

PRESENTATION — President Francois Tombalbaye of Chad made President Grover E. Murray of Texas Tech an officer of the National Order of the Republic of Chad Oct. 5 when the two met on the university campus. Dr. Murray, in return, made a presentation of a scroll and medal which honored President Tombalbaye's visit to Texas Tech and its International Center. The Chadian President conferred with officials of ICASALS, coordinator for his visit to Lubbock. At left is Alec G. Toumayan, language services officer, U.S. Department of State.

'Focus' Will Premier Work By Howard Hanson

One of America's leading composer-conductors will appear at Texas Tech May 11 to conduct an orchestral and choral work he is composing especially for the International Center's Focus on the Arts.

Pulitzer Prize-winning Howard Hanson, for 40 years the director of the famed Eastman School of Music of the University of Rochester, has chosen as the theme of his new work the thirty-fifth chapter of Isaiah:

" . . . and the desert shall rejoice, and blossom as the rose . . . And the parched ground shall become a pool, and the thirsty land springs of water . . . "

Texas Tech choral groups and the university's symphony orchestra will perform the work.

Among the other works of Hanson is the opera, "Merry Mount," commissioned by the Metropolitan Opera Company. He is the recipient of awards in the United States and from abroad for his compositions for piano, organ, chorus and orchestra. He has served with the United Nations Educational, Social and Cultural Organization and has toured Europe, the Near East and Russia with the Eastman Philharmonic Orchestra.

Dr. Hanson is a native of the plains state of Nebraska and is a strong advocate of relating music to native environment.

Six Deputy Directors Named To Aid ICASALS Special Interest Areas

Six new deputy directors for the International Center for Arid and Semi-Arid Land Studies have been named by Texas Tech President Grover E. Murray.

Each of the men named will represent a special area of interest within the university. Together they form the ICASALS Board of Deputies.

Named were Dean Gerald W. Thomas of the School of Agricultural Sciences, serving for agriculture and home economics; Horn Professor of Geosciences F. Alton Wade, for natural sciences; Interim Associate Dean John Gilliam of the School of Business Administration, for the business sciences; Education Prof. Thomas B. Livingston, for education; Associate Dean Justin Smith of the Law School, law and the social sciences; and Electrical Engineering Prof. Magne Kristiansen, engineering.

Dr. Idris R. Traylor Jr., who has served more than a year as deputy director, has a special interest in arts and humanities. He will serve as chairman of the Board of Deputies and, during the absence of Director-at-Large Thadis W. Box, as chief executive for ICASALS.

Also named by the president was English Prof. J. Wilkes Berry to serve as manuscript editor for the International Center. Dr. Berry is chairman of sophomore English.

Dr. Thomas, during the past nine years, has helped build Texas Tech's agricultural school into one of the nation's largest with an international reputation for excellence in several of its eight departments.

Dr. Wade, a veteran of six expeditions to the Antarctic, is the principal investigator for a National Science Foundation Antarctic Research Project and is consultant to the Jet Propulsion Laboratory at Cal Tech on characteristics of the Martian surface.

Dr. Gilliam for 18 months was consultant to the Ford Foundation and advisor to the Foundation's overseas development program traveling to Lebanon and other countries of the Middle East and helping to establish a junior college of business in Jordan.

Dr. Livingston currently is serving as an advisor to the Ministry of Education in Managua, Nicaragua, and as the chief of party for consultants invited from the Southwest Alliance for Latin America. The SALA group is assisting the Ministry to implement a new program of education in Nicaragua. Dr. Livingston has had many years' experience in the supervision of textbook writing in Latin American countries.

Prof. Smith, former staff attorney for Stanolind, has a degree in geology and a major interest in natural resources law. His principal concern is university-based research, and he is the co-author of several articles on patent policies and other legal problems of sponsored research.

Prof. Kristiansen, a native of Elverum, Norway, is internationally recognized in the field of physical (quantum) electronics and plasma dynamics. He has been called upon to deliver papers throughout the United States and at international conferences in Mexico and Sweden.

ICASALS Travelers

KIEV — Texas Tech Physics Prof. Kamalaksha Das Gupta delivered a paper on his X-ray investigations at the International Symposium on "X-ray Spectra and Electronic Structures of the Substance" at the Institute of the Physics of Metals at Kiev, USSR, Sept. 24-30. His subject, "Modified Coherent Scattering Close to the Bragg Spectrum," related to his discovery of Compton-Raman scattering. He visited physicists in England, Germany and Japan before returning to Lubbock.

ADELAIDE — Prof. B. L. Allen of Texas Tech's Department of Agronomy was one of approximately 120 soil scientists from the United States who attended the International Congress of Soil Science in August in Adelaide, South Australia. Dr. Allen also participated in a pre-Congress tour which began in Darwin on the north coast of the continent, included the central desert area and ended in Adelaide. This included a stop-over at the Desert Lands Institute in Alice Springs. Scientists on the 10-day tour studied soils and related landscapes. The National Science Foundation, through the American Society of Agronomy, provided funds for grants-in-aid to help defray expenses for approximately 44 U.S. delegates.

GUAM, MEXICO, PUERTO RICO, U.S.— Dr. Faye Bumpass, Texas Tech professor of classical and romance languages, has traveled some 60,000 miles in 1968 to fulfill commitments as teacher, special lecturer and consultant in English as a second language. Dr. Bumpass, whose textbooks are used throughout the world, served this year as visiting professor in the University of Southern California, Los Angeles; the University of Guam, Agana, Guam, and St. Michael's College, Winooski, Vt. Her consultancies include work with the Bi-National Center Program and the United States Information Service in Monterrey, Mex.; American schools in Mexico City; diocesan schools in Puerto Rico; Head Start programs in Guam and New Mexico; teaching English as a second language in a national meeting in San Antonio and for the West Texas Education Center in Midland, Tex.

NEW YORK, WASHINGTON, MEXICO CITY — Dr. Idris R. Traylor Jr., deputy director of ICASALS, conferred with various offices in connection with ICASALS projects including the World Affairs Conference on Latin America and the Focus on the Arts, visiting the Rockefeller Foundation, the Foundation Library, the offices of the United Nations Development Programme, the Department of Agriculture, the Agency for International Development, the Smithsonian Institution, the American Historical Association and other government agencies and foreign embassies. He visited with U.S. and Mexican government officials in Mexico City.



TEACHER — Ashnadelle Hilmy Mortagy is a newcomer to the Texas Tech faculty as instructor of Arabic.

Law Faculty Participates In Coast Lands Workshop

Representatives of the Texas Tech School of Law participated Sept. 29-Oct. 1 in a Gulf Universities Research Corporation workshop, "Law of the Coastal Margin," at Bayview, Tex.

Representing the university were Law Dean Richard B. Amandes, who served as a moderator, and Associate Dean Justin C. Smith, who served on the workshop's Coordinating and Planning Committee.

Explored were legal problems associated with exploration and exploitation of mineral and water resources, navigation, real estate, recreational and industrial land and water use, environmental modification, fisheries, conservation and insurance.

Three Teachers Honored

Recipients of Texas Tech's Distinguished Teaching Awards for 1968 are History Prof. Timothy P. Donovan, English Prof. Mary Louise Brewer and Chairman Louis John Powers of the Department of Mechanical Engineering.

The Standard Oil Foundation of Indiana participates in the awards.

Australian Film Used

The Australian Commonwealth Film Unit's "Dealing With Drought" received widespread use by Texas Tech students and faculty during October. The film dealt with various management solutions applied during the 1964-66 drought in Queensland and New South Wales. It was made available by the Australian Department of the Interior through the office of the consulate-general in San Francisco.

New Courses

Arabic II, Chinese Added To Language Curriculum

Language courses at Texas Tech were expanded this year to include Chinese and second year Arabic.

Mrs. Jean Koh, a native of Shanghai, is instructor in Chinese. She received her bachelor's degree from the University of Shanghai. Her husband, Dr. E. K. Koh, who is recognized internationally in the field of metallurgy, teaches in Texas Tech's Department of Mechanical Engineering.

Teaching Arabic at the university for the first time is Mrs. Ashnadelle Hilmy Mortagy, the wife of Amr Kamel Mortagy, a doctoral student in industrial engineering. Mrs. Mortagy's father, Amin Hilmy II, is Egyptian ambassador to India and formerly deputy ambassador from Egypt to the United Nations.

Another new language faculty member with overseas experience is Elaine Cross, teaching assistant in French, who has just completed a Peace Corps assignment in Nigeria and Chad.

International Students Awarded IIE Fellowships

Four international students at Texas Tech hold fellowships awarded by the Institute of International Education.

The Youth Development Fellows are: Abdul Aziz Ashraf, graduate student in geophysics from Karachi, West Pakistan; Maria Rocha, senior student of psychology from Tucuman, Argentina; Kamran Nikjoo, senior electrical engineering student from Tehran, Iran; and Numa Pompilio Bermudez, senior in mechanical engineering from Bogota, Colombia.

The fellowships, supported by the U.S. Agency for International Development, require recipients to return to their home countries following graduation to help in needed areas of development.

Local UN Peace Award Granted Honor Student

Robert Whitehill, honor student in English at Texas Tech, was presented the Georgia Dingus Peace Award by Texas Tech President Grover E. Murray Oct. 24 during United Nations Week.

He has served as president of the Tech Union International Interest Committee and last summer shared a bi-cultural experience in Israel with students from 21 countries.

He lived with Israeli and Arab families while taking an intensive course in the Hebrew language.

United Nations Week chairman was Texas Tech History Prof. Jacquelin Collins, and the sponsor, the Lubbock Council of the United Nations.

Seed Specialists Study Improvement Program

A 14-man touring Special Course in Seed Improvement visited the Texas Tech campus July 29-30 for a two-day session sponsored by the agronomy staff of the School of Agriculture.

The visitors were agricultural specialists from India, East Pakistan, Ghana and Honduras. Technical leader for the West Texas tour was J. Dennett Guthrie, for almost 17 years a program specialist in the U.S. Department of Agriculture Foreign Training Division.

Participants included: from India, Vittaldas F. Majmudar, agronomist with the Narmada Project in Baroda; Himatlal R. Shah, project officer, Kaira District Nadiad; Sahkara I. Sitaraman, in charge of hybrid foundation seed production, processing, storing and distribution in agricultural extension, Ranipet; Nihar R. Panigrahi, deputy director of agriculture (seeds), Orissa; Srinvasa M. Rao, Department of Agriculture seed testing officer, Agricultural College and Research Institute, Coimbatore; from East Pakistan, Md. Abdul Hakim, manager (seeds), East Pakistan Development Corp., Dacca; Md. Jahirul H. Khan district agricultural officer, Faridpur, and Syed M. A. Islam, special officer (seeds), East Pakistan Development Corp., Dacca; from Ghana, M. A. Mahama, senior technical officer, Tamale; Timothy Yao Fie, agricultural officer, Sekondi, and Josiah Wobil, agricultural officer, Sunyani; and from Honduras, Roberto Garcia A., extensionist, DESAR-RURAL, Comayaguela, D.C.

Agronomy Prof. Cecil Ayers coordinated the Texas Tech tour program.

400-Acre Field Station Improved For Biologists

Newly refurbished facilities on a 400-acre tract in Winkler County, Tex., offer expanded research opportunities for Texas Tech students studying the ecology of semi-arid environments.

Biology Profs. Robert L. Packard and Chester M. Rowell take more than 200 students a year to the field station between Kermit and Wink. It formerly housed Federal Aviation Agency personnel and offices.

"The immediate area is well suited to our purposes of a semi-arid biological study center," Packard said. "Our purposes there are twofold: to teach and to do research.

"Here we can teach students the techniques and methods of studying plants and animals in their natural environment," he said.

Winkler County recently provided water for the station.

Tech Professor Starts Texas Economic Research

Texas Tech Agricultural Economics Prof. Herbert W. Grubb is in Austin, Texas, to begin work on a detailed study of the economic structure of the state involving the interrelationships of its various industries and their relation to markets and suppliers.

Dr. Grubb is a project leader for "Input-Output Study—Texas" within the Division of Planning Coordination for the Planning Agencies Council of Texas. The Council works under the direction of the governor.

Regional studies will be made first, and information developed in these are expected to yield mathematical models for use in computerized analyses. From the regional studies, the project will develop a mathematical model for the state. Similar studies have been completed in several other states, including West Virginia and Kansas.

Information gained can be used to forecast economic activity which will help determine future requirements by government and will aid in marketing and capital expansion decisions by businessmen.

Professor Serves On CODAZR

Chairman Richard B. Mattox of Texas Tech's Department of Geosciences has been named to the Committee on Desert and Arid Zones Research (CODAZR) of the American Association for the Advancement of Science. Dr. Mattox will fill an unexpired term.

23 Attend Short Course

Twenty-three employees of the Soil Conservation Service from 11 southern states and Puerto Rico and two guests from Tunisia attended a two-week irrigation short course at Texas Tech last August.

BOTSWANA VISITORS — David Monwela, left, member of the Botswana parliament and trustee of the Moremi Game Reserve, and Curator Alec C. Campbell of Botswana's National Museum were guests of ICASALS and Texas Tech's Department of Park Administration in August. Campbell also is senior game warden in Botswana. Campbell said his nation has set aside 30,000 square miles as a game utilization area intended to conserve wild life while being used also for photographic and hunting tourism. The guests are shown here inspecting a branding iron at the West Texas Museum.



Leading Authorities On Latin America To Address Conference

A students' World Affairs Conference on Latin America, scheduled for March 6-8, will provide first hand information from leading authorities in the United States and countries to the south.

Conference co-sponsors are the Tech Union and the International Center. Universities and colleges whose students would like to participate are invited to write to ICASALS for applications and information.

Guest speakers who already have accepted invitations to participate include the former Peruvian Ambassador to the United States Celso Pastor; Leon Volkov, *Newsweek* editor; Dr. John L. Brown, cultural attache of the U.S. Embassy in Mexico City; Dr. James Boren, U.S. Department of State; Edward Marcus, national president of the Partners of the Alliance for Progress; Dr. Robert J. Alexander, Rutgers University; William L. Cody, Pan American World Airways; Dr. J. Lloyd Mecham, the University of Texas at Austin; Prof. Carlos Marquez Sterling, leader of the Cuban exile movement; Dr. Stephen F. Borhegyi, director of the Milwaukee Public Museum, and Dr. Alberto Furreiro Ramos, University of California, and from the Texas Tech faculty, Architecture Prof. Elizabeth Sasser and Archaeology Prof. Evelyn I. Montgomery.

The conference will take place during the Latin American emphasis of ICASALS' Focus on the Arts, and campus exhibits and performances will contribute to a broader understanding of the countries studied.

The conference provides lectures open to visitors and closed seminars for participants. The seminars are led by visiting professors.



AFFILIATES — President Cumhur Ferman of Ankara University in Turkey accepts a certificate of affiliation between his university and Texas Tech. Presenting the certificate in Ankara on behalf of Texas Tech President Grover E. Murray was Agricultural Sciences Dean Gerald W. Thomas. At the ceremony were, left to right, Dean Salahattin Gurturk of Ankara's School of Veterinary Science, Dr. Osman Tosun of the Department of Crop Production and

Breeding in the School of Agriculture, Dr. Ferman, Dr. Thomas, Dr. Ismail Turk of the Department of Fiscal Policy in the School of Political Science and Dr. Ahmet E. Uysal of the Faculty of Letters. Dr. Uysal served on affiliation committees at both universities and participated in the initial stages during his three-semester term on the English faculty at Texas Tech.

Development Leaves Given 4 Professors

Four Texas Tech professors have been granted faculty development leaves for the 1969 spring semester. These were established by the Texas State Legislature to enhance the quality of public education by enabling faculty members "to engage in study, research, writing and like projects."

Horn Professor of History Ernest Wallace will devote the major part of his leave to the research and writing of an annotated one-volume history of Texas, to be a part of a University of Oklahoma Press series covering each state of the Union. Wallace also will do research for graduate history seminars on Texas and the related history of the West and Southwest.

Classical and Romance Languages Prof. John J. Bodoh, who is completing an index of Greek verb forms, will study Greek drama and criticism in Germany.

Chairman Henry C. Thomas of the Department of Physics will participate in nuclear physics research at the University of Washington.

ICASALS Director-at-Large Thadis W. Box, who also is a professor of range management, will extend his stay in Australia. He currently has offices with the Rangelands Research Program, Land Research Division, Commonwealth Scientific and Industrial Research Organization (CSIRO) in Canberra. His plans call for travel over much of the Australian continent in order to study the ecology of its arid zones and to gain first-hand knowledge of research and teaching methods in the field of natural resources.

From Abroad

AUSTRALIA — Dr. F. J. Roberts of the Division of Plant Industry, Commonwealth Scientific and Industrial Research Organization (CSIRO), heads a research program working to develop economic pasturage on huge areas of poor soils, largely covered by deep sand. Low cost nitrogen fertilizer combined with run-off and subterranean water resources are two important factors utilized in tripling dry pasturage in experiments conducted along Western Australia's southwest coast. A pilot study indicated that meat, wool and milk could be produced economically using sub-tropical pastures.

Educator Named To Head Student Affairs Office

Dr. Owen L. Caskey assumed new duties Sept. 1 as Texas Tech vice president for student affairs. The office is a new one, created to coordinate the many activities, programs and services provided for the 19,034 students.

As professor of education in Texas Tech's School of Education, Dr. Caskey continues to teach and direct the studies of graduate students as well as work on the problems of education in a multi-ethnic society.

Textile Research Center Laboratory Director Named

Jack D. Towery is the newly appointed director of the fiber laboratory in Texas Tech's Textile Research Center. He is the author or co-author of some 38 technical papers and the holder or co-holder of several patents.

Texas Tech Affiliates With Two Universities

Agreements for cooperative research, teaching and public service dealing with problems related to arid and semi-arid environments have been reached between Texas Tech and two other universities—the University of San Luis Potosi in Mexico and Ankara University in Turkey.

Chairman Harley D. Oberhelman of Texas Tech's Department of Classical and Romance Languages represented the university and its International Center for Arid and Semi-Arid Land Studies in signing the agreement in Mexico. The Rector of the Universidad Autonoma de San Luis Potosi, Lic. Guillermo Medina de los Santos, signed for that institution.

Texas Tech Dean of Agricultural Sciences Gerald W. Thomas, who is ICASALS deputy director for agriculture and home economics, traveled to Turkey to complete the agreement there.

The University of San Luis Potosi is the parent institution of the Instituto de Investigacion de Zonas Deserticas, similar in interest to Texas Tech's International Center. Prof. Fernando Medellin is director of the San Luis Potosi institute.

In discussing the mutual concerns of Texas Tech's International Center and Ankara University, Dr. Thomas pointed out that "Turkey is in the forefront in developing knowledge useful to arid and semi-arid land studies."

The agreements provide the basic mechanism for cooperative research using personnel of two or more institutions, an interchange of faculty, students and educational materials to strengthen curricula and, in public service, the joint presentations of short courses, symposia, conferences and other programs.

Areas Of Mutual Interest

Chad-ICASALS Conferences Explore Potential

A mutual interest in the rich potential of vast areas of Chad recently brought together at Fort Lamy and Lubbock the president of that African republic and representatives of the International Center for Arid and Semi-Arid Land Studies.

President Francois Tombalbaye of Chad spent Oct. 5 in Lubbock where he conferred with ICASALS officials and visited a 56,000-acre ranch and one of Texas' largest cattle feedlots.

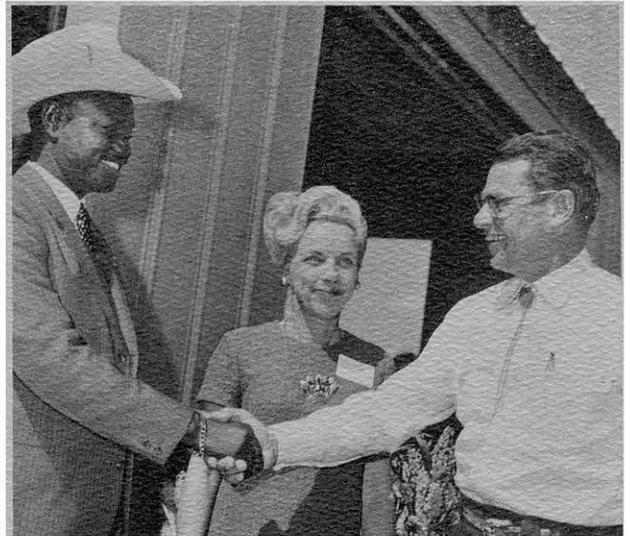
In September, Texas Tech Agricultural Sciences Dean Gerald W. Thomas—who is also ICASALS deputy director for agriculture and home economics—and Agricultural Economics Prof. James E. Osborn visited Chad at the request of the Chadian government. In that country and in Algeria and Libya they surveyed possible opportunities for development.

President Tombalbaye was accompanied to Lubbock by United States Ambassador to Chad Sheldon Vance and Mrs. Vance, other State Department officials and Chadian officials: Foreign Minister Jacques Baroum, Ambassador to the United States Lazare Massibe, Minister of Economic Affairs and Transport Abdouaye Lamana, Minister of Plan and Cooperation Georges Diguimbaye, Minister of Agriculture Ramon Naimbaye and Alphonse M'Bainoungam, director in President Tombalbaye's cabinet.

Highlight of the chief executive's visit was a barbecue luncheon for about 75 guests and a tour for the presidential party of the Slaughter U Lazy S Ranch, one of the first on the Texas plains. His hosts, descendants of the original owner, were the John Lott and the Jack Lott families.

The president also toured the Lubbock Feed Lots holding between 30,000 and

GREETINGS — Mr. and Mrs. John Lott of the Slaughter U Lazy S Ranch near Lubbock greet President Francois Tombalbaye of Chad on his October visit to their ranch. The President is wearing the typical Texas rancher's head-gear, a gift presented on his arrival. He also was made an honorary citizen of the city of Lubbock. Officials of ICASALS and the government of Chad have held extensive talks concerning possible development programs for the African republic.



40,000 head at the time of the visit. The lots handle close to 100,000 head annually.

President Tombalbaye was welcomed to the Texas Tech campus by President Grover E. Murray, and he was entertained at a post-football game buffet supper at the home of Retha Martin, chairman of the board of directors of Texas Tech and ICASALS, Inc.

In his report on the visit to Africa, Dr. Thomas said that West Texas experience expended on the vast resource potential of that area could bring about great economic development. Thomas and Osborn said agriculture was a prime target for development in the regions they visited although associated industries, arts, crafts and tourism also hold promise.

Thomas said he found President Tombalbaye "receptive to the idea that we could work together to solve problems

of our mutual interest in arid and semi-arid lands."

He said that, with the executive secretary of the Lake Chad Basin Development Commission, Muhammodu Carpenter, the ICASALS representatives explored possibilities of several areas of agricultural and livestock development.

Proposals of immediate interest include studies of range management for the protection of native grasslands, animal sciences with emphasis on genetic improvement of Chadian cattle, nutrition and the slaughter of animals, the development of irrigated agriculture and studies of the sociological and economic influences which advanced agriculture—including new markets—could bring about.

Included in the sociological factor is the possibility of educating professional and sub-professional personnel.

Famed Cartoonist To Give Material To SW Collection

The Southwest Collection, Texas Tech repository for preserving historical material of the region, has announced the forthcoming gift of memoirs and personal papers of Jack D. Tippit, 1967 recipient of the national Magazine Cartoonist of the Year award. Tippit, honored as a Distinguished Alumnus of Texas Tech, said the material would begin arriving early next year.

ICASALS SPECIAL REPORTS (Available upon request)

- Department of Park Administration No. 12** — "A South-Central Texas Tourway: El Camino Viejo," Elo Urbanovsky
- Department of Architecture No. 13** — "LIMA PERU—A Study of Housing in an Arid Coastal Region," Robert Troy
- Department of Architecture No. 14** — "Architecture of Ancient Peru," Elizabeth Sasser

ICASALS Representatives Survey Resources Of Dryland Regions In Algeria, Libya

On-the-spot surveys in Algeria and Libya by ICASALS representatives in September indicate potential in several areas of development, according to International Center Deputy Director Gerald W. Thomas.

Dr. Thomas, whose special interests are agriculture and home economics, said that any ICASALS involvement in Africa could be expected to utilize students from the countries involved, as well as Texas Tech students, in order to "train their people to take over."

In Algeria Thomas and Agricultural Economics Prof. James E. Osborn visited the coastal Tell and the inland plateau (Kabylia) at the invitation of Sonatrach, the national petroleum company.

Their guide was Hamocida Maoui, a Sonatrach employee who earned his master's degree in soil science at Texas Tech. With him they traveled to the Hassi Massaoud area on the east and into the Sahara Desert beyond the Atlas Mountains on the west.

Thomas said he thought systematic studies in the arts and crafts area and in tourism would be useful to Algeria and also suggested diversification of agriculture along the coastal area.

In Libya the two visited with government officials and petroleum representatives involved in the Kufra Oasis irrigation development program.

Construction Started On Chemistry Addition, Museum's First Phase

Governor Elect Preston Smith of Texas was the principal speaker for the ceremonial groundbreaking inaugurating construction of the first phase of the ICASALS-Museum complex at Texas Tech Sept. 28.

The first phase, costing \$2.4 million, will include the Central Hall, Moody Planetarium, Pioneer Hall, part of the main exhibit wing and part of the Agricultural and Industrial Gallery. The final \$7.5 million structure will provide a showcase for ICASALS.

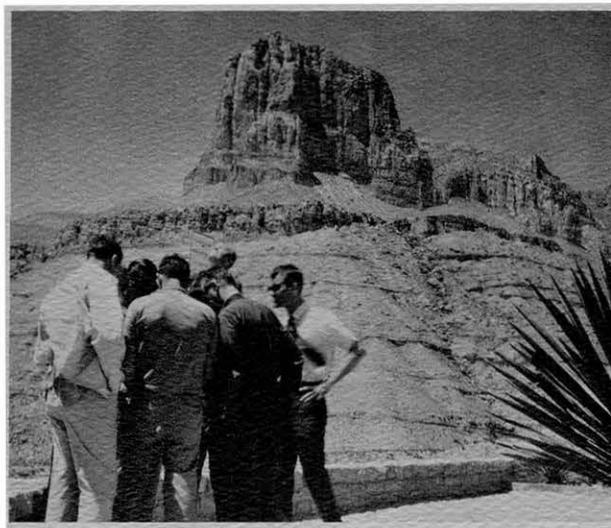
Groundbreaking ceremonies were held Oct. 25 for a \$5.5 million addition to the university's Chemistry Building. The addition of 125,600 square feet will include two laboratories, a work room and an office for a Director of Research in Chemistry for ICASALS.

Department Chairman Joe Dennis said immediate concerns include the problem of water pollution, the preparation of water for recharge of aquifers and other storage problems.

METU Professor Returns To Government Faculty

Prof. Metin Tamkoc returned to the Department of Government faculty at Texas Tech this fall after two years on the Faculty of Administrative Sciences at Middle East Technical University in Ankara. He published three books during his term there.

The three books, published by METU, are *International Civil War*, *A Bibliography on the Foreign Relations of the Republic of Turkey* and *A Manual for Writing Term Papers and Seminar Reports*.



HIGHWAY HUDDLE — Texas Travel Trails, based on research in Texas Tech's Department of Park Administration, includes a route to the Guadalupe Mountains National Park near the Texas-New Mexico state line. The termination point of the Guadalupe Range, El Capitan, forms a backdrop for this group discussing the recreational potential of the area. Included are Texas Tech professors, graduate students and representatives of private philanthropic organizations and the National Park Service.

Pilot Study Indicates 'Positive Results' In Mesquite As Maintenance Diet

"Positive results" in a pilot study of mesquite as a maintenance diet for cows have been obtained over an eight-month period, according to Texas Tech Animal Science Prof. Ralph M. Durham. Dr. Durham said his research is directed toward a solution to brush control.

His study has demonstrated, he said, that cows can survive and produce acceptable calves on a hammer-knifed grind of mesquite trees.

The Holstein-Angus cross breeds used in the experiment were put on mesquite last spring. They were taken off the diet and put on range forage for four months and now are back on mesquite feed.

Durham feeds a daily ration of 1.5 pounds of supplement, 1 pound of molasses and 14 pounds of the mesquite—the entire tree chopped to sawdust-fine, hay-like feed.

The cows maintained their weight on the diet for two to three months before they calved. After calving they showed a sharp decline in flesh and weight. At this time the grain concentrate in the diet was brought up to five pounds. They supported their calves on this diet for a minimum of 50 days before being put on the range forage.

No appreciable difference is apparent between the calves produced from these cows and those from cows on other diets, Durham said.

He began the preliminary study with five cows. Two of these died, one as a result of abnormal calving. The other was found to have a high concentration of wood in the true stomach.

The three survivors, now almost halfway into their second four-month stint on the diet, "look good." They show vitality, a good coat and no appreciable weight loss.

Durham said his study includes a search for a type of bacteria which might be identified in the rumen of browse-consuming deer and goats which could be implanted in the rumen of cattle to aid digestion. Material from deer rumens has been deposited in the rumens of cattle undergoing the test, he said, but no conclusive data on this experiment is available.

The researcher emphasized that his investigation is a preliminary study. He does not propose an immediate brush clearance-feeding program on the range.

He said he hoped to continue the research to determine eventually whether a rancher could break even on a program which would clear his land of brush and utilize the chopped growth to maintain dry cows.

"I am satisfied," he said, "that we do have some positive results here."

ICASALS Contributions numbered 58 to Oct. 1, 1968. This partial listing is a continuation of previously published titles and will be continued in succeeding issues to keep the catalog up to date. Contributions include:

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| 53. R. D. Furr,
K. R. Hansen,
J. A. Carpenter,
L. B. Sherrod | Effect of Different Nitrogen Sources and Antibiotics in All-Concentrate Finishing Rations |
| 54. R. D. Furr,
K. R. Hansen,
J. A. Carpenter | Different Levels of Diethylstilbestrol and Certain Minerals for Beef Cattle Fed an All-Concentrate Finishing Ration |
| 55. R. D. Furr,
K. R. Hansen,
J. A. Carpenter | Effect of Feeding Either Chlortetracycline or Sulfamethazine or a Combination to Stressed Feeder Cattle |
| 56. R. D. Furr,
L. B. Sherrod | Variation in Protein and Mineral Content of Grain Sorghums |
| 57. R. D. Furr,
K. R. Hansen,
J. A. Carpenter,
L. B. Sherrod | Mineral and Chlortetracycline Supplementation of All-Concentrate NPN Supplemented Feedlot Rations |
| 58. T. W. Box,
Truman E. Robertson | Interseeding Sideoats Grama on the Texas High Plains |

(Contributions are available upon request)

European Experts Tour Tech Research Center

Eleven European spinner representatives toured Texas Tech's Textile Research Center and were entertained at a luncheon on the university campus Oct. 14. The visit was part of a two-day tour of farms and facilities supporting the South Plains cotton industry.

The visitors included Dr. Rudolf Siegel, Austria; Pierre Dopchie and Theo Herbert, Belgium; Claude Labouret, France; Jurgen Deitert, Germany; Battista Somaini, Italy; H. J. Stroink, Holland; Gosta Persson, Sweden; J. Blumer, Switzerland; Edmund T. Gartside, United Kingdom, and Stephen Bowkett, a National Cotton Council trade official stationed in Belgium.

Traveling with the group were W. Glenn Tussey, head of the cotton division of the United States Department of Agriculture's Foreign Agricultural Service, and Woody Reynolds and Allen E. Beach, staff members of the NCC, which was sponsor of the tour that covered the Cotton Belt of the United States.

Three Belding Scholars Enrolled In Advertising

Three Belding Scholars are enrolled in Texas Tech's advertising program this fall, Rolf Wigand of Germany, Suporn Premsrirat of Thailand and Gunther Sprattler of Sweden.

Premsrirat and Sprattler are working toward master's degrees in marketing with a specialization in advertising. Wigand is a junior advertising major in the Department of Marketing.

Texas Tech's Don Belding Fund: Educational Grant-in-Aid Program for International Advertising was established primarily to assist international students to study advertising and marketing methods used in the United States. Achievements of the university's advertising program have won repeated recognition from Alpha Delta Sigma, national professional advertising fraternity.

Tech Library Acquires Rare Works Of Art

Four unusual acquisitions by the Texas Tech Library, now housing more than 1,014,870 items of bibliographic material, were announced in October. They are a globe produced in 1688 by the famed geographer Father Vincenzo Maria Coronelli, the "Nuermberg Chronicle" published in 1493, a folio of 10 reproductions of work by New Mexico artist Georgia O'Keeffe and a new addition to the ICASALS collection.

The Coronelli terrestrial globe, given to the library by Texas oilman Robert B. Moody and others, is Coronelli's copy of a 15-foot globe he made in 1683 for King Louis XIV of France.

Periodic Tests Necessary To Keep Well Efficiency

The advantages of periodic testing of irrigation pumping efficiency and good cost accounting were demonstrated through a three-year research project completed in late summer by Texas Tech's Department of Agricultural Engineering. Albert Sechrist was the principal investigator.

Sechrist found, on 134 wells studied, that pump efficiency ranged from 6.2 per cent to 82 per cent, averaging 52 per cent efficiency. The average cost per hour of pump operation ranged from \$.06 to \$2.72 and averaged \$.82. The total cost of irrigation water ranged from \$1.82 to \$72.76 per acre foot, averaging \$15.61 per acre foot. The cost of pumping water per acre foot for each foot of lift ranged from \$.0130 to \$.8458, averaging \$.0808.

The complete project report is available (at \$7.50) from the Texas Tech Department of Agricultural Engineering.

NPS Consultant Named For ICASALS-Museum

Jerry Rogers, who is with the Office of Archaeology and Preservation with the National Park Service, has been appointed consultant to the ICASALS-Museum complex with primary activity related to the development of the ranch headquarters unit.

Rogers, who was reared in the ranch country of West Texas, has a master's degree in history with a minor in park administration from Texas Tech.

Close to \$100,000 of a required \$400,000 has been pledged to establish an authentic ranch headquarters on a 10-acre tract adjacent to the museum complex at Texas Tech.

Most of the funding has come from ranch families concerned with preserving a living history of the industry which provided the first impetus to the High Plains economy. Initial donors included the Mallet Ranch, the Slaughter U Lazy S Ranch and the Ewing Halsell Foundation.

The "Nuermberg Chronicle," a statement of the world's knowledge up to its publication date, is the first book to use printed illustrations.

O'Keeffe at one time taught in Amarillo and Canyon, Tex., and her stark representations of the Southwest have become well known throughout the art world.

Through the International Center, the Romanian Embassy in Washington sent a gift of 65 books including studies of Romanian folk and fine arts, scientific works, novels in English translation and a series on historic Romanian monasteries. Many include outstanding works of photography and art.

Water Purchase Asked For Southwestern Users Of Canadian Resource

The purchase of Canadian water for importation to West Texas and New Mexico through two separate channels—a mid-continent canal and the Mississippi River—is a proposal supported by Civil Engineering Prof. George A. Whetstone of Texas Tech.

Whetstone told the New Mexico Section of the American Society of Civil Engineers that sale of water "differs little in character from sale of electricity, fish, timber, furs or crops."

"Sale of these renewable resources is far easier to justify," he said, "than is the sale of mineral products—metal, coal or petroleum—all of which are being exported without qualms at present."

He said a University of Manitoba study reports there is a foreseeable surplus of 200 million acre-feet of water per year in northwestern Ontario which could be diverted easily to the Great Lakes and then to the Mississippi River. Aqueducts then would carry the water westward to its use location.

The same study suggested that another 100 million acre feet of water per year could be sent from Canadian prairie provinces to supply a system of canals south through the plains of midwestern United States to the dry southwest region.

Whetstone proposed that the water be sold at the border between the United States and Canada. In his view this would alleviate water shortages sooner than could be expected through slowly developing interstate and federal-state negotiations for water.



TEXTILE BLENDS—U.S. Secretary of Agriculture Orville Freeman, right, discusses textile research with Texas Tech Dean of Engineering John R. Bradford. Freeman, who was in Lubbock in October, expressed interest in sample fabrics, the results of TRC blends of natural fibers. Bradford is director of the research center and also is serving this year as president of the Lubbock Chamber of Commerce.

ICASALS Arts Focus Has Expanded Program Of Events, Exhibits

Half a hundred exhibits, performances and special events are confirmed for the first Focus on the Arts sponsored by the International Center for Arid and Semi-Arid Land Studies. The Focus will feature a different sector of the world's arid or semi-arid lands for each of the five months, January through May.

Among the outstanding lecturers scheduled for the Focus are Dr. Cyrus H. Gordon and Dr. Amiya Chakravarty. Dr. Gordon, chairman of Mediterranean Studies at Brandeis University, received international attention in 1957 when he identified the language of the Minoan linear tablets from Crete as Semetic. His published works deal with art, archaeology, law, sociology, literature, religion and magic. Dr. Chakravarty, philosopher, political scientist and poet, is noted for his interpretations of East-West relations. He is professor of Comparative Oriental Religions and Literature at Boston University.

Cooperating with ICASALS, in addition to individuals, are the embassies of Israel, Saudi Arabia, Tunisia, Morocco, Iran, Australia and India, the Smithsonian Institution, the Amon Carter Museum, the American Federation of Arts, the Texas Fine Arts Commission, the National Endowment for the Arts, the Texas Tech Artist Series and arts and humanities departments of the university. Final arrangements with other participants are being made.

Exhibits will include Goya reproductions from the American Federation of Arts; a pavilion featuring food from arid lands; contemporary art of India and Iran; the carvings of Sanchi; Israeli art items; handicrafts, rugs and costumes of Saudi Arabia; art objects of Iran; posters from



CONSULTANT — Dr. Luis J. Medina, special consultant for research direction in the Venezuelan Ministry of Agriculture, visited Texas Tech Sept. 24 to consult with ICASALS and administration officials and faculty concerning post graduate study for Venezuelan agriculturalists. To Executive Vice President Glenn E. Barnett, right, he expressed particular interest in the university's interdisciplinary approach to problems of agricultural technology, including business and engineering aspects. Dr. Medina is the founder and first editor of "Agronomia Tropical."

Morocco; Persian miniatures; "Fountains in Contemporary Architecture;" "Art of the City;" Peruvian paintings and collages; "Silent Cities: Mexico and the Maya;" pre-Columbian sculpture and pottery and popular art from Peru; handicrafts, rugs and costumes of India; Tunisian children's art; "The Camposantas," in photographs; New Mexico pueblo and mission churches in photographs and a juried arts exhibition of sculpture, pottery, jewelry and blown glass by artists west of the Mississippi River.

New Administrator Welcomes International Concern Of ICASALS

Texas Tech's international concern focused on the arid and semi-arid areas of the world holds a special interest for the university's executive vice president and dean of the school of education, Dr. Glenn E. Barnett.

Dr. Barnett, who assumed his new duties in June, said that his "involvement in international educational interests in the past has convinced me that people are more alike than different and that groups of people everywhere can contribute to a better life for their neighbors.

"I am therefore encouraged," he said, "by the fact that Texas Tech is at the present developing contacts designed to be mutually beneficial."

The dean said the School of Education can be expected to develop "a program for the preparation of people who will take on international obligations in education."

Dr. Barnett, who has served as consultant to school systems in California, Texas and Louisiana, came to Texas Tech from the University of Colorado where he was professor of education and vice president for student affairs. He has served as supervisor of the University of Missouri Laboratory School, as dean of students at the University of Texas and, at the University of California at Berkeley, as professor and director of the university's elementary school and head of education extension.

In addition to his special interest in teacher education, he served on a special United States Mission to Yugoslavia for a Seminar on Social and Cultural Problems.



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