in Mexico and for binational human and economic development initiatives; the importance of our role in Mexico is likely to increase substantially as progress is made in enacting a Free Trade Agreement between our two countries. Mexican student enrollment at UTEP now exceeds 860, by far the largest concentration of Mexican students at any university in the United States, and an estimated 15% of all Mexicans enrolled in U.S. higher education.

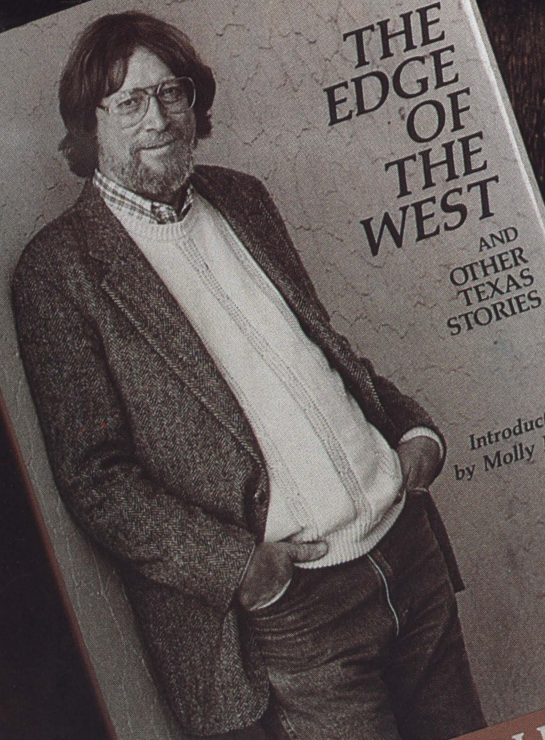
Second, UTEP is the largest Hispanic-majority university in the continental United States, and our programs are in the forefront of addressing the challenges presented by the major demographic changes facing this state and nation. Known for the quality of our programs and the caliber of our graduates, UTEP is widely regarded as a model institution in minority education.

That model is especially attractive

because of a third factor which distinguishes UTEP from other institutions with a strong commitment to the undergraduate preparation of first-generation and minority students, namely, a robust research agenda. UTEP's research funding record within the framework of programs earmarked for minority institutions is excellent; but UTEP is also highly competitive in mainstream grant programs. Ninety percent of UTEP's proposals are submitted to grant competitions, and the funding rate, 54% in 1989, compares favorably with that at any university in the country. The successful balance between effective undergraduate teaching in a majority-minority context and a nationally competitive research agenda makes this a most unusual university.

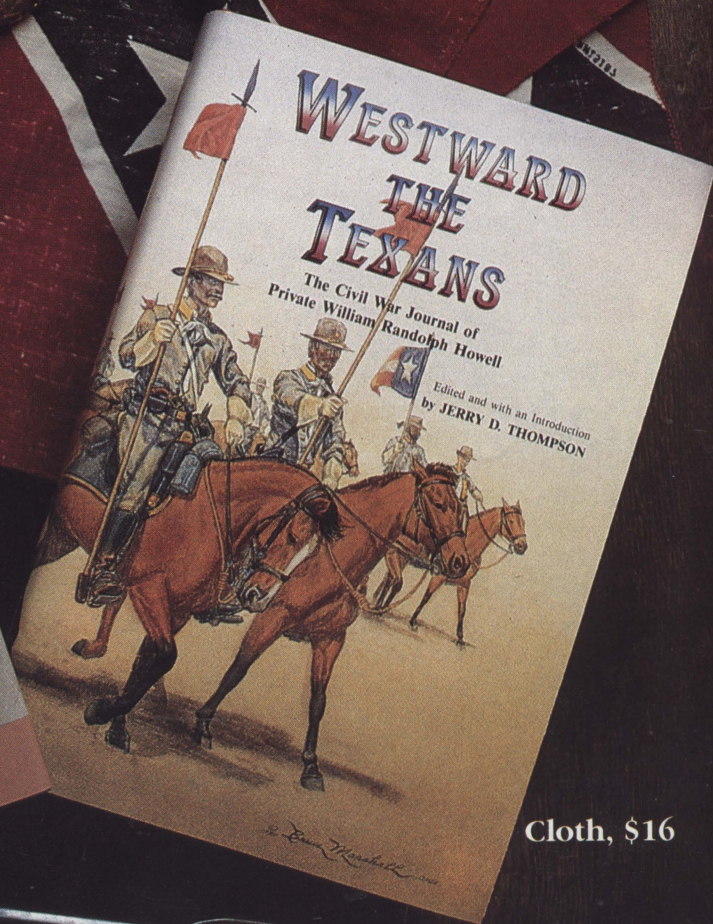
The momentum that UTEP has been able to generate during the last years of the 1980s will serve as the impetus for greater success and growing recognition in the 1990s. With a strengthened infrastructure and outstanding faculty and staff across the campus, UTEP's future is bright indeed. We demonstrated during the 1980s that we had the resilience and determination to adjust to major changes in our funding base and student demographics. We are a larger, stronger, and better balanced institution than we were at the beginning of the 1980s, and we are well prepared to meet the challenges that the 1990s will present to us. There are few universities in the United States that offer the promise that UTEP extends to all of us today. It is a great privilege for me to serve as UTEP's president in these exciting times, and, as we move confidently into the 1990s, I thank all members of the University community for the talent, hard work and commitment they have so willingly contributed to make this the dynamic institution that it is today. Thanks too to UTEP's many supporters who believe in us and express that belief by donating their time and money to help us achieve our goals.

The members of the U.T. El Paso 2001 Commission perhaps best summarized the growing confidence in our capacity for leadership with their ambitious set of recommendations for UTEP's role in fostering this region's human and economic development through the turn of the century. I promise them and you here today that, however ambitious those recommendations might be, UTEP is prepared to achieve them...and then some! **N**



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