

June 24, 1985

TexasTech News

UNIVERSITY NEWS AND PUBLICATIONS/P.O. BOX 4640/TEXAS TECH UNIVERSITY/LUBBOCK, TEXAS 79409/(806) 742-2136

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1-6-24-85

LUBBOCK--With characteristics that can make them 20 times stronger than steel or as flexible as cellophane tape, polymers are pervading American consumer products, structures, cars, planes and medical prostheses.

Polymers -- the chain-like molecules which give plastics so many malleable characteristics -- are responsible for the acrylic in paint, the orlon in carpet, the melamine in simulated wood grain desktops, the polyvinyl chloride in pipes and the polyester in clothing.

But because there are so many polymers -- more than a hundred occurring naturally in crude oil and hundreds more created synthetically by organic chemists, understanding their specific characteristics is growing in importance and resulting in research at Texas Tech University and other universities nationally.

Texas Tech mechanical engineering Professor William B. Jones said that over the years plastics have developed a poor reputation as durable substitutes for more traditional wooden or metallic items, in large part because most people have experienced a plastic failure. But don't blame the plastic.

"The biggest reason for the difficulties is that many of the products were not properly designed," Jones said. "More toymakers than engineers were designing them."

"We are looking at materials in a balanced way so we can apply the right material to the right job."

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Early designs using plastics often failed to account for "creep," the gradual deformation of a material from extended exposure to high temperatures or stress, Jones said.

"Most materials have some creep, but it is not very pronounced," he said. "Polymers, though, are more susceptible to creep, especially at high temperatures. This susceptibility varies among the polymers, so a plastic must be suited to a specific purpose."

For instance, a plastic pipe that can carry hot and cold water may not be fit for holding steam, Jones said. Using a creep torsionmeter and mechanical testing equipment, Jones -- like other engineers -- is helping define the use parameters for a variety of polymers.

Polymers and their plastic offspring offer advantages in some applications over more traditional materials like wood, steel and glass. They are corrosion resistant and offer high stiffness, strength and light weight. Poly benzothiozole, for instance, offers 20 times the strength of an equal weight of steel.

"All materials, polymeric and others, have a role," Jones said, "but what we are finding is that that role changes as our energy needs change and especially as energy costs increase."

Consequently, plastics are succeeding more traditional materials in a variety of uses. Plastics are now being incorporated in ground and air transportation vehicles with increasing frequency because they can offer the same structural strength at a reduced gross weight, resulting in improved fuel efficiencies.

Producing a pound of plastic requires less energy than producing a pound of steel, meaning cost savings on the raw materials side of the production equation. Further, a production line handling plastics is simpler to retool than an assembly line dealing with metals, Jones said.

Also, plastics can do things that other materials cannot. This is particularly evident in biomedical applications, Jones said, because polymeric materials are more easily incorporated into the body without rejection than other materials.

The Jarvik-7 artificial heart successfully implanted in three patients since 1982 is an example of polymeric biocompatibility.

Jones, while working on his doctorate at the University of Utah, did some initial work on polymers for artificial hearts. More recently, he has done characterizations of plastic tendons for artificial limbs and for implants to replace diseased or damaged tendons.

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2-6-24-85

LUBBOCK--A group of artworks with religious symbolism from the collection of The Museum of Texas Tech University will be exhibited June 30 through Sept. 22 in The Museum.

The works include 13 oil on tin retablos -- altar pieces -- including "The Most Holy Trinity," "The Virgin Mary," "Our Lady of Light" and "San Miguel." One oil-on-canvas retablo and one oil-on-wood will also be displayed.

One ex voto oil on tin attributed to the "Virgin of Loretito" will also be exhibited. An ex voto is a small votive painting usually made as an offering of thanks for a miraculous recovery.

"The paintings should be of special interest to the Hispanic community," said Future Akins, curator of art for The Museum. "They are beautiful pieces of art."

Consultants on the exhibit were Bill Nicks of the Episcopal Diocese, Dr. John Howe of the Texas Tech History Department, Hispanic staff members, the Mexican Consulate of Lubbock and the Lubbock Hispanic Women's Association.

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3-6-25-85

LUBBOCK--In the battle to end family violence, an often forgotten victim is the child exposed to violence between parents.

Shelters for battered wives provide services for the abused woman, but the impact on children has often been neglected, according to Texas Tech University Social Worker Margaret Elbow. However, the trend is moving toward more help for children, she said.

Elbow said there are increasing reports of battered men, although her own studies deal with battered wives.

A child's reaction to violence in a home can span the range from withdrawal to aggressive behavior, Elbow said. The danger lies in a learned pattern. Many times the child grows up to be a part of a violent marriage, she said.

"A girl grows up thinking she's helpless in the face of men, and a boy grows up with the idea that men hurt females," Elbow said.

False guilt and responsibility are common to the child in a violent home, she said. The child feels a responsibility to stop the violence. Children may try to physically stop the violent fathers from beating the mother. Some mothers draw the child into the battle by asking the child to call the police or a relative.

"Children are basically egocentric," Elbow said. "They think things either happen to them or because of them. A child may think -- if I would take out the trash they wouldn't fight about it."

The most tragic thing for a child in a violent home is not being allowed to be a kid, Elbow said. The child won't ask for new shoes because mom will have to ask dad for money and a fight will ensue.

The effect on a child's personality varies. Some will be high achievers in school because they respond to the strokes from teachers. Some children will be so distraught over what is happening in the home that they can't concentrate and school work suffers.

The basis of family violence, Elbow said, is that our society is violent, resulting in a built-in role model.

"If children get angry, they're told not to hit but the pattern they see at home is violence and hitting," she said.

Stereotyped sex roles also are a part of the problem, she said. The idea remains that men are the breadwinners and women are passive, but the stereotypes are slowly changing, she said.

"The women's movement brought out the idea that the woman is not to blame for the violence. Much of the literature blamed her," she said. "Women don't feel quite as helpless as before."

The child often plays an important role in the woman deciding to leave the marriage, Elbow noted. The mother knows the children need a father and her violent husband may be a good father. His anger toward the children is often directed toward the wife.

If violence is destroying a home, the child should talk to someone -- a teacher, nurse or counselor, Elbow said. Unfortunately, guilt or shame often prevent the child from opening up to anyone. Threats by the abusive parent may also prevent the child from sharing the family secret.

The answer to family violence is not an easy one, Elbow said. Some abusers want help and others simply comply with counseling to get the family back. The woman and child may be harassed and threatened after a divorce, she said.

The abused woman needs a strong support system, Elbow said. She needs an attorney and she needs to be firm with the abuser.

The children need to understand that their father has anger and that he will try to put the mother down to win their affection. Elbow suggests that counseling groups for children are needed in addition to counseling for a battered wife.

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4-6-25-85

SHATTERED LIVES--In family violence, the impact on children is often neglected. Children often feel guilt and responsibility to stop violence between parents, according to Texas Tech University Social Worker Margaret Elbow. (TECH PHOTO)

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5-6-26-85

LUBBOCK--Texas Tech University animal science Professor Rodney L. Preston has been elected president-elect of the American Society for Animal Science (ASAS).

Preston, who is the Thornton Distinguished Professor of Animal Science at Texas Tech, will assume his duties in August at the organization's national meeting in Georgia. Preston will be responsible for the 1986 national meeting awards program and will serve as chairman of the organization's publications committee.

Preston, who has been a member of the organization since 1954, has served as secretary-treasurer and president of the Western Section of ASAS, a member of the board of directors, the editorial board and presently is editor of the applied section of the "Journal of Animal Science".

"Because all 4,200 members may vote in this election I am flattered to be elected," Preston said. "It really is a vote of confidence from my peers."

ASAS, the major meat animal science society in the United States, includes members from around the world, Preston said.

Preston, who joined the Texas Tech faculty in 1982, directs feedlot research at Texas Tech's prestigious Agricultural Field Laboratories - Lubbock County. His main research areas are ruminant nutrition and body composition, with emphasis on protein, minerals, energy evaluation, anabolic promotants and in vivo estimation of body composition.

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He earned a bachelor's degree from Colorado State University and master's and doctoral degrees from Iowa State University. Before coming to Texas Tech he was on the faculties of the University of Missouri, Ohio State University and was chairperson of the Department of Animal Science at Washington State University.

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6-6-27-85

LUBBOCK--How men and women adapted to the semi-arid lands of West Texas and how the land influenced American music will be explored in two Texas Tech University exhibits planned next year for Texas' 150th birthday.

"The Llano Estacado Experience: Utilizing the Arid Lands of Texas" will be exhibited at the National Agricultural Library in Washington, D.C., March 15 through April 30, 1986, as well as in Lubbock, Dallas, Austin and San Antonio.

"Honky Tonk Visions," a study of West Texas music, its heritage and its artists, will be shown in Lubbock, Corpus Christi, Austin and Houston.

The traveling exhibits are among Texas Tech's contributions to the statewide sesquicentennial celebration. "The Llano Estacado Experience" is being sponsored by the university's Southwest Collection, a historical research center and research library, and International Center for Arid and Semi-Arid Land Studies. "Honky Tonk Visions" will be the first traveling exhibit of The Museum of Texas Tech University.

Southwest Collection Director David J. Murrah said that the Llano Estacado serves as an important example of man's interaction with the arid environment.

"One of the last areas of the U.S. Great Plains to be settled, this area has shared a similar evolution with arid lands around the world," he said.

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The Llano Estacado exhibit will explore how early High Plains inhabitants were forced to live in harmony with the region's aridity; how early settlers adapted culturally to the region's scarce natural resources; how technology enabled inhabitants to exploit the area's resources; how that technology contributed to the Dust Bowl and depletion of the region's underground water resources; and how inhabitants can re-adapt to co-exist with the region's fragile natural resources.

In addition to photographs and documents from the Southwest Collection, the exhibit will include an irrigation pump, walking plow, quilt, bonnet, raw cotton, spun thread, processed denim, grain sorghum plant and wheat plants, all items pertinent to how settlers and their successors adapted to the land.

The Llano Estacado exhibit will open Feb. 24 in conjunction with the two-day Southwest Collection symposium, "West of the 98th: Texas and Its Arid Lands," and will run through March 10 in the Texas Tech Library. After its showing at the National Agricultural Library, the exhibit will be displayed by the Dallas Historical Society May 7 through July 8 at the State Fair Grounds; Sept. 1-30 at the Barker Texas History Center, University of Texas at Austin; and Oct. 3-31 at the Institute of Texan Cultures in San Antonio.

"Honky Tonk Visions" examines West Texas music through artistic and historical interpretations. The exhibit will include photomurals and artifacts of such West Texas musicians as Buddy Holly, Bob Wills, Joe Ely and others. Paintings by Terry Allen, Ed Blackburn and Paul Milosevich will be displayed as well.

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The music exhibit will explore the West Texas musical mystique which has influenced American popular music out of proportion to the area's small population.

Future Akins, curator of art for The Museum, said the exhibit is an examination and interpretation of history, traditions and the influence of honky tonks in West Texas.

The exhibit will run at the Texas Tech museum March 2 through June 22. Other exhibitions are scheduled in Corpus Christi, Austin and Houston.

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7-6-27-85

LUBBOCK--Entertainment, demonstrations and artifacts will all be part of the open house at the Lubbock Lake National and State Landmark 9 a.m. until 3 p.m. Saturday, July 13.

Visitors will see demonstrations of pottery making, bead making, basketry, bone tool making and flintknapping -- making stone tools as Indians did. Children will be entertained with Indian games.

Artifacts excavated during the past 25 years will be displayed. They include the tooth of a 25-foot-tall bear, the bones of a 6-foot-long, 3-foot-tall armadillo and projectile points from the Paleoindian period. Items from the historical Singer Store once located near the site will also be displayed.

A slide show will explain the history of the Lake Site and the excavations. The archaeological site covers from 12,000 years ago to historic times. The Lake Landmark is nationally known as a significant Paleoindian site.

The open house is free to the public. For more information, call (806) 742-2479.

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8-6-27-85

LUBBOCK--More education to better prepare teachers is a good idea, but the urgent need in Texas is preparing more teachers to curb a shortage, according to Dean Richard E. Ishler, of the Texas Tech University College of Education.

Ishler said he supports the studies being done at some universities to find out how to better prepare teachers through more education, but the goal to extend teacher preparation programs to six years is unrealistic.

A group of education deans from 28 universities across the country are proposing a plan to educate teachers as highly trained professionals. The group, called The Holmes Group, is beginning a five-year study of a plan for educating teachers that requires a six-year training program to certify teachers.

"This is not the answer to the teacher shortage," he said. "The rest of us will try to respond to the times. We will have to prepare more teachers."

Ishler said he is not against such studies because they may provide answers needed in the future.

"These 28 institutions should be doing the study," he said. "They are leaders in research and should be trying something different."

There are numerous other studies on how to better prepare teachers being conducted in the country, Ishler noted. Among them are studies being conducted at Texas Tech. The mass of research began because problems in schools have been attributed to ill-qualified teachers, he said.

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The major problem with requiring a six-year education program for teachers is the low salary that can be expected at the end of that program, he said.

"It is unrealistic to think that a teacher would settle for a salary of \$15,000-\$20,000 after spending six years preparing for a career," he said. "They could be engineers, lawyers or doctors and make more money."

There are educators who believe that higher salaries will naturally follow higher teaching standards, Ishler said. Others, including Ishler, believe teachers must be guaranteed an adequate compensation before beginning a six-year program.

The question is whether a school would be able to pay a more qualified teacher more than another first year teacher, he said. Unions and teacher organizations are opposed to differential pay among teachers.

The program proposed by the Holmes Group requires a bachelor's degree in any field or subject, but not in education. The teacher would then need a master's degree in education and an internship. Further graduate study could go toward a higher career standing as a professional career teacher.

Ishler believes that four years of education without any courses in education is a mistake. Teachers need education courses concurrent with courses in specialized areas, he said.

"They need to learn knowledge in relationship to teaching," he said. "At the end of four years a student needs to be committed to being a teacher."

The six-year program being studied attempts to educate the teacher all at once, Ishler said. A better system, he said, is continuous education with teachers returning to school to stay current.

A false notion in education, Ishler said, is that teachers who don't succeed don't know their subject. The fact is that teachers who don't succeed don't understand children and how they learn. They lack teaching skills -- not knowledge, he said.

Ishler said he is looking forward to the results of the study and would like to hear about other studies on teacher education.

"On one hand, you have to argue for high standards, but on the other hand, if enough teachers aren't available, the schools will hire someone with lesser credentials," Ishler said.

Tip Sheet
Week of June 30-July 6, 1985
9-6-28-85

Texas Tech University
University News & Publications
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Radio & Television NewService

DAY OFF--Texas Tech University faculty, staff and students will observe a holiday Thursday, July 4. Classes will resume and offices will be open Friday, July 5. Contact UN&P, 742-2136.

MISSING TEACHERS--Even though both problems need to be dealt with, handling the anticipated statewide teacher shortage is more pressing at this time than extending the teacher preparation program. That is suggested by Dean Richard E. Ishler of the Texas Tech University College of Education. Contact Dr. Ishler at 742-2377.

TRANSLATION, PLEASE--How do you get different types and makes of computers talking the same language or at least communicating with and understanding each other? Texas Tech University computer science professor Kathleen Hennessey is working with several large computer companies in trying to solve that problem by developing a computer language translation technique. To follow up contact Dr. Hennessey at 742-1609.

CHAIN OF RESISTANCE--Do cattle build up a resistance to antibiotics in cattle feed and is this resistance passed along to humans in the beef we eat? Texas Tech University Feedmill Feedlot facility will offer animal science professor Rodney L. Preston a chance to answer those questions. Contact Dr. Preston at 742-2814.

COLLEGE KIDS--Classes ranging from biology to theatre arts are offered in the second of three sessions of Shake Hands with Your Future, a program sponsored by Texas Tech University Institute for the Gifted. This session, which begins Sunday, June 30, offers classes to fifth through eighth graders. For more information contact Mary Anne Speck, 742-2353.

THOSE BLOOMIN' GARDENS--Good photo possibilities plus a little exercise as you walk around the Texas Tech demonstration gardens. Used as teaching tools as well as research, the colorful gardens offer the public examples of plants that do well in the South Plains area. There are dozens of varieties of day lilies in bloom. Turn into campus at Indiana Avenue opposite the Livestock Arena. For more information contact plant and soil sciences professor, George Tereshkovich, 742-1627.

SPECIAL NOTE: Reserve Monday, July 8, for Media Ranch Day at the Ranching Heritage Center. The Ranching Heritage Association will be sending you more information.

For assistance with developing these and other story ideas, contact Mark Davidson/Jane Prince Jones, 742-2136.

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10-6-28-85

LUBBOCK--Two \$1,500 scholarships for studies in journalism/economics are being established in the Texas Tech University Mass Communications Department with contributions from the Chevron Corp. and the Chevron family of companies.

Mass communications Department Chairperson Billy I. Ross said the awards will be given beginning with the 1986-87 school year. Applications are available in the Mass Communications Department.

The student grants are being funded through the Chevron journalism/economics scholarships program which was initiated to foster the study of business and economic subjects by college students who have indicated a desire to pursue a career in journalism.

Chevron annually will contribute \$3,000 for the scholarships and \$500 more to cover administrative costs to the Texas Tech Mass Communications Department.

Ross said the object of the program is to graduate future journalists who have a working knowledge of business and economics theory and practice.