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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 • 1991

VIEW OF UTEP



Southeast UTEP Library tower.

FROM THE EDITOR

In this edition of *NOVA* we offer you, as always, stories about UTEP programs and alumni that are of interest to alumni and university supporters. You will also notice the magazine is thicker than usual. That's because this *NOVA* contains a special gift from the president's office and the News and Publications staff. Hot off the press, it's the new edition of *Shangri-la on the Border, The Bhutanese Architecture of The University of Texas at El Paso*. It's a historical essay written by Dale Walker, and twenty pages of photographs that trace the development of UTEP's unique architectural landscape.

The offerings made by *NOVA* in 1991 were also very special to us. If you judge from the readers who commented on the writing and the visuals, *NOVA* appears to be a valuable source of information for some, and provocative reading for others. One reader says, "I read it from cover to cover and look forward to every issue." Another, in reference to a recent article comments, "I don't understand how you could have printed such a story. It's just not appropriate." These responses are precisely the engaging relationship we want to have with our readers.

I want to thank some of the contributors who have enabled us to serve our readers. Two of our writers appeared regularly in the magazine, but have moved on to other cities. Gail Miller, who also served as *NOVA*'s assistant editor, now writes for a publicity firm in San Antonio and Steve Almond works in Miami, Florida for *New Times*.

This year we published an article by *Dallas Morning News* feature writer and UTEP alumnus Bryan Wooley. His story on the university's NCAA basketball championship title was illuminating for many who commented that they had no idea of the ramifications of that historic event. Our appreciation also goes to Rich Clarkson for making available the fabulous photos he took at the Texas Western-Kentucky game in 1966.

I also want to thank professors Charles Martin, David Hall, Rick Demarinis, and Keith Pannell for their contributions. It's always refreshing to feature the writings of UTEP faculty for they add diversity and new insights to our view of the world.

A special thanks to Dale Walker, whose contributions to *NOVA* make it possible for us to produce the magazine within a historical context that is, many times, the very soul of this university. And about Joe Hill, university printshop director, I can say that, without his commitment to this publication, *NOVA* would not have the visual impact that it has become known for.

From all at *NOVA*—best wishes for 1992.

— Arturo Vasquez

NOVA



Winter 1991

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Gingerbread UTEP Campus
by Geronimo Garcia.



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UTEP Takes on the Malaria Mosquito



by Chris Williams

Inside a cardboard hut in Belize, Central America, standing on a floor muddied by seasonal rains, UTEP epidemiologist Bob Tonn asks the mother of the household if her kids have been sick.

"Yes," she says.

Were they bitten by mosquitoes before they got sick?

"Yes," she says again.

The questions are casual, but the answers are vitally important to Tonn and the two other UTEP scientists with him, engineer Scott Starks and parasitologist Lillian Mayberry. Those answers, indicating the presence of disease-carrying mosquitoes, mean more ammunition in the battle against malaria.

Malaria is one of the world's deadliest diseases, killing 3.5 million people each year. And nowhere in the

Americas does it occur more often than in Belize, where 29.52 cases occur for every 1,000 residents.

The three UTEP scientists, along with UTEP sociologist Cheryl Howard, are part of an international team of researchers developing techniques for finding disease-carrying mosquitoes that could lower that death toll by 80 percent or more, researchers say.

UTEP faculty (clockwise from left) Bob Tonn, Lillian Mayberry, Cheryl Howard and Scott Starks have teamed up to study malaria in Central America.

At far left are examples of satellite photographs researchers are using to discover where malaria-carrying mosquitoes are most likely to breed.



Using NASA satellite photos of the earth's surface, scientists have been able to find the places where disease-carrying mosquitoes are most likely to breed—and thus where spraying will eliminate the highest numbers of these mosquitoes. In a California test on non-disease-carrying mosquitoes, scientists found that 20 percent of the breeding grounds produced 80 percent of the insects. And research on disease-carrying mosquitoes in Mexico has shown even higher concentrations of the insects.

In the months ahead, using information gathered by UTEP researchers in Belize and Costa Rica, NASA will decide which of those countries to use as the site for a second test of these methods. If successful there, scientists hope to pass on their mosquito-tracking techniques to international health agencies for implementation worldwide.

These "remote sensing" techniques can be especially useful in developing countries, where disease problems are great and resources few.

"We know they have problems, and we know they have limited resources," Starks says. "With remote sensing, we can apply those resources in the places they'll have the most effect."

The research—called Project DIMOD (short for Disease Modeling), began with Dr. Bob Washino of the University of California at Davis. Washino is a world-renowned entomologist who's an expert on the anopheles mosquito, the insect that carries the malaria parasite. Washino knew that these mosquitoes used California rice fields as a breeding ground. What he didn't know was which fields produced the most mosquitoes, or when they were produced. So, in 1985, he met with scientists at the NASA Ames Research Center in Mountain View, California, which specializes in biological research. They came up with a plan to use a NASA satellite called Landsat to help answer Washino's questions.

The project began on two fronts. In space, the satellite took pictures of 104 rice fields in California's Sacramento Valley that Washino knew were breeding grounds for the mosquito. Each field was photographed every week during the March through August breeding season. On the ground, student researchers waded out into the marshy rice fields with "dippers," steel cups attached to long handles. Using the dippers, they scooped up the tiny, white, wormlike mosquito larvae and counted them. At the end of



the summer, scientists compared the ground data with the space data. The computer-generated satellite photos revealed vast quantities of information that conventional aerial photography could not, such as which rice fields matured the fastest. As a result, researchers found that the fastest-maturing rice fields produced the most mosquitoes.

Encouraged by these findings, the research team moved on to the second phase of the project: testing their techniques on disease-carrying mosquitoes in Mexico.

Meanwhile, NASA, looking for other universities to help with the research, contacted Hans Mark, chancellor of the UT System and former director of the Ames Research Center. Mark, knowing that UTEP had a tradition of collaboration with institutions in Mexico and other Latin American countries where NASA wanted to do research, put NASA in touch with UTEP.

What NASA discovered was that UTEP had interdisciplinary strengths that were ideally suited to the project. Parasitologist Mayberry studied the effect on rats of parasites similar to those that infect humans. Engineers Starks and Steve Riter (now dean of the College of Engineering) were knowledgeable in the computer software used to interpret the voluminous data gathered by the satellite and by researchers on the ground. And epidemiologist Tonn was a former World Health Organization employee who studied the prevention and spread of disease.

Liking what they saw, NASA gave UTEP a \$25,000 grant to help out with the project. With the Mexico research team already fully staffed, NASA directed the UTEP scientists to find a second research site in Central America.

In the summer of 1989, they made their first stop: Costa Rica. At one time, the researchers learned, Costa Rica



had eliminated malaria. But undocumented aliens had brought the disease back, and because they were afraid to seek treatment, the disease spread.

The researchers found a good location for studying malaria in Costa Rica: the northern province of Guanacaste, a rice-growing region that's a likely breeding ground for disease-carrying mosquitoes. Other factors that make Costa Rica a good research site are its "very strong" scientific community, and "the most advanced health delivery system in Central America," Starks says.

Pleased with UTEP's work, NASA gave the researchers a \$150,000 grant and asked them to study Belize, a small country bordering Mexico's Yucatan peninsula, as an alternative to Costa Rica as a future research site.

Before leaving, the researchers invited Cheryl Howard to join the team to study the human migration that was contributing to the spread of the disease in Central America.

When the team went to Belize last January, they found that, as in Costa Rica, undocumented aliens were bringing in the disease. What makes the problem worse in Belize, Mayberry says, is that Belize welcomes these aliens because it needs the added manpower for its agricultural industry. Although malaria cases in Belize are plentiful, studying the disease there presents several difficulties, including the lack of university-trained support personnel and weather conditions that make satellite photography difficult.

"They have more than 200 cloudy days a year," Starks says.

Although NASA hasn't decided yet whether Costa Rica or Belize will be the next research site, UTEP researchers are betting that Costa Rica will be chosen. Armed with a second \$150,000 NASA grant, they're making preparations to do research there.

Tonn, Starks and graduate student Leticia Chee are developing a computer program that will sift through the voluminous satellite and ground data they'll be gathering on possible mosquito breeding sites to help determine which places will have the highest concentrations of the insects. And to help gather that ground data, Howard and Mayberry are developing a public health questionnaire.

Whichever Central American country the UTEP researchers end up studying, they hope they can duplicate the success that their fellow scientists have had thus far in Mexico.

The Mexico research site—Tapachula, near the Guatemala border—presented a wide array of new challenges when scientists from the Uniformed Services University of the Health Sciences, the University of California at Davis and the Ames Research Center first arrived in 1988.

In California, researchers worked in neatly groomed rice fields. Tapachula was dense jungle. In California, researchers knew from Washino's research where the mosquitoes bred. In Tapachula, the breeding grounds were unknown. And in California, research equipment was readily available. In Tapachula, technicians and equipment—from computers

to trucks—had to be brought in. Despite these challenging conditions, scientists have been able to verify with satellite and ground studies that mosquitoes concentrate their breeding in Mexico in much the same way that they do in California.

"This also shows that the California research method works in Mexico," Starks says.

Although most of UTEP's research work on the project has been in Costa Rica and Belize, UTEP sociologist Cheryl Howard helped the Mexico researchers by studying the problem of undocumented aliens in the Tapachula area. Malaria can be controlled if properly treated. But Howard discovered that, as in Costa Rica and Belize, undocumented aliens who come to Mexico for agricultural work get infected with the disease but are afraid to seek treatment for fear of being deported.

To combat this problem, Starks says, "We're recommending to the Mexican government that an education program be set up to reassure undocumented aliens that they can get treated by Mexican health workers at the Tapachula clinic, no questions asked."

If the research in Mexico and elsewhere continues to be successful, scientists plan to turn their findings over to international health organizations, such as the World Health Organization and its subsidiaries.

"The World Health Organization, provided with our research, could have a significant impact on malaria," says UTEP engineer Starks. "They've got the resources to apply to the problem. Then we need to work on other diseases."

UTEP's involvement in research of international significance is also stimulating for his students, Starks adds.

"This project shows them scientific research can have global importance," he says. "It's opening their eyes, broadening their horizons." ■



Dr. Tonn and Dr. Starks point out prime breeding ground for malaria-carrying mosquitoes to a group of students on the research team.



Jonathan and Patricia Rogers

Jonathan and Patricia Rogers' house, perched on an outcropping of the Franklin Mountains overlooking downtown El Paso, enjoys a panoramic view of the city. That view doesn't include UTEP, which is hidden behind Kern Place.

It may be out of sight. But for Jon and Pat, UTEP is rarely out of mind.

From the endowed chairs they established in the College of Engineering on behalf of Pat Rogers' mother, Louise Murchison, to the annual gifts made to UTEP for general and special project support, Jon and Pat Rogers are among the largest and most consistent benefactors that the University has.

"Whenever I identify a specific need or concern I know that I'll find willing listeners and supporters in Jonathan and Pat Rogers," says UTEP President Diana Natalicio. "Not only are they a valuable resource, they're willing to go to bat for UTEP with other supporters."

The reason? "I don't want UTEP to be just another school," Jon Rogers says. "I want it to be an outstanding school."

Jon, a former El Paso mayor who's now chairman of Bank of the West, and his wife, Pat, who traces her ancestry to early settlers of El Paso, have been making contributions to UTEP for nearly 30 years, almost as long as Jon Rogers has been attending UTEP football games.

"I've made every football game since 1956, except when I've been out of town," Jon Rogers says. "And I've contributed equally to academic and athletic departments at UTEP since 1963."

Their largest contribution has been the \$2.5 million they gave to the university on behalf of Pat Rogers' mother to establish endowed chairs and scholarships in the College of Engineering.

The additional funds generated by the endowments for the four MacIntosh Murchison Chairs in Engineering will



ensure that UTEP "won't just get good faculty, they'll get outstanding faculty," Jon Rogers says. "With outstanding faculty, you get outstanding students. We have an outstanding engineering school already. We're simply trying to make it better."

The undergraduate and graduate scholarships provide students with hard-to-come-by support in a field desperate for qualified employees. Proof that students appreciate that support comes in letters the couple receive each year from scholarship

(continued on page 17)

HIGH LIGHTS

IBM Faculty Loan

The education Mike Acosta received from the UTEP electrical engineering department helped him



get a job at IBM. Now, he's back at UTEP as part of IBM's faculty loan program to help students achieve the kind of success he's had.

In addition to teaching electrical engineering, Acosta will work on student development and outreach programs to area junior high and high schools.

The IBM program loans employees to universities across the United States, primarily to science and engineering departments at minority-oriented schools, and pays the salaries of these employees while they're teaching. The program is designed to help improve the quality of minority science and engineering students, and to improve the quality of programs available to these students.

Scanning Acoustic Tomograph

A machine that "sees" inside solid objects is UTEP's powerful new tool in supporting area economic and technological development.

The machine, the scanning acoustic tomograph, shoots sound waves through solid objects. If the sound waves find a flaw in the object, the tomograph's computer recognizes a distortion in the sound wave.

"It's like tapping a solid wall looking for a two-by-four," explains Dr. Lawrence Murr, the engineering professor who worked for the past two years to acquire the tomograph. "You hear where it is because it makes a different sound."

The tomograph should be particularly useful to electronic packaging companies that encase computer chips with a covering that protects the complex circuitry inside.

Using the tomograph, researchers can "look" inside the packaging and find flaws in the circuitry, Murr says.

UTEP's Institute for Manufacturing and Mate-

rials Management used a portion of a federal grant to purchase the tomograph from Hitachi for \$90,000, less than half of its \$200,000 retail price. In return, UTEP agreed to be a demonstration site for the machine and to share its research with Hitachi.

UTEP researchers are now using the tomograph to study the effects of micrometeorites on spacecraft. Micrometeorites are dust particles in outer space that strike spacecraft at high rates of speed. Scientists want to know if they vaporize on impact, or combine with the material they strike and possibly cause structural defects.

Frank Hoy New Business Dean

Frank Hoy, UTEP's new Dean of the College of Business Administration, already has a national reputation as a business expert, and is now working on his international reputation. He's recently been appointed by Congress to serve on the Central European Small Business Enterprise Development Commission to assist Poland, Czechoslovakia and Hungary in developing

small business enterprises.

Even though he was born near Philadelphia, Dr. Hoy considers himself a third generation El Pasoan since he received his B.B.A. in general business from UTEP in 1967 and family members continue to live here. Dr. Hoy received his M.B.A. in marketing and economics from the University of North Texas in 1970 and his Ph.D. in management and sociology from Texas A&M in 1979.



"I think the opportunity to come to UTEP at this time is phenomenal in terms of national and international business development issues like free trade," Dr. Hoy says. "UTEP is also in the best position of any university in this country to make tremendous contributions to the economic development of this area."

Jubilee Voices

44 voices, from Fred Bailey of the College of Mines Class of 1920 to Diana Natalicio, president of today's UTEP, make up the oral history of the University of Texas at El Paso titled **Diamond Days**, edited by Charles H. Martin and Rebecca M. Craver and just published by UTEP's Texas Western Press.

These are some typical excerpts from the 44 interviews.

Fred W. Bailey (1897-1989):

"I was awakened from sleep and saw the fire [of October, 1916]. Many of the soldiers were also awakened and came over to help put it out. They joined the students in a bucket brigade but could not save the building....The Main Building was really gone. Gone were the classrooms, all the laboratory equipment, the surveying instruments, the mineral collection, and all the school records....The fire could easily have become the swan song and death of the School of Mines.

However, we survived."

C.L. Sonnichsen (1901-1991):

"The term 'Peedoggie' originated with Dean Kidd. It comes as a corruption of pedagogues. Of course, we had education majors, which would be the opposite, the complete antithesis, of the ideal of the engineer. So Dean Kidd called them Peedoggies with great contempt. He and his students would prove their manhood by sitting on the steps of Old Main chewing tobacco and seeing who could spit the farthest."

Hector Holguin (student, 1953-58):

"I started college in 1953. At that time, it was very unusual for a Hispanic to leave town. I could not afford to go away to school; I knew I had to work. The only alternatives were Texas Western College or New Mexico State. At that time Texas Western had [less than] 5,000 students; it had the feeling of a small community. You really got to know everyone, and the classes were small. We received a significant amount of personal attention from the professors, and we had a lot of interaction with our classmates. I think that it was an excellent setting for learning."

Charles V. Balang (student, 1987-90):

"I grew up in Sarawak, which was formerly called Borneo, in the eastern part of Malaysia....[When Malaysian students come to the U.S.], they feel more liberal; they feel more freedom. That's a cultural shock....When they come here they find out that not everyone is as rich as they portray on TV. There are Americans who are not middle class; there are people who beg; there are people who don't have homes.... I found that [UTEP students] are very serious about their classes, especially if they work."



Diamond Days (260 pps. in paperback) is available from Texas Western Press (UTEP, El Paso, Texas 79968-0633) at \$10 per copy plus \$2 postage. Texas residents add 8.25% state sales tax.



Hard Rock Bottom of Your Heart

-1991 Song of the Year

Hugh Prestwood
-Writer



(right)
Hugh Prestwood sings a song
on the porch of his 140-year-old Victorian
house in Greenport.

Photography by Judy Ahrens.

Which all seems a little strange when you take a gander at the man himself, who made his annual family pilgrimage to El Paso from his Long Island home in June.

Decked out in a floral print shirt and white shorts, with a neatly clipped salt-and-pepper ponytail, he looks more like the *maitre de* at a trendy Los Angeles bistro than country music's hidden muse.

What's more, his manner—affable candor conveyed in fumbling, wispy bursts—is a stark contrast to the image-conscious posturing of the stars whose creativity he subsidizes.

"There are times I feel that there's just nothing left in this guitar," he says, green eyes fixing on an imaginary fret. "But then I just start to fiddle around until I feel something good."

That's when goosebumps show up and the lyrics start to fall in place.

It's been that way since Prestwood begged mom Nadine for his first guitar, at age ten.

"In a lot of ways music's the thing that saved my life. In high school I felt maladjusted, like a failure. But the one thing I could always escape into, that no one could take away, was my music."

His music was so personal and his musical identity so fragile that he didn't even dare play in front of anyone for years.

"If I heard someone in the next room, even my mom, I would just stop playing, like that."

Following his speech class debut, Prestwood credits college with prodding his transition from closeted introvert to budding musician.

At UTEP (or Texas Western College, as it was called then) Prestwood began to, in his own words "stick my neck out a little bit."

Back when Hugh Prestwood was a senior at Austin High School, he played the first, and most pivotal, gig of his short life. Called upon to strum out a tune for his public speaking class, he marched to the front of the room, guitar in hand ... and bombed. Bigtime.

"I was so nervous I couldn't play. My hands were shaking the whole way and I went back to my seat devastated," he recalls. "I really think that if I'd left the class feeling like that I'd never have played guitar again."

Fortunately, Prestwood's teacher had the insight to call him back for an encore. Stripped of his stage fright, he brought down the house.

To this day, Prestwood regrets that he can't remember his teacher's name—and that he never got a chance to thank her.

And that goes double for Prestwood's fans—people like Randy Travis. And Crystal Gayle. And Barbara Mandrell.

After years spent writing and performing in obscurity, the forty-something Prestwood now peddles his songs to country's biggest names—with such frequency, in fact, that the native El Pasoan was anointed country's #2 songwriter for 1990 by *Billboard Magazine*.

Not bad for a UTEP alumni who switched majors three times before graduating in 1965 with a degree in, of all things, English.

"I have sort of gotten hot here, haven't I?" says Prestwood, plainly amused at the notion.

On fire would be more like it. Indeed, after watching Prestwood spawn two Grammy-nominated #1 hits last year—Travis' "Hard Rock Bottom of Your Heart" and Shenandoah's "Ghost in This House," Nashville insiders are calling him the industry's top hired pen. This year "Hard Rock Bottom Of Your Heart" won the 1991 Song of The Year Award.

"I really think he's the best living writer, of any genre, right now," says Michael Johnson, a country star who soared to the top of the chart in 1987 with the Prestwood original "The Moon Is Still Over Her Shoulder."

Hugh Prestwood: Songwriter

by Steve Almond





Prestwood works in his home recording studio.

Inspired by Bob Dylan and the burgeoning folk scene, he played the now-defunct Don Quixote Coffee House and even joined a rock band briefly.

Prestwood credits TWC for teaching him to focus on his strong suits.

"I really didn't know what I wanted to do with my life," he says with a reflective sigh. "See it really came down to the fastest way I could get out of college. I did some calculating and it turned out to be English."

As slipshod as the decision sounds, Prestwood says his course of study turned out to be a mighty, if delayed, windfall. He notes that much of his lyrical inspiration dates back to the literature and poetry he read in school.

Still, it's a long haul from coffee-house dilettante to *Billboard* fixture.

For Prestwood, that haul started with a move to New York City in 1973.

He arrived in the Big Apple with a satchel full of hopes and not a whole lot else. His first dwelling: a glamorous one room apartment fully equipped with roaches and rodents which he shared with three other guys.

For a time, just keeping afloat was Prestwood's primary aim. He worked temporary jobs by day and haunted Greenwich Village's folk clubs at night, trying to convert industry nibbles into full-fledged bites—a long process, as Prestwood discovered when a friend sent one of his demo tapes to veteran folkie Judy Collins. A full year later she called.

It was a long time coming, but a break nonetheless. Collins decided to record a handful of his songs and got him a job as a songwriter with a publishing house.

His big break came a couple of years later, when crossover queen Crystal Gayle recorded "The Sound of Goodbye," a heartbreaker that flew to number one.

"Not being the greatest singer in the world turned out to be an advantage," he admits. "Because I always felt like I had to have a better song than other guys."

From then on, Prestwood decided to write country, a decision that has led to a string of hits by everyone from Conway Twitty to Juice Newton.

Prestwood downplays his recent rise to Music City's apex. But to those who know country—and who know about the dozens of writers whose job it is to crank out hits—the ascent has been nothing short of breathtaking.

"He's come into his own this year, that's for sure," says Brent Meher, the pistol-hot producer behind both the Judds and Michael Johnson. "All I had to do was hear one song and I wanted to hear everything he ever wrote."

Johnson, who says he considers himself a "fan and a student of Hugh's" recalls with vigor the first time he heard Prestwood.

"I was in a record executive's office and he was playing me another tune, but (Hugh's song) 'Reunion' happened to be on the same tape, and it just blew me away. I had to call him up."

Johnson says with other songwriters, he's often forced to alter the arrangement.

"But with Hugh's songs," he marvels, "changing them is like destroying them. I don't vary from his demo, because he's nailed the presentation of them."

Now Johnson is toying with the possibility of putting out a collaboration album. "Something like 'Michael Johnson sings Hugh Prestwood,'" he muses.

Since hitting the "big time," Prestwood has started teaching a songwriting course at Manhattan's New School and has settled on Long Island with his second wife, Judy.

Between commuting and teaching, he says he manages to write about 10 songs a year, a paltry figure compared to those who knock out dozens.

But then, Prestwood's touch is so deft that he ends up selling one of every two or three of his songs, where others score with one in 20.

He says wife Judy, a respected photographer, has helped him with his style.

"I think everything he writes is good, but sometimes he'll play me something that I know is special," she explains.

A case in point?

"When I heard 'Ghost in This House' I couldn't not cry through the first ten times," she recalls, noting that the song hit number one.

Industry fame has had its frustrations—most notably interpretations of his songs that make him wince—but it's a trade-off he can live with.

"I get paid to do what I love," he says, grinning impetuously. "Can I really complain?"

Although he harbors dreams of recording his own songs someday, he has no intentions of slapping on a cowboy hat and trying to play to the masses.

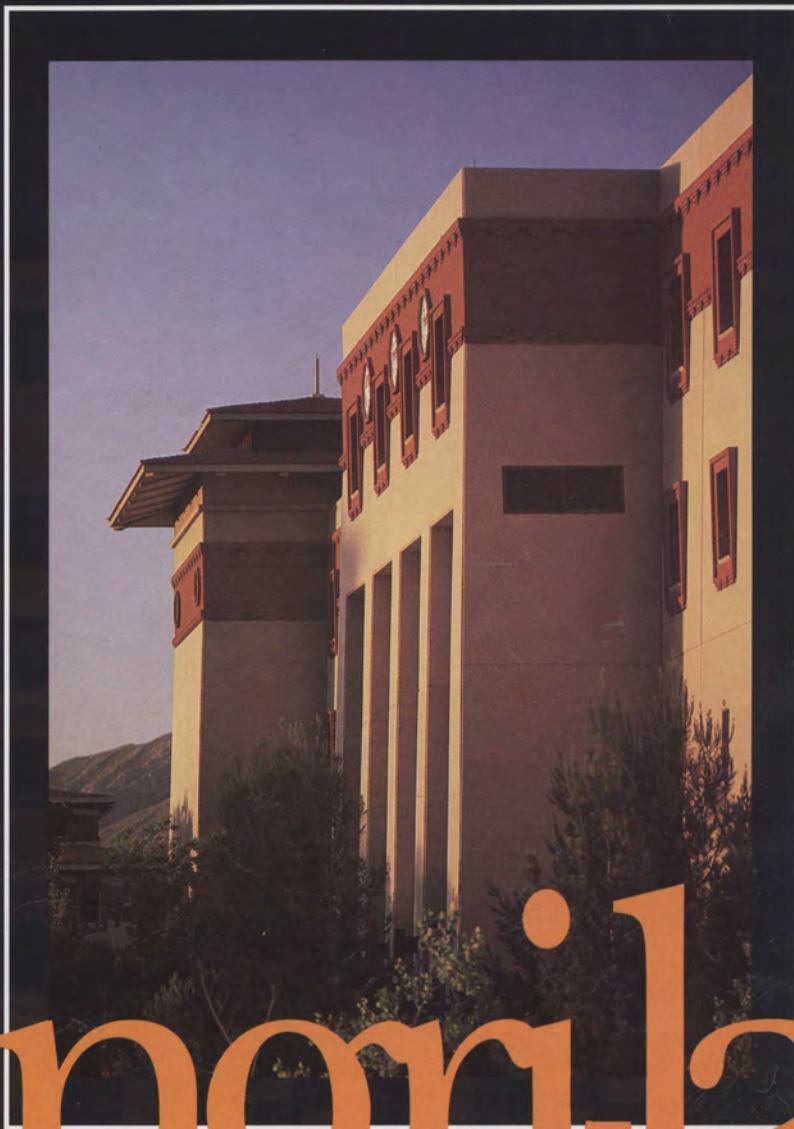
"I get treated great down in Nashville, like a prince," he says, sighing at the unlikelihood of it all.

"You know what I like about Prestwood," Meher reflects, "is that he never writes for the radio. He always just writes songs for him." ■



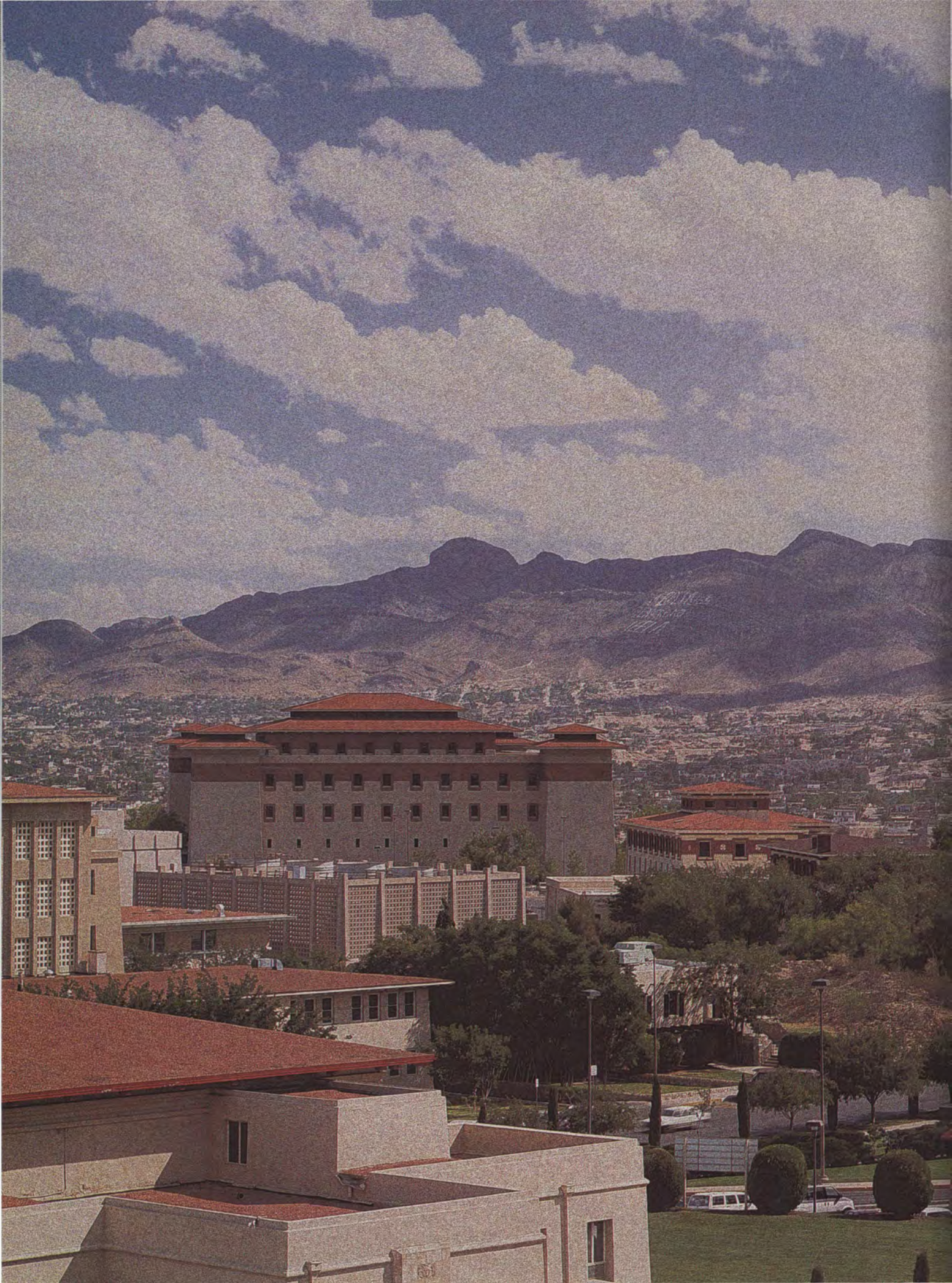
Hugh Prestwood graduated from TWC in 1965.

The
Bhutanese
Architecture
of The
University
of Texas
at El Paso



Shangrila

On the Border



First, there are the questions: How did a Texas college campus, on the U.S.Mexico border and a stone's throw from the Rio Grande, develop an architectural style so unmistakably Himalayan? How did UTEP become the only university, not only in the United States but in the western hemisphere—and perhaps the world—with “Bhutanese” architecture?

Then, there are the answers—not a simple matter.

The story of the architecture at The University of Texas at El Paso begins with the Fifth Dalai Lama's construction of that great and picturesque fortress, the Potala, in Lhasa, capital city of Tibet, in the 17th century.

Or, maybe it begins a little later when the Tibetan saint, or *Shabdung*, left Lhasa to become the first spiritual and temporal ruler of Bhutan—a land lying between the great Tibetan plateau and the Assam-Bengal plains of India, a land whose fierce, shrieking winds gave it the name “Land of the Thunder Dragon.” The early fortress-monasteries (called *dzongs*) of Bhutan are miniature replicas of the Potala.

Or, perhaps the story really begins in 1887 when the British political officer and engineer, John Claude White, joined the Public Works Department of Bengal and began his journeys into the Himalayan kingdoms of Sikkim and Bhutan.

Or, more than likely, the beginning is April, 1914, when White's article and photographs of Bhutan, “Castles in the Air,” appeared in the *National Geographic*.

In fact, all these “origins” have a direct bearing on the story of UTEP's architecture. Here is how it happened.

Right:
The Potala in Lhasa,
Tibet, is the true
prototype of Bhutanese
architecture.

Left:
UTEP campus view
looking south towards
Mexico.



THE FIRE

The Main Building at the old School of Mines, located in 1914-16 on what is today Fort Bliss property.



The institution known today as The University of Texas at El Paso (second oldest academic component of the University of Texas System), had its origins as the Texas State School of Mines and Metallurgy in 1914. Its first campus consisted of a Main Building, a dormitory, an assay building and a mill—all located on property which is today part of the Ft. Bliss army post.

On Sunday, October 29, 1916, a fire gutted the Main Building, destroying all furnishings and laboratory equipment and most of the school's records. The loss that could be measured came to about \$40,000.

The dean of the school, Steven H. Worrell, and his wife, Kathleen, had apartments in the Main Building but were out of the city at the time of the fire. When the Worrells returned and surveyed the ruins (in which all their personal effects were lost), the dean lost no time in anguish. By the following June, he had secured a \$100,000 emergency appropriation from the 35th Legislature, the School of Mines had offered its 22 acres of property to the army and was rebuilding on a new site— a 22.9-acre tract of land donated by five El Pasoans on the western foothills of Mt. Franklin.

This site was to become the permanent location of the School of Mines and all its other designations—the College of Mines, Texas Western College, and The University of Texas at El Paso.

The new construction took eight months and 20 tons of dynamite to accomplish, and as the new buildings were taking shape, it became clear they were going to be architecturally different from anything seen before in the Southwest or anywhere else within the experience of most people.

We know little about Kathleen L. Worrell except of her one great gift to the University: the inspiration which gave the institution its distinctive architecture.

She was a traveler, in fact and in spirit. She had journeyed widely in Mexico and the U.S. with her geologist husband and she had a writing talent, shown in some articles on Mexico she contributed to the Mines' student newspaper, *The Prospector*. Like any person with the travel bug, even the farthest stretches of the earth were approachable by that simplest of conveyances—the armchair—and Mrs. Worrell was a careful and faithful reader of the armchair traveler's Baedeker, *The National Geographic*.

It was by sheer chance, apparently, that she so fondly recalled the April, 1914, issue of that magazine when her husband began his work establishing the new School of Mines campus in the Mt. Franklin foothills.

The article Mrs. Worrell remembered so vividly was titled "Castles in the Air: Experiences and Journeys in Unknown Bhutan." It occupied 88 of the 105 pages in that particular issue of the *Geographic* and included 74 striking photographs, some of them in chocolate sepia-tone, perhaps the first photographs ever published of the ancient, hidden, and mysterious kingdom. The article and photographs were the work of John Claude White, C.I.E. ("Companion of the Order of the Indian Empire"), described in the fine type under his byline as "Late Political Officer in Charge of Sikkim, Bhutan, and Such Parts of Tibet as Fell Within the Sphere of British Influence."

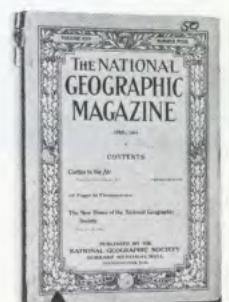
White's photographs revealed a terrain quite similar to that of the Franklin Mountains of El Paso and the Bhutanese buildings with their exotic names—Dug-Gye Jong (as White spelled *dzong*), Sang-Tog-Peri, Paro Jong, Tashi-Cho-Jong, and the incredible cliff-edge "tigers nest" called Paro-ta-tsang—were of surpassingly beautiful style, perfectly fitting the rugged landscape of the Himalayas: massive, gently sloping walls, high indented windows, projecting roof eaves, and dark bands of brick or stone at the high window levels.

The sepia-toned photographs seemed to show the buildings made up of materials of an almost desert-colored tannish-white.

What could be more natural, Kathleen Worrell must have reasoned, than to have Bhutanese-styled buildings on such a Bhutanese-like landscape as the Franklin slopes?

She turned the idea over to her husband, and Dean Worrell consulted with the architectural firm of Charles M. Gibson and George C. Robertson, who produced, in short order, some preliminary sketches for the four buildings to be erected from the \$100,000 emergency appropriation.

The April, 1914
issue of
National Geographic.



THE FIRST BUILDINGS

The sketches, rigorously based on the John Claude White photos in *National Geographic*, in particular those of the Paro Dzong, were the first drawings to depict the proposed new buildings, but the renowned architectural firm of Trost & Trost, ultimately contracted for the campus project, made their own plans, also based on the White photographs and these were to be the final ones.

Construction began in June, 1917, on the new Main Building (Old Main of today), Burges Hall (Graham Hall today), a Chemistry Building (the two-story section of today's Quinn Hall) and a power plant.

An article in the *El Paso Times* in February, 1938, claimed that the new buildings "were of stone blasted out of the campus and it took 20 tons of dynamite to do it." And, according to Eugene M. Thomas, a student at Mines (1922-26) and later dean of engineering, the stone used in the construction was the fine-grained, light-colored porphyritic andesite which crops out over an area of almost two square miles in the vicinity of the campus—a "pluton," or mass of igneous rock formed beneath the surface of the earth, bounded on the east by Mesa Street, on the south by Main Street and on the west by the Rio Grande.

The walls of the early buildings were about 42" thick at the base, reducing to 12"-18" at the top. (Wall thicknesses were reduced in the 1930-40 era and as time went on,

heavy wall construction became so prohibitively expensive that vertical walls with sloping columns or panels were substituted.)

By January, 1918, the buildings were ready for occupancy by the 61 students signed up for classes that semester.



A classic example of Bhutanese is the Paro Dzong, photographed by A. Gansser in 1963.



Architect Henry Trost's drawing of the Main Building (Old Main today) for the new (1916) Mines campus; inset is Old Main today.



Kathleen Worrell

We know little about her; we have no photograph of her. The most illuminating glimpse of Mrs. Worrell came from Dr. E.C. Kennedy of Arlington, Texas, a student at the Mines, 1919-1920, who wrote the UTEP News Bureau in 1977:

"Glancing backward through the mist of 60 years, I see her as a woman of average height, slightly portly, very good looking, and always neatly dressed. She was friendly and a good conversationalist. She had quite a sense of humor. For example, one time I saw her wandering around the Main building. I asked her if she were looking for somebody. She said, 'Yes, I am looking for my Lord and Master!' We both smiled.

"Mrs. Worrell liked to work in her flower garden. She knew a great deal about flowers and shrubs. She was an intelligent woman about five years younger than her husband. They did not have any children when I knew them—at any rate, I never saw a child around their home.

"I once heard Cap Kidd, the Mines' legendary dean of engineering, say, referring to Dean Worrell, 'When the missus speaks up the Doc listens.' So, if Dean Worrell had anything to do with designing the old Mines buildings, it is my guess that Mrs. Worrell made her influence felt. She was quite capable of designing those buildings all by herself!"

SINCE

1917

In the decades since the opening of those first Bhutanese buildings at Mines, the distinctive architectural style has undergone gradual—and in a few isolated cases, drastic—change. But, since the opening of the \$27.6 million University Library in 1984, the university has returned to the “purer” style to the relief of all who view that style as a precious asset to be preserved.

Old Main remains the widely-accepted model of “classic” UTEP Bhutanese architecture, resembling the Paro Dzong of Thimphu, capital of Bhutan, with its red brick band between its severely indented windows (in ancient Bhutan these were loopholes for archers to repel invaders), the slope of its walls—seven inches in ten feet—plus its overhanging hip roof and dusty brown stucco finish.

Vowell Hall (1920, orig. Kelly Hall), Seamon Hall (1927) and to a slightly lesser extent—due to its exposed rock surface—Holliday Hall (1933), retain the “classic” 1917 characteristics of Old Main, Graham and Quinn (Old Geology) Halls.

Right:
The Bhutanese features of Bell Hall (1947) emulate those of Old Main, in particular the deeply inset windows, overhanging rooftops and brick-mandala designs.



The entrance to Benedict Hall (1937) depicts some classic hallmarks of Bhutanese architecture including the deeply inset windows, brick outlining of doors and windows, “mandala”-like tile mosaic designs on the brick bands connecting the windows.





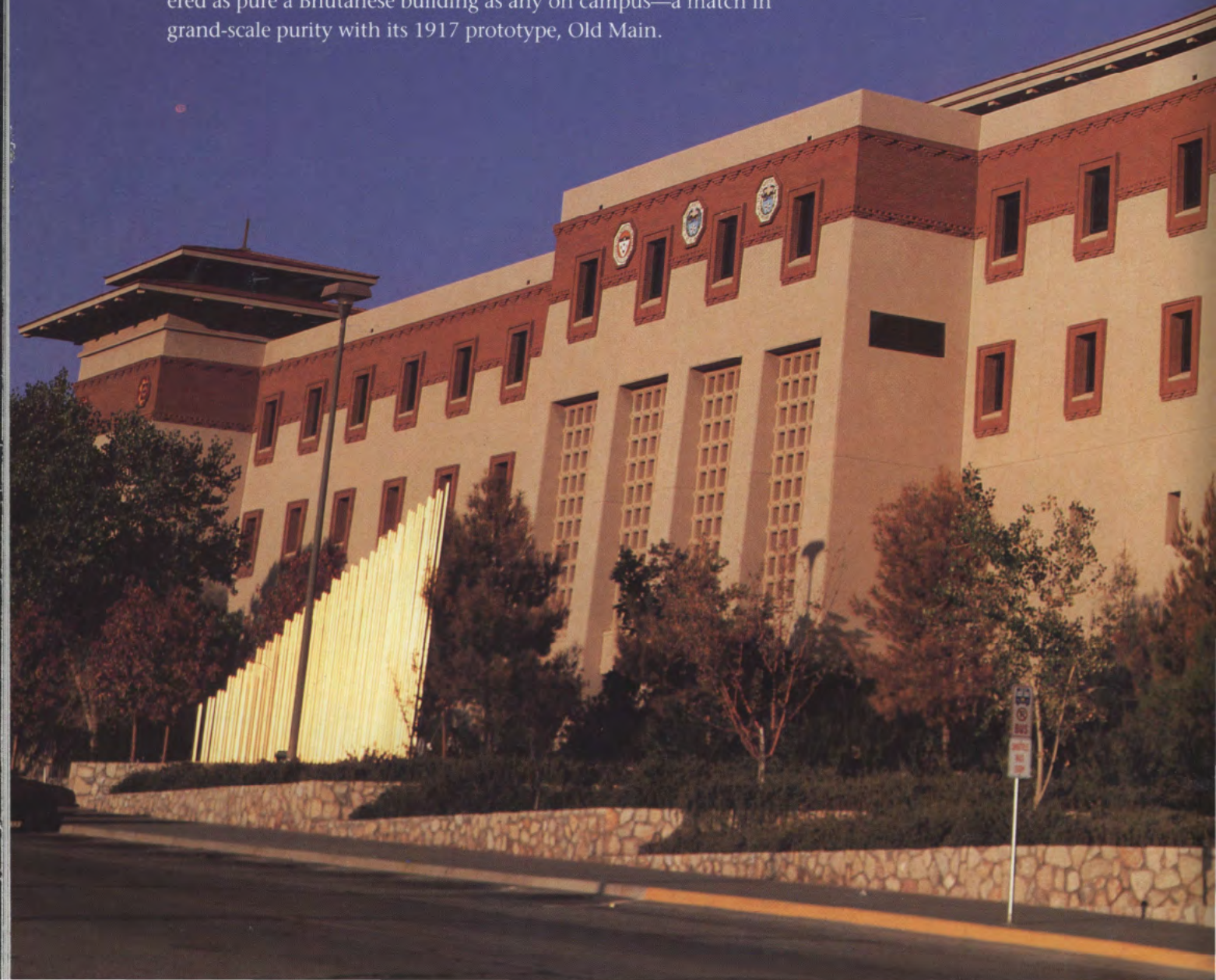
The Library

UTEP's six-story, 275,000 square foot, \$27.6 million Library opened officially on December 12, 1984. On hand for the special celebration were members of the University of Texas System Board of Regents, UTEP President Haskell Monroe (who had made the Library one of his chief goals when he became president in 1980), the chief architect of the building, Joe Gomez of the El Paso firm of Fouts Gomez Moore, general contractor B.B. Andersen of Topeka, Kansas, and University officials including Fred Hanes, director of the UTEP Library, and then vice president (in 1988, president) Diana Natalicio.

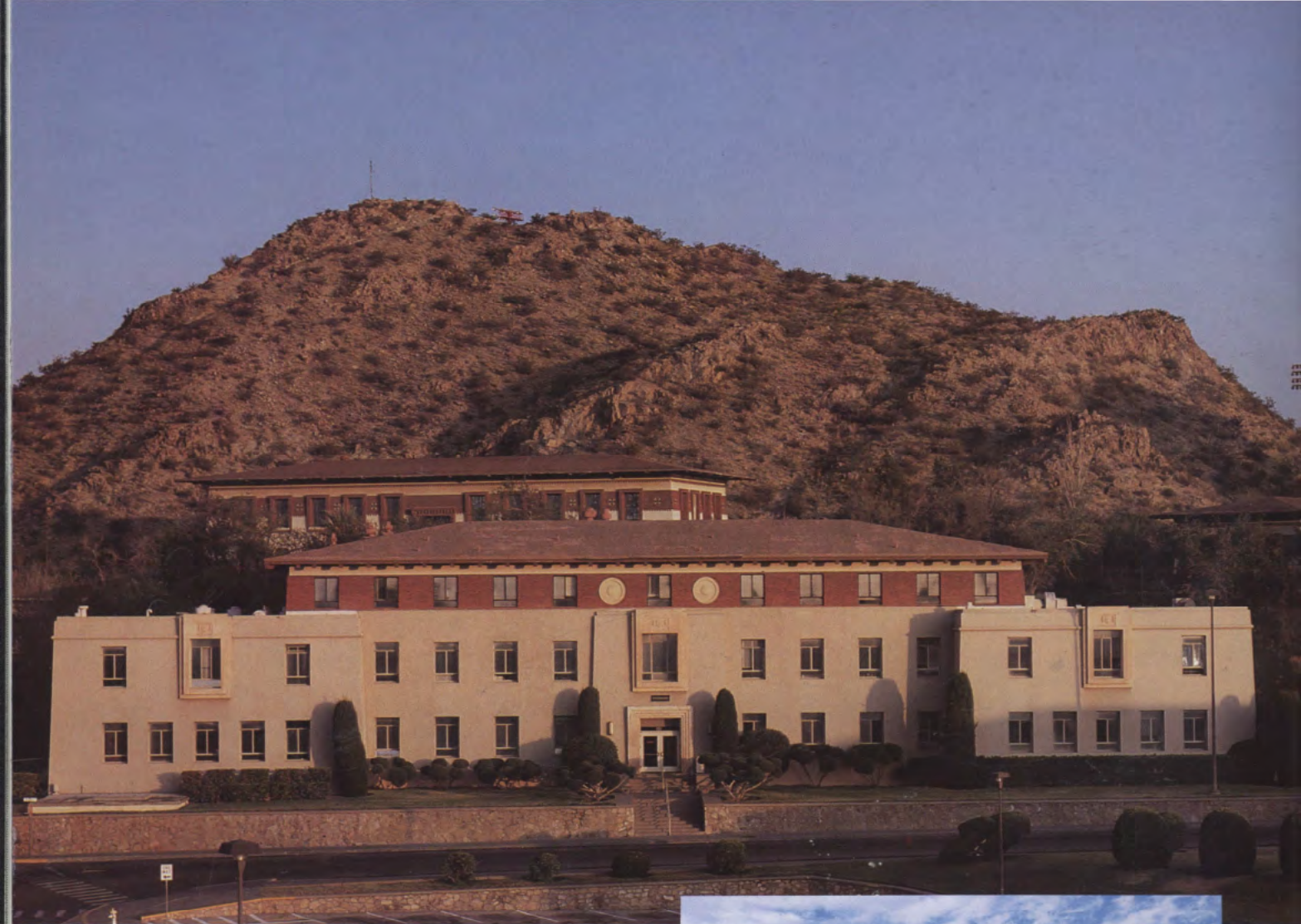
At the time of the opening, Library holdings included 710,336 volumes and the capacity of the new building was for about twice the size of that collection.

The sixth floor houses rare books, archival and other manuscript materials and special collections.

The Library, thanks to the magnificent designs of Joe Gomez, is considered as pure a Bhutanese building as any on campus—a match in grand-scale purity with its 1917 prototype, Old Main.







Above:
*The Psychology Building (1951)
 with Old Main (1916) behind.*

Below:
*The buttresses of the Student
 Union addition (1969) give the
 impression of sloping walls.*





Today, in addition to these classics, the unique style is best seen in these buildings:

The El Paso Centennial Museum (1936), long recognized as one of the most beautiful and photogenic buildings on campus. The exposed rock walls of the Centennial are an especially remarkable feature—not strictly “Bhutanese” but beautiful nonetheless.

(The large stone urn-like forms on each side of the front entrance steps of the Museum are patterned after Bhutanese prayer-wheels. Similar prayer-wheel urns are also to be found at the upper entrance to the old section of the Union building.)

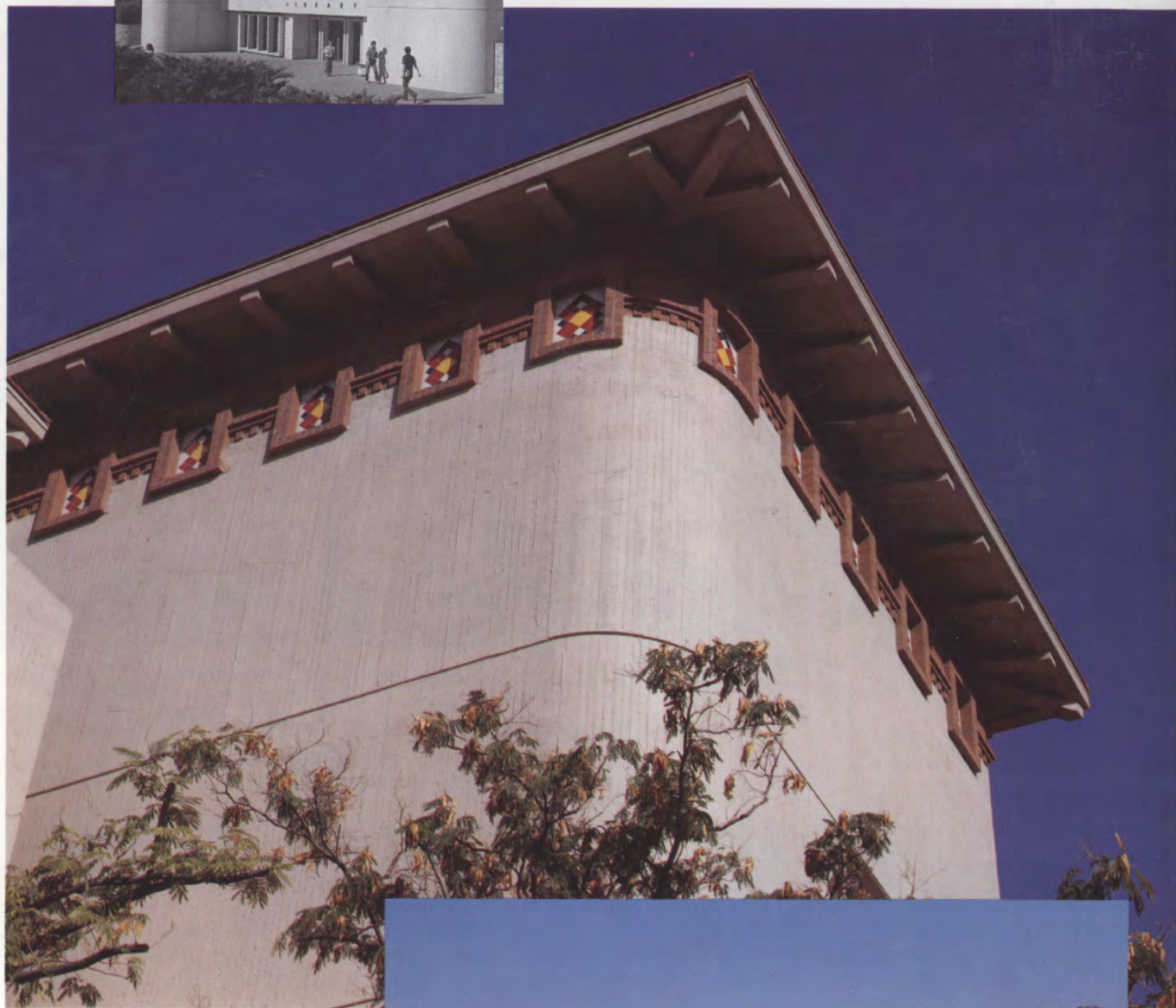
Worrell and Benedict Halls (1937), originally dormitories, reflect virtually all the significant Bhutanese features of 1917 and Hudspeth Hall (1947), a Percy McGhee design, added yet another, a one-story turret-like tower rising above the roofline. This feature reappears in Bell Hall and Cotton Memorial (both 1947 structures), in the Engineering Science Center (1976), the Administration Building addition (1979), and in the magnificent four corners of the Library (1984).

The Liberal Arts Building (1961) varied from traditional design in having no true sloping walls, only the highly successful *illusion* of them, an effect made by attaching evenly-spaced exposed columns tapering upward to the broad band of red brick between upper-level windows. This imaginative and economical design was the work of H.E. Jessen of Austin, who did another service to UTEP in planning Liberal Arts in such a way as to *span* the arroyo which sliced across the land tract selected for the building. In protecting the arroyo and its delicate ecosystem, Jessen performed a conservation feat as well as an achievement in building design.

The L-shaped Physical Science Building (1967), spanning the same arroyo as Liberal Arts, presented several interesting new features, among them the use of wide panels of pre-stressed concrete and exposed aggregate, thick at the base and tapering upward toward the roof—a good substitute for true sloping walls.



The most extraordinary transformation of a UTEP building is the renovation and rebuilding of the 1969 campus Library (above left) to the fortress-like Bhutanese Geological Sciences Building (1991) designed by El Paso architects George DeSang and Jorge Mora.



The reconstruction and renovation of the 1969 campus Library, converting the controversial non-Bhutanese "white elephant" into an elegant Bhutanese-styled building for Geological Sciences, is the most dramatic changeover in UTEP's architectural history.

The Student Union addition (1969), the high-rise Education Building (1970), the Residence Halls (1971), the Fox Fine Arts Center (1974), the Engineering Science complex (1976), and the Special Events Center (1977), are more elusive in their adaptations of Bhutanese characteristics.

In 1967, Her Majesty Queen Ashi Kesang Wangchuk of Bhutan wrote after seeing a group of photographs of UTEP, "It is thrilling and deeply moving to see a great new University built in faraway America inspired by Bhutanese architecture. The buildings in your photographs are most similar to our Bhutanese *dzongs* and have the same shaped roofs and strong, simple lines....I think your new University buildings are beautiful, combining modern design so harmoniously with ancient Bhutanese architecture. I wish our new buildings in Bhutan could be so finely built!"

The Bhutanese tradition of UTEP's building designs is one of the few living university architecture traditions in the United States. It is indisputably, uniquely, UTEP's possession and one for all El Pasoans to treasure.

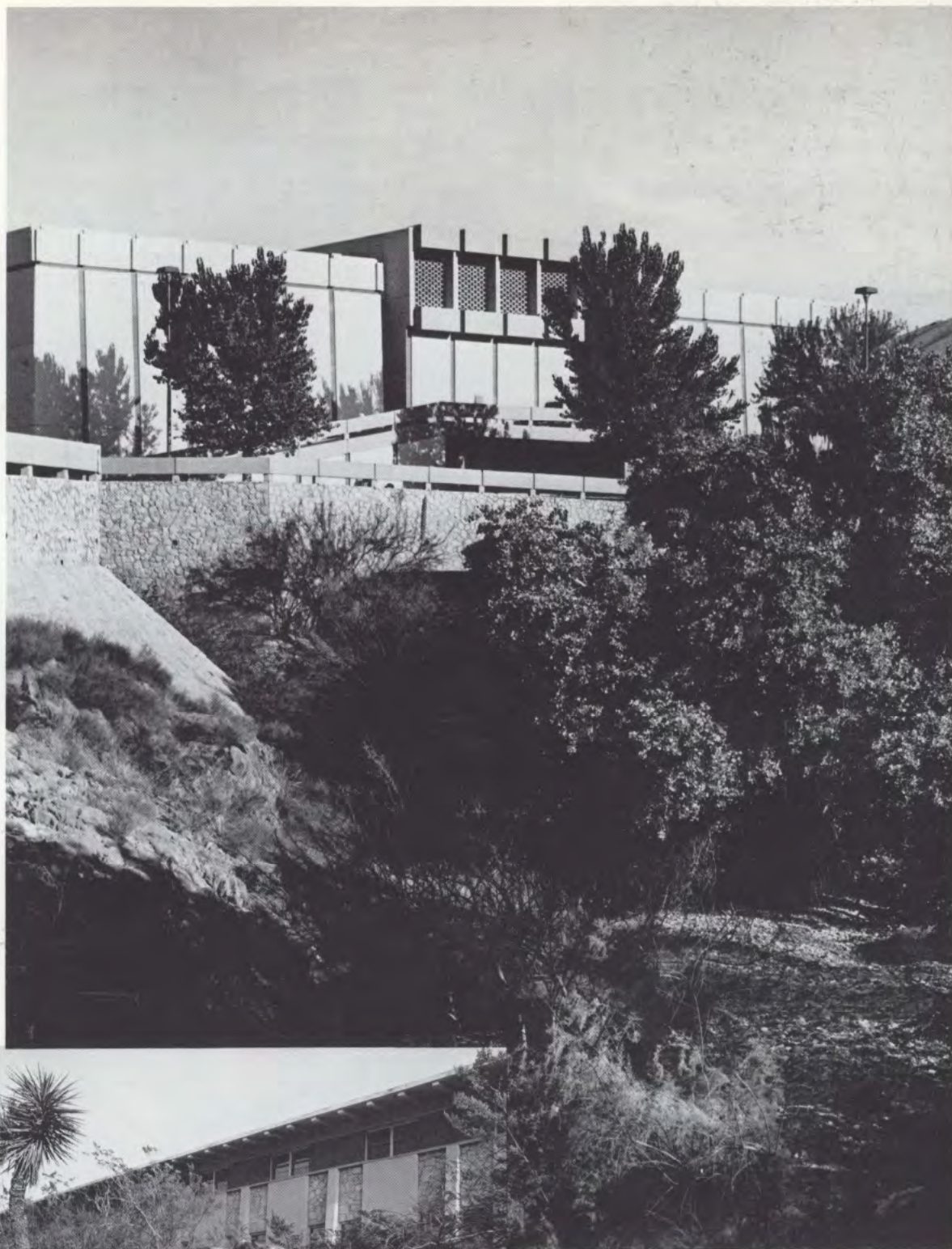


Tibetan monk Lobsang Samten creates a sand mandala in the foyer of the Library during UTEP's International Year of Tibet observance in January, 1991.

UTEP's Bhutanese architectural style represents only part of the university's unlikely connection to the Asian countries of the Himalayas. Working with El Paso's small but active Buddhist community, UTEP is opening a Himalayan cultural center on campus. Visiting Tibetans, noting the UTEP architecture along with the flat plains and craggy mountains reminiscent of Tibet, often remark that El Paso reminds them of home.

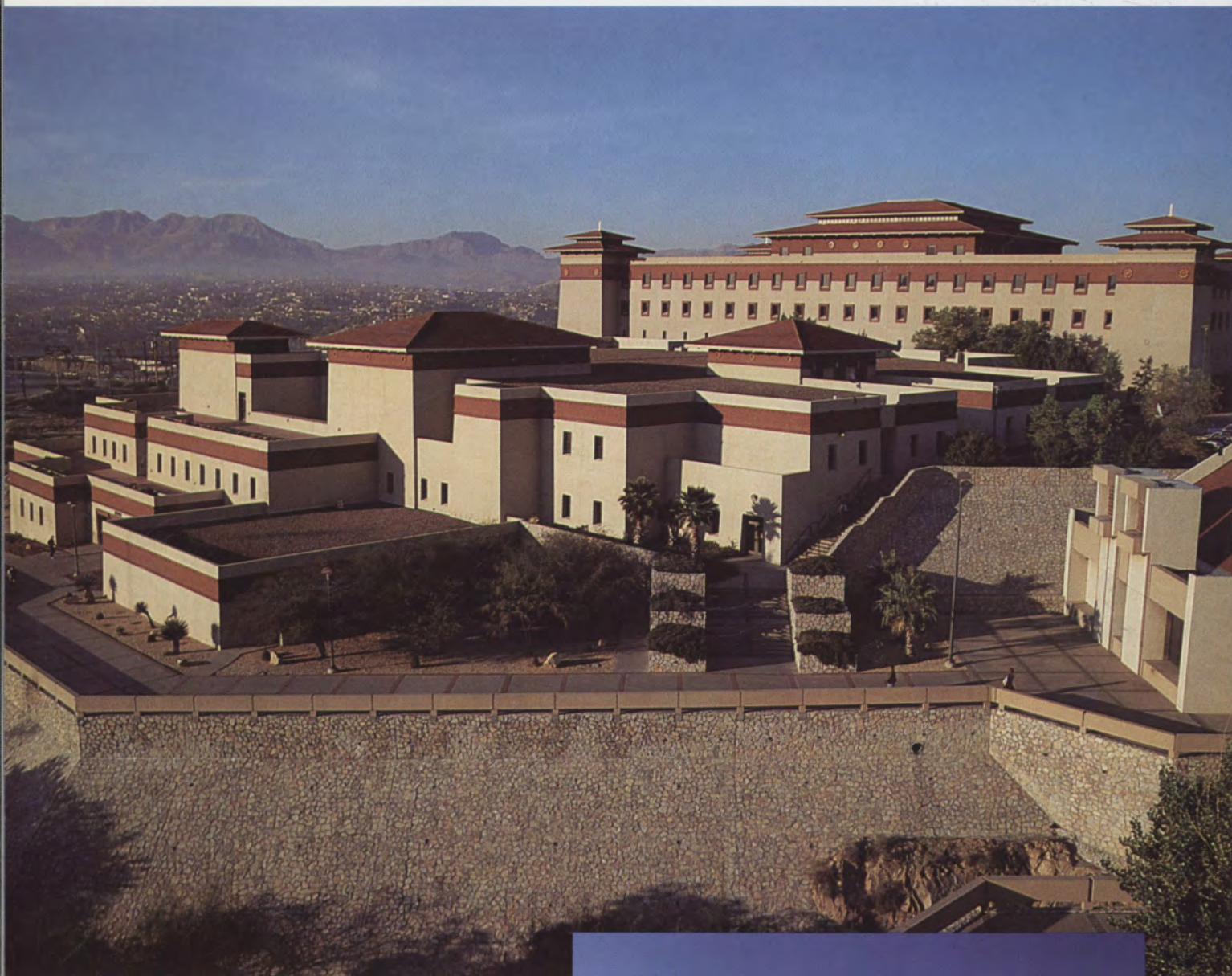
Right:
*The Engineering-
Science Building
(1975) spans
across an arroyo
and shows the care
taken by UTEP
campus designers
to integrate the
architecture and
the Southwest
landscape.*

Below:
*Desert landscaping
in front of the
Liberal Arts
Building (1961).*





*The Education Building with
its nine-story tower, opened
in 1970.*



The sprawling Business Building was completed in 1982.



The country known to its natives as Druk Yul ("Dragon Land") and to outsiders as Bhutan, is the second largest kingdom in Himalaysia, one of the three "forbidden kingdoms" (Nepal and Sikkim are the others) strung out along the ridgeline of Asia among towering mountains and deeply-knifed valleys, utterly isolated. With its 18,147 square



miles of territory, Bhutan is about half the size of Indiana; its population perhaps 1.5 million, the majority of these *Drukpas* ("Dragon People") either farmers or monks.

The landlocked country, lying between the great Tibetan plateau and the Assam-Bengal plains of India, has been politically independent since the 8th century A.D. and an absolute monarchy since 1907. Bhutan has been a member of the United Nations since 1971.

Its capital is Thimphu (or Thimbu), elev. 8,500 ft., population about 30,000, where the seat of government is the Tashichho-dzong—"Fortress of Glorious Religion."

Bhutan is called "The world's last Shangri-La."

—Dale L. Walker



Jigme Dorji

The son of a doctor of veterinary medicine, Jigme (pronounced Jig-meh) Dorji was 18 when he enrolled at UTEP in September, 1973, an electrical engineering major. He graduated in 1978 and returned to Bhutan to work for his government's hydroelectrical projects. Jigme (or "Jimmy" as he was known on campus), was the first—and to date, only—Bhutanese graduate of UTEP and was perhaps the first Bhutanese student to earn a degree in an American university.



This colorful 12' x 16' tapestry, commissioned by President Haskell Monroe and hand-sewn by Buddhist monks in the Bhutanese capital of Thimphu was unveiled in March, 1987 and is on permanent display on a wall on the main floor of the campus Library.

Written by Dale L. Walker
 Directed by Arturo Vasquez
 Photography by David Flores, Franklin Muñoz, Arturo and Vallerie Enriquez,
 (campus view, inside front cover and Student Union Building, page 9)
 and Ann R. Hallmark
 (The Potala, page 1)
 Design and layout by Geronimo Garcia
 Production Coordination by Kathleen Rogers

CONVOCAION FALL 1991 ADDRESS

I find it hard to believe that it was 20 years ago this fall that I first arrived at the University of Texas at El Paso as a visiting assistant professor of linguistics. At the time, both my temporary faculty position and my lack of prior acquaintance with the El Paso area led me to believe that my tenure here would be brief. Today, as my name appears on the list of those who have received 20-year awards for service to the university, I cannot help but reflect on my changing perspectives on higher education and its role in our society, and, more importantly, on the very significant changes that have occurred at the University of Texas at El Paso during this 20-year period.

When I arrived on this campus, I sensed an isolation driven not only by the very real geographic distances separating El Paso from other major metropolitan areas, but also by the psychological distance that seemed to separate UTEP from other universities with which I had had contact. This sense of isolation manifested itself in a variety of ways, including, for example, a relatively low level of faculty participation in national meetings and organizations. But what was perhaps most striking to the newcomer at that time was a pervasive attitude of helplessness which translated into comments about how UTEP and El Paso more generally had been abandoned or forgotten by policy- and appropriation-makers, particularly in Austin.

Prevalent too was the self-deprecating humor characteristic of individuals or institutions with low self-esteem. All of us who were here then will recall the bumper stickers that proclaimed UTEP as "Harvard on the Border." In one sense, this proclamation could be viewed as amusing—a good natured jab at inflated self-importance. On another level, however, it seemed to me that there was more than a bit of pathos in that message. Were we as an institution striving to be something that we weren't, couldn't be, and shouldn't want to be? Were we really trying to grow ivy in the desert? Perhaps. Perhaps we were attempting to compensate for what we perceived to be our non-competitiveness as a major academic player nationally by establishing highly self-critical internal criteria designed to prove to someone, somewhere, that although we were isolated, we knew from quality.

It seemed to me that we sometimes spent more time and effort on internal comparisons of quality—comparing, for ex-



delivered by President Diana Natalicio

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ample, the GRE scores of entering graduate students in various UTEP departments—than we did establishing our professional reputations and that of this institution in a broader national or international context. Like most generalizations, this one had its exceptions—faculty who were highly visible in a broader context—but in general, our vision was inward.

I will not attempt here to summarize all of the many changes that have occurred during the past 20 years at UTEP, but I think we would all agree that they have been profound. There is not a department on this campus that has not changed significantly, with new faces, new programs, and, most importantly, new attitudes. We have

dared to dream, to think beyond the many constraints that were and will always be with us, and to share in a sense of institutional pride which fosters further individual and collective development. Today it is no longer necessary for us to seek awkwardly to imitate institutions and programs inappropriate to our setting. Instead, other institutions now look to UTEP for models to be applied in their settings.

Many factors have contributed to the profound changes that have occurred at UTEP, but none is perhaps as important as our positive and creative response to a changing student population. Understanding our students, their needs, and their aspirations has been a major factor in our recent success, and we have come to understand that working with non-traditional students does not involve lowering standards—for as graduates, our students must be able to compete successfully with students from all other universities—but rather it requires devising strategies and procedures which enable students to meet the high standards we maintain in our classrooms and laboratories.

To be truly effective, we as a university community had to be willing to engage in serious and in-depth self-analysis, to understand our challenges and opportunities, to redefine our institutional mission, and to work to understand the needs of those who entrust their dreams to us. Although this self-examination and redefinition of mission has not always been easy nor without disagreement, the important point is that it has occurred and that we have emerged from it a stronger, more authentic and self-confident institution, fully capable of confronting the challenges that lie ahead.

As we move forward each year with greater confidence, our accomplishments increase in both number and magnitude, and 1990-91 continued that trend. To say that the past year was a good one at UTEP would be to carry modesty to an extreme. It was, in fact, a great year. Let me share with you just some of the bases for that assessment.

Perhaps the single most significant accomplishment of the 1990-91 year was the receipt of over \$26 million in new grant and contract awards, an all-time high for one year, which brings the cumulative total for the past three years to over \$60 million in external funding to UTEP. With the continued support of Julie Sanford and the

outstanding Office of Sponsored Projects staff she directs, over 270 proposals were submitted during the past year, and faculty and staff members from all parts of the campus now actively participate in grant and contract activity. Our funding success rate of 53% is considered remarkably high by any standard, and attests to the quality of the proposals we submit.

Three important themes emerge from a review of the grant and contract activity of the past year. First, UTEP is increasingly applying its expertise to issues critical to the future of this region. Perhaps the best example is a \$6 million, four-year grant from the Kellogg Foundation for a project involving UTEP's College of Nursing and Allied Health, El Paso County, and the Texas Tech Health Science Center in El Paso, to develop community-based health professions education in nursing, allied health, medicine, and dentistry, and to provide primary care services for residents of El Paso's Lower Valley.

This grant also reflects a second theme in extramural funding activity, the growth of collaborations, both intra- and extra-mural. Such collaboration is involved in another recent award, \$1.9 million from the Environmental Protection Agency for first-year activities of the Southwest Environmental Research and Policy Consortium, which pairs UTEP's Institute for Manufacturing and Materials Management and the Center for Environmental Resource Management with New Mexico State, Arizona State, and the University of Utah to conduct research and conferences dealing with environmental problems of the U.S. Southwest and, particularly, the U.S.-Mexico border region. A third theme in UTEP's recent grant and contract activity is its emphasis on support for students, both undergraduate and graduate. The Minority Biomedical Research Support program (MBRS), one of UTEP's oldest extramurally funded initiatives, received a competitive renewal grant of \$3.5 million for four years from the National Institutes of Health, and it is anticipated that the 25 undergraduate and graduate students who will be supported will join almost 200 graduates of this program who for the past 20 years have gone on to successful careers in medicine, dentistry, and biomedical research. The U.S. Department of Education awarded UTEP's graduate school \$176,000 to support 11 graduate students in engineering, science and liberal arts for up to three years under the Patricia Roberts Harris program, and a two-year grant of \$143,000 to Student Affairs to create a wellness program and an expanded drug and alcohol awareness program for students.

Increased grant and contract activity is both a cause and an effect of UTEP's growing national and international visibility. When I used to say to people in Washington or elsewhere that I was from UTEP, they would usually wonder aloud where—or what—that was. Now, when I say that I represent the University of Texas at El Paso, they almost invariably reply, "Oh, you're from UTEP!" They have not only heard of us, but they know of the many good things we are doing.

UTEP's image is greatly heightened by our representation at meetings and conferences, on state and national committees, and grant review panels, and through the publication of articles and books. The success of Rick Demarinis' recent book has, for example, brought much favorable publicity to UTEP, through reviews and interviews in major national publications and broadcasts.

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Although we all occasionally tire of getting on yet another airplane, the fact is that UTEP and El Paso cannot afford to wait to be "discovered." We must go places and see people and we must be able to provide them with attractive and informative materials which tell UTEP's story. Acknowledging the need for quality in content, there is no question that "packaging" has become an increasingly important factor in attracting attention and resources, and in this arena, UTEP has made enormous strides through the efforts of Art Vasquez and his capable staff in the News and Publications Department.

UTEP has also gained valuable exposure through recent efforts to host professional meetings and conferences on campus. Because too few people have been to El Paso, and because seeing really *is* believing, we have encouraged a variety of organizations to hold their meetings on our campus, and

we can always count on Robert Stakes and his staff for highly professional coordination of such events, Beto Lopez and his staff for informative campus orientations, and the Food Service and Union staffs for attractive arrangements.

Among events that we have hosted during the past year were the annual meeting of the Conference of Southwest Foundations, an International Organosilicon Symposium, a conference on "Fostering Diversity" sponsored by the State Higher Education Executive Officers organization and the Education Commission of the States, a meeting of Govs. Fernando Baeza of Chihuahua and Ann Richards of Texas, and a meeting of the Ford Foundation Board of Directors. Based upon comments expressed to me during these meetings and in subsequent correspondence, I can assure you that UTEP has made many important new friends as a result of these campus visits.

The UTEP campus always creates a very favorable impression on those who come to visit. Adding considerably to its beauty is the newly completed Geological Sciences Building. This renovation of the old library building has not only contributed significantly to the "border Bhutanese" architectural coherence of our campus.

Also quite impressive in both attractiveness and functionality is the new Liberal Arts Center for Instructional Technology. Supported in part by grants from the Burlington Resources Foundation through El Paso Natural Gas and from Apple Computer, this facility which is located on the fourth floor of the Liberal Arts Building, promises to greatly enhance language and writing instruction.

Another fine new computer laboratory was installed in the Computer Science Department, thanks to a gift from IBM. This laboratory and other equipment acquired through a grant from NSF will soon be relocated to facilities vacated by Geological Sciences, as the Computer Science Department gains much-needed additional space. Plans for the renovation of Burges Hall have been completed and construction will soon begin. Supported by a grant to the Institute for Manufacturing and Materials Management, this renovated facility will house the institute itself, the Center for Inter-American and Border Studies and the Bureau of Business and Economic Research, as well as numerous technology-transfer laboratories for outreach to regional businesses and industries.

Continued progress was also made in creating additional classroom space to accommodate UTEP's growing enrollment which reached nearly 17,000 students this fall; planning the renovation of several other campus buildings to respond to both growth

and changing teaching and research needs; extending the fiber optic communication system to 13 buildings; proceeding with the campus signage project; completing several major remodeling projects in the Union; and completing a multi-use, soccer/softball field, the first phase of a recreational complex in Charlie Davis Park. All of these improvements and those which will be undertaken in the years ahead are part of a Campus Master Plan.

UTEP also distinguished itself during 1990-91 with its extensive outreach to the community which surrounds us. As was mentioned earlier, the university serves as a resource to this community through the applied research and outreach initiatives of such entities as the Institute for Manufacturing and Materials Management, the Center for Environmental Resource Management, the Center for Inter-American and Border Studies, and the Bureau of Business and Economic Research, as well as the efforts of individual faculty and staff who generously contribute their time and expertise to a variety of community agencies, school districts and businesses on both sides of the border.

Increasing its outreach activity, the Centennial Museum hosted 117,000 visitors last year at its exhibitions and special events, twice the previous year's total attendance. Fine arts departments, the Student Programs Office, the dinner theatre and the Special Events Center attracted large and appreciative audiences. The Center for Professional and Continuing Education has experienced enormous growth in all areas of non-credit instruction, including programs for senior citizens, youth, professionals and the general public. Especially noteworthy is the Center for Lifelong Learning, which in its first year has grown to a membership of over 300 El Pasoans who participate in a broad range of courses and special activities and who help the University host Elderhostel participants from all over the United States, Canada and Mexico to spend a week studying about this region.

Programs for El Paso area youth continue to grow in both number and variety, as UTEP attempts to foster the development of talent and raise the level of aspiration of young people in this region. Programs such as Upward Bound, Youth Opportunities Unlimited, the National Youth Sports Program, the Comprehensive Regional Center for Minorities, the Mother-Daughter Program, various summer engineering programs, and the Materials Research Center of Excellence make federal, state and private sector funds available to support special summer and academic-year learning experiences for area youth. The NYSP pro-

gram brought us very favorable publicity on a 10-minute ESPN segment.

The Center for Professional and Continuing Education also offered a variety of self-supporting summer classes and camps, which brought large numbers of youngsters to our campus. In fact, it is estimated that last year over 10,000 elementary, middle and high school students visited UTEP, confirming faculty veterans' perceptions that students get younger every year!

And UTEP's investment in this region—in area youth, and in collaborations with school districts, businesses and community agencies—is reciprocated by this community's investment in UTEP. Despite many economic uncertainties, private contributions to UTEP increased by 20% in 1990. Of 152 comparable universities, UTEP ranked 19th in dollars raised from non-governmental sources. One out of every four UTEP alumni contacted during the 1990 Alumni Fund for Excellence campaign contributed, for a grand total of almost \$500,000. Through bequests, UTEP's friends committed over \$1 million in deferred gifts to the university in 1990. This is a record in which we can all take pride.

Although fund raising occupies the time and energy of many individuals on this campus, particularly within a context of declining state support for public higher education, it is not, of course, an end in itself. The funds we seek enable us to fulfill our important institutional mission of fostering the human and economic development of this region. The challenges—and the opportunities—grow, as more and more individuals and organizations look to UTEP for leadership and inspiration. Extramural funds support not only the many sponsored research, instruction, and outreach programs mentioned earlier, but they also provided over \$1 million in undergraduate and graduate scholarships last year. These scholarship opportunities and UTEP's growing national reputation for academic program excellence have enabled us to recruit the very best students who graduate from high schools in this region.

In the years ahead, we hope to be able to contribute to improving the preparation of all of UTEP's entering students through a major collaborative project with area school districts, and to enhance UTEP students' success through a comprehensive student development program involving both Student and Academic Affairs.

New degree programs are also on UTEP's future agenda. Two doctoral program proposals are awaiting action in Austin: a Ph.D. degree program in psychol-

ogy is scheduled for a Coordinating Board site visit this fall; a Ph.D. degree in materials science and engineering awaits U.T. System review and approval.

Proposals for several master's degree programs are either awaiting Coordinating Board consideration or are about to be transmitted to the U.T. System, including developmental education, nurse midwife, nurse administrator, and nurse practitioner degrees. In addition, the university will initiate new cooperative master's degree programs during the next biennium in public health (with U.T. Health Science Center-Houston), in physical and occupational therapy (with U.T. Medical Branch-Galveston), and library science (with U.T. Austin).

Such an agenda would be ambitious in the best of times, with full funding support from the State; it is even more challenging under present circumstances. As we are all by now well aware, the outcome of the recent legislative session was better than our worst fears, but hardly a prizewinner in terms of ongoing state support for higher education. On the negative side, the erosion of state funding for our instructional programs that began in 1985 has continued, with an additional 3.2% reduction in our annual operating budget.

Coupled with major increases in the costs of utilities, health care premiums and nearly everything else, this reduction cannot help but make it more difficult to stretch limited resources. Particularly vulnerable is our institutional infrastructure which has not kept pace with program, research, and enrollment growth. On the positive side, UTEP did receive additional special item funding for the new programs in public health, physical and occupational therapy, and library science and additional state funding for the Institute for Manufacturing and Materials Management and the Center for Inter-American and Border Studies.

UTEP's many achievements and its ambitious agenda succeed only because of the talented people who dedicate themselves to this institution and its special mission. Individuals such as Juan Sandoval, assistant vice president for finance and administration, who, together with his staff has labored tirelessly—and certainly without fanfare—to install a new business information system that will replace UTEP's accounting, personnel, payroll, purchasing, budgeting, and general campus information database. Or the other Juan Sandoval, reference librarian, whose attentiveness to the needs of those he serves reflects so well UTEP's generous spirit.

Or the Facilities Services personnel who maintain and upgrade our buildings and

(continued on page 17)

How's Your Intuition

By Arturo Vasquez



Everyone has experienced it in some form—a flash of inspiration, knowing something without knowing why you know it. But it feels right. Do you go with it or do you ignore it? Do you take the risk? Some of the facts may support it, but a decision based on intuition may go against the norm, especially in the business world. Is it just a hunch? Or is it a “sixth sense” capable of delivering quick insights independent of a reasoning process—an extra-sensory perception if you will.

Nobel laureate Herbert Simon, Ph.D. and a professor at Carnegie Mellon University in Pittsburgh agrees that intuition does exist, but says that there is nothing mystical about it. He believes that the human brain is a huge depository of information from past experiences. Intuition is the “aha” feeling you get when you’ve just tapped into this information source.¹

Today, many agree that intuition, however mystifying it may be, is a powerful tool—one that can be applied to complex decision-making in business. But some people think that the ability to make good judgement calls or sense new trends is just not something you can teach in business school.

Weston Agor disagrees.

Professor in the Public Administration Program at UTEP, Agor has spent the past 10 years studying the applied use of intuition in management.

“I see intuition as a logical skill that develops from real-life experience, and is aided by good training and education. The question is are you comfortable enough to act on your intuition,” Agor explains.

“Ten years ago, when I first started researching this field, the resistance that I would get on this topic, either academically or among executives, was incredible. The general reaction was, ‘Why are you getting into this kind of airy topic?’ and ‘What do you mean by intuition? Is that women’s intuition?’ and just general put-downs of various types.”

Since then, the management environment has changed significantly. Agor cites Thomas Peters’ and Robert Waterman’s best-seller, *In Search of Excellence*. “The 10 best-run companies in America now nurture the use and development of intuitive skills in their management cultures,” he says.

And John Naisbitt, author of *Megatrends* and *Reinventing the Corporation*, says that intuition in decision-making has gained new respectability in corporate settings. The subject has been featured occasionally in management magazines such as *Harvard Business Review* and *Organizational Dynamics*.

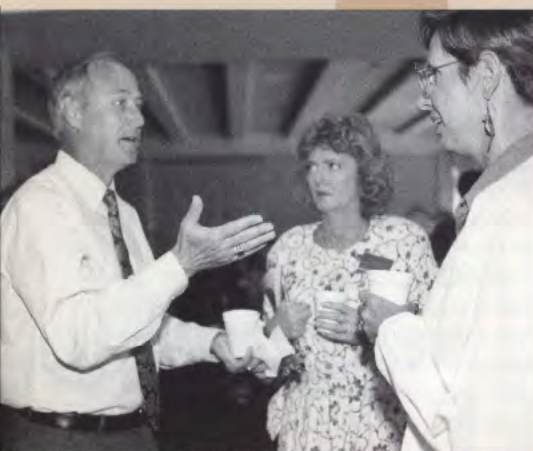
“Executives are increasingly seeing that they must rely more and more on talent and skills that they have up until now ignored and that all of the answers are not going to come from straight-line analytical processes,” Agor continues. “New trends emerge so rapidly that decisions have to be made in the midst of crisis.”

Indeed, the dramatic changes in Eastern Europe, the collapse of the Soviet Union, war and peace in the Middle East, and the failure of the savings and loan industry in this country during recent years are evidence of sweeping and seemingly unpredictable changes.

“Executives and managers are having to react quickly to new situations and to make judgement calls, choosing among many options all of which may be supported by facts and data,” says Agor. “But these managers have found a way to integrate intuition with traditional analysis to take risks and make better decisions.”

Agor bases his views on two studies he conducted in the early 1980s. The first, completed in 1982, tested the intuitive skills of over 2,000 managers in private and public organizations. He found that top managers used intuition significantly more often than middle or lower level managers to make decisions.

Wes Agor talks with participants at the 1991 international conference on intuitive decision-making.



"This is a skill that apparently helps people move up the management ladder," says Agor.

The second study tested top managers who scored in the top 10 percent on intuition, and found that most saw intuition as a way of drawing on past experience and hard data. The study concluded that integrating information and intuition was especially useful when uncertainty was high and when concrete facts were limited.

Agor writes that "to be successful in business you must be able to sense new trends. Intuitive people are good at generating ideas and new ways of doing things. But their ideas can sometimes be unrealistic. That's where traditional analytical managers can be very useful because of their strength in evaluating ideas and proposals."

Agor advocates team building within organizations that integrates both intuitive and analytical talent.

His research findings led him to develop a further interest in disseminating information about intuition. He wrote *The Logic of Intuitive Decision-Making: A Research Based Approach for Top Management*, and edited *Intuition in Organizations: Leading and Managing Potential*, a book of articles by experts in the field of intuition.



In 1986, Agor created the Global Intuition Network to promote the applied use of intuition in decision-making. The network's primary goal is to share new knowledge in the field of intuition and to promote on-going research on intuitive processes for practical use in organizations.

With a substantial grant from the Charles-ton Foundation, the Global Intuition Network (GIN) expanded its base to over 5,500 members, including executives and managers from 21 countries.

The network also operates two computer network systems with interdisciplinary, practical, educational and academic applications. The first system organizes members by occupation, interests, and location. The idea is to link up members that share similar interests. For instance, if a GIN member wishes to contact people within a geographical area, a computer print-out can generate the necessary information.

The second computer system uses BITNET, a world-wide computerized message system, to enable interactive



Cory Hammond demonstrates the power of hypnosis.

communication between members. The system can be accessed through BITNET-member universities and organizations who are part of the system. Individuals and organizations who can access BITNET contact GIN by computer code to use the "intuitive decision-making list" that GIN controls within BITNET. There are 100 members in the GIN/BITNET system.

In 1991 GIN launched a new initiative to create an annual international conference on intuitive decision-making. Held at the East-West Center in Honolulu, Hawaii this past April, the conference attracted a modest but enthusiastic number of scholars and participants.

The two-day conference included presentations on intuitive decision-making. Demonstrations by some presenters like Cory Hammond, president of the American Society of Clinical Hypnosis, demonstrated techniques that could be used to enhance the development of intuition and creativity.

In a dramatic display of group hypnosis, Hammond illustrated the power that hypnosis has to influence one's perception of reality.

"Hypnosis is the most rapid way that we have discovered for accessing subconscious processes," explained Hammond. "But like with many things, hypnosis is not going to succeed for everyone, although for many people it is an effective tool."

The American Medical Association has accepted hypnosis as a legitimate medical procedure, but it is still regarded as a questionable practice in some quarters.

"I think many people, especially the busi-

ness community, look at it in a mythological manner, but there are clearly many people that have become better educated about what hypnosis is and the fact that it can be effective," says Hammond.

"Used in stress management, for example, I think it can help people have more fun at work and spend less time out sick. Once people learn self-hypnosis skills—and they can do this fairly quickly—they can take three minutes before they go into a meeting to get mellow. This usually helps them create feelings of calm and confidence so they present in the best possible way." "You can't always pull out intuitive things immediately, but with hypnosis you can facilitate an intuitive flow by setting up unconscious signalling systems."

While presentations and demonstrations proved to be exciting for participants, one of the most talked about values of the conference was the opportunity to exchange information with others that had common interests.

"The best part of this conference is that I'm among peers," exclaimed Diane Shepard, an aerospace program engineer from Florida and one of 100 conference participants. "I have an opportunity to be with people that are very intuitive and very practical, and I am looking for people who use their intuitive abilities in a practical manner. I guess that's the engineering side of me."

"What started me on the path to intuition was that I had some health problems that were considered incurable and I found a doctor that sent me for bio-feedback training

and that fit right in to my engineering background. It was a very scientific approach in that by achieving the alpha or theta state you are very close to a meditative state.

"I diligently practiced that with phenomenal success to heal my problems," says Shepard.

In 1983, Shepard met Rose Ashless Longhill, now headmaster of the Swan Center for Intuitive Living and started using the center's intuition techniques to land a job as a project engineer at the Kennedy Space Center—12 years after being out of the engineering field.

"I was a project engineer on space labs where I got to monitor Space Lab 3 while it was up, all by myself from launch control center, second shift," says Shepard with a hint of triumph in her face. "I have also used these intuitive techniques to get my present job with a sixty-year old aerospace company. I work with an incredibly intuitive team and an incredibly intuitive boss."

Shepard went on to describe the management style employed by her team—a four step system that utilizes traditional goal setting, scheduling, and prioritizing, but one that emphasizes the integration of intuition to guide decisions.

Shepard's story was one of several exchanged among conference participants, who left the conference with a resolve to make this an annual event. The next conference is already scheduled for the summer of 1992 at York University in Toronto, Canada.



The Global Intuition Network also publishes some materials on intuitive skills development,

and is now developing a demonstration video program for release in 1992.

"Enhancing your intuitive abilities is not difficult, but takes effort and discipline," says Agor. "The first step is to identify your level of intuitive ability by taking and analyzing the AIM Survey."

The AIM survey was developed by Agor as a method for evaluating a person's intuitive inclinations. (A excerpt from the survey is found on this page. While it is not a scientific method for assessing personality traits it gives you a snap shot, a view that may or may not agree with you).

"You should also seek to become more aware of the emotional, physical, or mental intuitive cues you receive," Agor continues. "Emotional cues come in the form of feelings of enthusiasm, warmth or calmness.

TEST YOUR INTUITION

According to Wes Agor, not everyone has the same intuitive abilities. He has developed a short intuition quiz from the AIM Survey which can provide an indication of your intuitive ability. Take the following quick test to find out how good a hunch-maker you are. Agor stresses that your test result will represent only your present level of intuitive powers.

1. When working on a project, do you prefer to:
(a) Be told what the problem is but be left free to decide how to solve it?
(b) Get very clear instructions about how to go about solving the problem before you start?
2. When working on a project, do you prefer to work with colleagues who are:
(a) Realistic? (b) Imaginative?
3. Do you most admire people who are:
(a) Creative? (b) Careful?
4. Do the friends you choose tend to be:
(a) Serious and hard working? (b) Exciting and often emotional?
5. When you ask a colleague for advice on a problem you have, do you:
(a) Seldom or never get upset if he/she questions your basic assumptions?
(b) Often get upset if he/she questions your basic assumptions?
6. When you start your day, do you:
(a) Seldom make or follow a specific plan? (b) Usually make a plan first to follow?
7. When working with numbers, do you find that you:
(a) Seldom or never make factual errors? (b) Often make factual errors?
8. Do you find that you:
(a) Seldom daydream during the day and really don't enjoy doing so when you do it?
(b) Frequently daydream during the day and enjoy doing so?
9. When working on a problem do you:
(a) Prefer to follow the instructions or rules when they are given to you?
(b) Often enjoy circumventing the instructions or rules when they are given to you?
10. When you are trying to put something together, do you prefer to have:
(a) Step-by-step written instructions on how to assemble the item?
(b) A picture of how the item is supposed to look once assembled?
11. Do you find that the person who irritates you the *most* is the one who appears to be:
(a) Disorganized? (b) Organized?
12. When an unexpected crisis comes up that you have to deal with, do you:
(a) Feel anxious about the situation? (b) Feel excited by the challenge of the situation?

How to Score

Step 1. Total the number of (a) responses you have circled for questions 1, 3, 5, 6, and 11.

Step 2. Total the number of (b) responses for questions 2, 4, 7, 8, 9, 10, and 12.

Step 3. Add the totals from steps 1 and 2.

A score of 8 to 12 means you have a highly developed intuitive nature. A score of 3 or lower indicates that you are probably the kind of person who is good with details, thinks logically, and can face difficulties realistically, but your intuition is on the, well, slow side. A score somewhere in the middle indicates that you generally rely both on your intuition and on more formal logic to make decisions.



Daniel Cappon demonstrates the use of his Intuition board game at the intuition conference.

Anxiety, fright, queasiness are physical cues that may alert you to the availability of new information. Some people receive mental signals such as a clear vision or a sense of knowing."

The network publications suggest keeping an "intuition journal" to record insights into situations, and that the journal be used to monitor intuitive experiences such as the accuracy or inaccuracy of the information received.

Finally, Agor encourages people to practice their intuitive skills. "Learn to take risks using your intuition," he says. "Learn to seek verification and to share experiences with others who are interested in developing their intuitive abilities." ■

'Boost Your Brain Power, Ellen Muhaud, Russell Wild, and the editors of *Prevention* magazine.

(Rogers...from page 5)

recipients on how the financial assistance helped them get an education, maintain good grades and find top-quality jobs.

"Receiving those letters is one of our greatest satisfactions," Jon Rogers says.

Jon and Pat believe strongly that UTEP needs to maintain strong ties with El Paso for the city to grow and prosper. That's why professors who fill the Murchison Chairs are required to participate in the economic development of the city.

For example, Dr. Lawrence Murr, MacIntosh Murchison Professor and Chair in the Department of Metallurgical and Materials Science Engineering, has worked closely with the university's Institute for Manufacturing and Materials Management. The institute is involved in area economic development through analysis of long-range planning for transportation, water usage, industrial waste disposal, communications networks, housing and education.

Jon Rogers also believes that community residents need to support UTEP for the university to grow and prosper, which is why he not only makes financial contributions to the university, but also serves on

the UTEP Development Board, which advises the president on community issues.

A harsh reality for UTEP is that Texas has been steadily cutting back its support for public universities. Understanding this, Jon and Pat for the last several years have given \$20,000 to the president's office to use in securing external funding.

"The money is to help Dr. Natalicio get to Austin, to Washington, or wherever, to get grants," Jon Rogers says. Noting the substantial increase in UTEP's external funding in the past few years, he adds: "I believe that money has been spent very wisely and well."

In recognition of their contributions, UTEP three years ago gave Jon Rogers its El Gran Paseño award, and Pat Rogers its La Gran Paseña award—the highest honors the university bestows on friends who aren't alumni or employees.

For their part, Jon and Pat remain staunch supporters of the university because they're proud of what UTEP has already accomplished and what they believe it will continue to accomplish.

"Not many cities have a university of the caliber of UTEP right in their midst," Pat Rogers says. ■ —Chris Williams

(Convocation...from page 13)

grounds to create an attractive and productive working environment. Or the faculty and staff who spend extra time with students who may be confused about the subject matter of a course, about university procedures, or about life itself. Or all of you here today, members of the faculty and staff in Student, Business, and Academic Affairs, who in thousands of ways help our students build their self-confidence and develop their talents.

Finally, as an illustration of UTEP's impact on the students we serve, I would like to tell you about Philip Garcia. Early this summer, Beto Lopez and I traveled to northern New Mexico to visit the high schools of two of our highly successful graduating seniors who had been awarded UTEP presidential scholarships four years ago. Riding in his truck from Mora, New Mexico, his hometown, to Raton, Phil told me of his excitement at having been recently awarded a highly prestigious, nationally competitive GEM fellowship for graduate study in electrical engineering, and of his plans to attend the University of Colorado to pursue a master's degree.

He said that a year ago he had faced a major crisis of confidence as a result of numerous academic and personal pressures, but because three individuals at UTEP—Scott Starks, Manny Pacillas and Beto Lopez—took the time to let him know that they believed in him, he was able to regain his momentum and successfully complete his bachelor's degree in EE. More importantly, Phil's growing self-confidence led him to decline an offer to pursue graduate study at Notre Dame University, an institution which he had been told throughout his childhood was the ultimate achievement.

As UTEP faculty and staff nurtured Phil's talents, they also enabled him to say "no" to Notre Dame and to set off in pursuit of his own dreams and aspirations at the University of Colorado. This is the empowerment that is ours to give every day, in small increments or large, as we contribute to the success of those whose lives we participate in shaping. There can be no greater privilege and no greater responsibility.

As we begin another academic year, we thank you—members of the UTEP community and all those who support our efforts—for believing in us and our special mission, for sharing our dreams, and for working so hard to fulfill our aspirations. ■

—Diana Natalicio
September 5, 1991

ALUM NOTES

by Kay Peck

▼30s

Arturo M. Morales Dominguez (B.S. '39) is president of the mining sector of the Mexican Academy of Engineering. **Jonathan Lancaster** (B.A. '39) wrote from his home in Austin, Texas to provide *Nova* with reminiscences of his experiences at the Texas College of Mines and Metallurgy. Both he and his wife, **Judith Pickle Lancaster**, attended TCM.

▼40s

Patricia Lattner Parsons (B.S. Ed. '49) has retired after 30 years with the public school system in Minneapolis, Minnesota.

▼50s

John (Jack) Parks (B.B.A. '52) traveled to Australia where he was inducted as the West Texas district area governor for Lions Club International. His wife, **Edith Anne Linebaugh Parks**, is a part-time lecturer in the UTEP Department of English.

Tony G. Conde (B.S. '53), president of Conde, Inc. Civil Engineers, is serving on the board of directors of Sun World Savings Bank in El Paso. **William F. Quinn** (B.S. '54) received the Stephen D. Bechtel Pipeline Engineering Award from ASCE.

G. Robert Moran (B.S. '59) was named 1990 Engineer of the Year by the El Paso Chapter of the Texas Society of Professional Engineers. He is a principal engineer of Coupland Moran Engineers in El Paso.

▼60s

John Meade Linebaugh (B.S. '60) is area manager for Hewlett-Packard for the entire western half of the United States. His area includes Alaska but excludes Los Angeles and San Francisco.

Beatrice Ramirez Svamera

(B.A. '64) was named Outstanding Texas History Teacher by the Daughters of the Republic of Texas. **Bob Gaines**, Ed.D., (B.B.A. '65) was named president of Oklahoma City Community College in May. **David L. Gardea, Jr.**, CAPT/USNR, (B.B.A. '65; M.Ed. '83) retired as a captain from the U.S. Naval Reserve after serving 32 years as both an enlisted man and an officer. He is an education specialist with the Directorate of Training Development at the U.S. Army Air Defense Artillery School at Fort Bliss.

David F. Briones, M.D., (B.A. '67) has been voted president-elect of the Texas Society of Psychiatric Physicians. He is a professor and associate chairman of psychiatry at Texas Tech University Health Sciences Center in El Paso.

Barbara Diesner Gormly (B.A. '67) was named one of 1991's Who's Who of American Women. She is currently vice-president of Consultants in Public Finance, Ltd. Scottsdale, Arizona. Her mother, **Eva Cooper** (past-president of UTEP Woman's Auxiliary), is now retired and living in El Paso.

David Hughes (B.S. '67) has completed his term as chairman of the Regional Railroads of America organization. Hughes is the president of Bangor and Aroostook Railroad, a rail transport service in northern Maine.

Linda Rios Troncoso (B.A. '69) is active in many El Paso service organizations including the Auxiliary for the El Paso Rehabilitation Center; the Young Matron's Auxiliary where she serves on the board; the El Paso Public Television Foundation (secretary and member of the board of trustees); the Community Advisory Board at KCOS (former chairperson); the 1991 KCOS Wine Tasting (chairperson); and the El Paso High Alumni Association (president). She and her husband, **Ignacio Troncoso** (B.S. '69; M.S. '71) have two children, a son and a daughter.

▼70s

Stanley J. Bass (B.A. '70) is an industrial relations specialist at the corporate headquarters of Price-Pfister, Inc., a division of Black and Decker, in Pacoima, California.

Albert Marquez (B.S. '70) was promoted to senior principal engineer for the Salt River Project. In 1989, he received the EPRI Transfer of Technology Award.

Robert Ortega (B.S. '70) is president and CEO of Construction Management Associates, Inc. He is also a director for both the Greater El Paso Chamber of Commerce's Minority Business Council and Leadership El Paso, and a member of the state board of directors for the Texas Section of the American Society for Civil Engineers.

Edward C. Barret (B.S. '71) is the director of ship design and construction for the Military Sealift Command in Washington, D.C. In 1989 he received the Outstanding Alumnus Award for Irvin High School in El Paso.

Jose L. Hernandez, M.D., (B.S. '71) earned his doctorate in medicine and established a practice in El Paso.

Robert L. Katz (B.S. '71; M.S. '75) retired from the U.S. Army Reserves after 32 years of active and reserve service. He enlisted as a private and retired as a lieutenant colonel.

Samuel C. Martinez (B.B.A. '72), a special agent with the FBI since 1973, was appointed legal attache in Montevideo, Uruguay. As legal attache he is responsible for eight South American countries.

George McLendon (B.S. '72) was named the Tracy Hyde Harris professor of chemistry at the University of Rochester in Rochester, New York.

Mae Yee Quon (B.S. Ed. '72) received her master's degree in education in August from Sul Ross University in Alpine, Texas.

D. Bruce Crawford (B.B.A. '73) won the Director's Club Award for superior sales performance in 1990. The award was presented by the Squibb U.S. Pharmaceutical Division of Bristol-Myers Squibb Company.

William M. Bissell (B.S. '74) received the prestigious President's Special Award from the American Society of Certified Engineering Technicians during that organization's annual meeting in Williamsburg, Virginia.

Michael Robinson (M.S. '74) is production general foreman for Pennzoil Sulphur Co. in Pecos, Texas.

Patrick Hamilton (B.S. '74) is a member of the board of directors for the Oklahoma Municipal Contractors Association.

Michael E. McKenzie (B.A. '75) began his fourth year as director of Christian education for the Arcadia Avenue Presbyterian Church in Peoria, Illinois.

Anna M. Salguero (B.S. '75) was installed as president-elect of the Society of Women Engineers on June 29, during that organization's national convention in San Diego, California.

Kathy Volking Simpson (B.S. '75; M.Ed. '89) was honored as a Teacher of the Year in 1989 in the Ysleta Independent School District. Besides working as librarian at Glen Cove Elementary School, she is retained on contract in the medical library at Sierra Medical Center and Vista Hills Medical Center in El Paso.

Diane Klancher (B.S. '76) is an environmental, regulatory and loss prevention supervisor for Mobil E&P U.S. in Midland, Texas. She is also a member of the environmental affairs subcommittee of the Texas Mid-Continent Oil and Gas Association.

Cynthia D. Rivera, M.D., (B.S. '76) has been selected as one of the Outstanding Young Women in America. She is a resident physician in psychiatry at the Texas Tech Regional Academic Health Sciences Center in El Paso.

Gilbert A. Rodriguez, MAJ/USMC, (B.A. '76) has returned to Camp Pendleton, California after serving with the 5th Marine Expeditionary Brigade in Operation Desert Storm and Operation Sea Angel.

J. James Rohack, M.D. F.A.C.C., (B.S. '76), senior staff cardiologist at the Scott and White Clinic in College Station, Texas, was elected to the board of directors of the American Heart Association's Texas Affiliate.

Rogelio Saucedo (B.S. '76) works for the U.S. Air Force in the Fighter Propulsion Division which supports all F-16 and F-15 fighter bases throughout the world. He was recently promoted to chief of the engineering section.

Laura Elizabeth Mitchell Glass (B.S.N. '77; M.S.N. '82; M.Ed. '89) was a major in the U.S. Army Nurse Corps before receiving a medical discharge. She now teaches at the Methodist School of Nursing in Lubbock, Texas.

Michael C. Richards (M.S. '77) has joined Woodward-Clyde Consultant, a firm of consulting engineers. He was appointed to the position of senior vice president and manager of the company's office in Oakland, California.

Randal Cobb (B.S. '78) was certified as a safety and security professional by the World Safety Organization. He serves as safety advisor for the Fort Worth Regional Science Fair.

Veronica D. Herrera (B.S.Ed. '79) participated in a summer workshop for science teachers at the Baylor College of Medicine in Houston. Herrera is a teacher at Pilgrim Elementary School in Houston.

▼80s

William D. Treadway, LCDR/USN, (B.A. '80) reported for duty aboard the aircraft carrier precommissioning unit George Washington, based at Newport News, Virginia.

Rosalie Ortega Brockman (B.S. '81) was recently promoted to project engineer at Dow Chemical in Houston. She is currently enrolled in a M.B.A. program.

Amy Craig (B.S.Ed. '81; M.Ed. '87) is one of three Texas elementary mathematics teachers to receive a state-level award from the Texas Education Agency. She received a Presidential Award for Excellence in science and mathematics Teaching.

Marty Otero (B.A. '81) is a media coordinator for the Houston Independent School District.

Hugh H. Hughes (B.A. '82; M.A. '85) is pursuing his graduate degree in Soviet history and geography at Texas A&M University. In addition, he teaches English in junior colleges in the Bryan, Texas area and for the Texas Department of Corrections.

Bryan Morris (B.S. '82) received the Young Engineer of the Year Award from the El Paso Chapter of the Texas Society of Professional Engineers in November, 1990.

Thomas D. Ndousse, Ph.D., (B.S. '82) received a Ph.D. in information technology from George Mason University in Fairfax, Virginia.

Teresa Sanchez (B.S. '82) received her doctorate in veterinary medicine from the University of California at Davis.

Manuel A. Arciniega (B.S. '83) is employed at LTV Missiles and Electronics Group as a lead test engineer.

Deborah Seelig, M.D., (B.S. '83) is a physician with the Department of Otolaryngology (head and neck surgery) at Columbia-Presbyterian Medical Center in New York, New York.

Elmo Clark III (B.S. '84) was promoted to production foreman by Exxon USA, Inc. in Crane, Texas.

Izzet "Ike" Guney (B.S. '84) received Southwestern Bell's Nova Achievement and VIP awards, and became a U.S. citizen.

Eva K. Musgray (B.S. '84) accepted an appointment as assistant attorney general to Ken Eikenberry, attorney general of the state of Washington.

Nanci Willis Rinehart (M.S.N. '84) published her first book, *Client or Patient: Power and Related Concepts* in *Health Care*, with IEA Publishers.

Ernesto L. Guillen (B.S. '85) was promoted to design engineer at A.O. Smith in McBee, South Carolina.

Carolyn Coker Hughes (B.A. '85) is pursuing a master's of science in geography from Texas A&M University. In addition, she is a certified natural health professional.

Kevin J. Kavanagh, 2LT/USMC, (B.B.A. '85) graduated from the basic officer training school at the Marine Corps Combat Development Command in Quantico, Virginia.

Allison Ring (B.A. '85) is publications coordinator for Invent America, a non-profit program located in Washington, D.C. Invent America is a nationwide organization that focuses on educational enrichment.

Tyrone Chesaneck (B.S. '88) is a project engineer with the city of Los Angeles where he is working on the restoration of City Hall. He is also pursuing a master's of civil engineering Degree.

Katherine Gibson (B.S. '88) has returned to El Paso to join the firm of Raba Kistner Consultants, Inc. She will be the company's new environmental engineer. She was previously employed by the U.S. Army Corps of Engineers in Maryland where she managed environmental investigations of hazardous-waste sites at military installations.

Cynthia L. Martin (B.S. '88) was hired by IBM in 1989 after interviewing with company officials on the UTEP campus. She works in IBM's Austin manufacturing plant as a card test engineer.

Kirk McGraw (B.S. '89) is pursuing a Ph.D. at the University of Illinois.

▼90s

Ann Quiroz Gates (M.S. '90) is one of 50 Junior Fellows in the General Electric Foundation's Faculty for the Future program. She is enrolled in New Mexico State University where she is pursuing a doctorate in computer science.

Mark J. Sergi (B.S. '90) was named the lead mechanical engineer of the MK 46 Torpedo In-Service Engineering Department of Naval Undersea Warfare Engineering Station in Keyport, Washington.

Eduardo Salas (B.S. '91) and **Leticia Monarrez** (B.S.Ed. '89) were married on June 22. He is a metallurgical engineer for ALCOA in Austin, and she is a sixth grade teacher for the Austin Independent School District.

OBITUARIES

Maria Dolores Martinez Cromeens (B.S.Ed. '63) February 27, age 49. She was a lifelong resident of El Paso and taught at various public schools in the area. She is survived by her husband, Tommie Cromeens II, three sons, one daughter and two grandchildren.

E. Allan Johnston (attended '50 to '55) July 4, at age 73 in Denver, Colorado. He is survived by his wife, Barbara Scott Johnston, and one sister.

George Herndon Mengel (B.S. '53) July 26, age 61. Survivors include his wife, Dorothy J. McCabe Mengel; two sons, three daughters, one brother and one sister.

Robert Joseph Massey, Ph.D., (retired faculty) July 30, age 70. Dr. Massey retired from the UTEP faculty as professor emeritus of art in 1985. His works of art are part of the permanent collections of the El Paso Museum of Art, the Dallas Museum of Fine Art, the Syracuse Museum of Art, the Society of American Graphic Artists and the Oklahoma Art Center, among others. He is survived by his wife, Jeanne Hilles Massey.

Cliff R. Richards (B.A. '49) August 1, age 68. He is survived by his wife, Alice Nan Wall Richards; two sons, one brother and two sisters.

Edward J. Fallon (B.A. '50) August 19.

Porfirio "Poppy" Perez (B.A. '39) August 28, age 75. Perez was a lifelong resident of El Paso and played in the first Texas College of Mines Sun Bowl game. He is survived by one son, one daughter, and four brothers.

Joe H. Rosenwasser (B.A. '43) August 29, age 69. He is survived by his wife, Barbara Calisher Rosenwasser, one son, a daughter, and one sister.

Grace Harris Lake (UTEP supporter) September 4, age 87. She had lived in El Paso since 1925. Survivors include one daughter.

James H. Owen (B.M. '59; M.S.Ed. '76) September 7, age 81. He was a resident of El Paso for 45 years. Survivors include his wife, Leona, and one son.

Robert "Chicky" Castaneda (B.A. '67) September 13, age 53. He was a lifelong resident of El Paso and a veteran of the U.S. Marine Corps. He is survived by one son, two daughters and four sisters.

P. Hugo Reyna (M.Ed. '56) September 16, age 67. Reyna is survived by his wife, Gloria; and five daughters.

Elliott Hammond Shapleigh (B.A. '42) on September 24, at age 70. Shapleigh was a former director of the El Paso Chamber of Commerce. He was a longtime businessman and a decorated Army Air Corp veteran of World War II. He was preceded in death by his wife, Nena, and is survived by three sons and one sister.

Elizabeth S. Cisneros (senior '91) October 3, 1991, at age 22. Cisneros, a UTEP honor roll student, was killed in an automobile accident in Puerto Penasco, Mexico. Survivors include her parents and two sisters.

Marjorie E. Heyser (B.A. '34) October 4. She was a life-long resident of El Paso and had served as assistant director of the El Paso City Library and as acting director of the Texas Western Library. Survivors include her husband, Robert, and three sons.

Corrections

Marian Morrison Chavez (B.M. '69) of De Soto, Texas reports that while her daughter, **Monica Morrison** (B.B.A. '76), is very fond of her father (and Mrs. Chavez' husband), **A. Benjamin Chavez** (B.B.A. '52), Monica is not married to him as was mistakenly reported in the fall "Alum Notes." The *Nova* staff expresses appreciation to the Chavez family for taking the domestic confusion with such an excellent sense of humor.

Elva Duran, Ph.D., (B.A. '69; MA '72) did **not** retire when she resigned her position with the UTEP College of Education in 1990. After leaving El Paso she filled and continues to fill a position at California State University in Sacramento, California.

El Eclipse

Consider two scientific improbabilities. First we are in a remote corner of the universe on a planet, with a moon, that orbits a minor star and supports a life form sufficiently evolved to wonder, investigate, and experiment. Second our moon and sun are of the appropriate size, and the average earth-moon and earth-sun distances just correct to render the phenomenon of a visible total solar eclipse a reality.

Thus, on July 10th, I boarded an Aeromexico flight from Tucson to La Paz, Baja California del Sur, Mexico with a motley crew of amateur and professional scientists, 60s flower children, new-age, new-wave artists, and entrepreneurs, to view the great 91 Eclipse Mexicana. I stayed at the Universidad Autonoma de Baja California del Sur, UABCS, where the scientific camp was set up to house approximately 300 scientists from Germany, Japan, England, the U.S.S.R., Mexico and the United States.

The morning of the 11th arrived normally, with a typical La Paz cloudless sky. At mid-morning the unearthly light begins, the temperature drops and the shadows sharpen as the sun becomes a point source and the black shadow scoots in from the west bringing the totality. It lasts almost the maximum seven minutes, since the moon is at its closest to earth, hence for us its shadow, the umbra, is at its largest.

I have no ability to share verbally the sense of unbelievable magic, the sense of a place unique in the universe, and the humility that lasted for the next few minutes. I can simply share some photographs taken during the final 15 seconds.

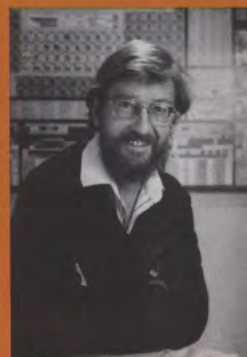
—Keith Pannell

Limited edition copies of the photographs, single or sequence, are available from the author, Keith Pannell, Chemistry Department, The University of Texas at El Paso, 79968, (915) 747-5701. Proceeds will go to a Chemistry Research Fund.



Sequence illustrating the last 15 seconds of totality.

Keith Pannell teaches chemistry at UTEP and is a principal investigator with the Materials Research Center of Excellence.



Mexicana



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