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Folder ID Number: 13718-005

Folder Title:
Texas A&I University 5/11/90 [OA 6898]

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TEXAS A. & I. COMMENCEMENT
KINGSVILLE, TEXAS
FRIDAY, MAY 11, 1990, 11:00 A.M.

THANK YOU, SECRETARY CAVAZOS. PRESIDENT IBANEZ [EE-BAHN-YEZ]. GOVERNOR CLEMENTS, SENATORS GRAMM AND BENTSEN, CONGRESSMEN ORTIZ AND DE LA GARZA. MY FRIEND BILL MACKENZIE. IT'S ALWAYS A PLEASURE TO BE BACK IN MY HOME STATE OF TEXAS.

CONGRATULATIONS ALSO TO THE FAMILIES, FRIENDS AND FACULTY OF THESE STUDENTS, AND MOST OF ALL -- THE TEXAS A & I CLASS OF 1990.

WHEN PRESIDENT IBANEZ [EE-BAHN-YEZ] FIRST CONTACTED US ABOUT A & I'S GRADUATION, HE CALLED MY SON, GEORGE, JR., UP AT TEXAS RANGERS STADIUM, AND SAID THAT YOU WANTED TO HEAR A SPEECH FROM A POPULAR BUT AGING TEXAN WHO HAS RISEN TO THE TOP OF HIS FIELD. GEORGE SAID: "DOES THAT MEAN YOU'RE INVITING NOLAN RYAN?" \\\

BUT I'M HONORED TO BE IN THE HOME OF THE LEGENDARY JAVELINAS [[HAV-UH-LEE-NUHS]] -- THE WILD HOGS. AND I'M DEEPLY HONORED TO BE SPEAKING FROM THE HALLOWED SPACE ON THE PLAYING FIELD USUALLY RESERVED FOR "PORKY." \\\

BUT I HAVEN'T SEEN YOUR MASCOT TODAY. GUESS HE HEARD WE KEEP AIR FORCE ONE STOCKED WITH BARBECUED PORK-RINDS! \\\

JAVELINAS AREN'T THE ONLY WILDLIFE NATIVE TO THESE PARTS. THE MESQUITE OUTSIDE KINGSVILLE IS ALSO SHOT THROUGH WITH RATTLE-SNAKE AND DEER. DOVES RISE ON THE WARM GULF WINDS, SOARING OVER THE PALMS AND RED-TILE ROOFS OF TEXAS A & I. AND SOUTH TEXAS IS A SPECIAL PLACE FOR THE BUSH FAMILY. WE COME DOWN NEARLY EVERY DECEMBER TO VISIT FRIENDS AND HUNT JUST OUTSIDE BEEVILLE -- BERCLAIR, TO BE EXACT. WHEN I WAS AN 18-YEAR-OLD NAVAL AVIATION CADET WAY BACK IN 1943, I FLEW ALL OVER THIS COUNTRY, AND I LOVED IT.

(BUT THE REPUTATION OF THE AREA IS CHANGING. WHEN I TOLD BARBARA I WAS FLYING DOWN TO SOUTH TEXAS TO TALK WITH COLLEGE STUDENTS AND SEE THE WILDLIFE, SHE SAID: "AREN'T YOU GETTING A BIT OLD TO BE GOING TO SOUTH PADRE FOR SPRING BREAK?") \\\

LIKE SPRINGTIME ITSELF, COLLEGE COMMENCEMENTS SIGNAL A TIME OF CHANGE. LAST WEEK, AT OKLAHOMA STATE, I SPOKE ABOUT AMERICA'S NEW LEADERSHIP ROLE IN THE ATLANTIC ALLIANCE. TOMORROW MORNING, AT SOUTH CAROLINA, WE'LL BE TALKING ABOUT CHANGE AMONG THE PEOPLE OF EASTERN EUROPE -- PEOPLE YEARNING TO EMULATE NOT ONLY OUR STANDARD OF LIVING -- BUT ALSO OUR STANDARD OF JUSTICE. \\\

BUT DEMOCRACY ISN'T JUST THE WAVE OF THE PRESENT -- IT'S THE WAVE OF THE FUTURE. AND AS YOUR GENERATION ASSUMES A LEADERSHIP ROLE IN A FREE WORLD THAT'S GROWING BIGGER ALL THE TIME -- OTHERS WILL CONTINUE TO LOOK TO OUR SHORES FOR LEADERSHIP AND DIRECTION. I HAVE PROPOSED THAT ONE OF THOSE DIRECTIONS BE SPACE. \\\

THE AMERICAN ADVENTURE HAS ALWAYS HAD THE CAPACITY TO INSPIRE OTHERS -- AND TO ASTONISH THE WORLD. THE VOYAGES OF COLUMBUS. THE DECLARATION OF INDEPENDENCE. THE TAMING OF A CONTINENT. THE INVENTION OF FLIGHT. \\\

AMERICA'S DEMOCRACY IS THE WORLD'S GREATEST EXPERIMENT IN FREEDOM AND DIVERSITY, AN ONGOING EXPERIMENT THAT CONTINUES TO UNLEASH THE CREATIVE ENERGIES OF THE WORLD'S MOST DIVERSE POPULATION. IT IS WHAT TOOK AMERICAN PIONEERS TO THE MOON AND BACK. IT IS WHAT WILL TAKE YOU AS FAR AS YOUR DREAMS CAN SOAR.

LIKE TEXAS ITSELF, A & I IS ALSO A PLACE OF PIONEERS. THE FIRST FOUR-YEAR COLLEGE IN SOUTH TEXAS. A LEADER IN BILINGUAL EDUCATION, WITH THE FIRST SUCH DOCTORAL PROGRAM IN THE U.S. HOME TO RESEARCH AND INNOVATIONS FROM NATURAL GAS ENGINEERING TO SNAKE VENOM TO THE RIO STAR GRAPEFRUIT. AND MANY OF YOU ARE YOURSELVES PIONEERS -- THE FIRST IN YOUR FAMILIES EVER TO ATTEND COLLEGE.

IN AMERICA'S UNIQUE DEMOCRATIC HERITAGE, OUR PIONEERS WERE NOT COMMISSIONED BY KINGS. OUR PIONEERS COMMISSIONED THEMSELVES -- AND TOOK OFF! WE ARE A SEARCHING PEOPLE, FUTURE-ORIENTED, IMPELLED TO PUSH ON. AFTER GRADUATING COLLEGE I TOOK MY FAMILY WEST, LOOKING FOR A COUNTRY TO TEST OURSELVES AND OUR DREAMS. WE FOUND IT IN TEXAS, WITH ENOUGH OPPORTUNITIES TO LAST MANY LIFETIMES.

OF COURSE, TEXAS HAS ALWAYS HAD ITS SHARE OF PIONEERS AND VISIONARIES. ONE WAS SAM HOUSTON. WHERE OTHERS SAW EMPTY PLAINS AND DUST, HE SAW FARMS, AND RANCHES, AND TOWNS. WHERE OTHERS SAW OBSTACLES, HE SAW OPPORTUNITY.

BUT HOUSTON COULD SCARCELY HAVE IMAGINED THAT, LITTLE MORE THAN A HUNDRED YEARS AFTER HIS DEATH, THE ENTIRE PLANET WOULD HOLD ITS BREATH AS HIS NAME BECAME THE FIRST WORD EVER UTTERED ON THE PLAINS AND DUST OF ANOTHER WORLD. \\\

IT WAS JULY 20, 1969. AND ALTHOUGH APOLLO 11 HAD JUST SURVIVED ONE OF THE MOST HARROWING LANDINGS IN THE HISTORY OF SPACE, THE VOICE OF NEIL ARMSTRONG WAS CONFIDENT, STRONG, AMERICAN. HE SAID: "HOUSTON: TRANQUILITY BASE HERE. THE EAGLE HAS LANDED." EIGHT WORDS. AND THE WORLD WAS CHANGED FOREVER.

WHEN AMERICA ACCEPTED THE APOLLO CHALLENGE, WE ROLLED UP OUR SLEEVES AND TOOK ON A DAUNTING AND DANGEROUS JOB. APOLLO 11 SHOWED WE COULD MEET OUR COMMITMENTS TO OURSELVES AND TO THE WORLD -- PROOF THAT DEMOCRACY COULD TRIUMPH AS DECISIVELY IN PEACE AS IT HAD IN WAR. IT LIFTED THE SPIRITS OF A GENERATION, AND RAISED FOREVER THE HORIZONS OF THE HUMAN RACE.

LAST SUMMER, IN A SPEECH COMMEMORATING THE 20TH ANNIVERSARY OF THE APOLLO MOON LANDING, I ANNOUNCED THREE MAJOR SPACE POLICY OBJECTIVES: FIRST, TO HAVE SPACE STATION FREEDOM UP BEFORE THE CENTURY IS OUT. SECOND, FOR THE NEW CENTURY, A PERMANENT LUNAR BASE: "BACK TO THE MOON, BACK TO THE FUTURE -- AND THIS TIME -- BACK TO STAY." AND THIRD, A MANNED EXPEDITION TO MARS. \\\

TOGETHER, THESE OBJECTIVES FORM THE CORNERSTONE OF MY ADMINISTRATION'S FAR-REACHING PLAN FOR INVESTING IN AMERICA'S FUTURE. OUR SPACE PROGRAM WILL HELP REKINDLE PUBLIC INTEREST IN SCIENCE AND MATHEMATICS, AND REVITALIZE AN AREA OF OUR EDUCATIONAL SYSTEM THAT HAS BECOME DISTURBINGLY WEAK. IN FACT, ONE OF THE EDUCATION GOALS WE ANNOUNCED IN JANUARY IS TO MAKE THE UNITED STATES FIRST IN MATH AND SCIENCE BY THE YEAR 2000. BUT OUR SPACE PROGRAM WILL DO MORE. IT WILL REVOLUTIONIZE EVERYTHING FROM COMPUTERS TO COMMUNICATIONS, FROM MEDICINE TO METALS, REGAINING AND RETAINING AMERICA'S HIGH-TECH COMPETITIVE EDGE. IT WILL CREATE NEW TECHNOLOGIES, NEW INDUSTRIES, AND NEW JOBS.

IT'S AN ADVENTURE I HOPE MANY OF YOU WILL BE PART OF. AND IT'S AN ADVENTURE THAT'S ALREADY UNDERWAY. \\\

THE SPACE SHUTTLE IS BACK AND USHERING IN A NEW ERA IN SPACE. AND IT'S LED BY A TALENTED NEW GENERATION. SCIENTISTS LIKE A & I PROFESSOR JOHN LINDER, WHO IS WORKING HERE TO IMPROVE SHUTTLE COMMUNICATIONS. SHUTTLE ENGINEERS LIKE RUBEN ZAVALA, A & I CLASS OF 1977, AND AVIONICS EXPERTS LIKE PRIMITIVO [PRIM-A-TEE-VO] PEREZ, CLASS OF 1971. AND NEW AMERICAN HEROES LIKE FRANKLIN CHANG-DIAZ, NASA'S FIRST HISPANIC ASTRONAUT.

YOU ARE COMING OF AGE DURING A GOLDEN AGE OF SPACE. AND THERE'S NO BETTER EXAMPLE OF THIS THAN THE MIRACLE NOW ORBITING 380 MILES ABOVE KINGSVILLE -- THE HUBBLE SPACE TELESCOPE. IT WILL SEE TO THE FURTHEST REACHES OF THE UNIVERSE, TO THE VERY EDGES OF TIME. (IT WILL, QUITE LITERALLY, EVEN ENABLE ASTRONOMERS TO SEE BACK IN TIME -- PERHAPS FAR ENOUGH BACK TO WHEN THE DALLAS COWBOYS LAST HAD A WINNING SEASON!) \\\

AND IT'S HOPED THAT THE TELESCOPE WILL SEE OBJECTS SO CLEARLY THAT, IN THEORY, IT COULD PICK OUT THE WRITING ON A DIME -- 100 MILES AWAY. \\ TALK ABOUT THE "VISION THING!" \\\

AND EVEN WHILE GALILEO AND HUBBLE BEGIN LOOKING OUT ACROSS SPACE -- ANOTHER ARRAY OF NEW SATELLITES WILL BE LOOKING BACK AT EARTH -- AND TAKING THE PULSE OF THE MOST IMPORTANT PLANET IN THE UNIVERSE. (YOU MAY REMEMBER A COUPLE YEARS BACK WHEN TIME MAGAZINE NAMED EARTH "PLANET OF THE YEAR." COMEDIAN JAY LENO SAID: "WHAT DID YOU EXPECT? ALL THE JUDGES CAME FROM EARTH!")

WE CALL THIS INITIATIVE "MISSION TO PLANET EARTH." IT'S AN EFFORT OF SUCH MAGNITUDE, IT DWARFS EVERYTHING IN THE PAST -- A WORLDWIDE STUDY OF THE COMPLEX INTERACTIONS BETWEEN LAND, SEA, ICE AND AIR -- AS WELL AS BETWEEN THE EARTH AND THE SUN. IT'S AN EFFORT OF GLOBAL INTEREST, IN WHICH WE'RE INVITING OTHER NATIONS TO JOIN. AS CHAIRMAN OF THE NATIONAL SPACE COUNCIL, THE VICE PRESIDENT HAS JUST RETURNED FROM EUROPE, WHERE OUR ALLIES EXPRESSED SERIOUS INTEREST IN BOTH MISSION TO PLANET EARTH AND IN OUR CONTINUING EXPLORATION OF THE SOLAR SYSTEM.

INITIATIVES LIKE THESE MARK A CRITICAL INVESTMENT IN AMERICA'S FUTURE. THEY WILL HELP PROTECT THE ENVIRONMENT, FUEL AN EDUCATIONAL RENAISSANCE, AND HONE AMERICA'S COMPETITIVE EDGE.

BUT THE IMPORTANCE OF THE SPACE PROGRAM -- ESPECIALLY THE MANNED SPACE PROGRAM -- GOES DEEPER THAN THAT. THROUGHOUT OUR HISTORY, AMERICA HAS BEEN A NATION OF DISCOVERERS. IT IS PART OF OUR NATIONAL CHARACTER -- PART OF OUR DEMOCRATIC HERITAGE. IN FACT, MONDAY MARKS THE DAY IN 1804 WHEN MERIWETHER LEWIS AND WILLIAM CLARK SET OUT ACROSS THE MISSISSIPPI TO MAP MUCH OF WHAT WAS TO BECOME THE GREAT AMERICAN WEST. DESPITE THOMAS JEFFERSON'S LOVE OF MACHINES -- IT'S HARD TO IMAGINE HIS SENDING A ROBOT OUT ALONE TO DESCRIBE THE WONDERS OF THE AMERICAN ROCKIES AND THE PACIFIC COAST. IN THE AMERICAN EXPERIMENT -- IN THE EXPERIMENT CALLED DEMOCRACY -- THERE WILL ALWAYS BE A PLACE FOR INDIVIDUAL MEN AND WOMEN WITH IMAGINATION AND DARING.

OUR NATION'S QUEST FOR THE UNKNOWN TOOK AMERICAN PIONEERS FROM THE BLUFFS OF THE MISSISSIPPI TO THE MOUNTAINS OF THE MOON. BUT TODAY, WE'RE NO LONGER JUST ASKING FOR THE MOON. WE'VE BEEN THERE. WE'RE LOOKING FURTHER, TO CARRY THE AMERICAN ADVENTURE TO WHEREVER OPPORTUNITY, CURIOSITY, AND NEED WILL TAKE US.

IT'S TIME TO OPEN UP THE FINAL FRONTIER. THERE CAN BE NO TURNING BACK. AMERICA'S SPACE PROGRAM IS WHAT CIVILIZATION NEEDS TO BEGIN THIS JOURNEY, AND TO PERFECT THE COMMITMENT TO GO BEYOND. EACH TIME WE GO TO THE FRONTIER AND BEYOND, WE BRING BACK MORE THAN WE HOPED FOR. THIS TIME WE HAVE THE CHANCE TO BRING BACK MORE THAN WE CAN IMAGINE.

OUR 1991 BUDGET IS PROOF POSITIVE OF AMERICA'S COMMITMENT TO AN ACTIVE, EXCITING AND CONTINUING PRESENCE IN SPACE -- TO AMERICA'S LEADERSHIP IN SPACE. OUR BUDGET PROPOSES $15.2 BILLION FOR NASA, AN INCREASE OF 24 PERCENT -- ALMOST $3 BILLION -- WHICH IS THE LARGEST INCREASE FOR ANY MAJOR AGENCY OF THE GOVERNMENT.

BUT LEADERSHIP IN SPACE TAKES MORE THAN JUST DOLLARS. IT ALSO TAKES A DECISION. AND I'M ANNOUNCING ONE TODAY.

WE STAND AT A HALFWAY POINT IN OUR EXPLORATION OF THE IMMEDIATE SOLAR SYSTEM -- THE PLANET EARTH, ITS MOON, AND THE TERRESTRIAL NEIGHBORHOOD. 30 YEARS AGO, NASA WAS FOUNDED AND THE SPACE RACE BEGAN. AND 30 YEARS FROM NOW -- I BELIEVE MAN WILL STAND ON ANOTHER PLANET. AND SO I AM PLEASED TO RETURN TO TEXAS TODAY TO ANNOUNCE A NEW AGE OF EXPLORATION, WITH NOT ONLY A GOAL BUT ALSO A TIMETABLE: I BELIEVE THAT BEFORE APOLLO CELEBRATES THE 50TH ANNIVERSARY OF ITS LANDING ON THE MOON -- THE AMERICAN FLAG SHOULD BE PLANTED ON MARS. \\\\

UP BENEATH THE DOME OF THE UNITED STATES CAPITOL -- WHERE DECISIONS ABOUT OUR SPACE PROGRAM WILL BE MADE IN THE COMING WEEKS -- THE AMERICAN ADVENTURE IS TOLD IN STONE, A TABLEAU OF U.S. HISTORY CARVED AROUND THE RIM OF THE DOME ITSELF. IT BEGINS WITH COLUMBUS' ARRIVAL IN THE NEW WORLD -- AND ENDS WITH THE FIRST FLIGHT OF THE WRIGHT BROTHERS' PLANE.

BUT THEY GOT IT WRONG. THE WRIGHT BROTHERS FLIGHT DOESN'T MARK THE END OF THE AMERICAN ADVENTURE -- BUT THE BEGINNING OF A NEW CHAPTER -- A NEVERENDING STORY -- A STORY ABOUT A DEMOCRACY WHERE ANYTHING IS POSSIBLE, AND WHERE NO DREAM IS TOO LARGE.

WE LIVE IN A CENTURY THAT BEGAN WITH GREAT PROMISE AND HOPE FOR THE IDEA WE CALL DEMOCRACY, THEN ONLY BEGINNING TO ASSUME AN IMPORTANT PLACE ON THE WORLD STAGE. THAT HOPE HAS BEEN FULFILLED -- AND SURPASSED -- BEYOND THE WILDEST DREAMS OF OUR FOUNDERS. AND THE PROMISE OF DEMOCRACY IS BEGINNING TO BE TASTED BY MORE PEOPLE IN MORE PLACES THAN EVER BEFORE. IT IS THEIR INSPIRATION. AND IT IS OUR STRENGTH. OUR HERITAGE. AND OUR FUTURE. \\\

AND SO AS THIS CENTURY CLOSES, IT IS IN AMERICA'S HANDS TO HELP DETERMINE THE KIND OF PEOPLE, THE KIND OF PLANET, WE WILL BECOME IN THE NEXT. WE WILL LEAVE THE SOLAR SYSTEM AND TRAVEL TO THE STARS. NOT ONLY BECAUSE IT IS DEMOCRACY'S DREAM. BUT BECAUSE IT IS DEMOCRACY'S DESTINY. \\\

AROUND CAMPFIRES, BY MOONLIGHT AND STARLIGHT ACROSS THE AGES, MEN AND WOMEN HAVE TURNED THEIR GAZE SKYWARD AND DREAMED AN ANCIENT DREAM. AND SOMEWHERE IN AMERICA TODAY, MAYBE HERE IN THIS STADIUM, THERE IS A YOUNG MAN OR WOMAN WHO, LIKE NEIL ARMSTRONG, WILL SEIZE THIS DREAM AND CHANGE THE WORLD FOR ALL TIME. I BELIEVE, I TRULY BELIEVE, THAT THE CLASS OF '90 WILL LEAVE FOOTPRINTS NOT ONLY IN THE SANDS OF <u>TEXAS</u> -- BUT ALSO IN THE SANDS OF <u>TIME</u> -- AND ULTIMATELY ON THE PLAINS OF <u>MARS</u>. \\\

YOU WHO HAVE LIVED THESE PAST FOUR YEARS IN KINGSVILLE KNOW A LOT ABOUT THE SKY. THE PLAINS OF SOUTH TEXAS ARE AS FLAT AS THE SEA -- A LAND WITHOUT HILLS OR IMPEDIMENTS, A LAND OF LIMITLESS HORIZONS AND DREAMS TO MATCH. IT IS EXACTLY THE KIND OF NIGHT-TIME SKY WHERE THE CREAM OF AMERICA'S YOUTH -- THE CREAM OF TEXAS A AND I -- CAN POINT CONFIDENTLY TO THE STARS -- TO ETERNITY -- AND TO THEIR OWN FUTURE, THE FUTURE OF THIS GREAT NATION, <u>AND THE FUTURE OF FREE PEOPLE EVERYWHERE</u>. \\\

AMERICA IS PROUD OF YOU AND YOUR FAMILIES. CONGRATULATIONS. THANK YOU. AND GOD BLESS THE UNITED STATES OF AMERICA.

# # #

TEXAS A & I

UNIVERSITY

ADMISSION REQUIREMENTS

FRESHMAN Students must submit (1) an application for admission, (2) either a high school transcript showing graduation and rank in class or a GED equivalency certificate, and (3) test score results of either ACT or SAT tests. Admissibility is based on a combination of rank in class and level of proficiency as determined by test score results.

TRANSFER STUDENTS All transfer students must submit copies of all former college course work for transfer evaluation and admission consideration. Students presenting an overall combined grade point average of 2.0 will be considered for admission to the university. Those presenting an overall grade point average of 2.5 and above will be considered for admission to the College of Engineering.

GRADUATE STUDENTS All graduate students considering admission to Texas A&I University in a masters degree program must hold a bachelor's degree and provide supporting official documents indicating an overall undergraduate grade point average of 2.5. Satisfactory scores are also required on the GRE, GMAT, MAT, or GRED.

NON-DEGREE STUDENTS This category of admission is designed for new students who want to take part-time undergraduate courses to satisfy their curiosity, use credits toward a possible degree plan, or to use credits for future educational purposes. Admission is based on space availability and no financial aid is available. Students are limited to two courses per long term and one summer course for a maximum of 15 credit hours attempted in this category.

ESTIMATED EXPENSES 1990-1991

TUITION AND FEES Texas residents pay $910 ($455 each semester—15 credit hours) for tuition and fees. Nonresident and international students pay $4030 ($2015 each semester—15 credit hours) for tuition and fees. Room and board for each semester is $1,312. The average cost of books and supplies for an academic year is $470. Dormitory residents spend approximately $1570 for miscellaneous expenses. There is no application fee for admission to Texas A&I.

FINANCIAL AID There are many opportunities for financial aid, including the Pell Grant, Supplemental Education Opportunity Grant, college work/study programs, loans, and scholarships. In 1986, 60 percent of Texas A&I students received financial assistance. Interested students and/or parents should visit the Financial Aid Office. To help the financial aid counselor determine eligibility for aid programs, applicants are encouraged to send their latest income tax returns. Students should apply for admission before applying for financial aid.

TOTAL FINANCIAL AID DISTRIBUTED

Pell Grants	**2,191,000**
Guaranteed Student Loan Programs	**4,000,000**
Hinson-Hazlewood Student Loan	**766,199**
College Work Study Funds	**486,207**
SEOG	**290,651**
TPEG	**250,000**
Other Sources	**861,767**
TOTAL	**$8,845,824**
Average Financial Aid Package (88-89)	$2,500

MASTERS DEGREES

COLLEGE OF AGRICULTURE & HOME ECONOMICS
Agricultural Economics, Agricultural Education, Agricultural Mechanization, Animal Science, Plant and Soil Science, Range and Wildlife Management.

COLLEGE OF ARTS & SCIENCES Art, Biology, Chemistry, English, Geology, History & Politics, Mathematics, Music Education, Psychology, Sociology, Spanish.

COLLEGE OF BUSINESS ADMINISTRATION
Business Administration, Professional Accountancy

COLLEGE OF EDUCATION Adult Education, Bilingual Education, Counseling and Guidance, Early Childhood Education, Elementary Education, Health & Kinesiology, Reading, School Administration, Secondary Education, Special Education, Supervision.

COLLEGE OF ENGINEERING Chemical Engineering, Civil Engineering, Computer Science, Electrical Engineering, Mechanical Engineering, Natural Gas Engineering.

DOCTORAL DEGREE

COLLEGE OF EDUCATION Bilingual Education.

Texas A&I University operates on the semester system as a comprehensive, coeducational state-assisted institution. It was founded in 1925 as South Texas State Teachers College; in 1929 the school became Texas College of Arts and Industries. The name was shortened to its current form in 1967.

LOCATION Texas A&I is situated in Kingsville, Texas (pop. 30,000), the Kleberg County seat. Kingsville is within easy traveling distance from many South Texas cities: 40 miles southwest of Corpus Christi; 119 miles east of Laredo; 120 miles north of Brownsville; 153 miles southeast of San Antonio; 220 miles southeast of Austin; and 232 miles southwest of Houston.

CAMPUS University lands total more than 1600 acres, including a 246-acre main campus and a 545-acre University Farm. There are 100 buildings; 82 located on the main campus. Replacement value is $170 million.

LIBRARY The James C. Jernigan Library contains 450,000 volumes, subscribes to 2,000 periodicals, and has an extensive collection of audio-visual materials.

UNDERGRADUATE MAJORS AND OPTIONS

COLLEGE OF AGRICULTURE & HOME ECONOMICS
Agricultural Economics, Agricultural Education, Animal Science, Child & Family Studies, Fashion Merchandising, Food Science and Nutrition, General Home Economics, Housing & Interiors, Plant & Soil Science, Range & Wildlife Management.

COLLEGE OF ARTS & SCIENCES Applied Music, Art, Biology, Chemistry, Communication Disorders, Communications, English, Fine Arts, Geology, Geography, History, Mathematics, Music Education, Physics, Political Science, Psychology, Sociology, Social Work, Spanish, Theater Arts.

FACULTY

Texas A&I employs a total of 242 faculty members, resulting in a very favorable faculty/student ratio of 1-19. Sixty-seven percent have earned the doctorate degree.

STUDENTS (FALL 1988)

Current fall enrollment is 5598; a 50 percent split between men and women. Total new students entering is 1239. Thirty-five states and 53 foreign countries are represented. The student body is 55 percent Hispanic; 36 percent white, non-Hispanic; 3.5 percent black, non-Hispanic; more than 4 percent nonresident aliens/foreign nationals; .1 percent Asian or Pacific Islander; and .4 percent American Indian or Alaskan native. The most popular majors are animal science, biology, electrical engineering, data processing, elementary and secondary education, general business, geology, home economics, and liberal arts.

STUDENT ACTIVITIES

Student Activities sponsors numerous programs, including more than 100 clubs and organizations, the Student Activities Board, the Students' Association, homecoming, the Miss Texas A&I Scholarship Pageant, a movie series, Parents' Day, Campus Capers, Fall Carnival, theater performances, and the Texas A&I Greek system.

CAMPUS HOUSING

Men's, women's, coed, upperclassmen, and married housing is available. Men's halls are Martin B and Turner; women's halls are Bishop and Lynch; coed hall (for students age 22 and older who have more than 90 semester credit hours) is Lewis. Martin Hall A is for upperclassmen or students aged 21 and older or who have 60 credit hours. Students who are single, under age 21, and who have fewer than 60 semester hours of acceptable credit with the university will be required to live in university housing unless granted an exception. Final acceptance, with the right to register for classes, is not granted until all housing requirements are fulfilled. The four residence halls for entering students are air-conditioned, and offer both the 19- and 14-meal plans. Residence hall assignments are on a first-come, first-served basis. Early deposits are encouraged. The $100 housing application fee is refundable as follows:

SS I - May 15 Fall - August 1
SS II - June 15 Spring - January 2

RECREATION

Recreational facilities include an Olympic-sized pool; handball/racquetball courts; bowling lanes; a weight training/exercise room; a 5,000-seat gymnasium for basketball, volleyball, and badminton; lighted tennis courts; a gamefield; softball fields; soccer fields; an archery range; an all-weather track; and the Student Union Building game room and PUB. Programs include intramural activities and intercollegiate athletics for women and men. There is also easy access to Padre Island, Lake Corpus Christi, hunting and fishing areas, and a county golf course.

INFORMATION CONTACTS

Admissions	595-3907	Housing	595-3419
Advisement	595-3300	Orientation	595-2760
Athletics	595-2411	Placement	595-2217
Business	595-2897	Registrar	595-2811
Counseling	595-3991	Univ. Police	595-2611
Financial Aid	595-3911	Conner Museum	595-2819

Please come to College Hall (front cover) for any further information or write in care of address below.

ACADEMIC DEANS

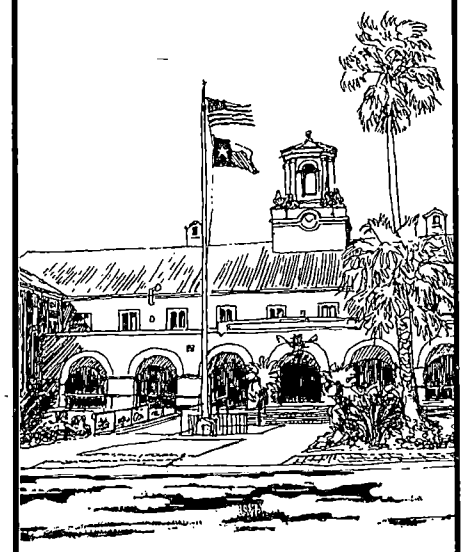
Agriculture & Home Economics	595-3711
Arts and Sciences	595-2761
Business Administration	595-3801
College I	595-3300
Education	595-2801
Engineering	595-2001
Graduate Studies	595-2808

EQUAL OPPORTUNITY POLICY

Texas A&I is an Equal Opportunity/Affirmative Action Employer, and no student, applicant, or employee will be discriminated against because of race, color, age, religion, sex, national origin, or non-job-related physical or mental handicap. Fees and university policies contained herein are subject to change without notice.

TEXAS A&I UNIVERSITY

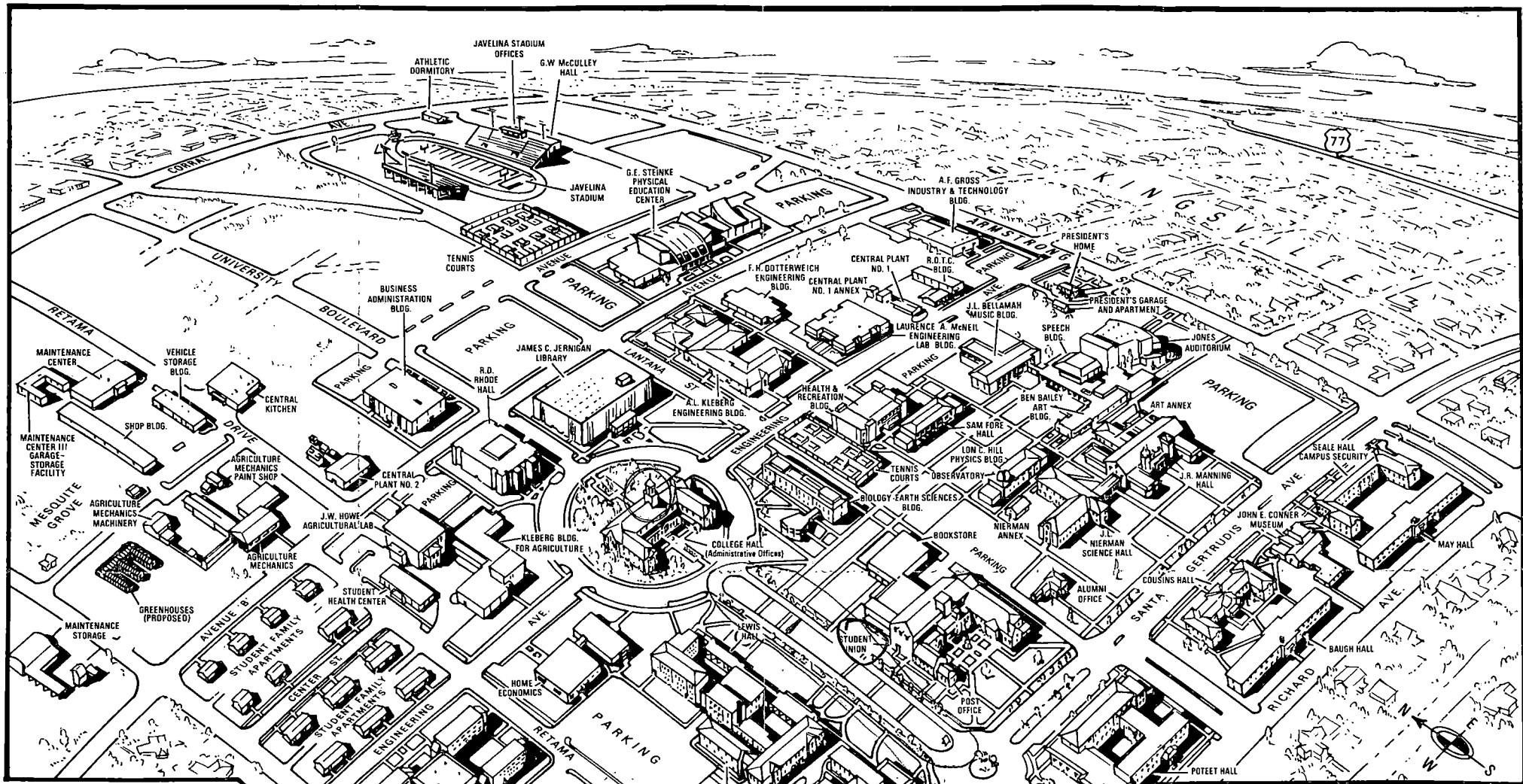
KINGSVILLE, TX 78363; (512) 595-3907

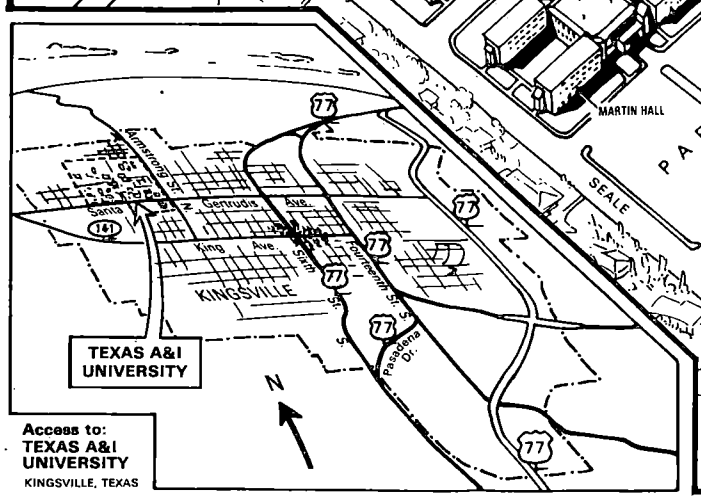


TEXAS A&I UNIVERSITY

A Part of The Texas A&M University System

FACTS





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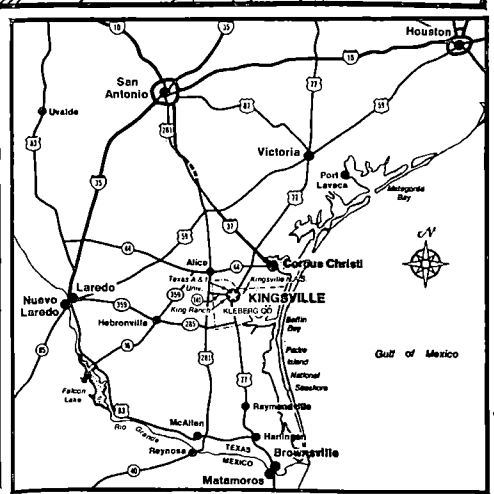
KINGSVILLE, TEXAS



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Office of Public Affairs

Support opportunities are available

Texas A&I investigators and scholars have traditionally focused on Hispanic-related concerns. As always, there are ample opportunities to support this work for those interested in being a part of bringing about solutions to long-standing problems. Here are a few possibilities for investing in current educational and research interests at Texas A&I:

- A study of the high dropout rate among Hispanics in South Texas at all levels of education.
- To explore the concept of mental illness among Hispanics, the concepts of wellness, and nutrition and foodways among Hispanics.
- To investigate the causes of high area unemployment and upward mobility of Hispanics in South texas.
- A study of the consequences of moving from an agrarian to an industrial society, e.g., from rural South Texas or Mexico to larger cities in Texas, the Midwest, or the East.
- To explore the movement away from Catholicism by Hispanics.

Editorial assistance was provided by student journalism intern Shawna Gant.

The Hispanic Agenda
At Texas A&I University

Office of Institutional Development
Texas A&I University
Campus Box 216
Kingsville, TX 78363

The Hispanic Agenda
At Texas A&I University

Vol. 2 No. 1 Fall 1989

New president is active participant

Manuel L. Ibañez is the university's 11th president and the first Hispanic to hold that post in the school's 64-year history. Ibañez has been active on a number of fronts since assuming office in August. His presidency has been distinguished by three principal activities to date: getting to thoroughly know the campus, interacting with the Texas A&M University System—which Texas A&I joined Sept. 1—and representing the university at a variety of public functions. His visits to campus academic departments and other offices and units mark the first time that a chief executive of the institution has made such hands-on efforts to know his constituency. Affable and easy-going, Ibañez is as open to all segments of the campus community as his schedule permits. A dedicated teacher, he is already planning to teach a biology course next year. Ibañez's representation of the university has been lauded by Texas State Sen. Carlos Truan who says Ibañez "has the ability and expertise to develop doctoral programs at Texas A&I University in engineering, science, and education during his administration." He is actively pursuing new horizons for Texas A&I. At a recent meeting with members of the agricultural community in the Rio Grande Valley, Ibañez stressed the university's readiness to train tech-

Rave reviews ...

Ibañez has received favorable reviews from the press during his first few months in office.

From the *Corpus Christi Caller-Times*:

"... the arrival of someone with Ibañez's credentials ... is in itself an encouraging sign for A&I. It also represents a payoff for all the effort and time that went into the struggle to merge the University System of South Texas with the Texas A&M University System, for Ibañez made it clear that the link-up played a crucial role in his decision to make the trek to Kingsville.

"South Texas still has a long way to go before it attains higher education parity with other regions of the state. Now, however, some of the ground lost over past decades is being made up—and Ibañez looks to be admirably equipped to keep that momentum going at Texas A&I."

From the student paper, *The South Texan*:

"Not too many people have had a chance to see and hear Ibañez in action—after only three months in office, he hasn't had very many public speaking opportunities. Wednesday was his day. After his investiture ceremony, he told the crowd how he wanted to capitalize on the merger with A&M by developing minority student interest in the sciences. He reiterated his belief in A&I's future. He let it be known that he plans to see the university grow into the next century, and that he plans to be here for the long haul. And he spoke in a way that was just ... *convincing*.

nicians for future jobs. "Our college is world renowned in the field of agriculture and home economics with the Caesar Kleberg Wildlife Research Institute, the Equine Center, and the Weslaco Citrus Center as firm underpinnings of our research efforts," he said. "In agriculture, Texas A&I, standing hand in hand with Texas A&M, will produce the best all around program in the United States ... right here in South Texas." He continued by emphasizing that Texas A&I offers strength not only in agriculture and home economics, but also in engineering and in business to help boost the Valley's economy by forming a partnership for tomorrow. Married and the father of four children, one of whom is pursuing a doctorate in archaeology at the University of Texas, Austin, Dr. Ibañez is widely traveled and speaks several languages. He plays the piano, chess, and tennis, and collects and restores antique phonographs.

Project aims at sensitizing faculty

Texas A&I has been called a university in transition. Twenty-five years ago both the faculty and the student body were predominantly Anglo. Today, 58 percent of this year's enrollment is Hispanic, but only about eight percent of the 195 full-time faculty is. That is one reason why Texas A&I professors Rosario Torres-Raines and Ward Albro successfully sought a $64,333 Fund for the Improvement of Post-Secondary Education grant from the U.S. Department of Education for a project called "Transculturation of Faculty at a Minority Institution." "Until now," says Torres-Raines, "the process of acculturation has been designed to be experienced almost exclusively by minority students entering educational institutions that are structured and function on a mainstream model. This project seeks to reverse that process and provide an opportunity to change the institution to better fit the majority of the students instead of changing the students to fit the institution. This is such a unique approach to faculty development," she continues. "Institutions have to fit the minority reality that they are converting to." Albro said the agreement calls for the project to be extended two more years with tentative funding for next year of about $72,000 and $83,000 the third and final year. Twenty faculty (10 each semester) are to participate in the program for each of its three years, making a total of 60 participants. Ultimately, say the directors, the project is expected to reach three-fourths of all Texas A&I faculty who have contact with freshmen. Key goals of the program are to increase the faculty's understanding of Mexican American culture and history and the Spanish language. This will be accomplished through weekly seminars featuring leading authorities on specific program topics, a symposium, and a language immersion program in Mexico. The program was only one of 80 funded of the some 2000 which were submitted. However, the project directors hope their work will have spin-off value for other similarly placed institutions because "we want

field production. He also sat in on all production meetings and teleconferences between Washington and CNN Atlanta three times daily. "I think being picked to be the producers' special assistant showed that I was more than a token Hispanic. I believe I got there on my own merits," Delgado said. Two of the important stories he worked on were the Webster abortion decision and the Oliver North sentencing. During the Webster decision he was in charge of a camera crew interviewing pro-choice and pro-life subjects outside the Supreme Court. In the North decision his job was to interview those coming from the trial who had had a part in it to determine their reactions. Although it was hard for him to leave his wife and daughter for three months, Delgado said he easily acclimated to the East Coast life style. Unlike South Texas, where everyone is used to driving cars to work, in Washington Delgado was up in the wee hours of the morning to catch the 6 a.m. train that would take him into the city for work. He also quickly got the hang of hailing cabs and taking the shuttle flight into New York City on the weekends.

Model literacy program attracts national attention

A pilot program by two Texas A&I professors is targeting adults with limited English proficiency in the predominantly Hispanic South Texas town of Benavides. The emphasis is to bring parents into a classroom and teach them the same subjects their school-age children are tackling. "There is no more powerful statement a parent can make about the importance of school than to be involved in school themselves," says Wayne Pate of the Texas Education Agency, which is funding the program. Robert Warren and David L. Zufelt were awarded $52,000 to implement and coordinate the program and write a handbook. Benavides was chosen as the testing ground because of its efforts to organize the program and because of Duval County's low education levels. In some South Texas counties up to 70 percent of the adult population is classified as illiterate and/or undereducated. Duval County counts 63 percent of its population over age 25 in this category. TEA plans to use the project as a model throughout the state wherever pockets of adult illiteracy exist. Inquiries have come from as diverse locations as Brooklyn, Denver, Phoenix, Santa Fe, and Lafayette. Within the state interest has been shown by Baylor University, Southwest Texas State University, and El Paso.

Corporations back Hispanic programs

A number of corporations have been historic, long-time supporters of various Hispanic-oriented programs at Texas A&I. Among them are such national leaders in support of higher education as the Amoco Foundation, Bell Helicopter Textron, the Exxon Education Foundation, Hoechst Celanese, and the Minnesota Mining and Manufacturing Foundation. Texas A&I is deeply appreciative of the support and understanding of these fine organizations.

Merger to be good for Texas A&I and region, says Cisneros

Former San Antonio Mayor Henry Cisneros says Texas A&I's relationship with The Texas A&M University System will be very good for South Texas and for Texas. Cisneros was keynote speaker at the university's annual convocation in November. In explaining how The Texas A&M System would be beneficial for Texas A&I, Cisneros related the example of Prairie View A&M University's relationship with the A&M System. "With the massive attention to resources, bringing political power of the system to bear on fairness across the state for all ethnic groups and geographic areas and sharing access to particular resources, there has been a dramatic turnaround to that institution as well as others," said Cisneros, a former Texas A&M Regent who was mentioned as a possible Democratic vice presidential candidate in the 1988 campaign. He is considered unusually well informed and politically astute. The University System of South Texas, which included Texas A&I University, Corpus Christi State University, and Laredo State University, merged with The Texas A&M University System Sept. 1. Cisneros said Texas A&I should set the example on how Texans are going to live and work together. "Texas A&I should not only be a teaching facility, but it should also serve to help develop the region in practical ways that involve small business development, export development, and so many other things," Cisneros said. He added that the university must strive for excellence because it can't abide anything else. "Students must reach their full potential."

CNN internship offers rich experiences

While most students take a summer job to supplement their income, Danny Delgado's job as an intern for CNN (Cable News Network) not only added to his pocketbook, it also gave him three months of solid training not available in a classroom. Delgado, a senior communications major, was the only Hispanic among 40 interns form across the world to gain experience this past summer in Washington, D.C. Delgado spent the first six weeks as a rotation worker and was hand picked by executive producer Pam Benson to be her special assistant the last eight weeks of his stint. His work with Benson included doing interviews in the field, studio interviews, and research and

to develop a model that will be transportable to other universities." Albro said that "without proper understanding of the wide diversification of the Hispanic community, communications between Hispanic students and the faculty could be very restricted." Some of the seminars that have addressed those concerns are the demographic profile of Hispanics in higher education, the language and culture of Mexico, the high student dropout problem in South Texas, and the diversity of Texas A&I's Mexican American student body. "We aren't telling the faculty how to teach," insists Torres-Raines. "Basically, we are just trying to improve communications."

New college will aid Hispanic students

A new academic unit established this fall at Texas A&I will be a definite asset to the university's Hispanic students, say the organizers. College I, intended to benefit all freshman and transfer students, will accomplish this, they say, because nearly 56 percent of this year's freshman class is Hispanic. All of them must come into contact with College I during their first year for intensive advisment on scheduling and classes, study skills courses, and other support services. Under the operating guidelines, all entering freshmen and other new students with less than 30 hours of university work are automatically enrolled in College I; 1461 of the 2334 members of the Class of 1993 (or 55.09) are Hispanic. That percentage reflects the overall composition of this year's Texas A&I student body—about 57 to 58 percent. The college is expected to assist Texas A&I to continue to be a national leader in conferring college degrees on Hispanic students. For example, Texas A&I ranks eighth nationally in awarding engineering degrees to Hispanic undergraduates. The concept of College I is innovative, according to Dean Gary Low, and is relatively new in American higher education. Other colleges and universities around the country are expected to be watching the Texas A&I model for possible replication. "The concept is designed as a commitment to students," says Low. "Our goal is to help them succeed in getting a degree." The core of the College I program is advising, utilizing an approach known in higher education as "intrusive advising" in which faculty and advisors inject advising into the student's regular ongoing schedule of concerns and activities. Faculty and staff have designed and are teaching various skills and "success" courses. The college will also administer counseling services, learning skills centers, pre-professional programs, tracking and evaluation procedures, and remedial courses in English, reading, and mathematics. "College I is student centered," explains Provost Richard C. Meyer, one of the originators of the new unit. "It exemplifies Texas A&I's mission of attracting, retaining, and graduating well-prepared students."

Hispanic Task Force recommendations are being studied

President Ibañez is studying a series of recommendations handed down by a university Task Force on Hispanic Affairs. Ibañez said he was impressed with the scope and thoroughness of the study and hoped to be able to act on its major points. The committee was charged with examining and recommending strategies by which Texas A&I could be more responsive to issues affecting the Hispanic student body and the South Texas area, as well as assisting the public in understanding the significant demographic changes affecting the university. The report, said Ibañez, "represents an important beginning for tasks which will involve the university and its faculty for years to come and provides a means for continued work in this critical area." "Texas A&I," the report pointed out, "because of its strategic location in South Texas, its mission, student mix, and diversity of programs and faculty, is at the cutting edge of Hispanic concerns to increase the educational aspirations and attainment of minority youth." The task force was broken down into subcommittees on early outreach, faculty development, retention, awareness and image, curriculum, and research. Representative of the recommendations were those calling for the university to seek collaborative arrangements with surrounding communities and school districts and to seek funding to address the serious dropout problem. Another was for faculty to become sensitized to the need for multicultural awareness. Other recommendations called for developing a first-year experience program which could serve as a model for student achievement and retention. Another was for shaping Texas A&I into a more caring, quality, and responsive institution that welcomes students of differing backgrounds and abilities and which provides for the needs of all. Subcommittees also recommended building and maintaining a list of all courses offered at Texas A&I dealing with Hispanic concerns and investigating research issues of paramount concern to that group, such as the dropout problem and delivery of social services and health care.

New graduate engineering programs being developed

Two proposed new graduate engineering programs at Texas A&I were recently authorized by The Texas A&M University System Board of Regents. The next step in implementing the programs is approval by the Texas Higher Education Coordinating Board, which meets next January. Engineering Dean Phil V. Compton says the programs will address critical needs of South Texas. "Increasing emphasis on environmental controls," he adds, "have created a need for highly trained professionals to support industrial requirements." The advanced industrial engineering degree will allow the university to provide expertise and assistance to maquiladora plants in the Rio Grande Valley as well as their suppliers. Compton believes the new programs will attract more industry to South Texas. Manufacturing and petrochemical companies will be interested in the support services Texas A&I can offer, he says. And the programs will be beneficial to companies providing services for ship channel industries as well as pollution control for the region. According to Compton, six faculty members will be hired for the programs. He expects an initial enrollment of 65 students in the two programs, primarily composed of professionals in South Texas. Two new faculty will be added in mechanical engineering with restructuring slated in that discipline and in civil engineering. The new mechanical engineering faculty will support the maquiladora programs offered in the Valley. If the programs are approved in January and staff is hired, the first master's degrees could be granted as early as Spring 1991. Compton said the programs will be funded from the $900,000 per year provided by the Legislature for new program development at Texas A&I. The university's involvement in the development of a consortium to address hazardous waste concerns will also be enhanced by the new degrees. Dr. Ray N. Finch, who chairs the chemical and natural gas engineering department, represents Texas A&I in a 14-member collegiate consortium. Texas A&I is one of three predominantly Hispanic institutions in the consortium, along with the University of Texas at El Paso and New Mexico Highlands.

Catholicism enhances "Protestant Ethic"

Catholicism—when linked with minority group status—enhances the "Protestant Ethic" among Mexican American students, says a Texas A&I researcher. That conclusion by sociology professor Joseph V. Domino is counter to the conventional view that Catholicism is not compatible with the "Protestant Ethic" and that minority group members such as Mexican Americans fail to possess such values normally associated with achievement and success. The "Protestant Ethic" centers around the concept of hard work, thrift, frugality, sobriety, and delayed gratification. Domino says his findings strongly suggest that Anglo-Mexican American differentials in success and achievement can be explained by social structural factors, not by claims that many Mexican Americans lack the value system necessary to compete in today's industrial society. Collaborating with Dr. Domino on the study was Li-Chin Ma of Lamar University.

TEXAS A&I UNIVERSITY

TEXAS A&I UNIVERSITY

Texas A&I University is located in dynamic South Texas — approximately 35 miles southeast of Corpus Christi, 120 miles north of Brownsville and entry points to Mexico, and 15 miles east of Baffin Bay off the Gulf of Mexico.

The University serves an area which includes the citrus region of the Rio Grande Valley, extensive ranch and farmlands, productive oil and gas fields, and the expanding industrial area of the Coastal Bend. The climate is pleasant in any of the four seasons.

Texas A&I is in a multi-cultural region, which adds a significant dimension to the educational experiences of its students.

The University is the most comprehensive institution of higher education serving the vast region of South Texas. Students may select from a wide range of educational programs offered through six colleges: College of Agriculture, College of Arts and Sciences, College of Business Administration, College of Education, College of Engineering, and College of Graduate Studies.

TEXAS A&I — EXCELLENCE IN THE '80s

TEXAS A&I UNIVERSITY CAMPUS MAP

WHERE TO FIND IT

Administrative Offices

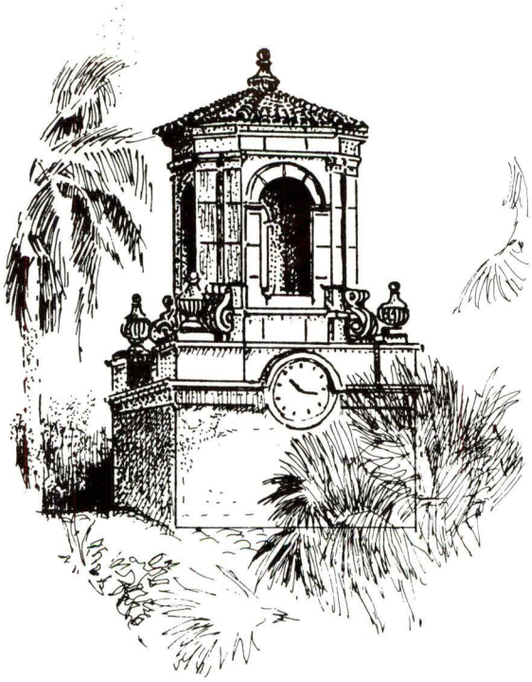
Admissions Office ..... College Hall
Athletic Offices ..... Javelina Hall
Athletic Ticket Office ..... Steinke Physical Education Center
Bilingual Resource Center ..... R.D. Rhode Hall
Business Office ..... College Hall
Caesar Kleberg Wildlife Research Institute ..... J.W. Howe Agricultural Lab
Campus Housing ..... College Hall
Computation Center ..... College Hall
Center for Continuing Education ..... R.D. Rhode Hall
Cooperative Education ..... Cousins Hall
Counseling Office ..... Student Union Building
Financial Aid ..... College Hall
Food Service ..... Central Kitchen
Foreign Student Office ..... Student Union Building
KTAI-FM Radio Station ..... Jones Auditorium
News Service ..... College Hall
Personnel Office ..... College Hall
Photography Center ..... College Hall
Placement Center ..... Seale Hall
President's Office ..... College Hall
Purchasing Department ..... College Hall
Registrar's Office ..... College Hall
Rehabilitation Programs ..... Student Union Building
Research Office ..... College Hall
Safety Office ..... College Hall
Special Academic Programs ..... College Hall
Student Activities Office ..... Student Union Building
Vice President - Academic Affairs ..... College Hall
Vice President - Institutional Advancement ..... College Hall
Vice President - University Affairs ..... College Hall

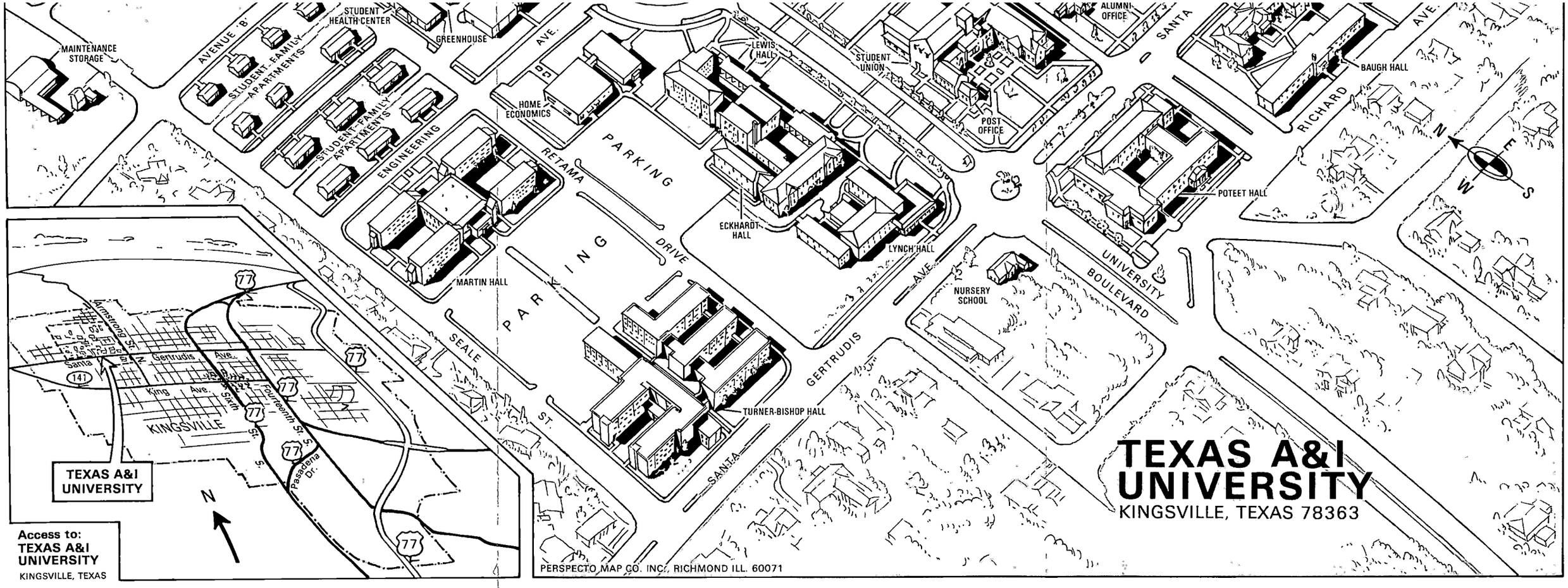
Academic Offices

College of Agriculture Office ..... R.J. Kleberg Jr. Agricultural Building
College of Arts and Sciences Office ..... Sam Fore Hall
College of Business Administration Office
..... Business Administration Building
College of Engineering Office ..... A.L. Kleberg Engineering Building
College of Teacher Education Office ..... R.D. Rhode Hall
College of Graduate Studies Office ..... College Hall

Residence Halls

Eckhardt Hall
Lewis Hall
Lynch Hall
Martin Hall
Poteet Hall
Turner-Bishop Hall




MAINTENANCE STORAGE
AVENUE 'B'
STUDENT FAMILY APARTMENTS
STUDENT HEALTH CENTER
GREENHOUSE
STUDENT FAMILY APARTMENTS
ENGINEERING
HOME ECONOMICS
AVE.
LEWIS HALL
STUDENT UNION
POST OFFICE
ALUMNI OFFICE
SANTA
BAUGH HALL
RICHARD
AVE.
RETAMA
PARKING
POTEET HALL
ECKHARDT HALL
LYNCH HALL
MARTIN HALL
PARKING
DRIVE
AVE.
NURSERY SCHOOL
UNIVERSITY BOULEVARD
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KINGSVILLE
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Pasadena Dr.
77
141
TEXAS A&I UNIVERSITY
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Access to:
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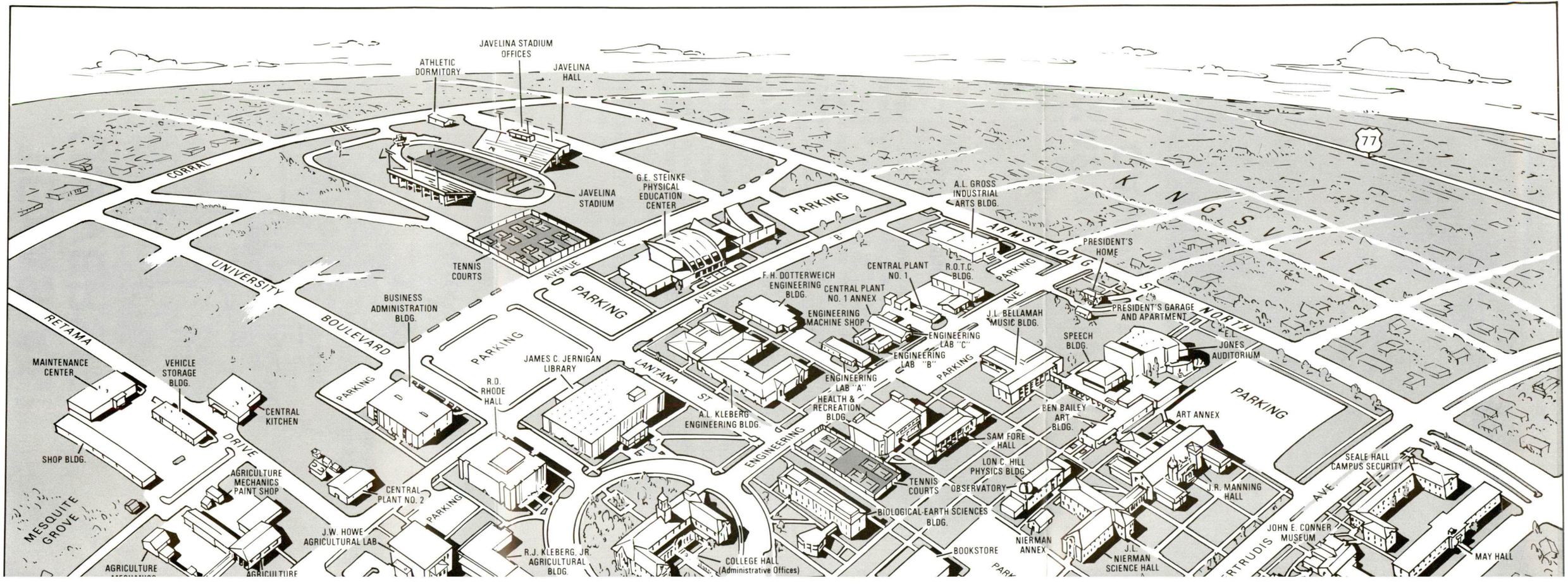
KINGSVILLE, TEXAS
TEXAS A&I UNIVERSITY
KINGSVILLE, TEXAS 78363
PERSPECTO MAP CO. INC., RICHMOND ILL. 60071


JAVELINA STADIUM OFFICES
ATHLETIC DORMITORY
JAVELINA HALL
JAVELINA STADIUM
G.E. STEINKE PHYSICAL EDUCATION CENTER
A.L. GROSS INDUSTRIAL ARTS BLDG.
PRESIDENT'S HOME
PRESIDENT'S GARAGE AND APARTMENT
CORRAL AVE.
UNIVERSITY BOULEVARD
RETAMA
TENNIS COURTS
PARKING
AVENUE C
AVENUE B
ARMSTRONG
KINGSVILLE
77
BUSINESS ADMINISTRATION BLDG.
F.H. DOTTERWEICH ENGINEERING BLDG.
CENTRAL PLANT NO. 1
R.O.T.C. BLDG.
CENTRAL PLANT NO. 1 ANNEX
ENGINEERING MACHINE SHOP
J.L. BELLAMAH MUSIC BLDG.
E.L. JONES AUDITORIUM
SPEECH BLDG.
MAINTENANCE CENTER
VEHICLE STORAGE BLDG.
CENTRAL KITCHEN
SHOP BLDG.
JAMES C. JERNIGAN LIBRARY
R.D. RHODE HALL
LANTANA ST.
A.L. KLEBERG ENGINEERING BLDG.
ENGINEERING LAB "C"
ENGINEERING LAB "B"
ENGINEERING LAB "A"
HEALTH & RECREATION BLDG.
BEN BAILEY ART BLDG.
ART ANNEX
SAM FORE HALL
LON C. HILL PHYSICS BLDG.
TENNIS COURTS
OBSERVATORY
J.R. MANNING HALL
SEALE HALL CAMPUS SECURITY
BIOLOGICAL-EARTH SCIENCES BLDG.
NIERMAN ANNEX
J.L. NIERMAN SCIENCE HALL
JOHN E. CONNER MUSEUM
MAY HALL
BOOKSTORE
COLLEGE HALL (Administrative Offices)
R.J. KLEBERG, JR. AGRICULTURAL BLDG.
J.W. HOWE AGRICULTURAL LAB
AGRICULTURE MECHANICS PAINT SHOP
CENTRAL PLANT NO. 2
MESQUITE GROVE
DRIVE
ENGINEERING

April 27, 1990

MEMORANDUM FOR CHRISS WINSTON
ED MCNALLY
BOB SIMON

FROM: STEPHANIE BLESSEY SB

SUBJECT: TEXAS A&I COMMENCEMENT ADDRESS

The following is information I gathered on the pre-advance to Kingsville.

Logistics:

Graduating Class: 400
Audience: ~~20,000~~ 12,000
Dais: 50 people
Place: Javelina Stadium (outdoors)
Dais: 50 people
acknowledgements: President Ibanez (ee bahn yez)
Congressman Ortes
Senator Gramm
?Ann Richards - not on stage
Ibanez's office will control acknowledgements.

Contacts:

Dr. Richard Myer (512) 595-3098
President Ibanez
Ron Hamm (512) 595-3899
Public Affairs

Images:

warm winds (constant at 6-10 miles)
doves
deer are rampant
rattlesnakes
palm trees
red tile roofs
palm trees
time isn't pressing in Kingsville

Sports:

FOOTBALL
went to finals in NCAA Division 2
Rodeo - intermural

Well knowns:

S.U.B. - student union building, where students eat and hang
University Blvd.-lined with palm trees leads to College Hall
King Ranch - which is bigger than Rhode Island
College Hall Tower
The South Texas - school newspaper

Traditions:

- o Porky - live javelina is driven around the field after every score.
- o Sing Jalisco (hahlesco) after every touchdown
- o Cinco de Mayo, May 5

Cultural Background:

- o Most of the students are:
  - first generation college graduates
  - from smaller communities than Kingsville
  - from close families and go home for the weekends
- o One administrator credited the Hispanics' success to their family and culture
- o A&I has helped create a middle class

Strengths of School:

- o Training Hispanics in science, math and engineering
  By 2010 this country will lack about 15,000 engineers
- o Business and education are most popular degrees
- o Education is the most popular graduate program
- o Produced some prominent gas engineers - see alumni paper
- o One on one contact between teachers and faculty
- o Research programs in:
  - wildlife
  - ocelote
  - snake venom
  - Peter Felker's mesquite tree research

Volunteerism:

- o King Ranch experiment - prevent drop-outs program
  students counsel eight graders and parents
- o Darrell Green (alumnus)
  - -came from nothing
  - -started a foundation keeping kids clean
  - -promotes drug free activities for kids
  - -involved with Fellowship of Christian Athletes
- o Eugene Upshaw (alumnus)
  - -Played for the Raiders
  - -NFL Hall of Fame
  - -E.D. of NFL Players' Foundation
  - -involved in California education programs
  - -has won a few humanitarian awards

-details can be provided by alumni director

- Students help paint houses in the area

Attachments:

Packet with: A&I Nuggets
History
Commencement schedule

Alumni newspaper

11:00 am 10-12,000 audience

TEXAS A&I UNIVERSITY

Provost and Vice-President for Academic Affairs | Campus Box 102 | Kingsville, TX 78363 | Phone (512) 595-3106 Fax (512) 595-3107

"The Heart of Hispanic America"
"The Brush Country"
mesquite

Commencement speech has usually been delivered by the president of the institution.

Only commencement speaker in recent history - Dr. Allan W. Ostar, President, American Association of State Colleges and Universities - May 12, 1989

60% Hispanic
5% for engineering

~~15,000~~ audience
20,000

TEXAS A&I NUGGETS

* Grapefruit lovers from Texas to California to Florida wait anxiously every year for the first bright red, sweet Star Ruby and Rio Red grapefruit to appear. Both varieties, which are marketed under the name Rio Star, were developed at the Texas A&I Citrus Center by Dr. Richard Hensz.

* Texas A&I University boasts the nation's only accredited natural gas engineering program. Distinguished graduates include: Bill Stevens, president of Exxon Company, U.S.A.; Robert Wright, president of Amerada Hess; Bruce Withers, Jr., a division president of Mitchell Energy; and Wayne King, president of the Natural Gas Liquids Division of Valero Energy Corporation.

* Texas A&I University has been a leader in bilingual education, offering the nation's first doctorate in this discipline. Seventy-eight degrees have been conferred since the program started in 1975.

* Texas A&I is the only university with a javelina (pronounced hah-vay-LEE-nah in Spanish or hah-vuh-lee-NUH in South Texas) for a mascot. Javelinas, although often identified as a wild hog, are actually collared peccaries. They are ferocious and tenacious fighters, characteristics that prompted the university's first students to select the javelina as the school's mascot in 1925.

* Texas A&I College of Engineering consistently ranks among the country's top 10 producers of Hispanic engineering graduates. In 1988, it ranked 8th nationally (including Puerto Rico) with 56 Hispanic graduates. The top producer in the continental United States was Texas A&M with 77. Texas A&I three years ago ranked No. 5 (Source: American Society of Engineering Education, Engineering Manpower Commission).

* Texas A&I's Department of Military Science has produced three officers of general rank, despite its relative youth (founded in 1951). They are Maj. Gen. Joseph D. Scott (Ret.); Brig. Gen. Jackie D. Stephenson, (CO of medical brigade in Ohio National Guard; and Col. (on the list for promotion) Joe M. Ernst, Deputy Commander, 377th Theatre Army Command, New Orleans, La.

-0-

In 1972 Texas A&I' was chosen as only one of 10 colleges and universities in the country to participate in a pilot program to admit women cadets into the ROTC program. The experiment has been a huge success -- not only nationwide but at Texas A&I, where 26 women have received commissions in the United States Army subsequently.

BIG NAME GRADUATES OR FORMER STUDENTS

William E. (Bill) Stevens President, Exxon, USA
Houston (Texas) restaurateur **Ninfa Lorenzo**
Robert "Hank" Wright, President and COO, Amerada-Hess
Presidential Appointee **Stella Guerra**, Assistant Secretary of the Interior for Boundaries and International Affairs
John Lauer, President and CEO, B. F. Goodrich
Noted southwestern artist **Amado Peña**
Former Texas state artist **Armando Hinojosa** (sculptor)

AHTLETIC HIGHLIGHTS

* Texas A&I has won seven national football championships. D., 2 + 3

* The university has had at least one All-America first-team selection each season since 1965.

* The school has had 70 players enter the professional ranks, and will have at least 13 players in the professional leagues this fall.

* Texas A&I has one of the top winning percentages among all college football teams, and last fall had the NCAA's all-time leading rusher in tailback Johnny Bailey. was drafted

sep. rels. and asked no football

ATHLETIC NAMES

Two familiar names that anyone who reads the Washington or national sports pages are familiar with are:

Eugene Upshaw, who played at Texas A&I in the mid-1960s, is the NFL Players Association executive director and is a NFL Hall of Famer.

Darrel Green, who played at Texas A&I in the early 1980s, is with the Washington Redskins and is the fastest man in the NFL.

Another football legend is **Gil Steinke**, long-time Texas A&I head football coach (now retired), has one of the best all-time records among the nation's head coaches.

PLATFORM/VIP SECTION

Some recognizable names of the platform and/or VIP section:

Secretary Cavazos, Senator Gramm, Governor Clements, Laurence McNeil, the only other person to receive an honorary doctorate from Texas A&I; and in the audience, **Mary Lewis Kleberg** of the King Ranch Family.

Corpus Christi Caller

PLATFORM/VIP SECTION Continued:

A word about a member of the platform party and his famous family:

Although Texas Tech University claims **Lauro Cavazos** as both a former student and president, he actually began his higher education at Texas A&I. And he and other members of his equally well-known family began their formative schooling at an elementary school literally in the shadows of the campus. Some of Secretary Cavazos' well-known siblings include General (four star) Richard Cavazos, Ret., and Bobby Cavazos, an All-American halfback at Texas Tech in his collegiate days.

BURNING ISSUES

Two burning issues in South Texas and Kingsville that depend upon Washington for their resolution:

Will **400 Army Military Intelligence personnel** from the Southern Command in Panama be relocated to Kingsville NAS?

Status of Homeport

with parents;
* a National Science Foundation program for teachers of students with limited English proficiency in small rural schools;
* research colloboration with Texas A&M to integrate development of writing experiences in the elementary science curriculum;
* a student mentoring project, in which college students work with middle school students at risk of dropping out;
* upgrading teacher aides, the majority of whom are Hispanics, giving them the opportunity to become full-fledged teachers.

TEXAS A&I: AN INSTITUTION AT HOME WITH ITS ENVIRONMENT

Texas A&I has always been sensitive to and responded well to its environment and the needs of its constituency. Its 65-year history is replete with examples.

Located in the heart of the vast South Texas ranching country with its administration building less than a mile from the main King Ranch gate, the school has a variety of ranching and agriculture programs that today have attained international acclaim. (The popular Ruby Red and Star Ruby grapefruit varieties were developed at Texas A&I and research which led to recognition of mesquite as a source of food and fuel for Third World countries was and is being conducted here.)

The institution is also located in the middle of the state's rich oil and gas fields. In 1930 Texas A&I responded by establishing a natural gas engineering curricula that today is still the country's only accredited program in this discipline.

In 1990, the university remains on the cutting edge of developments and technologies that will mean a better tomorrow for America and the world. Promising fields of inquiry run the gamut from robotics to utilization of rattlesnake venom in the continuing fight against cancer to neural networks and fuzzy logic to study and protection of various endangered "big cat" species in the United States and Latin America.

No example of how Texas A&I has recognized and responded to its environment is more dramatic than its response to its location in the **"heart of Hispanic America,"** and the role it has willingly assumed as a "university in transition." Just 25 years ago, the institution had a predominantly Anglo faculty and student body; today the enrollment is 60 percent Hispanic.

Cognizant of this demographic imperative, Texas A&I has pursued and is pursuing the following initiatives as it bucks a national trend of under-education of Hispanics and other minorities:

* designed and implemented the country's first doctoral program in bilingual education;
* consistently ranks as one of the nation's leading producers of Hispanic engineering graduates;
* providing teacher training and other assistance to migrant education projects in 16 Southwestern and Midwestern states;
* pre-college and college-based programs aimed at increasing the enrollment, retention and graduation of minority engineering students;
* residential dropout prevention summer programs, including a unique one initiated this year for the children who attend kindergarten through 8th grade on the King Ranch;
* a transculturation project aimed at improving faculty understanding of the cultural values of Mexican American students and faculty knowledge of the history of the border area;
* A partnership model for family literacy, in which children learn

TENTATIVE PROGRAM

The Commencement of the Sixty-Fifth Annual Session, Spring Convocation
Friday, May 11, 1990
Javelina Stadium

PRESIDING	Dr. Richard C. Meyer, Provost and Vice President for Academic Affairs
PRELUDE	Texas A&I Commencement Band
PROCESSIONAL Pomp and Circumstance Elgar	Texas A&I Commencement Band
Audience stands for PROCESSIONAL and RECESSIONAL	
THE ACADEMIC PROCESSION	The Party of the President, The Party of the Deans, The Faculty of the University, Candidates for Degrees
INVOCATION	Rev. Celestine Murray
MUSICAL SELECTION Eternal Father, Strong to Save arranged by Claud T. Smith	Texas A&I Commencement Band
INTRODUCTIONS	Dr. Manuel L. Ibanez, President Mr. William A. McKenzie, Chairman, Board of Regents, The Texas A&M University System Mr. Raul B. Fernandez, Member, Board of Regents, The Texas A&M University System
COMMENCEMENT ADDRESS	The Honorable George H. W. Bush, President, The United States of America
HONORARY DEGREE	President Ibanez The Honorable George H. W. Bush
CERTIFICATION OF CANDIDATES	Dr. Meyer
CONFERRING OF DEGREES	President Ibanez
PRESENTATION OF CANDIDATES	Deans of the Colleges
COMMISSIONING OF ROTC CADETS	Lt. Col. Victor Schmidt
ALMA MATER Hail A&I	Dr. Robert C. Scott, Professor of Music
BENEDICTION	Rev. Celestine Murray
RECESSIONAL	Texas A&I Commencement Band

FACULTY SENATE RESOLUTION

WHEREAS, The Honorable George Bush launched his political career from Texas by serving two terms in the United States House of Representatives;

WHEREAS, He further distinguished himself as United States Ambassador to the United Nations, as Head of the United States Liaison Office in Peking, and as Director of the Central Intelligence Agency;

WHEREAS, He served as Vice President of the United States from 1981-1989;

WHEREAS, He achieved the signal honor of becoming the 41st President of the United States in 1989;

WHEREAS, As Commander-in-Chief he continues to espouse the precepts of democracy and of humaneness in a highly volatile world;

WHEREAS, As President he facilitates avenues for the pursuance of excellence in education for all in an egalitarian society; and

WHEREAS, He espouses and embodies a strong sense of family values, serving as a worthy model to emulate, citing as one of his proudest achievements that the Bush home is one that his children want to come home to; and

WHEREAS, His strong sense of patriotism and duty to country manifested itself when, at the outset of World War II, he became the youngest pilot in U. S. Naval Aviation at the age of 18; and

WHEREAS, He exemplifies the best in what an American citizen can achieve by excelling in a variety of careers which embrace both the private and public sectors and which encompass such callings as businessman/entrepreneur and public servant/statesman; and

WHEREAS, The Faculty of Texas A&I University has recommended to the University President and the Board of Regents of The Texas A&M University System that the Honorable George Bush has demonstrated outstanding devotion and meritorious service to his state and nation and a personal distinction worthy of the highest academic recognition; therefore, be it

RESOLVED, That Texas A&I University confer upon George Herbert Walker Bush the degree, Doctor of Humane Letters.

April 10, 1990

Dr. Manuel L. Ibanéz
President
Texas A&I University

Texas A&I History

Texas A&I University, the only four-year university in South Texas, was chartered in 1917 by the Texas Legislature as the South Texas Normal School. "Normals" was the term used to describe teacher colleges. Although the Legislature chartered the school in 1917, funds were withheld until 1925 because of U.S. participation in World War I. Between the time of the charter and the opening the college's name was changed to South Texas State Teachers College. Since then the name has changed several times and last fall the institution became part of The Texas A&M University System.

In 1975 Texas A&I established the first doctoral program in bilingual education in the United States. Today, it is still one of only 12 universities in the U.S. offering that degree. However, bilingual education is not the only program that sets the university apart from other institutions. Texas A&I's natural gas engineering program, established in 1930, is the only accredited one of its kind in the United States.

Texas A&I was sited in Kingsville after years of political maneuvering by several South Texas cities bidding for the college. The Legislature chose Kingsville over Corpus Christi, Goliad, Victoria and Beeville because it was thought the rural environment would keep the students away from the sins of the cities.

By 1929 the Legislature had determined there was an urgent need for a major institution of higher learning to serve the increasing population and diversified economy. Leading citizens and academicians urged a technological college for South Texas. The governor signed a bill on March 26 of that year which changed the name of the South Texas State Teachers College to Texas College of Arts and Industries and enlarged the school's purpose and scope.

The King Ranch family donated prime Kingsville real estate in 1917 to establish the site for the university. The Spanish mission architecture on campus was the favorite of Mrs. Henrietta King, matriarch of the family. The first catalog noted that Condido Creek cut its path diagonally across the 381-acre campus "inviting the impounding of water for boating, bathing and irrigation." The small creek has long since disappeared and the looked-for benefits never materialized.

The original catalog boasts that the Main Building was a marvel of design and engineering: "The form of the house is such as to catch all the sunlight necessary and every vagrant breeze that loiters or hastens across the campus." The flowery verbiage was intended, in part, to offset "disinformation" from other cities thought to be trying to negatively influence would-be students on the pretext that Kingsville's climate was unhealthy.

In 1925 the college offered a liberal arts program designed for elementary and high school teachers, from agriculture and art to physics and physical education. There were 21 offerings in Latin, then considered to be the backbone of a classical education. Those classes, like the small creek, have long since disappeared.

Texas A&I now offers 16 Baccalaureate degree programs with graduate degrees in Arts, Business Administration, Professional Accountancy, Music, Science, Education and Engineering. Doctoral programs are available in Bilingual Education.

The tuition 65 years ago was $12 per quarter including $8 for matriculation, registration and incidental fees. Tuition also included a $1 infirmary fee and a $3 student activity fee. Estimated costs for a full 36-week academic year ranged from $279 to $305. These figures included room and board, laundry, books, fees and incidental costs. The current catalog lists a summary of estimated costs per semester at $1,691.

The first administration presented the following philosophy on behavior: "Socially, avoid even the appearance of evil." This was included under the heading of "Virtues, Proprieties and Courtesies." The administration also advised: "Young ladies should receive company only in places prepared for that purpose." Young men were advised to doff their hats in the presence of those creatures of genteel breeding and refined habit.

TEXAS A&I UNIVERSITY

Location

Texas A&I University serves an area comprising the citrus region of the Rio Grande Valley, extensive ranch and farm land, productive oil and gas regions, and the expanding industrial area along the Gulf Coast.

Kingsville, the county seat of Kleberg County, is a city of approximately 30,000. It is situated one hundred sixty miles southeast of San Antonio, forty miles southwest of Corpus Christi, one hundred twenty miles north of Brownsville, and two hundred twenty miles south of Austin. The altitude is about 75 feet.

Grounds

Texas A&I University property consists of over 1,600 acres of land located at 12 different sites from near Bishop, Texas, to just north of Brownsville. The main campus consists of approximately 250 acres of land located in the northwest quadrant of the City of Kingsville. On the main campus, there are over 80 buildings comprising 1.7 million square feet of floor space, numerous streets, sidewalks, and parking lots and over 30 acres of beautiful lawns and uniquely landscaped areas of native and imported trees and shrubs.

The *Texas A&I University Farm* consists of 545 acres of land located about one-half mile north of the main campus. The south entrance to the Farm leads to an equine science center that includes a horse pavilion, classroom building, and associated facilities. The middle entrance leads to a Wildlife Research facility with a building, numerous cages, a small lake, and associated facilities for wildlife research and studies. The north entrance to the Farm leads into the major portion of the farmland. In this area are pastures, experimental plots, buildings, and equipment needed to demonstrate the various phases of agriculture for teaching, research, and public service programs offered by the College of Agriculture and Home Economics. A recent addition to this area is the South Texas Plant Materials Center.

Texas A&I University operates a *Citrus Research Center* headquartered in Weslaco, Texas. Properties include a number of tracts used for the development and evaluation of citrus crops: a 9 acre tract located at Bayview and 12 acres located northwest of Edinburg, 67 acres located 8 miles north of the Center's headquarters, and 183 acres located around the headquarters. There are a total of nine buildings in the headquarters area. These include research and teaching facilities, greenhouses, storage buildings, and shops.

The Texas A&I University Mission Statement

Texas A&I University is a comprehensive university and the only predominantly residential university in South Texas. As a multi-purpose university, it recognizes and takes pride in its regional nature and is a fully participating corporate citizen of the South Texas area.

The foremost purpose of Texas A&I University is to provide quality undergraduate and graduate programs for students of all ages. It seeks to fulfill this mission through a judicious blend of liberal and career education programs. The University offers a large inventory of academic programs at the baccalaureate and masters degree levels and a doctorate in bilingual education. Its programs in engineering, agriculture, home economics, and adult education are unique to the South Texas. The John E. Conner Museum, Kleberg Hall of Natural History, Caesar Kleberg Wildlife Research Institute and the Citrus Research Center represent unique institutional resources.

The emphasis at Texas A&I University is on providing an intellectually challenging education reflecting high standards of academic performance while retaining a selectively open admission policy. The foundation of all education at the University is a broad general education, recognizing the fact that a university is a place for students to enhance their lifelong learning abilities. The University is dedicated to serving an ethnically and culturally diverse population. It is committed to an integrated approach to higher education that emphasizes social, personal and intellectual development.

In recognition of the reality and importance of lifelong learning, the University is committed to an expansion of its continuing education role of the region. This effort is directed toward providing access to educational programs, both credit and non-credit, for all people in the region.

Texas A&I University is committed to its role in the South Texas area through teaching, research and service. It emphasizes effective teaching at both the undergraduate and graduate levels. Simultaneously, through its faculty, the University engages in research, creative activity and other professional pursuits. Its mission of teaching, scholarly activity and professional service is considered essential for the advancement of knowledge and regional development.

A FOCUS ON HISPANICS

Manuel L. Ibanez
President, Texas A&I University

If you're Hispanic, like me, the future looks bright for you at Texas A&I, the institution I have headed since last August. South Texas, with Texas A&I smack in the middle, is one of the fastest-growing areas in the country for Hispanic people with a majority of the population Spanish surnamed. Fifty-seven percent of our student body, for example, is Hispanic. I am the school's first Hispanic president in its 65-year history. All of this is important because it supports my thesis that there are ample opportunities indeed for Hispanics at Texas A&I University.

Permit me to share with you some of the reasons why I feel this way, all logical, compelling arguments so far as I am concerned.

I mentioned demographics. South Texas, a vast area generally thought of as stretching southward from San Antonio all the way to the Rio Grande, has a very large population of Spanish-surnamed peoples. The percentages range from more than 95 percent near the border to about 60 percent or so in the Kingsville area, which is just south of Corpus Christi. Texas A&I's student body mirrors this in the total population. It is natural and appropriate, therefore, that Texas A&I would have as one of its chief focuses the education of Hispanics.

Texas A&I has set the pace in Hispanic education in a number of ways. We inaugurated the nation's first doctoral program in bilingual education 15 years ago. Since then, the university has produced dozens of doctorate recipients who are now advancing the cause of bilingual education through teaching and research.

Several programs target the educational needs of Hispanics at the undergraduate level at Texas A&I. There is a shortage of Hispanics and other minorities in the sciences, and I am committed to having Texas A&I play a leadership role in bringing about a solution. We have a number of fine programs already addressing this need, and we will develop more in the future.

One is the Minority Engineering Student Affairs Office, which coordinates both college-based and pre-college programs to increase the enrollment, retention, and graduation of minority engineering students. The Minority Engineering and Geology Program is the support service through which recruitment, orientation, tutoring, advising, and summer and co-op work experiences are coordinated. The South Texas Engineering, Mathematics, and Science Programs (STEMS) is the pre-college program which provides after-school and summer academic career development opportunities. The Minority Institutions Science Improvement Program (MISIP) enhances the quality of math, science, and engineering education with special emphasis on the needs of Hispanic students.

Another program that has encouraged and prepared dozens of Hispanic students at Texas A&I for health sciences careers is the minority Biomedical Research Support (MBRS) Program which has made significant contributions to the quality of the university's research effort for the past 15 years.

The Hispanic Agenda

Vol. 1 No. 1 — At Texas A&I University — Fall 1988

HISPANIC AGENDA – A FRESH SOURCE OF NEWS: The world probably doesn't need another newsletter, but philanthropy, we are told, is earnestly seeking additional information on how it might serve the needs of Hispanics in higher education. Hence this new publication *The Hispanic Agenda at Texas A&I University*. Texas A&I believes this newsletter represents a valuable tool to acquaint the private sector with what it is doing, and what it would like to do, to provide more opportunities for this country's rapidly growing Hispanic population. Three or four issues will be published each year as information warrants. This inaugural issue provides an historical backdrop of Texas A&I's longtime involvement in Hispanic higher education together with some notes about programs and individuals who are making a difference. We welcome your comments and would enjoy hearing from you. Office of the Vice President, Planning and Development, Texas A&I University, Campus Box 216, Kingsville, TX 78363

INTRODUCING TEXAS A&I – A LEADER IN HISPANIC EDUCATION: Texas A&I and Hispanic education are synonymous in South Texas and have been for a long time. As the oldest, most comprehensive public university in the area, Texas A&I has had a majority Hispanic enrollment for many years (currently 55 percent). Today, the university is one of only nine senior institutions in the country with more than 25 percent Hispanic enrollment. Texas A&I, traditionally strong in the sciences and engineering, (recently cited in *U News & World Report*) consistently ranks among the top 10 (and often in the top five) educators of Hispanic engineers in the United States. Conscious of its setting and sensitive to its responsibilities, the institution has been at the forefront of movements and developments important to the Spanish-speaking people of South Texas for more than three decades.

- In the early 1960's, for example, the campus was the focal point of much of the political activity associated with the Mexican-American efforts to achieve a stronger voice at the polls.
- Renowned Southwestern artist Amado Peña and 1986 Texas State Artist and sculptor Armando Hinojosa are both Texas A&I graduates.
- Former faculty member Rolando Hinojosa-Smith is a distinguished man of letters.
- Texas A&I's ballet folklorico and the Mariachi Javelina give annual performances highlighting the music and dances of Mexico and other Hispanic countries.
- The nation's first doctoral program in bilingual education, and currently the largest in numbers of students, was inaugurated at Texas A&I in 1975. To date it has produced nearly 75 Ed.D. recipients who are advancing their profession through teaching and research.
- Texas A&I is committed to a systematic and long-term study of the region it serves in order to pinpoint developments and promising innovations in such areas as the impact Hispanics have on the South Texas economy, cultural analyses, and border relations. In the forefront of this pursuit is its Southwest Borderlands Studies Center.
- Texas A&I recently won a $2.1 million contract to provide teacher training and other assistance to migrant education projects in 16 Southwestern and Midwestern states.
- President Altman, a founding participant of the Hispanic Association of Colleges and Universities, has served as its vice chairman since the organization's inception. "The university's mandate to continue to be a leader and innovator in Hispanic education is equalled only by the opportunities we have for doing so," he says. "If we can be unusually successful in meeting this crucial obligation then Texas A&I can help open doors to foster true leadership for and by Hispanics in the future."
- Through the Minority Engineering Student Affairs Office, Texas A&I operates precollege and college-based programs aimed at increasing the enrollment, retention, and graduation of minority engineering students. The precollege program – the South Texas Engineering, Mathematics and Science Program – provides an after-school and summer academic and career development programs in selected school districts. The Minority Engineering and Geology Program is the college-based support service through which recruiting, orientation, tutoring, advising, and summer and co-op work experiences are coordinated. The Minority Institutions Science Improvement Program enhances the quality of math, science, and engineering education with emphasis on the needs of Hispanic students. Components include computer-assisted instruction, supplemental instruction using specially trained peer tutors, and culturally-based instruction that takes into account Hispanic learning and motivational styles.
- The university has conducted residential dropout prevention programs the past two summers with impressive results, and this fall inaugurated a new "weekend college" program to encourage "at risk" high school students to attend college.
- Another program that has encouraged and prepared dozens of Hispanic students for careers in the health sciences and related fields is the Minority Biomedical Research Support program (described below).

REPORT EXPECTED: A task force on Hispanic issues and concerns at Texas A&I appointed by President Steven Altman is expected to issue its final report soon. Altman charged the group, chaired by math department head Genaro Gonzàlez, with "developing a comprehensive and cohesive strategy to respond to issues relating to the university's sizeable Hispanic enrollment" and to explore opportunities for "even greater improvement in our educational processes." Altman says the strategy should address "the major issues of educational change brought about by the current and anticipated future composition of Texas A&I's student body, its faculty and staff, and the south Texas region." Some of the areas targeted for attention include an improved university retention rate, a heightened faculty competence and sensitivity to composition of the student body, promotion of regional research, and an increased college attendance rate by Hispanics. Gonzàlez said creation of the task force focused attention on "the dismal and disturbing 'non-education' of Hispanics." Citing current data concerning demographic shifts in Texas and elsewhere,

coupled with alarming dropout rates in the public schools, Gonzàlez said he thought the task force would enable Texas A&I to focus more of its resources on the opportunities and challenges of minority education.

PROGRAM FOCUS—MBRS, A MODEL FOR SUCCESS: The Minority Biomedical Research Support (MBRS) program has been making significant contributions to the quality of research at Texas A&I for 15 years earning a reputation as one of the outstanding programs of its type. MBRS faculty have published in professional journals, written research proposals, and placed minority students in numerous professional programs. Ninety minority students have learned and honed their research skills through the MBRS program. Thirty have gone on to professional schools to receive Ph.D. degrees and/or have become physicians, dentists, veterinarians, pharmacists, or work in research fields. Six MBRS students have won Texas A&I's coveted Bogusch Memorial Award. Others have published research articles in professional journals and presented 30 papers at professional meetings such as the Texas Academy of Science, the World Congress on Animal, Plant, and Microbial Toxins, MBRS meetings, the American Chemical Society, and the American Society of Microbiology. The program has helped Texas A&I to establish major research facilities boasting more than $1 million of modern research equipment. Principal investigators have also obtained some $1.5 million from other sources, such as the National Science Foundation and the U.S. Department of Education, as well as private organizations such as the Caesar Kleberg Wildlife Foundation and the Welder Wildlife Foundation. Investigators have a combined publication record of more than 70 publications in professional journals. In addition, two MBRS faculty have won the university's prestigious Alumni Research Award. Director John Perez also currently serves as FDA District Science Advisor. MBRS faculty have been invited to review research articles for professional journals and to serve as NIH, NSF, and Department of Education site visitors. They have also been invited as keynote speakers at regional professional meetings and to give seminars at other universities. MBRS faculty and students were the first to discover that some warm-blooded animals are resistant to rattlesnake venom. Of the 14 animals which have been shown to be resistant, they have worked primarily with the woodrat, the opossum, and the Mexican ground squirrel. Researchers have isolated and characterized factors in these animals to demonstrate the mechanism by which each neutralizes venom. Recently faculty and students presented their finding at the 9th International Congress on Animal, Plant, and Microbial Toxins. They hope to clarify the role of the mechanism of venom toxicity and thus contribute to developing a better antivenom for snakebite treatment. They have learned how to protect mice and are now investigating the mechanism of venom neutralization in other resistant animals. MBRS researchers have also found that the venoms from poisonous snakes are very complex. A single snake has more then 30 toxins, many of which destroy tissues. In some cases it is important to selectively destroy tissue. This makes snake venom an excellent source of biomedical toxins. Researchers are presently looking for snake toxins that would be coupled with monoclonal antibodies which could selectively reduce tumors.

ELIZABETH CISNEROS—POINTING THE WAY: Spending the fall semester in the bayou country of Bay St. Louis, Mississippi, has been a bit of a cultural shock for this Texas A&I math major because she would prefer being closer to her native South Texas. But as Texas A&I's first—and Texas' first—participant with the Naval Oceanographic Research Program at the Stennis Space Center, Elizabeth knows her sacrifices are worth it. Miss Cisneros, who is working with mathematical models of the earth's oceans for the Department of Defense, is enthusiastic about her experience even though it's been difficult to be away from home. "It's a challenging job with good pay," she says, and one which could be helpful in obtaining a permanent position following graduation. The program she is involved with has been underway for some time. Heretofore, however, all the participants had been from the East Coast. As one of the top students of Texas A&I math chairman G.G. Gonzàlez, he recommended Elizabeth to university alumnus Edward Elizondo (Geology '83), who is Hispanic Employee Program Coordinator at the Stennis Center.

SUPPORT OPPORTUNITIES AVAILABLE: Texas A&I investigators and scholars have traditionally focused on Hispanic-related concerns. As always, there are ample opportunities to support this work for those interested in being a part of bringing solutions to long-standing problems. Here are a few possibilities to support current educational and research interests at Texas A&I:

- A project to examine the differences in learning styles of Hispanics and to explore teaching methods which take these differences into account.
- A study to explore the complex system of health-care delivery in predominately Hispanic South Texas. What economic, cultural, and social factors influence this system? What kinds of intervention would improve the delivery of health care?
- A study of the changes taking place in women's roles in Hispanic culture and society.
- An examination of the possible impact of a "trade-free" zone along the Texas-Mexican border.
- An extensive and intensive study of Tejano folk culture—the verbal arts, music, culture, customs, festivals, etc.
- A project to expand and improve developmental studies.

McNally/Simon
May 9, 1990
Draft Six (TX-A&I)

PRESIDENTIAL REMARKS: TEXAS A. & I. COMMENCEMENT
KINGSVILLE, TEXAS
FRIDAY, MAY 11, 1990, 11:00 A.M.

Thank you, Bill [MACKENZIE, Board of Regents Chairman], President Manuel Ibanez [[ee-BAHN-yez]], and good morning to you all. **It's always a pleasure to be back in my home state of Texas** -- and in the hometown of our outstanding Education Secretary Lauro Cavazos. It's always good to see Governor Clements, Senators Phil Gramm and Lloyd Bentsen, Congressman Ortiz and Congressman de la Garza. Congratulations also to the families and friends and faculty of these students -- and, most of all -- **To the Texas A & I Class of 1990.** \\\

When President Ibanez first contacted us about A & I's graduation, he called my son, George, Jr., and said that you wanted to hear a commencement address from a popular but aging Texan who has risen to the top of his field. And George said: "Does that mean you're inviting **Nolan Ryan**?" \\\

But I'm honored to be in the home of the legendary Javelinas [[hav-uh-LEE-nuhs]] -- the wild hogs. And I'm deeply honored to be speaking from the hallowed space on the playing field usually reserved for **"Porky."** [[A & I's JAVELINA MASCOT]] \\\

But I haven't seen your mascot today. **Guess he heard we keep Air Force One stocked with barbecued pork-rinds!** \\\

Javelinas aren't the only wildlife native to these parts. The mesquite outside Kingsville is also shot through with rattlesnake and deer. Doves rise on the warm gulf winds, soaring over

the palms and red-tiled roofs of Texas A & I. And South Texas is a special place for the Bush family. We come down nearly every December to visit friends and hunt just outside Beeville.

(But the reputation of the area is changing. When I told Barbara I was flying down to South Texas to talk with **college students** and see the **wildlife**, she said: "Aren't you getting a bit old to be going to South Padre for **Spring Break**?") \\\

Like springtime itself, college commencements signal a time of change. Last week, at Oklahoma State, I spoke about America's new leadership role in the Atlantic Alliance. Tomorrow morning, at South Carolina, we'll be talking about change among the people of Eastern Europe -- people yearning to emulate not only our **standard of living** -- but also our **standard of justice**. \\\

But democracy isn't just the wave of the present -- it's the wave of the future. And as your generation assumes a leadership role in a free world that's growing bigger all the time -- others will continue to look to our shores for leadership and direction. **I have proposed that one of those directions be space.** \\\

The American adventure has always had the capacity to inspire others -- and to astonish the world. The voyages of Columbus. The Declaration of Independence. The taming of a continent. The invention of flight. \\\

America's democracy is the world's greatest experiment in freedom and diversity, an ongoing experiment that continues to unleash the creative energies of the world's most diverse population. **It is what took American pioneers to the Moon and**

back. It is what will take you as far as your dreams can soar.

Like Texas itself, A & I is also a place of pioneers. The first four-year college in South Texas. A leader in bilingual education, with the first such doctoral program in the U.S. Home to research and innovations from natural gas engineering to snake venom to the Rio Star grapefruit. And many of you are yourselves pioneers -- the first in your families ever to attend college.

In America's unique democratic heritage, our pioneers were not appointed by kings. Our pioneers appointed themselves -- and took off! We are a searching people, future-oriented, impelled to push on. After graduating college I took my family west, looking for a country to test ourselves and our dreams. We found it in Texas, with enough opportunities to last many lifetimes.

Of course, Texas has always produced its share of pioneers and visionaries. One was Sam Houston. Where others saw empty plains and dust, he saw farms, and ranches, and towns. Where others saw obstacles, he saw opportunity.

But Houston could scarcely have imagined that, little more than a hundred years after his death, the entire planet would hold its breath as his name became the first word ever uttered on the plains and dust of another world. \\\

It was July 20, 1969. And although Apollo 11 had just survived one of the most harrowing landings in the history of space, the voice of Neil Armstrong was confident, strong, American. He said: "Houston: Tranquility Base here. The Eagle has landed." Eight words. And the world was changed forever.

When America accepted the Apollo challenge, we rolled up our sleeves and took on a daunting and dangerous job. Apollo 11 showed we could meet our commitments to ourselves and to the world -- proof that democracy could triumph as decisively in peace as it had in war. **It lifted the spirits of a generation, and raised forever the horizons of the human race.**

Today, America is still enjoying the dividends that flowed from Apollo's outpouring of new science and technology. That far-sighted investment is one reason America's aerospace industry remains first in the world -- and last year produced a $18 billion tide of black ink in our balance of trade.

Project Apollo also spurred a burst in technological education throughout the country. During that short decade, we doubled the number of graduating Ph.D. physical scientists, and quadrupled the Ph.D. mathematicians and engineers. **The lesson history teaches us is that the benefits are there for those who dare to reach for them.**

Last summer, in a speech commemorating the 20th anniversary of the Apollo Moon landing, I announced three major space policy objectives: **First, to have Space Station Freedom up before the century is out. Second, for the new century, a permanent lunar base: "Back to the Moon, back to the future -- and this time -- back to stay." And third, a manned expedition to Mars.** \\\

Together, these objectives form the cornerstone of my Administration's far-reaching plan for investing in America's future. Our space program will help rekindle public interest in

science and mathematics, and revitalize an area of our educational system that has become disturbingly weak. In fact, one of the education goals we announced in January is to make the United States first in math and science by the year 2000. But our space program will do more. It will revolutionize everything from computers to communications, from medicine to metals, regaining and retaining America's high-tech competitive edge. It will create new technologies, new industries, and new jobs.

It's an adventure I hope many of you will be part of. And it's an adventure that's already underway. \\\

The Space Shuttle is back and ushering in a new era in space. And it's led by a talented new generation. Scientists like A & I Professor John Linder, who is working here to improve Shuttle communications. Shuttle engineers like Ruben Zavala, A & I Class of 1977, and avionics experts like Primitivo [prim-a-TEE-vo] Perez, Class of 1971. And new American heroes like Franklin Chang-Diaz, NASA's first Hispanic astronaut.

Last fall, Dr. Chang-Diaz helped put America back in space, part of the team that deployed the Galileo spacecraft on its 6-year journey to Jupiter. Galileo is the most complex explorer spacecraft ever built, and sails in the vanguard of a flotilla of exotic new craft now readying an assault on the ancient mysteries of the stars, the solar system, and our own planet Earth.

You are coming of age during a Golden Age of space. And there's no better example of this than the miracle now orbiting 380 miles above Kingsville -- **the Hubble Space Telescope**. It

will see to the furthest reaches of the universe, to the very edges of time. (It will, quite literally, even enable astronomers to see back in time -- perhaps far enough back to when the **Dallas Cowboys** last had a **winning season!**) \\\

And it's hoped that the telescope will see objects so clearly that, in theory, it could pick out the writing on a **dime -- 100 miles away.** \\ **Talk about the "Vision Thing!"** \\\

And even while Galileo and Hubble begin **looking out** across space -- another array of new satellites will be **looking back** at Earth -- and taking the pulse of the most important planet in the universe. (You may remember a couple years back when Time magazine named Earth "Planet of the Year." Comedian Jay Leno said: **"What did you expect? All the judges came from Earth!"**)

We call this initiative "Mission to Planet Earth." It's an effort of such magnitude, it dwarfs everything in the past -- a worldwide study of the complex interactions between land, sea, ice and air -- as well as between the Earth and the Sun.

Initiatives like these mark a critical investment in America's future. They will help protect the environment, fuel an educational renaissance, and hone America's competitive edge.

But the importance of the space program -- especially the **manned** space program -- goes deeper than that. Throughout our history, America has been a nation of discoverers. It is part of our national character -- part of our democratic heritage. In fact, Monday marks the day in 1804 when Meriwether Lewis and William Clark set out across the Mississippi to map much of what

was to become the great American West. Despite Thomas Jefferson's love of machines -- it's hard to imagine him sending a robot out alone to describe the wonders of the American Rockies and the Pacific coast. In the American experiment -- in the experiment called democracy -- there will always be a place for individual men and women with imagination and daring.

Our nation's quest for the unknown took American pioneers from the bluffs of the Mississippi to the mountains of the Moon. But today, we're no longer just asking for the Moon. We've been there. We're looking further, to carry the American adventure to wherever opportunity, curiosity, and need will take us.

It's time to open up the final frontier. There can be no turning back. America's space program is what civilization needs to begin this journey, and to perfect the commitment to go beyond. Each time we go to the frontier and beyond, we bring back more than we hoped for. This time we have the chance to bring back more than we can imagine.

Our 1991 budget is proof positive of America's commitment to an active, exciting and continuing presence in space -- to America's leadership in space. Our budget proposes $15.2 billion for NASA, an increase of 24 percent -- almost $3 billion -- which is the largest increase for any major agency of the government.

But leadership in space takes more than just dollars. It also takes a decision. And I'm announcing one today.

We stand at a halfway point in our exploration of the immediate solar system -- the planet Earth, its Moon, and the

terrestrial neighborhood. 30 years ago, NASA was founded and the space race began. And 30 years from now -- I believe Man will stand on another planet. And so I am pleased to return to Texas today to announce a new Age of Exploration, with not only a goal but also a timetable: I believe that before Apollo celebrates the 50th anniversary of its landing on the moon -- the American flag should be planted on Mars. \\\\

Up beneath the dome of the United States Capitol -- where decisions about our space program will be made in the coming weeks -- the American adventure is told in stone, a tableau of U.S. history carved around the rim of the dome itself. It begins with Columbus' arrival in the New World -- and ends with the first flight of the Wright brothers' plane.

But they got it wrong. The Wright brothers flight doesn't mark the end of the American adventure -- but the beginning of a new chapter -- a neverending story -- a story about a democracy where anything is possible, and where no dream is too large.

We live in a century that began with great promise and hope for the idea we call democracy, then only beginning to assume an important place on the world stage. That hope has been fulfilled -- and surpassed -- beyond the wildest dreams of our founders. And the promise of democracy is beginning to be tasted by more people in more places than ever before. It is their inspiration. And it is our strength. Our heritage. And our future. \\\

And so as this century closes, it is in America's hands to help determine the kind of people, the kind of planet, we will

**become in the next. We will leave the Solar System and travel to the stars. Not only because it is democracy's dream. But because it is democracy's destiny. **

Around campfires, by moonlight and starlight across the ages, men and women have turned their gaze skyward and dreamed an ancient dream. And somewhere in America today, maybe here in this stadium, there is a young man or woman who, like Neil Armstrong, will seize this dream and change the world for all time. **I believe, I truly believe, that the Class of '90 will leave footprints not only in the sands of Texas -- but also in the sands of time -- and ultimately on the plains of Mars. **

You who have lived these past four years in Kingsville know a lot about the sky. The plains of South Texas are as flat as the sea -- a land without hills or impediments, a land of limitless horizons and dreams to match. **It is exactly the kind of night-time sky where the cream of America's youth -- the cream of Texas A and I -- can point confidently to the stars -- to eternity -- and to their own future, the future of this great Nation, and the future of free people everywhere. **

America is proud of you and your families. Congratulations. Thank you. And God bless the United States of America.

# # #

McNally/Simon
May 7, 1990
Draft Four (TX-A&I)

PRESIDENTIAL REMARKS: TEXAS A. & I. COMMENCEMENT
KINGSVILLE, TEXAS
FRIDAY, MAY 11, 1990, 11:00 A.M.

Thank you, President Manuel Ibanez [[ee-BAHN-yez]], and good morning to you all. **It's always a pleasure to be back in my home state of Texas.** \\\ And it's always good to see Governor Clements, Senator Gramm, ~~and so many distinguished members of our Texas congressional delegation.~~ Congratulations also to the families and friends and faculty of these students -- and, most of all -- **To the Texas A & I Class of 1990.** \\\

When Manny first contacted us about A & I's graduation, he called my son, George, Jr., and told him you wanted to hear a commencement address from a popular but aging Texan who has risen to the top of his field. And George said: "Does that mean you're inviting **Nolan Ryan**?" \\\

But I'm honored to be in the home of the legendary Javelinas [[hah-vuh-lee-NUHS]] -- the wild boars. And I'm deeply honored to be speaking from the hallowed space on the playing field usually reserved for **"Porky."** [[A & I's JAVELINA MASCOT]] \\\

But I haven't seen your mascot today. **Guess he heard we keep Air Force One stocked with barbecued pork-rinds!** \\\

Javelinas aren't the only wildlife native to these parts. The mesquite outside Kingsville is also shot through with rattlesnake and deer. Doves rise on the warm gulf winds, soaring over the palms and red-tiled roofs of Texas A & I. And South Texas is a special place for the Bush family. We come down this

way nearly every December to hunt quail just outside Beeville.

(But the reputation of the area is changing. When I told Barbara I was flying down to South Texas to talk with **college students** and see the **wildlife**, she said: "Aren't you getting a bit old to be going to South Padre for **Spring Break**?") \\\

5-4-90

Like springtime itself, college commencements signal a time of change. Last week, at Oklahoma State, I spoke about America's new leadership role in the Atlantic Alliance. Tomorrow morning, at South Carolina, we'll be talking about change among the people of Eastern Europe -- people yearning to emulate not only our **standard of living** -- but also our **standard of justice**.

USC speech 5-12-90 Peggy Noonan

And this bright Texas morning also provides a special opportunity to reflect on American leadership in a year of remarkable democratic change.

The American adventure has always had the capacity to inspire others -- and to astonish the world. The voyages of Columbus. The Declaration of Independence. The taming of a continent. The invention of flight. **Century by century, the story of America has unfolded, and the world has looked to our shores for leadership and hope.**

America's democracy is the world's greatest experiment in freedom and diversity, an ongoing experiment that continues to unleash the creative energies of the world's most diverse population. It is what took American pioneers to the Moon and back. It is what will take you as far as your dreams can soar.

Like the state it calls home, Texas A & I is also a place of

pioneers. The first four-year college in South Texas. A leader in bi-lingual education, with the first such doctoral program in the U.S. Home to research and innovations from natural gas engineering to snake venom to the Rio Red grapefruit. ~~we've enjoyed at the White House.~~ And many of you are yourselves pioneers -- the first in your families ever to attend college.

Of course, Texas has always produced its share of pioneers and visionaries. One was Sam Houston. Where others saw empty plains and dust, he saw farms, and ranches, and towns. Where others saw obstacles, he saw **opportunity**.

But Houston could scarcely have imagined that, little more than a hundred years after his death, the entire planet would hold its breath as his name became the first word ever uttered on the plains and dust of another world.

It was July 20, 1969. And although Apollo 11 had just survived one of the most harrowing landings in the history of space, the voice of Neil Armstrong was confident, strong, American. He said: "Houston: Tranquility Base here. The Eagle has landed." Eight words. And the world was changed forever.

When America accepted the Apollo challenge, we rolled up our sleeves and took on a daunting and dangerous job. Apollo 11 proved we could meet our commitments to ourselves and to the world, lifting the spirits of a generation, and raising forever the horizons of the human race.

Today, America is still enjoying the dividends that flowed from Apollo's outpouring of new science and technology. That

Williamsburg
357-7631

Mary Golladay
634-4787

far-sighted investment is one reason America's aerospace industry remains first in the world -- and last year produced a $19 billion tide of black ink in our balance of trade.

Project Apollo also spurred a burst in technological education throughout the country. During that short decade, we ~~tripled~~ doubled the number of graduating physical scientists, ~~doubled~~ quadrupled the mathematicians, and ~~more than doubled the~~ Ph.D.s engineers. **The lesson history teaches us is that the benefits are there for those who dare to reach for them.**

Last summer, in a speech commemorating the 20th anniversary of the Apollo Moon landing, I announced three major space policy objectives: First, to have Space Station Freedom up before the century is out. Second, for the new century, a permanent lunar base: "Back to the Moon, back to the future -- and this time -- back to stay." And third, a manned expedition to Mars.

Together, these objectives form the cornerstone of my Administration's far-reaching plan for investing in America's future. Our space program will rekindle public interest in science, and revitalize an area of our educational system that has become disturbingly weak. It will revolutionize everything from computers to communications, from medicine to metals, regaining and retaining America's high-tech competitive edge. It will create new technologies, new industries, and new jobs.

It's an adventure I hope many of you will be part of. And it's an adventure that's already underway.

The Space Shuttle program is back and ushering in a new era in space science. And it's led by a new generation of skilled professionals. Scientists like A & I Professor John Linder, who is working here to improve Shuttle communications. Shuttle engineers like Ruben Zavala, A & I Class of 1977, and avionics experts like Primitivo Perez, 1971. And new American heroes like Franklin Chang-Diaz, NASA's first Hispanic astronaut.

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And even while Galileo and Hubble begin **looking out** across the vast reaches of space -- another array of new satellites will be **looking back** at Earth -- and taking the pulse of the most

important planet in the universe. (Do you remember a couple years back when Time magazine named Earth "Planet of the Year?" Comedian Jay Leno said: **"What did you expect? All the judges came from Earth!"**) \\\

Richard Truly Speech L.A. 3-7-90

We call this initiative "Mission to Planet Earth." It's an effort of such magnitude, it dwarfs everything in the past -- a worldwide effort studying the complex interactions between the land, the sea, the ice, and the air -- as well as between the Earth and the Sun.

Initiatives like these mark a critical investment in America's future. They will help protect the environment, fuel an educational renaissance, and hone America's competitive edge.

But the importance of the space program -- especially the **manned** space program -- goes deeper than that. Throughout our history, America has been a nation of discoverers, founded on the spirit of exploration. In fact, Monday marks the day in 1804 when Thomas Jefferson dispatched the Lewis and Clark Expedition to map much of what was to become the great American West.

see file

Encyclopedia Americana

Despite Jefferson's love of machines -- it's hard to imagine him sending a robot out alone to ~~California~~ Montana to describe the wonders of ~~Yosemite~~ the Yellowstone River. In the American adventure, there will always be a place for brave men and women.

Lewis and Clark were the first pioneers of American government-financed exploration. The journey which began when they crossed the Mississippi -- in our time -- saw Americans land on the Moon. But today, we're no longer just asking for the

Moon. We've been there. We're looking further, to carry the American adventure beyond Earth, to wherever opportunity, curiosity, and need will take us.

It's time to open up the final frontier. There can be no turning back. America's space program is what civilization needs to begin this journey, and to perfect the commitment to go beyond.

Art in the U.S. Capitol p.304

Up beneath the dome of the United States Capitol -- where decisions about our space program will be made in the coming weeks -- the American story is told in stone, a tableau of U.S. history carved around the rim of the dome itself. It begins with Columbus' arrival in the New World -- and ends with the first flight of the Wright brothers' plane.

But they got it wrong. The Wright brothers flight doesn't mark the <u>end</u> of the American story -- but the <u>beginning</u> of a new chapter -- a neverending story -- a story about a democracy where no dream is too large, where anything is possible.

We live in a century that began with great promise and hope for America, then only beginning to assume its place on the world stage. That hope has been fulfilled -- and <u>surpassed</u> -- beyond the wildest dreams of our founders. And the promise of America. -- the promise of free choices, free chances, and free ideas -- is beginning to be tasted by more people in more places than ever before. It is <u>their</u> inspiration. And it is our strength. Our heritage. And our <u>future</u>.

And so as this century closes, it is in our hands to determine the kind of nation, the kind of people, we will become in the next.

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America is proud of you and the families you represent. Congratulations. Thank you. And God bless the United States.

# # #

THE WHITE HOUSE
WASHINGTON

357-6651

Dept. of Education

Norman Brant

Ph. Ds granted

	1959-60	1969-70
Physical Science	1838	4312
Math	303	1236
Engineering	786	3681

THE WHITE HOUSE

WASHINGTON

DRAFT

As baccalaureates, many of you bring the great honor and distinction of higher education to your families for the first time. This achievement is much more than having reached a personal goal, it is a testament to the hard work and sacrifice made by you and your loved ones so that you may have an even brighter future, one where you will enjoy the rewards of your academic labors. America is strong, and will remain strong as long as opportunities abound for all her people. I am committed to this, that no one be denied the American dream. For this reason, I have striven to reach out to minorities to participate in the governance of this country. I have reached down deeply into every state to bring to Washington those who can help me to keep America growing.

And it gives me great pleasure to acknowledge a member of my Administration who is well-acquainted with Kingsville and the A & I campus. Tony Armendariz, who is with us today, was General Counsel here for the past 11 years. Last November I appointed Tony to the Federal Labor Relations Authority. He is now immersed in our efforts to uphold fair labor practices. Tony is but one of many Hispanic-Americans who have been placed in key positions in my Administration. I look forward to his continued success, and the success of all minorities who play such a vital role in our political process.

EXCERPTS FROM REMARKS PREPARED FOR DELIVERY

TO THE

THE TOWN HALL OF CALIFORNIA
LOS ANGELES, CALIFORNIA

MARCH 7, 1990

RICHARD H. TRULY
NASA ADMINISTRATOR

THANK YOU SAM (IACOBELLIS).

IT IS AN HONOR FOR ME TO ADDRESS TOWN HALL OF CALIFORNIA. FOR MORE THAN 50 YEARS YOU HAVE PROVIDED ONE OF THE ESSENTIALS OF A FREE, DEMOCRATIC SOCIETY - A FORUM FOR IDEAS AND POINTS OF VIEW. AND THAT'S GREAT, SINCE CALIFORNIA IS KNOWN TO HAVE PLENTY OF BOTH!

THE INFLUENTIAL FORUM YOU PROVIDE ... AND ITS CRUCIAL LOCATION IN A STATE WHICH SERVES IN SO MANY WAYS AS AMERICA'S BRIDGE TO THE PACIFIC RIM ... MAKES THIS A MOST IMPORTANT PODIUM FOR ANY SPEAKER ... BUT PARTICULARLY FOR THE ADMINISTRATOR OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION. NASA HAS A LARGE PRESENCE IN CALIFORNIA ... ONE WHICH DATES TO THE INCEPTION OF OUR AGENCY. STRONG LINKS EXIST BETWEEN YOU AND NASA, AS WE CONTINUE TO WORK TOGETHER ON A WIDE RANGE OF PROGRAMS ON THE CUTTING EDGE OF SCIENCE AND TECHNOLOGY.

NASA HAS THREE MAJOR FACILITIES HERE:

o ONE IS THE JET PROPULSION LABORATORY, A FEW MILES AWAY IN LA CANADA. A MARVELOUS GROUP OF PEOPLE THERE DESIGN, BUILD, AND DISPATCH OUR ROBOT EXPLORERS THROUGHOUT THE SOLAR SYSTEM.

o ANOTHER IS THE AMES RESEARCH CENTER IN MOUNTAIN VIEW, WHOSE PEOPLE SEEM LIKE RENAISSANCE MEN AND WOMEN, EXPERT IN A MULTITUDE OF RESEARCH AREAS - LIFE SCIENCES; SPACECRAFT DESIGN; CUTTING-EDGE AERONAUTICS; AND NEW, EXOTIC TECHNOLOGIES LIKE ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY.

o OUR THIRD FACILITY IS THE DRYDEN FLIGHT RESEARCH FACILITY LOCATED ON THE EDWARDS DRY LAKE BED. THERE THE MOST ADVANCED IDEAS IN FLIGHT GET THEIR FIRST REAL TEST AT THE HANDS OF NASA RESEARCH PILOTS, AND THAT'S WHERE THE SPACE SHUTTLES COME HOME TO ROOST, JUST AS **ATLANTIS** DID THIS PAST WEEKEND.

IN ALL, NASA EMPLOYS 9,730 PEOPLE AT THESE THREE CENTERS. ADD THE CALIFORNIA CONTRACTORS WORKING ON NASA PROJECTS, AND YOU HAVE A TOTAL OF 70,332 NASA-RELATED JOBS IN THIS STATE! OUR SPENDING HERE IN FISCAL 1990 WILL BE ALMOST $3.8 BILLION ... ONE-THIRD OF ALL NASA PROCUREMENT.

AS YOU CAN SEE, OUR FORTUNES WILL BE YOUR FORTUNES. AND I AM HERE TO TELL YOU THAT OUR COLLECTIVE FUTURE LOOKS BRIGHT.

TODAY'S NASA

TODAY, AMERICA'S SPACE PROGRAM IS IN EXCEPTIONALLY GOOD SHAPE. IN FACT, 1989 WAS ONE OF OUR BEST YEARS IN SPACE. SINCE OUR RETURN TO FLIGHT AFTER **CHALLENGER**, WE HAVE COMPLETED NINE SUPERBLY SUCCESSFUL SPACE SHUTTLE MISSIONS, AND EIGHT CONSECUTIVE MIXED FLEET EXPENDABLE VEHICLE LAUNCHES HAVE DELIVERED THE GOODS. THESE MISSIONS HAVE STARTED AN ERA THAT THE WORLD WILL REMEMBER AS A GOLDEN AGE OF SPACE SCIENCE.

FOLLOWING DEPLOYMENT FROM **ATLANTIS** LAST MAY,

o MAGELLAN IS TRAVELING ON HER JOURNEY TO LOOK THROUGH THE THICK SULFURIC CLOUDS OF VENUS AND MAKE A RADAR MAP OF ITS SURFACE.

o AND GALILEO, THE MOST SOPHISTICATED ROBOTIC SPACECRAFT EVER BUILT, BEGAN HER JOURNEY LAST OCTOBER ... ALSO FROM **ATLANTIS** ...TO ORBIT JUPITER AND DROP A PROBE INTO ITS VIOLENT ATMOSPHERE. WE EXPECT TO FIND PRIMORDIAL MATERIAL WHICH WILL HELP DETERMINE THE VERY ORIGINS OF OUR SOLAR SYSTEM.

o IN NOVEMBER, A DELTA ROCKET CARRIED THE COSMIC BACKGROUND EXPLORER INTO ORBIT TO STUDY REMNANTS OF THE BIG BANG THAT CREATED THE UNIVERSE AND TO LOOK BACK AT THOSE VERY FIRST FEW MOMENTS OF OUR EXISTENCE.

o SURELY, THE EYES OF THE WORLD WERE ON THE JET PROPULSION LABORATORY WHEN A TEAM OF SCIENTISTS, ENGINEERS, AND TECHNICIANS CULMINATED 12 YEARS OF INNOVATION AND INGENUITY BY PUTTING VOYAGER 2 PRECISELY ON TARGET TO VISIT THE PLANET NEPTUNE -- 2.3 BILLION MILES FROM EARTH! I CALL VOYAGER "THE LITTLE SPACECRAFT THAT COULD" ... SHE TOOK US ON A THRILLING EXPLORATION OF ALL THE GIANT PLANETS.

AND LAST YEAR WAS ONLY A WARM UP! NEXT MONTH, **DISCOVERY** WILL DEPLOY THE FIRST OF OUR FOUR SPACE-BASED GREAT OBSERVATORIES, THE HUBBLE SPACE TELESCOPE. THROUGH HUBBLE'S EYES, WE WILL PEER BACK, VIRTUALLY TO THE BEGINNING OF TIME, WITH UNPRECEDENTED CLARITY.

o IN MAY, **COLUMBIA** ASTRONAUTS WILL SURVEY THE SKY WITH AN ADVANCED X-RAY TELESCOPE TO GET PRECISE INFORMATION ABOUT MATERIALS CREATED WHEN A SUPERNOVA EXPLODES, PLUS KNOWLEDGE ABOUT THE NATURE OF QUASARS AND VERY HOT STARS.

THE LIST GOES ON ...

o IN AUGUST, A SPACELAB LIFE SCIENCES MISSION WILL STUDY THE EFFECTS OF WEIGHTLESSNESS ON THE HUMAN BODY.

o IN OCTOBER, THE ULYSSES SPACECRAFT WILL STUDY THE POLAR REGIONS OF THE SUN ... FOR THE FIRST TIME IN HISTORY.

o IN NOVEMBER, THE SECOND GREAT OBSERVATORY -- THE GAMMA RAY OBSERVATORY -- WILL LOOK AT THE HOTTEST EMISSIONS IN THE SKY -- THE PRODUCTS OF NEUTRON STARS, BLACK HOLES AND COLLIDING GALAXIES.

ALL TOLD, 36 EXTRAORDINARY SPACE SCIENCE MISSIONS IN A 5-YEAR PERIOD! WHEN WE ARE DONE, THIS ERA OF SCIENTIFIC EXPLORATION WILL HAVE RADICALLY CHANGED OUR UNDERSTANDING OF THE UNIVERSE ... AND OURSELVES.

CONCENTRATING ON EARTH

I HAVE TALKED ABOUT LOOKING OUTWARD INTO THE SOLAR SYSTEM AND THE UNIVERSE BEYOND. THIS YEAR, PRESIDENT BUSH HAS ASKED CONGRESS TO ALLOW US TO LOOK INWARD -- BACK AT OUR OWN, PRECIOUS EARTH -- TO ALLOW US FOR THE FIRST TIME TO UNDERSTAND HOW THE PLANET WORKS AS AN INTERACTIVE SYSTEM THAT ALLOWS LIFE TO FLOURISH. ACCURATE INFORMATION WILL ALLOW DECISION MAKERS TO DETERMINE HOW TO BEST PROTECT THIS GLOBAL ENVIRONMENT AND BALANCE ACTIONS TAKEN AGAINST ECONOMIC AND POLITICAL CONSIDERATIONS.

I HATE TO TELL YOU THIS ... BUT THE EARTH IS IN TROUBLE ... AND WE -- YOU AND I -- ARE THE CULPRITS. WE ARE BURNING THE FORESTS OF THE WORLD AT A RATE OF ONE STATE OF TENNESSEE A YEAR. IN FACT, WE DUMP MORE THAN FIVE BILLION METRIC TONS OF CARBON IN THE FORM OF CARBON DIOXIDE INTO THE ATMOSPHERE EACH YEAR ... MORE THAN ONE TON A YEAR FOR EVERY MAN, WOMAN, AND CHILD ON EARTH. EVENTUALLY, SOME VERY TOUGH DECISIONS NEED TO BE MADE. FOR EXAMPLE, HOW MUCH SHOULD WE CURB USE OF FOSSIL FUEL? A BAD ANSWER ONE WAY RUINS THE ENVIRONMENT; A BAD ANSWER THE OTHER WAY RUINS THE ECONOMY.

OUR EARTH IS THE MOST COMPLICATED PLANET IN THE SOLAR SYSTEM, WITH INTERACTIONS AMONG THE ATMOSPHERE, THE OCEANS, AND LIFE. AND WE ARE REMARKABLY IGNORANT OF HOW IT ALL WORKS. BUT WE ARE NOT IGNORANT OF WHAT WE NEED TO DO TO OBSERVE AND UNDERSTAND THE EARTH.

HARD QUESTIONS NEED ANSWERS BASED ON HARD DATA. THE WORLD DOES NOT HAVE ADEQUATE ENVIRONMENTAL DATA NOW. AND THE ONLY PLACE IT CAN GET IT IS FROM SPACE. SPACE OFFERS THE ONLY TRUE GLOBAL PERSPECTIVE OF OUR ENVIRONMENTAL SYSTEM, WITH ALL ITS CONSTITUENT PARTS. SPACE GIVES THE WORLD ITS BEST OPPORTUNITY TO UNDERSTAND HOW TO PRESERVE THE BEAUTY AND BOUNTY OF OUR SMALL PLANET FOR ALL GENERATIONS TO COME.

NASA'S ROLE IN GLOBAL CHANGE IS WHAT WE CALL "MISSION TO PLANET EARTH." OF COURSE, NASA HAS BEEN BUILDING EARTH OBSERVING SATELLITES FOR YEARS. WHAT I AM TALKING ABOUT HERE IS AN EFFORT OF SUCH MAGNITUDE THAT IT DWARFS EVERYTHING IN THE PAST ... A WORLDWIDE EFFORT EMBRACING MANY COUNTRIES. NUMEROUS SATELLITES WILL STUDY THE COMPLEX INTERACTIONS BETWEEN THE LAND, THE SEA, THE ICE AND THE ATMOSPHERE, AS WELL AS BETWEEN THE EARTH AND THE SUN.

THE EARTH OBSERVING SYSTEM ... THE CENTERPIECE OF "MISSION TO PLANET EARTH" ... IS ONE MAJOR COMPONENT OF A BALANCED, FORWARD-LOOKING FISCAL 1991 BUDGET REQUEST FOR NASA WHICH PRESIDENT BUSH PRESENTED TO CONGRESS ON JANUARY 29.

THAT BUDGET REQUESTS $15.1 BILLION FOR NASA ... A 23% INCREASE OVER FISCAL 1990 AND ... THE LARGEST PERCENTAGE INCREASE FOR ANY FEDERAL AGENCY. BUT I COULD HAVE TOLD YOU LAST YEAR THAT THIS HAD TO BE ABOUT THE FUNDING LEVEL FOR NASA ... BECAUSE FULLY 98% OF THIS REQUEST GOES TO PROGRAMS ALREADY APPROVED AND APPROPRIATED BY CONGRESS!

AMERICA'S ROLE IN AN UNCERTAIN WORLD

THIS BUDGET HAS BEEN PROPOSED AT A TIME OF UNBELIEVABLE ... AND EXHILARATING ... WORLD CHANGE. I CAN ASSURE YOU THAT NASA IS NOT ISOLATED AND OPERATING IN ITS OWN LITTLE WORLD. WE ARE KEENLY AWARE OF EVENTS SWEEPING THE SOVIET UNION, THE TWO GERMANIES, CZECHOSLOVAKIA, ROMANIA, HUNGARY, POLAND, BULGARIA, THE REPUBLIC OF SOUTH AFRICA, PANAMA, AND NICARAGUA. PEOPLE ARE DEMANDING AND GETTING DEMOCRATIC GOVERNMENTS AND NEW ECONOMIC SYSTEMS.

HERE AT HOME, AMERICANS HAVE LITTLE TIME TO CHEER THESE VICTORIES OF DEMOCRACY AS THEY STRUGGLE WITH PROBLEMS AND PONDER PRIORITIES IN AREAS LIKE THE FEDERAL DEFICIT, SCHOOLS, ENVIRONMENT, DRUGS, STREET CRIME, HOUSING, AND HEALTH.

UNCERTAINTY ABOUNDS BOTH OVERSEAS AND AT HOME, INCLUDING QUESTIONS ABOUT THE ROLE OF THE UNITED STATES IN THIS CHANGING WORLD. HOWEVER, ONE THING IS CERTAIN ... THAT PEOPLE IN CHANGING NATIONS ARE LOOKING TO THE UNITED STATES ... FOR LEADERSHIP.

INVESTING IN AMERICA'S FUTURE

WHY THEN, AT A TIME OF SUCH INTERNATIONAL UNCERTAINTY AND NATIONAL STRAIN, HAS THE PRESIDENT COMMITTED TO A BUDGETARY INCREASE OF SUCH MAGNITUDE FOR NASA? THE OBVIOUS ANSWER IS THAT HE, LIKE THE MAJORITY OF AMERICANS, FAVORS A STRONG SPACE PROGRAM. BUT THE PRESIDENT'S REASONS GO FAR BEYOND THAT.

HE ALSO DID IT BECAUSE OF CONCERN HE SHARES WITH ALL AMERICANS ABOUT THE VERY PILLARS OF THE AMERICAN ECONOMY AND WAY OF LIFE THAT PROVIDE THE WHEREWITHAL TO SOLVE THE PROBLEMS:

- FIRST AND FOREMOST, OUR EDUCATIONAL SYSTEM.

- OUR ABILITY TO REGAIN AND RETAIN WORLD TECHNOLOGICAL LEADERSHIP.

- AND OUR ABILITY TO COMPETE SUCCESSFULLY IN THE WORLD MARKETPLACE.

THERE IS NO NEED FOR ME TO REPEAT THE DREARY LITANY OF TROUBLE IN THESE INTERWOVEN AREAS. WE ARE ALL KEENLY AWARE OF THE DECLINE OF EDUCATIONAL ACHIEVEMENT, ESPECIALLY IN MATHEMATICS AND SCIENCE, OF GROWING TECHNOLOGICAL PROWESS IN OTHER COUNTRIES, AND OF THE DECLINING POPULARITY OF VARIOUS AMERICAN GOODS AND SERVICES IN WORLD MARKETS. WHAT I WANT TO TALK ABOUT IS THE RESPONSE TO THESE CHALLENGES.

PRESIDENT BUSH CLEARLY KNOWS WHERE TO LOOK FOR SOLUTIONS. HE IS COMMITTED TO A STRONG, CONTINUING INVESTMENT IN AMERICA'S FUTURE. THAT IS WHY HE BOOSTED SCIENCE AND TECHNOLOGY IN SEVERAL MAJOR AREAS ... AND GAVE NASA ITS HEALTHY AND MOST NECESSARY INCREASE. NASA'S BUDGET IS FOCUSED UPON PROVIDING SOLUTIONS TO THE PROBLEMS WE FACE IN INNOVATION, EDUCATION, AND COMPETITIVENESS.

AND WITH THIS SUPPORT:

- NASA WILL MOVE BEYOND BASELINE PLANNING AND BEGIN ACTUAL FABRICATION OF SPACE STATION FREEDOM.

- WE WILL PRESS AHEAD, WITH INNOVATIVE PRIVATE INVESTMENT ARRANGEMENTS IN SPACE FLIGHT SUCH AS THE ONE TO BE UNDERTAKEN WITH ROCKWELL, RIGHT HERE IN LOS ANGELES, TO DEVELOP AN EXTENDED DURATION SPACE SHUTTLE ... AND WE WILL ALSO DEVELOP NEW ROCKETS TO BOOST HEAVIER PAYLOADS.

- WE WILL CONTINUE OUR LEGACY IN DEVELOPMENT OF CUTTING-EDGE AERONAUTICS RESEARCH ... LET'S NOT FORGET THAT THE FIRST "A" IN NASA STANDS FOR AERONAUTICS.

- AND WE WILL START DEVELOPMENT OF THE NEW TECHNOLOGIES REQUIRED FOR A SUSTAINED AND CONTINUING EXPLORATION OF THE SOLAR SYSTEM BY BOTH HUMANS AND ROBOTS.

IF THE PAST INDEED IS PROLOGUE, AMERICAN INDUSTRY WILL TRANSFORM THE NEW AERONAUTICS, SPACE, AND RELATED TECHNOLOGIES -- THAT EMERGE FROM OUR PROGRAMS -- INTO PRODUCTS AND PROCESSES THAT WILL CAPTURE WORLD MARKETS. IT HAS HAPPENED IN THE PAST; IT CAN HAPPEN AGAIN.

PRESIDENT BUSH IS WELL AWARE OF THAT, AND HIS MARCHING ORDERS ARE FOR US TO BE LEADERS ONCE MORE.

SPACE STATION FREEDOM

AN ABSOLUTELY ESSENTIAL PART OF OUR SPACE PROGRAM -- THE KEY TO PROGRESS -- IS SPACE STATION FREEDOM.

FREEDOM WILL BE A PERMANENT, LARGE, HANDS-ON LABORATORY FOR MATERIALS AND LIFE SCIENCES RESEARCH IN ORBIT. LATER, IT ALSO WILL BECOME THE ASSEMBLY POINT FOR THE SHIPS THAT GO TO THE MOON AND MARS AND THE LABORATORIES TO EXAMINE THE THINGS THEY BRING BACK AS WE LOOK FOR RESOURCES AND EVIDENCE OF LIFE.

SCIENTISTS ABOARD THE STATION WILL DEVELOP MATERIALS THAT ARE LIGHTER, STRONGER, AND MORE HEAT RESISTANT THAN ANY WE KNOW TODAY. PEOPLE HERE ON EARTH WILL BE THE BENEFICIARIES OF NEW PHARMACEUTICAL PRODUCTS THAT WILL BE DEVELOPED THERE.

AND SPACE STATION FREEDOM IS ABOUT DISCOVERY:

ON THE DAY THAT BENJAMIN FRANKLIN FLEW HIS KITE IN A THUNDERSTORM, DID HE FORESEE CITIES LIT WITH ELECTRIC LIGHTS, STUDENTS AND SCIENTISTS USING COMPUTERS, AND ALL THE REST? OF COURSE NOT. BUT THE ELEMENTS OF DISCOVERY WERE IN HIS HANDS, AS THEY WILL BE IN THE HANDS OF SPACE STATION FREEDOM ASTRONAUTS.

AND SPEAKING OF DISCOVERY, NOTHING NASA HAS DONE HAS SO BENEFITED THE NATION ECONOMICALLY AS OUR DISCOVERY AND RESEARCH IN CUTTING-EDGE AERONAUTICS, AND IT'S STILL GOING ON.

AERONAUTICS RESEARCH

THIS RESEARCH HAS ENABLED THE U.S. AEROSPACE INDUSTRY TO MAINTAIN AN UNQUALIFIED LEAD IN WORLD MARKETS. AEROSPACE INDUSTRY SALES REMAIN THE BRIGHTEST SPOT IN OUR BALANCE OF TRADE ... $19 BILLION IN BLACK INK.

PLENTY OF NEW TECHNOLOGY WILL EMERGE FROM THE JOINT NASA/DOD NATIONAL AERO-SPACE PLANE. WHAT IS IT? IT IS A PLANE THAT WILL TAKE OFF LIKE A CONVENTIONAL AIRCRAFT, FLY INTO EARTH ORBIT, AND RETURN LIKE AN AIRLINER. ITS ENGINE WILL NOT BE EASY TO PERFECT BUT WILL BE EXTRAORDINARY WHEN COMPLETED.

ANOTHER OPPORTUNITY FOR UNITED STATES COMPETITIVENESS IS RISING RAPIDLY ON THE NASA AERONAUTICS AGENDA. RECENT STUDIES CONSISTENTLY INDICATE A LARGE, VIABLE COMMERCIAL MARKET EMERGING AROUND THE PACIFIC RIM FOR A FAST, SUPERSONIC CIVIL TRANSPORT. DO YOU REMEMBER WHEN THIS NATION TERMINATED DEVELOPMENT OF A SUPERSONIC TRANSPORT ALMOST 20 YEARS AGO BECAUSE OF ENVIRONMENTAL CONCERNS? WE BELIEVE THAT NASA RESEARCH CAN LICK THOSE CONCERNS NOW -- THAT IS, PREVENT DAMAGE TO THE OZONE LAYER AND CONTROL SONIC BOOM NOISE. SO WE ARE RETURNING TO THAT RESEARCH.

IT IS A LONG WAY FROM THE PACIFIC RIM TO THE MOON AND MARS, BUT THE 21ST CENTURY WILL SEE HUMAN EXPLORERS IN BOTH PLACES.

EXPLORATION AND THE 21ST CENTURY

IN THE 1991 BUDGET, PRESIDENT BUSH HAS PROPOSED THAT WE BEGIN WORK TOWARD THE CENTURIES-OLD DREAM OF EXTENDING THE HUMAN PRESENCE TO OTHER BODIES IN SPACE. THE DREAM BECAME NATIONAL POLICY LAST JULY 20, THE 20TH ANNIVERSARY OF THE APOLLO LANDING ON THE MOON. SPEAKING IN WASHINGTON, THE PRESIDENT DELIVERED THESE WORDS WHICH I BELIEVE WILL STAND THE TEST OF TIME:

> "I AM PROPOSING A LONG-RANGE, CONTINUING COMMITMENT. FIRST, FOR THE COMING DECADE ... FOR THE 1990'S ... SPACE STATION FREEDOM ... OUR CRITICAL NEXT STEP IN ALL OUR SPACE ENDEAVORS.
>
> AND NEXT ... FOR THE NEW CENTURY ... BACK TO THE MOON. BACK TO THE FUTURE. AND THIS TIME, BACK TO STAY.
>
> AND THEN ... A JOURNEY INTO TOMORROW ... A JOURNEY TO ANOTHER PLANET ... A MANNED MISSION TO MARS."

HOW DO WE START? WE BEGIN BY DEVELOPING THE NEW TECHNOLOGIES AND SEARCHING FOR THE NEW KNOWLEDGE THAT MUST BE ACQUIRED. THE 1991 BUDGET CONTAINS MONEY TO GET STARTED.

WHEN YOU LOOK AT ALL THESE MATTERS -- SCIENCE, AERONAUTICS, AND DISCOVERY TECHNOLOGY -- AND DIVIDE THEM INTO THEIR COMPONENT PARTS, THE RELATIONSHIP BETWEEN NASA AND AMERICA'S TECHNOLOGICAL LEADERSHIP AND COMPETITIVENESS BECOMES READILY APPARENT.

WE ARE TALKING ABOUT SUCH CUTTING-EDGE TECHNOLOGIES AS ADVANCED ROBOTICS, ARTIFICIAL INTELLIGENCE, SUPERCOMPUTERS, WIRELESS POWER TRANSMISSION, ULTRA HIGH STRENGTH AND HIGH TEMPERATURE RESISTANT MATERIALS ... THE LIST GOES ON AND ON.

WE WORK ON THESE TECHNOLOGIES IN THE SPACE PROGRAM. JUST IMAGINE WHAT AMERICAN PRIVATE ENTERPRISE WILL BE ABLE TO DO WITH THEM!

EDUCATION IS THE KEY

I HAVE MENTIONED EDUCATION SEVERAL TIMES TODAY AND WISH TO TOUCH ON IT AGAIN BECAUSE IT IS SO IMPORTANT. LAST WEEK, I WAS AT THE WHITE HOUSE WITH THE PRESIDENT AND THE GOVERNORS -- INCLUDING GOVERNOR DEUKMEJIAN -- DISCUSSING NATIONAL EDUCATION GOALS.

NASA IS RESOLVED TO SUPPORT THOSE AMBITIOUS GOALS BY PUTTING INTO EFFECT EVERY GOOD IDEA WE CAN TO USE THE SPACE PROGRAM TO ENCOURAGE STUDENTS IN AMERICAN GRAMMAR AND HIGH SCHOOLS AND COLLEGES AND UNIVERSITIES TO DO BETTER -- TO BECOME WORLD CLASS AGAIN.

NASA ALWAYS HAS SUPPORTED A STRONG EDUCATIONAL PROGRAM, USING THE INSTINCTIVE INTEREST OF CHILDREN IN AIRPLANES, SPACESHIPS, ASTRONAUTS, AND EXPLORATION TO DRAW THEM INTO MATH AND SCIENCE DISCIPLINES.

SO IF YOUR TEENAGER COMES HOME WITH A GEOMETRY PROBLEM INVOLVING THE MOVEMENT OF PLANETS, OR AN ALGEBRA PROBLEM INVOLVING THROW WEIGHTS AND FUEL CONSUMPTION, OR A STATISTICS PROBLEM ABOUT THE POSSIBILITIES OF INTELLIGENT LIFE ELSEWHERE IN THE UNIVERSE, DON'T BE SURPRISED.

SUMMING UP

I WISH TO CONCLUDE WITH AN ASSUMPTION. IT IS THAT CALIFORNIANS KNOW ABOUT SPACE AND AERONAUTICS AND SCIENCE ... THAT YOU BELIEVE IN INVESTMENT IN THE FUTURE ... THAT YOU UNDERSTAND THE CONNECTION BETWEEN TECHNOLOGY AND COMPETITIVENESS AND ECONOMIC STRENGTH ... AND THAT YOU APPRECIATE THAT INVESTMENT IN THE NATION'S AERONAUTICS AND CIVIL SPACE PROGRAM IS AN INVESTMENT IN THIS NATION'S LONG-TERM ECONOMIC AND SOCIAL VIABILITY.

IF YOU FIT THAT DESCRIPTION, THEN I THINK YOU SHARE WITH PRESIDENT BUSH, AND ME, AND OTHERS CONCERNED ABOUT THE COURSE OF OUR COUNTRY, A RESPONSIBILITY FOR THE FUTURE OF THE NATION'S SPACE AND AERONAUTICS PROGRAM.

THE PRESIDENT'S VOTE OF CONFIDENCE IN NASA IS, IN FACT, A MESSAGE ABOUT THE SPACE PROGRAM, AND ITS FEEDBACK INTO OUR ECONOMY, THAT YOU AND I COLLECTIVELY MUST GET ACROSS TO PEOPLE WHO HAVE NOT HEARD IT. THE MESSAGE INVOLVES ALL THAT WE HAVE CONSIDERED HERE TODAY AND MIGHT BE SUMMARIZED LIKE THIS:

- NASA HAS ITS ACT TOGETHER.

- THE CURRENT CIVIL SPACE PROGRAM IS THE BEST IN HISTORY.

- THE WORLD IS LOOKING FOR LEADERSHIP.

- LEADERSHIP IS SEIZING BOLD OPPORTUNITIES -- ESPECIALLY IN UNCERTAIN TIMES -- AND INVESTING IN THE FUTURE.

- THE BUDGET THAT THE PRESIDENT HAS PUT ON THE TABLE IS THE BEST BALANCED BUDGET NASA HAS EVER HAD AND CONTAINS THE KIND OF AGGRESSIVENESS THE NATION NEEDS TO MAKE THIS PROGRAM WORK FOR EVERYONE'S GOOD...THE WORLD'S GOOD, IN FACT.

GETTING ACROSS THAT MESSAGE WILL BE A GREAT CHALLENGE. BUT THE OPPORTUNITY IT REPRESENTS ALSO IS GREAT -- AS A MATTER OF FACT, I BELIEVE IT IS UNPRECEDENTED.

THANK YOU.

✓ get all 89+90 college jokes

✓ Jet Nat'l. Academy of Science speech

burma shave

✓ get Texas A+M speech prescience

Darrell Green - football hero?

Grady: take credit for what we're doing in S+T
EOS + Mars
let me tell you why were doing this

interim commercial benefits

the risk of space; must be taken
look at what shuttle has done

space station
shuttle
space science - Hubble - observatories
aeronautics
M+P Earth
Mars

Ignore the future, you don't have any constituency in DC

future invest. Vs. current consumption
24% vs. 14%
$1 b. short

talk on SEI, station
learning about long-term life in space
commercial materials

science + math ed - Budget chart
$1b increase

comm. sats. have made more
free + open world

Preparing for a Venture Toward the Birth of Time

Continued From Page A1

sign and construction of the telescope for the National Aeronautics and Space Administration.

Some scientists say the orbiting telescope promises to be the greatest leap in astronomical technology since the first "optik stick" used by Galileo in 1609.

The Hubble's advantage over much larger ground-based telescopes will be its position well above the roiling atmosphere enveloping Earth and obscuring so much of the heavens.

"I'll be drunk with excitement," said Dr. John N. Bachall, an astrophysicist at the Institute for Advanced Study in Princeton, N.J., president-elect of the American Astronomical Society. "We'll be looking at things people have never seen before. Who knows what surprises the deity has in store?"

The Hubble space telescope is ready to scan the universe.

The exquisitely polished mirror is designed to capture and magnify light from almost the edge of the universe — and therefore near the beginning of time. Known objects should be seen 10 times as clearly as before, with individual stars emerging from the fuzzy light of galactic clusters. Stars and galaxies one-twenty-fifth to one-fiftieth as bright as the dimmest known objects should come into view.

Astronomers speak confidently of being able to penetrate the mysteries of black holes, those dense objects with gravity so strong that light cannot escape them, and quasars, extremely distant and brilliant objects that may lie at the core of ancient galaxies.

A Star Cluster to Sight On

The astronomers expect to determine whether the universe is 10 billion years old, 20 billion or something in between. But it is an article of faith among astronomers that the telescope's greatest achievements may lie not in answering today's questions but in discovering phenemona beyond today's imagining.

Dr. Frank Six, science adviser to the Hubble project at the Marshall Space Flight Center in Huntsville, Ala., cautioned: "Don't expect discoveries immediately. It's going to be several months before the telescope is wrung out and ready."

The telescope spacecraft will not take its first picture of the heavens until about two weeks after launching. It will be of a star cluster in the southern constellation Carina, a familiar target of no particular scientific interest but useful in calibrating the telescope's instruments and aligning optics. Further testing and refocusing of instruments will be necessary. Dehydration in the vacuum of space will cause some unavoidable shrinkage of the framework holding the mirrors.

After a month, Dr. Bahcall said, engineers may know whether the telescope will live up to the capabilities envisaged by its most optimistic designers. It is hoped that the mirror can resolve objects so well that theoretically it could pick out the writing on a dime 100 miles away.

The main instruments attached to the telescope include two cameras. One is the wide-field planetary faint-object camera developed by the California Institute of Technology and the Jet Propulsion Laboratory. In one mode of operation, its wide field of view will allow it to photograph hundreds of distant galaxies at once.

Operating with a narrower field of view, the camera will concentrate on images of planets in the solar system, seeing what the weather is like on Jupiter or Mars and taking the best pictures yet of faraway Pluto. The camera, supplied by the European Space Agency, is designed to produce images of objects so far away that they have never been examined. Those pictures are translated into electrical signals and trasmitted to earth by radio.

Like a Prism in the Heavens

The three other instruments are the faint-object spectrograph, made by the Martin Marietta Corporation; the high-resolution spectrograph, made by the Ball Aerospace Systems Group, and the high-speed photometer, developed by the University of Wisconsin.

The spectrographs separate the radiation from an object according to different wavelengths, much as a prism splits visible light into colors. This gives scientists data on the chemical composition, temperature, pressure and density of the objects. The photometer will measure the brightness of objects.

"We may begin to get a reasonable amount of science data in two to three months," Dr. Schroeder said. A full schedule of observations is not likely to begin for eight months.

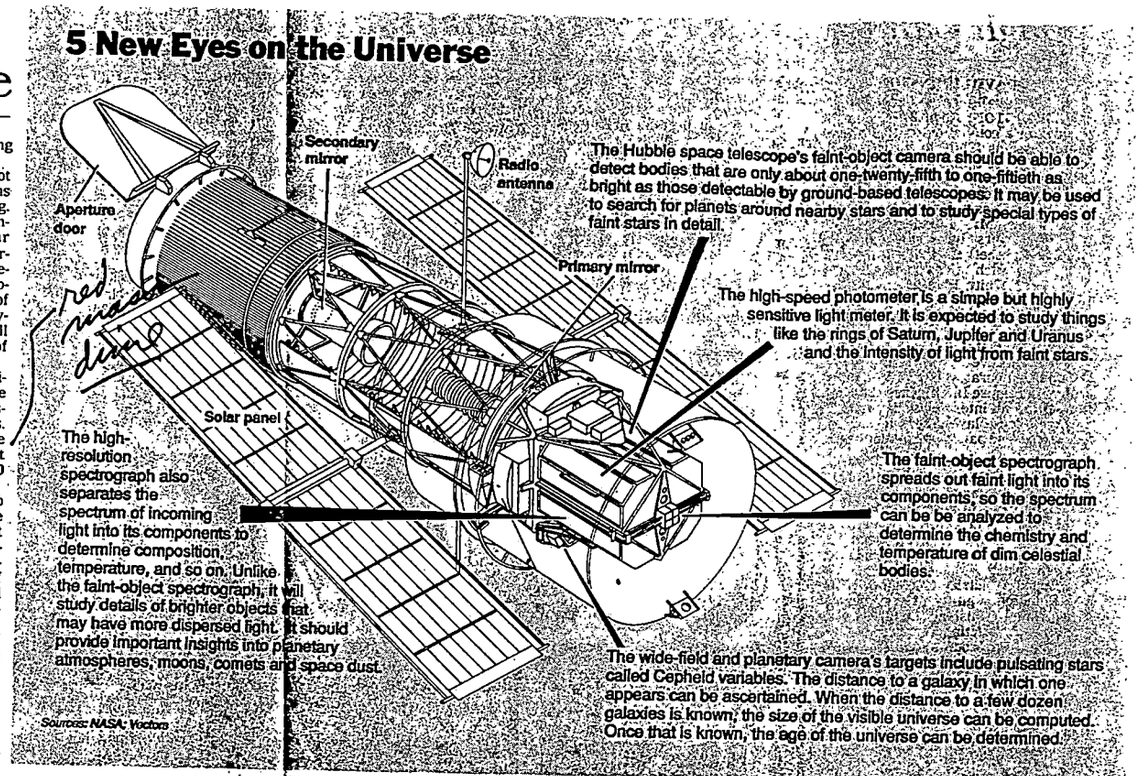
But waiting will be nothing new. When the project was officially begun in 1977, the goal was to loft the telescope by 1983. Technical problems, particularly with the optical systems and the guidance and pointing mechanisms, set the launching back to 1986. Then came the Challenger shuttle disaster in January 1986, killing seven astronauts, and the Hubble telescope and everything else were grounded indefinitely.

But as it turns out, project managers acknowledge, ground controllers would not have been ready in 1986. The computer software for pointing the telescope and other complex operations was found inadequate and had to be completely revised, a task only recently completed.

A Two-Billion-Dollar Baby

The Challenger disaster's delay added $300 million to the project's costs for operations and testing and another $300 million for servicing and storage of the spacecraft. Besides the cost of $1.5 billion for the spacecraft and telescope, the development of ground support facilities to test and operate the telescope and process the data will raise the total expense to $2.1 billion.

All this makes the telescope the most expensive unmanned scientific spacecraft ever built by the United States and the most complex to operate. It involves nearly every sector of the space agency. The 13-nation European Space Agency has borne 15 percent of the costs and supplied some equipment, in return for the guarantee of an equivalent amount of observing time by its scientists.



Will it be the greatest leap for astronomy since Galileo?

Dr. Riccardo Giacconi, director of the Space Telescope Science Institute at Baltimore, estimated that annual operations would cost about $200 million. The plan is to have shuttle astronauts visit the telescope every five years to make repairs and to install new instruments that incorporate advances in technology as well as sensors for observing the sky in different wavelengths.

But first the telescope, named for Edwin P. Hubble, an American astronomer who in the 1920's discovered that the universe was expanding, must reach orbit.

The astronauts will take the Discovery to an orbit 380 miles above Earth, the highest altitude ever attained by a shuttle crew and close to the limit, given the heavy payload. At that altitude, the telescope should not be in danger of falling out of orbit for at least a decade, time enough for shuttle missions to give it further boosts to maintain its high orbit.

In orbit, the astronauts are to switch on power to the telescope's main electrical system and check the mechanical arm to make sure it is ready for deploying the next day.

Engineers at the Goddard Space Flight Center in Greenbelt, Md., will issue a sequence of commands to the Hubble spacecraft to find out whether the telescope survived the vibrations of launching without damage.

In Tandem With the Shuttle

On the second morning, with Mr. Hawley at the controls of the mechanical arm, the huge cylindrical telescope, about the size and shape of a railroad tank car, will be hoisted out the cargo bay and dropped overboard in an orbit side by side with the shuttle.

Captain McCandless and Dr. Sullivan will be dressed in their pressure suits and prepared to go out on a spacewalk, if necessary, to help deploy the telescope or make any last-minute adjustments.

For two days the shuttle and the telescope will fly in close formation while engineers on the ground continue to investigate the spacecraft's condition.

If any major problems come up, the astronauts can retrieve the spacecraft and take it back to Earth. If not, the astronauts are scheduled to return to Earth with an empty cargo bay next Sunday morning at Edwards Air Force Base in California.

Ex-Illegal Aliens Sue Principal

SYRACUSE, April 8 (AP) — A family of former illegal aliens is suing a school principal, claiming the educator turned them in after he was tipped off about their citizenship by a teacher who heard their son speak of his family's background as Mexican farm workers. The couple, Rigoberto and Maria Del Carmen Molina, filed the suit last Wednesday in Federal District Court in Syracuse against the principal, Jeffrey Davis. The family has been granted temporary residency.

Photo Copy Preservation

LP:4:30 p.m. 4-27-90

Congressional Leadership Meeting on Space
Potential Talking Points for the President

-- Good morning, and welcome.

-- I asked to meet with you today to talk with you -- and to listen to you -- about something vital to our nation's future, including our children's future -- our space program.

-- I know you have several important challenges facing you this year. But I wanted you to know how important the space program is to me personally and how vital I think it is to our nation's future.

-- Let's talk about where the space program should be headed, and how we might join together to set a strategy to get us there.

-- Our national space program is based on the long-standing premise that it is vitally important to maintain American leadership in space. It is vital to our ability to compete in the high tech world of the future. Look at what it's brought us already:

- Our investments have made our aerospace industry the world's leader.

- And in space science, well, I don't need to tell you, you've all seen it on television over the last few days. The Hubble Space Telescope is a terrific example of our continued world leadership in space science.

- Continued leadership requires that we have an aggressive and forward-looking space program.

-- Investment in our national space program is one of the best single investments we can make in America's future. There are real and tangible benefits:

- For our generation, it has improved our quality of life by revolutionizing communications and computerization. It has created thousands of industrial materials and medical advances, and millions of important high tech jobs.

- For our children and grandchildren it will inspire, educate, and involve them in science and technology; attract them to careers in tomorrow's jobs.

-- Advances in space technology keep us competitive in an increasingly competitive world. They create new business and new markets that we can't afford to lose to the Japanese and the Europeans, both of whom are catching up with us.

-- Most Americans recognize these benefits. I want to make a personal appeal to you for your help in preserving our investments in the future, even though I know it's not easy for any of us to keep our eye on the future when the demands of the present seem so great.

-- I've put before the Congress a large increase in national security and civil space spending from roughly $29 to $33 billion for FY 91. That includes a big increase for NASA -- $2.9 billion -- from $12.3 billion to $15.2 billion. This increase will keep us on the path of recovery from many years of underinvestment in space.

-- Let's talk about what this represents:

- The **Space Shuttle** program is finally back on its feet after the Challenger accident. We just completed our tenth successful flight.

- We've all seen the magnificent results of our **Space Science** program -- the pictures from Voyager, the pictures of the Milky Way from COBE-- and this is only the beginning of a golden age of space science exploration.

- We've got a big increase in here for the **Space Station**. But you've all heard me say this before, that the Space Station is the key to the future of our space program and to space exploration.

-- Now, onto all this we have added two very exciting and important initiatives that are the natural extensions of the core program we've built together over the years.

- First, **Mission to Planet Earth**, our outpost for getting comprehensive environmental data so we can make informed decisions about global climate change. We've all seen the polls that tell us the public wants us to use the space program to get a better grip on what's happening to our environment.

- Second, our new **Space Exploration Initiative**, to lay the foundation for pushing on with the job the Apollo program only began.

-- I know you're worried about finding money for new

initiatives. But the increase for these two initiatives together represents only 2% of the NASA budget request. And yet, they embody what our space program is all about -- to use space to look downward, back to earth, and to look outward to new frontiers, and, in the process, to capitalize on the technological and educational benefits to keep us competitive.

-- I know some of you are concerned about our proposed FY 90 outreach program for our Moon-Mars initiative. The Vice President is going to tell you more about this in a moment, but before I turn the meeting over to him, I want to say how important it is to me to begin the studies and assessments we'll need to make sensible decisions. I hope it's something you'll look at and work with us on -- as well as the FY 91 budget -- and I'm sure we can work something out.

-- Dan, why don't you take a few moments and brief everyone on where we stand.

(Vice President speaks for 4 minutes)

-- Thank you, Dan. As you can see, we have a dynamic, integrated, and visionary space program to carry this country forward into the 21st Century.

-- I know there are many competing priorities, but we simply must find ways to keep it on track and moving vigorously ahead.

-- We've made some very difficult choices in giving science, technology, and space a high priority in the budget. I would hope that you also would give it similar priority in the formulation of your budgets and the 302(b) allocations. I hope you all see our space program being as important to our economic future as I do.

-- (Discussion)

most sophisticated robotic spacecraft ever built probe atmosphere of Jupiter

Franklin Chang-Diaz, Ph.D.

Franklin Chang-Diaz was born April 5, 1950 in San Jose, Costa Rica. He graduated from Colegio De La Salle in San Jose in November 1967, and from Hartford High School, Hartford, Conn. in 1969. He then received a bachelor's degree in mechanical engineering from the University of Conneticut in 1973 and a doctorate in applied plasma physics from the Massachusetts Institute of Technology in 1977.

While attending the University of Conneticut, Chang-Diaz also worked as a research assistant in the Physics Department and participated in the design and construction of high energy atomic collision experiments. Following graduation in 1973, he entered graduate school at MIT and became heavily involved in the United States' controlled fusion program doing intensive research in the design and operation of fusion reactors. After joining the Charles Stark Draper Laboratory in 1977, he worked on the design and integration of control systems for fusion reactor concepts and experimental devices. In 1979, he developed a novel concept to guide and target fuel pellets in an inertial fusion reactor chamber. More recently he has been engaged in the design of magnetic divertor systems for energy recovery and impurity control in fusion power plants, as well as new concepts in rocket propulsion based on high temperature plasmas. In October 1983, Chang-Diaz was appointed visiting scientist with the MIT Plasma Fusion Center where he periodically to continues his research.

Chang-Diaz joined the astronaut corps in 1981, becoming NASA's first Hispanic astronaut. While undergoing training, he also was involved in flight software checkout at the Shuttle Avionics Integration Laboratory and participated in early Space Station Freedom design studies. From October 1984 to August 1985 he served as leader of the astronaut support team at the Kennedy Space Center.

last flt. before Challenger

Chang-Diaz made his first space voyage on mission STS 61-C in January, 1986. During the six-day flight he particpated in the deployment of the SATCOM KU satellite, conducted experiments in astrophysics and operated the materials processing laboratory. His second flight, STS-34, left the Kennedy Space Center in October 1989. During the five-day mission, the crew deployed the Galileo spacecraft which will begin exploring Jupiter in 1995. Chang-Diaz currently is assigned as a mission specialist on STS-46, now manifested for mid to late 1991. During the seven-day mission the crew will deploy the European Retrievable Carrier (EURECA), a European Space Agency sponsored free-flying platform, and demonstrate the Tethered Satellite System, a joint project between NASA and the Italian Space Agency.

last fall →

Chang-Diaz is married to the former Peggy Marguerite Doncaster of Alexandria, La,, and has three children: Jean, Sonia and Lidia.

Primitivo Perez, head of the Shuttle Training Aircraft (STA) Simulation Section since June 1984. The STA is a modified Gulfstream.

Born Oct. 20, 1941 in Kingsville, Tx. Perez was one of 11 children. After high school, Perez joined the U.S. Air Force and served in Vietnam in aircraft maintenance. He was awarded a Commendation Medal for meritorious service for his military service.

Following his military discharge, Perez returned to Kingsville where in 1967 he entered Texas A&I University and began working on a math degree. In 1969 Perez began working at JSC as a cooperative education student. As a coop student Perez worked in what was then called the Apollo Applications Program Office where he checked the stowage lists for spacecraft and kept track of items going into orbit on the Skylab missions.

After earning his bachelor's degree in math in 1971 from Texas A&I, Perez began working for NASA at JSC as a systems analyst and program monitor. While in that position Perez processed telemetry information that was downlinked from Skylab. He later moved into the Flight Crew Operations Directorate (FCOD) where he worked with the Earth Resources Project gathering earth resource data on various aircraft.

In 1976, Perez began working with a relatively new program - the STA. His section was responsible for monitoring the contract for the development of the STA hardware and software. He has remained in that section (the STA Simulation Section) over the past 14 years, working his way up to section head where he is responsible for the aircraft's avionics.

"Our responsibility is to make the STA fly like an orbiter for the landing phase," he said. "We're constantly working on it, modifying, and updating to keep up with the configurations on board the orbiters." Perez said he has encountered many on-the-job challenges. "There's been a lot of them (challenges)," Perez said. "We were the first to develop a STA and there was a huge learning curve involved with becoming familiar with a brand new system. We've gained a tremendous amount of knowledge from the Shuttle program."

Perez takes great pride in his work and the space program.

"They say the STA is the best simulator in the world," Perez said. "The landing phase of the mission is the most critical. They only have one shot so they must be fully prepared to land the orbiter...Our job is very important and it's one of high visibility. Perez has received the Mark C. Heath Jr. Aircraft Engineering Award and the Exceptional Engineering Achievement Award for his work in upgrading the STA's avionics in addition to numerous achievement and superior performance awards.

Perez's wife Ninfa also graduated from Texas A&I and is a Spanish teacher at Clear Lake High School. They have one son Jason who is 11 years old.

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To Bob Simon	From Steve Nesbitt
Co. White House	Co. NASA/JSC
Dept.	Phone # 483-5111 (713)
Fax # 456-6218	Fax # (713) 483-2000

Ruben Zavala *is a marathon runner.*

Grew up in Robstown, Texas. Sixth or seven children. All seven have attended college; five have bachelor's degrees (four of them in educational fields; Ruben in mechanical engineering); two have earned masters' degrees.

Graduated May 1972 from Robstown High School. In high school, was a distance runner on track team. Made it to State finals in senior year.

Attended Texas A&I on a track scholarship. B.S. Mechanical Engineering, December 1977.

Ruben received significant encouragement from his family. As the second-to-youngest, he was inspired by older brothers and sisters. Ruben said, "I received most of my encouragement from my parents. My dad worked as a laborer, and he talked to me a lot about getting an education so I could have an easier life."

-Bill Clement and other Boy's -6 goals -VCR

Ruben learned about the Johnson Space Center cooperative education program while he was a member of the Texas A&I campus chapter of the American Society of Mechanical Engineers (ASME).

Ruben entered the JSC cooperative education program as a college junior. He completed five semester sessions working at JSC.

Upon graduation in December 1977, Ruben accepted a job offer from JSC and came to work full-time in January 1978.

As a co-op, Ruben worked on design of several mechanical systems projects such as tools to be used in the Shuttle's payload bay and on spacewalks. He also designed part of the manipulator development facility, a high-fidelity training system used to train astronauts in using the Shuttle's robot arm.

As a full-time JSC engineer, Ruben developed expertise on the Shuttle's crew compartment. He integrated several Shuttle payloads carried on past missions. He designed the mid-deck double locker (only five exist) used to store payloads such as the French Echocardiograph Experiment. Ruben pioneered the stowage concepts for the IMAX camera and the Cinema 360 camera.

Beginning in 1986, he worked on upgrades to the two Shuttle trainer/mockups used in astronaut training.

Because of his extensive knowledge of the Shuttle's crew compartment, Ruben was reassigned to the newly-formed New Initiatives Office at JSC where he integrates payloads and designs mechanical and structural hardware. He was recently promoted to Project Manager for the mid-deck accommodations rack (MAR), a new payload carrier device for the Shuttle's crew compartment.

The mid-deck accommodations rack is scheduled to fly on STS-50 in December 1991. The first payload assigned to the MAR is the Crystal by Vapor Transport Experiment (CVTE) which will investigate crystal growth for electronics applications. The experiment is being flown for Boeing Aerospace of Seattle, Washington.

Ruben is married to Velma Chapa of Robstown, Texas. They were high school sweethearts. They have two children, Danielle and Jonathon.

Ruben's hobby is running. He has competed in numerous marathons, coming in among the top 40 in the Houston Tenneco Marathon about three years ago.

Ruben is a member of the Mexican American Engineering Society.

TEXAS A&I UNIVERSITY

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FAX TRANSMISSION

TO: White House Research office

ATTN: Bob Simon

DATE: 5/2/90

FAX NUMBER: (202) 456-6218

FROM: Mary Donohue **WRITER EDITOR**

TEXAS A&I UNIVERSITY

DEPARTMENT OF PUBLIC AFFAIRS

PHONE NUMBER: (512) 595-3901
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FAX NUMBER: (512) 595-3899

NUMBER OF PAGES INCLUDING COVER SHEET 3

SUBJECT/MESSAGE: This represents the first batch of information you requested concerning research at Texas A&I University. We have several more items that are applicable to the areas you suggested. I will fax these this afternoon and Thursday morning. Please contact me if there are any questions. Thanks, Mary Donohue

NATURAL RADIATION SUBJECT
OF TEXAS A&I STUDY

KINGSVILLE -- A Texas A&I University professor and two graduate electrical engineering students are contributing to NASA's push for more reliable communications systems in space shuttles and space stations.

Electrical engineering professor John Linder and graduate students Juan Rodriguez and Oscar Valdez are studying natural space radiation as part of a $54,014 National Aeronautics and Space Administration grant. Rodriguez of Raymondville, Texas, and Valdez of Beeville, Texas, have also been awarded $15,000 NASA graduate fellowships to work on the project.

The effects of natural radiation from space on electronics found in space shuttles and stations is the focus of this continuing research at Texas A&I.

Dr. Linder said he hopes the results of their research will make the man-made electronics on board space vehicles more resistant to the natural space radiation environment.

Texas A&I has formed an informal consortium with other minority universities involved in similar NASA research, sharing findings in the field of space radiation effects on materials, systems, and devices.

-TA&I-

TEXAS A&I STUDY CONTRIBUTES
TO NASA SPACE RESEARCH

KINGSVILLE -- Motion studies for tethered space devices envisioned by NASA scientists are continuing by a Texas A&I University physics professor under a $29,569 NASA grant from the Langley Research Center in Virginia.

Dr. Paul Cox is completing his first year of study on how these special data-gathering devices deployed from space shuttles will react in space. His research has included the use of computer simulations to study how such objects deployed from a shuttle will react, what can be expected to happen, and how they will move.

Since the space shuttle circles above the upper atmosphere -- loosely the region approximately 100 miles above the earth -- tethered data-gathering devices would allow scientists to gather information about the upper atmosphere which can't be learned with an ordinary satellite or space shuttle, says Cox.

Two 1989 Texas A&I graduates, Mariam Street and Patricia Tyler, helped Cox with the NASA motion studies. Street has gone onto graduate physics studies at the University of Texas in Austin, while Tyler is a graduate physics student at the University of Maryland.

-TA&I-

(MORE)

TEXAS A&I RESEARCH 2-2-2

MINORITY BIOMEDICAL RESEARCH PROGRAM IS MODEL FOR SUCCESS AT TEXAS A&I

KINGSVILLE -- Researchers at Texas A&I University's Minority Biomedical Research Support (MBRS) program are continuing venom studies that may contribute to a better antivenom for snakebite treatment.

The program's faculty and student researchers, under the direction of Dr. John Perez, were the first to discover that some warm-blooded animals are resistant to rattlesnake venom. Further research has isolated the antivenom from some of these animals, focusing on the natural mechanisms that neutralize the venom.

The MBRS program has enjoyed continuous public and private funding for 17 years, totaling some $6 million. Public funding has included National Science Foundation and Department of Education grants.

Its research facility contains more than $1 million of modern research equipment and features laboratories that are not duplicated elsewhere.

MBRS undergraduate and graduate students are sought after by top universities from across the country. Four students who completed their graduate degrees in 1989 at Texas A&I are currently pursuing advanced degrees at highly respected universities. They include Luis Arguelles of Auburn University's Veterinary Science School, and three doctoral candidates in immunology: Luis Hernandez of New York University, Maria Santa of Columbia University, and Julio Soto of the University of California, Berkeley.

MBRS faculty and students have published their findings in international refereed journals and continue to present papers at professional meetings as the Texas Academy of Science, the American Chemical Society, the American Society of Microbiology, and the World Congress on Animal, Plant, and Microbial Toxins.

MBRS researchers are presently collaborating with an Israeli university on venom research and continue such collaboration with universities from across the United States.

-TA&I-

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Office of Public Affairs Campus Box 114 Kingsville, TX 78363 (512) 595-3901

FAX TRANSMISSION

TO: White House Research

ATTN: Bob Simon

DATE: May 3, 1990

FAX NUMBER: (202) 456-6218

FROM: Mary Donohue **WRITER EDITOR**

TEXAS A&I UNIVERSITY

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NUMBER OF PAGES INCLUDING COVER SHEET 6

SUBJECT/MESSAGE: Here are the remaining stories you requested concerning Texas A&I research. If you have any questions or need additional information, please contact me.

Mary Donohue

ROBOTICS LAB TO ENHANCE
ENGINEERING RESEARCH

KINGSVILLE -- Texas A&I University's College of Engineering is poised to become a leader in one of today's high profile research frontiers with the establishment of a fully functional robotics laboratory.

Dextrous robotic hands and neural computer networks, both under consideration by NASA for use in space programs, will be the focus of a Texas A&I research project funded by more than $350,000 in grants from the National Science Foundation and the Department of the Navy.

Dr. Robert McLauchlan, a NASA research fellow at the Johnson Space Center in Houston for two summers, will lead a team of Texas A&I researchers in developing several computer-programmable robots. They also plan to explore artificial intelligence with their robots.

The dextrous robotic hands and neural networks enable researchers to train robots to perform human-like movements.

Working with McLauchlan are Dr. Iqbal Omar of electrical engineering and Dr. Frank Mullen of industrial technology.

Texas A&I undergraduate and graduate students have also been involved in the research resulting in production of a three-fingered dexterous robotic hand as a senior design project and in computer work to control the robotic hand as a graduate study project.

McLauchlan, a mechanical engineering professor, describes the Texas A&I research as a "follow-on" to the automation and robotics research he did at the Johnson Space Center as part of the EVA retrieval system.

He has also done research at the Naval Ocean Systems Center in San Diego and the Air Force Weapons Laboratory at Kirtland Air Force Base, Albuquerque.

He was selected the 1989-90 Texas A&I Faculty Lecturer, delivering a presentation on "Intelligent System Behavior Using Neural Networks and Fuzzy Logic" this spring.

-TA&I-

IBM PLAYS SIGNIFICANT ROLE
IN TEXAS A&I ROBOTICS DEVELOPMENT

KINGSVILLE -- The donation of two IBM 7547 robots which are used in manufacturing operations enabled Texas A&I to offer its first robotics courses during the fall 1989 semester.

The university's robotics laboratory, housed in the College of Engineering, is also developing a computer-integrated manufacturing capability, part of its aerospace related research.

In an unusual turn of events, IBM made the robot donation while involved in a university "loan" program where IBM executives join the Texas A&I faculty to teach engineering courses.

Dr. John Smith, an executive from IBM's Lexington, Ky. plant, is on loan from IBM to teach courses in robotics. Smith, who will join the Texas A&I faculty full time this fall, teaches students to program and to use robots in simple assembly projects.

He is a 29-year veteran with IBM and taught Automation/Robotics at the IBM facility.

-TA&I-

COLLABORATIVE RESEARCH SET THROUGH TEES

KINGSVILLE -- Texas A&I University has joined the Texas Engineering Experiment Station (TEES), a statewide engineering research agency within the Texas A&M University System.

The university's association with TEES offers collaborative research efforts in a variety of fields. One such project is the natural radiation research by Dr. John Linder of the university's electrical engineering department.

Texas A&I's College of Engineering became the sixth TEES Outreach Division, joining a statewide network of research institutions. Others include Texas A&M University, Lamar University, Prairie View A&M University, the University of Texas at Arlington, and the University of Texas at San Antonio.

-TA&I-

TEXAS A&I MATH STUDENT BREAKS NEW GROUND AT SPACE CENTER

KINGSVILLE -- Texas A&I University math major Elizabeth Cisneros Soomro of Brownsville broke new ground at the Stennis Space Center's research center in Mississippi. She was the first Texas participant in an ongoing program for minorities, spending the 1988 fall semester working in the center's Naval Oceanographic Office.

Soomro, who graduates May 11 with a bachelor of science degree in math and computer science, worked with mathematical models of the earth's oceans for the Department of Defense.

Prior to Soomro's selection for the program, all the participants had come from the East Coast.

-TA&I-

TEXAS A&I GRADUATES CONTINUE WORK AT SOUTHWEST UNIVERSITIES

KINGSVILLE -- For Dr. Mauro Castro, Texas A&I University assistant chemistry professor, joining the Texas A&I faculty in 1989 was simply a matter of returning "home."

Castro, who received his doctoral degree in chemistry from Texas A&M University in 1987, completed his undergraduate and graduate degrees at Texas A&I. He received his bachelor's in chemistry and math in 1980 and his master's in chemistry in 1981.

He also did two years of post-doctoral research at Texas A&M before joining the Texas A&I faculty.

(More)

Two other Texas A&I alumni, Dr. Manuel Cardenas and Dr. Melchor Ortiz, are statistics professor at New Mexico State University in Las Cruces.

Cardenas, who completed his doctorate in statistics at Texas A&M University in 1974, received his bachelor of science in math in 1968 and his master's in math in 1970, both from Texas A&I. He is involved in ongoing statistical research at New Mexico State.

Ortiz, who completed his doctorate in statistics at Texas A&M University in 1975, received his bachelor's in math in 1970 and his master's in math in 1971, both from Texas A&I.

He is involved in collaborative research on experimental design and quality control for the "maquiladora" or border industries program in the El Paso, Texas-Juarez, Mexico, area.

-TA&I-

TEXAS A&I UNIVERSITY

Office of Public Affairs

Kingsville, TX 78363
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NEWS RELEASE

Contact: Mary Sherwood
512/884-2521 after hours

TEXAS A&I STUDENT CHOSEN
TO DO SUPER COLLIDER RESEARCH 5/3/90

KINGSVILLE -- Jimilyn Watt, a Texas A&I University junior majoring in physics and electrical engineering, was the only undergraduate student in the nation chosen to participate in supercollider research at the National Fermi Accelerator Laboratory this summer.

"We're looking for the top quark. They've found five, this is the last one they expect to find," said Watt, who intends to get a doctorate in physics and do research in high energy physics and heavy quark production.

Watt reports to the Fermi Lab in Batavia, Ill. on May 7.

"This is Texas A&I's link to the supercollider project, she said.

A returning student, Watt, 33, also works as a registered nurse. "When I turned 29, I decided I wanted to be an engineer," said Watt, whose father discouraged her from pursuing anything but a traditionally female career. She says when she took her first physics course she loved it and knew she wanted to be a physicist.

Watt, who has a 3.802 grade point average, expects to graduate in May 1992. She is a native of Virginia Beach, Va. and has lived in Corpus Christi for 12 years.

[fermilab/mks/c] --Mary Sherwood

-TA&IU-

ACADEMIC SPECIALISTS

ROCKS AND ROCKETS

It has a name that would be hard to fit even on an oversized college sweatshirt, but Montana College of Mineral Science and Technology in Butte achieved a "first" in the *U.S. News* survey for being on a list of schools selected for special mention because of particular strengths in either the sciences or the humanities. In most cases, winners in these specialties were already highly rated in terms of their overall undergraduate education. However, when presidents of the smaller comprehensive colleges were asked to name top schools in the area of science and technology, Montana Tech was their first choice largely because of a superb program in minerals engineering.

Space connection

Similarly, among comprehensive schools in the South, the University of Alabama in Huntsville, which had failed to make the overall listings, was named the top school in science-and-technology education. Many college presidents noted how well it had integrated its programs with the nearby George C. Marshall Space Flight Center.

The rest of the colleges that rated No. 1 in science and technology (see table) also placed in the top tier of their categories according to the overall quality of their undergraduate programs. However, 19 otherwise unranked schools gained recognition in these fields, winning what one educator called "the microchip wreath." In the national liberal-arts category, Bucknell University and Lafayette College, both Pennsylvania schools with engineering programs, made the list. Franklin and Marshall College, also in Pennsylvania, and Hope College in western Michigan were cited for strong chemistry departments.

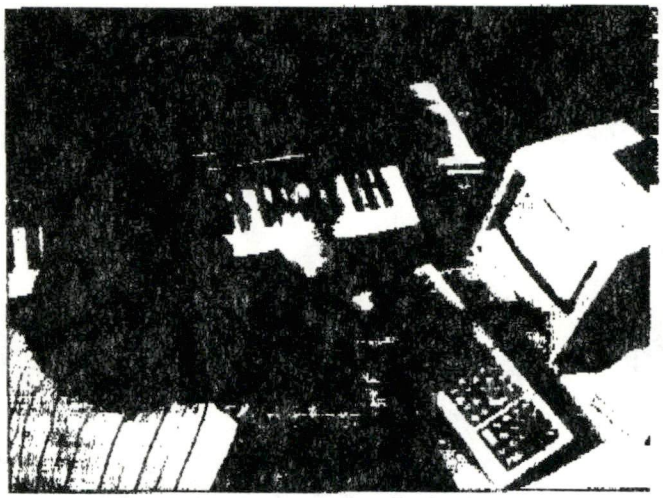
Among the national universities, four well-known but otherwise unranked schools—Carnegie Mellon in Pittsburgh, Georgia Institute of Technology in Atlanta, Rensselaer Polytechnic Institute in Troy, N.Y., and Purdue in West Lafayette, Ind., made the list of high-tech picks.

"Microchip wreaths" also went to three smaller Eastern comprehensive schools: The Philadelphia College of Textiles and Science, an independent institution in suburban Germantown, Pa., Manhattan College, a Roman Catholic college in Riverdale, N.Y., and the University of Lowell, a state-supported school outside Boston. Presidents of Southern comprehensive colleges cited the University of Central Florida in Orlando, Texas A&I University in Kingsville and Alabama's Tuskegee University for excellence in the sciences. Among comprehensive schools in the West, the *U.S. News* survey gave similar recognition to three otherwise unranked state-supported schools: California State Polytechnic University in Pomona, Michigan Technological University in Houghton and California's San Diego State University. Geneva College, a Presbyterian school in Beaver Falls, Pa., and Tri-State University in Angola, Ind., were singled out for having top-notch science programs among regional liberal-arts schools in the East and West.

Four for humanities

When it came to colleges with highly regarded specialties in the humanities curricula, the survey found some evidence to support the notion that college administrators tend to equate strength in these subjects with overall academic quality. That is shown by the fact that while 21 unranked schools were cited for excellence in the sciences, only four colleges—all of them religiously affiliated—that were cited for excelling in the humanities did not make the overall listings.

Three of the schools, La Salle University in Philadelphia; Rosemont College, a women's school in that city's Main Line suburbs, and Canisius College in Buffalo, are Roman Catholic institutions. The fourth, Kenyon College, an Episcopal school in Gambier, Ohio, did not make the top 25 in the national liberal-arts category, but boasts an English department that has long drawn praise from its academic peers. ■



Oberlin lab: Science meets the humanities

TOP-RANKED HUMANITIES PROGRAMS

Colleges with most votes for undergraduate humanities programs

Category	College
National Universities	Harvard Univ.(Mass.)
National Liberal-Arts Colleges	Amherst College (Mass.)
Smaller Comprehensive	Berea College (Ky.)
Southern Comprehensive	Trinity University (Tex.)
Eastern Comprehensive	Villanova University (Pa.)
Western Comprehensive	Santa Clara University (Calif.)
Western Liberal Arts	Alverno College (Wis.)
Southern Liberal Arts	Wofford College (S.C.)
Eastern Liberal Arts	Bradford College (Mass.)

TOP-RANKED SCIENCE PROGRAMS

Colleges with most votes for undergraduate science programs

Category	College
National Universities	Massachusetts Institute of Technology
National Liberal Arts	Oberlin College (Ohio)
Smaller Comprehensive	Montana College of Mineral Science and Technology
Southern Comprehensive	Univ. of Alabama in Huntsville
Eastern Comprehensive	Rochester Inst. of Technology (N.Y.)
Western Comprehensive	Calif. Poly St. Univ., San Luis Obispo
Western Liberal Arts	Alma College (Mich.)
Southern Liberal Arts	Virginia Military Inst.
Eastern Liberal Arts	Saint Joseph College (Conn.)

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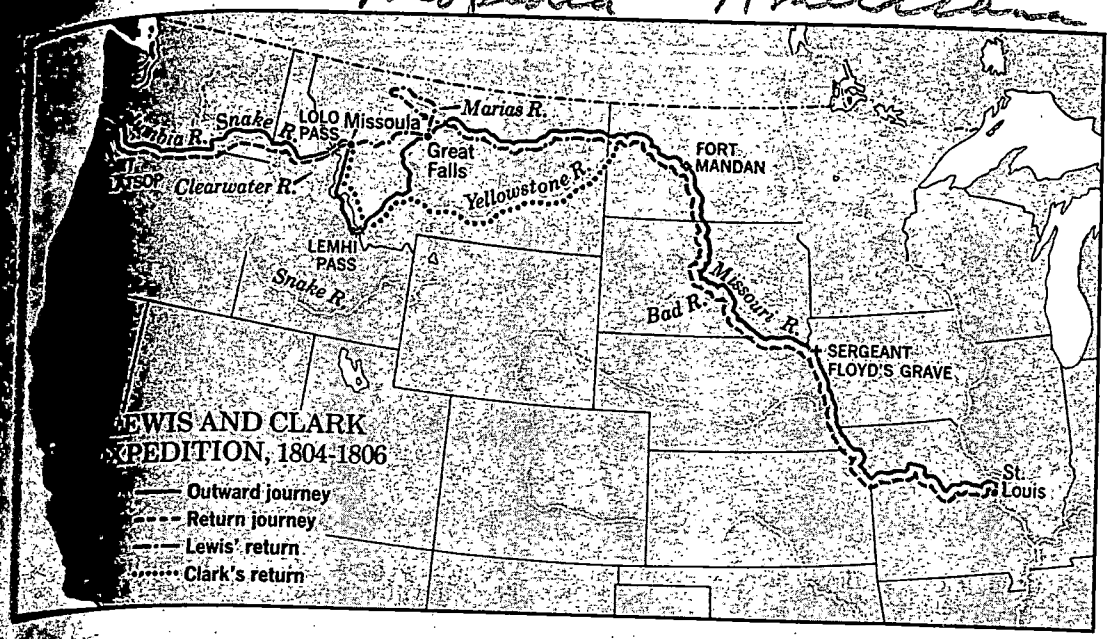

EWIS AND CLARK EXPEDITION, the widely celebrated geographical and scientific exploration of 1804–1806 of a vast, uncharted territory of the United States, much of it newly acquired by the Louisiana Purchase. Commissioned by the U.S. government, Meriwether Lewis and William Clark led a band of some 40 soldiers and civilians up the Missouri River, across the Rocky Mountains, and down the Columbia River to the Pacific Ocean, returning by a similar route.

President Thomas Jefferson had long planned such an expedition, even when the entire region to be crossed belonged to European powers, and Congress had authorized the venture before France sold the Louisiana Territory to the United States in 1803. Jefferson had made Meriwether Lewis his private secretary, or aide, in 1801, perhaps for the express purpose of training him to lead the expedition.

Lewis, aged 29, chose as his companion William Clark, a former Army acquaintance four years his senior. Although Lieutenant Lewis was promoted to captain, Clark's promised captaincy failed to clear the War Department, and he was made a second lieutenant of artillerists. Lewis, however, insisted that Clark maintain the fiction that he was a captain, and the men of the expedition always believed that the two leaders held equal rank. In the eyes of the government officials, however, the responsibility was primarily Lewis'. The term "Lewis and Clark Expedition" was not coined until the men had returned. Lewis appears to have been the first to use it.

Embarkation. Laden with carefully chosen supplies and gifts for the Indians—the cost of the expedition would exceed $39,000—the men set out from their wintering grounds along the east bank of the Mississippi River near St. Louis on May 14, 1804. Moving up the Missouri River in a large keelboat and two smaller vessels, the party consisted of perhaps 47 men. The exact number is not known because there is conflicting information about how many French boatmen, or *voyageurs,* were employed. Most members of the permanent party chosen to go all the way to the Pacific were soldiers already in the Army, except for a group of nine that had been recruited by Clark in Kentucky. Also present was Clark's black slave, York.

Meriwether Lewis

William Clark

INDEPENDENCE NATIONAL HISTORICAL PARK COLLECTION

The fact that the United States had negotiated the Louisiana Purchase and now owned much of the territory to be traversed did not satisfy the Spanish. Disputing the boundaries of the Purchase as well as its legality, Spanish authorities in Mexico took steps to intercept Lewis and Clark with the aid of the Pawnee Indians living in present Nebraska and Kansas. But the move was weak and delayed, and the expedition proceeded up the Missouri. At a point near present Sioux City, Iowa, the only fatality occurred,

Captain Lewis & Clark holding a Counsil with the Indians

A Canoe striking on a Tree

LIBRARY OF

Drawings from the journal of Sgt. Patrick Gass, a member of the expedition, were published in 1807.

when Sgt. Charles Floyd died, probably of a ruptured appendix.

Indian Relations. An important assignment of the two captains was counseling with Indian delegations, both to advise them of the Louisiana Purchase and to persuade representative chiefs to journey to St. Louis (and a few to Washington) for further parleys. The attempt to establish good relations with the Indians was generally successful, and several tribes sent delegated chiefs down the river on official visits.

The Teton Sioux, however, were in a threatening mood and nearly provoked a battle. In September, at the mouth of the Bad River in present South Dakota, a party of warriors met with the captains, accepted the standard assortment of gifts, but then declared that the expedition would not be allowed to proceed. Their attempt to restrain the keelboat by force caused Clark to draw his sword, and the enlisted men to support him with firearms. The Indians relented.

The First Winter. Lewis and Clark spent the first winter near the Mandan Indian villages at the site of present Bismarck, N. Dak., preparing information for Jefferson that would be sent down the river in the spring with temporary members of the group. Here the French-Canadian interpreter, Toussaint Charbonneau, was added to the expedition, along with his young Indian wife Sacagawea (also spelled Sacajawea, Sakakawea), a Shoshoni, and their baby Jean Baptiste. Sacagawea is often called a guide, but her knowledge of the route was not extensive. Her most important role was that of translator when the expedition reached the Shoshoni Indians. She had been captured from that tribe by hostile Indians a few years earlier.

At the temporary winter quarters, which they called Fort Mandan, Lewis and Clark received several visits from Canadian and British employees of the North West Company. They established friendly relations with the Mandan Indians nearby and later persuaded one principal chief, Sheheke (Shahaka), to descend the river with them on their return voyage.

Scientific Work. The specimens of plant and animal life prepared by members of the expedition during that winter included many that hitherto had not been available for scientific study and description. Animals "new to science," for example, included the prairie dog, jackrabbit, black-tailed deer, pronghorn, and mountain sheep. The grizzly bear, which the expedition is credited with discovering, had been known in East but was not scientifically described named *Ursus horribilis* until Lewis and C specimens reached home. The grizzly proved be the most dangerous creature the travelers countered. The journals of the expedition incidents in which several of the men narro escaped death or injury.

Resumption of the Journey. In April 1805 expedition resumed its ascent of the Missouri small vessels (having sent the large keel home) and by mid-June had reached a for able barrier, the Great Falls in Montana. T weeks were occupied in transporting the bo and equipage around the falls. The men b crude carriages, using slices of cottonwood for wheels, and pulled the canoes overland ropes. On one particularly windy day hoisted a sail to ease the burden.

From this point the trail led to the Co nental Divide at Lemhi Pass in Idaho, on to crossing of the Bitterroot Range at Lolo P near present Missoula, Mont., and down Clearwater, the Snake, and Columbia rivers the sea. The Pacific was first sighted on Nov. 1805. A camp called Fort Clatsop was est lished on the Oregon side of the Columbia December 1805, and there the men spent a m erable winter coping with cold, rain, and hun The coastal Clatsop Indians, placid, friendly, very poor, were frequent visitors during th winter.

The Return. The homeward voyage, which be gan in April 1806, was largely a duplication of the outward leg—with two important exceptions. Lewis made a reconnaissance of the Marias River, a northern tributary of the Missouri, while Clark descended the Yellowstone to its confluence with the Missouri.

On Lewis' side trip, he tried to avoid meeting local Indians, being unsure of their disposition. Unfortunately, however, at a time when he had only three men with him, he was joined by a band of eight Piegans—members of the Blackfoot confederacy—who attempted to steal horses and equipment. In the resulting skirmish with knives and guns, two of the Indians were killed.

A few days later, Lewis was shot in the thigh by one of his men, a Creole named Pierre Cruzatte, who was blind in one eye and had mistaken Lewis—in his buckskin clothing—for an el

Canoe striking on a Tree

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Clark & his men building a line of Huts

Captain Lewis shooting an Indian

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wound was a disabling one, and when the
of the expedition were reunited at the mouth
of the Yellowstone in mid-August, Clark had to
provide Lewis with careful medical treatment.

Descending to the Mandan villages, the ex-
plorers left Charbonneau and Sacagawea and
their child. Clark later arranged for young Jean
Baptiste to receive tutoring in St. Louis. Sacaga-
wea probably died in 1812, although a legend
persists that she lived to a very old age on the
Wind River reservation in Wyoming.

When the expedition left the Mandans, Chief
Sheheke and his small entourage were aboard.
The explorers descended the Missouri rapidly and
reached St. Louis on Sept. 23, 1806, where they
were told they had been given up for lost. The
Mandan chief went on to the East Coast with
Lewis, not realizing that it would require three
years, and two attempts, to return him to his
village in defiance of hostile tribes. The financial
claim upon Lewis, whose expenditures in return-
ing the chief were not fully reimbursed by the
government, may have contributed to his early
death in 1809, apparently from self-inflicted gun-
shot wounds.

Achievements. The significance of the expedi-
tion lies in the vast amount of information
brought back in the maps and voluminous jour-
nals kept by both officers and at least five of the
enlisted men. This information reached the pub-
lic slowly. Except for a few letters written by
Lewis and Clark and widely printed in news-
papers, and a rather poor diary published in
1807 by Sgt. Patrick Gass, no narrative of the
expedition was available until 1814. The journals
themselves, filling 8 published volumes, were not
issued until 1904–1905. Since then, other records
have come to light. They reveal much about how
Lewis and Clark dealt firmly but wisely with the
Indians; produced the first maps of a vast new
area; observed and collected scores of previously
unknown species of plants and animals; strength-
ened U. S. claims to territory in the far North-
west; and gave Americans their first clear incen-
tive to push the frontier to the Pacific.

DONALD JACKSON, *University of Virginia*

Bibliography

Cutright, Paul R., *Lewis and Clark: Pioneering Naturalists* (Univ. of Ill. Press 1969).

DeVoto, Bernard, ed., *The Journals of Lewis and Clark* (Houghton 1953).

Hawke, David F., *Those Tremendous Mountains* (Norton 1985).

Jackson, Donald, ed., *Letters of the Lewis and Clark Expedition* (Univ. of Ill. Press 1978).

Thwaites, Reuben G., ed., *Original Journals of the Lewis and Clark Expedition*, 8 vols. (1904; reprint, Arno 1972).

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SACAGAWEA, the Shoshoni Indian wife of a French-Canadian interpreter, accompanied the expedition with her husband and infant son. Painting by Alfred Russell shows her as a guide.

May 14

964 Pope John XII died, unshriven
1264 Battle of Lewes, England (Henry III against the Earl of Leicester)
1316 Charles IV, King of Bohemia and Holy Roman Emperor, born
1491 Modern-day Passover observances began
1494 Columbus discovered Jamaica
1553 Marguerite de Valois, queen of Navarre, born
1608 Charles the Great, King of Lorraine, died
1609 Henry Hudson began the voyage that sent him up the Hudson River
1610 King Henry IV of France and Navarre stabbed
1643 King Louis XIII of France died
1675 Warrant issued for rebuilding St. Paul's Cathedral, London
1686 Gabriel D. Fahrenheit, German physicist, born
1710 King Adolphus Frederick of Sweden born
1764 St. Paul's Chapel begun in New York City
1771 King Louis XVIII of France married Louise Marie Josephine of Savoy
1775 William Penn Academy became the College of Pennsylvania (now the University of Pennsylvania)
1780 Louisville, Kentucky, incorporated
1787 A convention met in Philadelphia to draft the Constitution
1796 First smallpox injection given by Edward Jenner
1804 Lewis and Clark expedition left St. Louis, Missouri
1842 Illustrated London News first appeared
1851 Erie Railroad opened from Piermont to Dunkirk, New York
1856 Stock for the U.S. Army's first and only camel corps, 34 of them, arrived in Texas
1861 Robert E. Lee became a Confederate Brigadier General
George B. McClellan became a Union Major General
1863 Union forces captured Jackson, Mississippi
1879 Art Institute of Chicago incorporated
1881 St. Mary Mazzarello died (Feast Day)
1902 Donald Barr Chidsey, author, born
1912 King Frederick VIII of Denmark died
1916 Start of the Battle of Asiago, Austrian defeat on the Italian front
1917 First Liberty Loan offered to the U.S. public
1923 Flogging abolished in Florida labor camps
1925 Patrice Munsel, singer, born
1929 First airmail service between North and South America began
1930 White House Police Force joined the Secret Service
Constitution of Syria adopted
Carlsbad Caverns National Park established (New Mexico)
1940 Totem pole on Washington State Office Campus dedicated
Rotterdam, Holland devastated by German bombs
1942 Congress authorized the Women's Army Corps
1945 German submarine, U-858, surrendered 44 miles off New Jersey
1948 State of Israel proclaimed and recognized by the U.S.
1955 Warsaw Treaty Organization formed
1959 Ground-breaking ceremony for the Lincoln Center of the Performing Arts (New York City)
1963 Kuwait joined the United Nations
1965 John F. Kennedy Memorial dedicated at Runnymede, England
1970 Midnight sun returned to North Cape, Norway
Start of 2-day Independence Day celebrations in Paraguay

May 15th

Roman festival honoring Mercury
Straw Hat Day
Feast of St. Dympna, patron of the insane
Feast of St. John-Baptist de la Salle
Japanese Hollyhock Festival
1043 AD St. Hallvard died, (Feast Day; patron of Oslo, Norway)
1092 King Philip I of France kidnapped Bertrada de Montfort
1464 Final victory of York over Lancaster in the War of the Roses at Hexham, England
1602 Cape Cod discovered by Bartholomew Gosnold of England
1773 Prince Metternich, Austrian statesman, born
1796 Napoleon and his army entered Milan, Italy
1800 Start of Napoleon and the French Consular Guard's 5-day crossing of the St. Bernard Pass to Italy
1812 New York City's city hall dedicated
1848 First hospital in New Jersey opened, a mental institution in Trenton
1850 U.S. Botanical Garden re-established by Congress
1854 United States Magazine founded
1856 Frank Baum, creator of the Wizard of Oz, born
1858 Royal Opera House, Covent Garden, opened in London

John James Osborne

1929–

1 Look Back in Anger.
Title of play [1956]

Dory Previn

c. 1929–

2 i was you baby
i was you too long
On My Way to Where [1971]. I Was You

3 i can't go on . . .
i really
can't go on
i swear
i can't go on
so
i guess
i'll get up
and go on *Ib. I Can't Go On*

Adrienne Rich

1929–

4 I want this to be yours
in the sense that if you find it and read it
it will be there in you already
and the leaflet then merely something
to leave behind, a little leaf
in the drawer of a sublet room.
Leaflets [1971]

5 My visionary anger cleansing my sight.
The Stranger [1973]

6 I am the androgyne. *Ib.*

7 There is a ladder.
The ladder is always there
hanging innocently
close to the side of the schooner.
Diving into the Wreck [1973]

8 I came to explore the wreck. *Ib.*

9 I came to see the damage that was done
and the treasures that prevail. *Ib.*

10 I stroke the beam of my lamp
slowly along the flank
of something more permanent
than fish or weed. *Ib.*

11 There is a cop who is both prowler and father.
Rape [1973]

Robert Sommer

1929–

12 Personal space refers to an area with invisible boundaries surrounding a person's body into which intruders may not come.[1]
Personal Space: The Behavioral Basis of Design [1969]

Neil Alden Armstrong

1930–

13 Houston, Tranquility Base here. The Eagle has landed.
On reaching the moon [July 20, 1969][2]

14 That's one small step for a man, one giant leap for mankind.
On first stepping on the moon [July 20, 1969]

Wilfrid Sheed

1930–

15 If God had died in the blare of the twentieth century and in houses too new and cheap to be haunted, one must seek him in the old quiet places, where he might still live on in retirement.
The Good Word [1978], pt. I, ch. 12

16 Suicide . . . is about life, being in fact the sincerest form of criticism life gets.
Ib. 15

17 The odds on any intelligent person having an unhappy childhood are better than fair, and the odds on a sad ending are practically off the board. *Ib. 33*

18 [Published] letters by a living man are a bit like a stately home with the owner around —one isn't sure how much one can touch.
Ib. II, 12

Stephen Sondheim

1930–

19 Tonight, tonight, won't be just any night.
Tonight there will be no morning star.
West Side Story [1957].[3] *Tonight*

[1] See Auden, 869:6.
[2] Armstrong commanded the Apollo 11 mission, which resulted in the first known lunar landing.
[3] Music by LEONARD BERNSTEIN.

ROTUNDA FRIEZE

The frescoed frieze on the interior of the Rotunda is located 58′ above the floor. It is 300′ in circumference and 8′3″ high.

Constantino Brumidi created the designs and completed about one third of the frieze before his death in 1880.

America in History
Landing of Columbus, 1492
Entry of Cortez into the Halls of Montezuma, 1521
Pizarro's Conquest of Peru, 1533
Midnight Burial of De Soto in the Mississippi, 1542
Pocahontas Saving the Life of Capt. John Smith, 1607
Landing of the Pilgrims at Plymouth, Mass., 1620
Penn's Treaty with the Indians, 1682 (approximately half)

The work was continued by Filippo Costaggini. From 1880 to 1888 he used all the designs which Brumidi had prepared to complete the frieze. However, a 31′2″ gap in the design resulted and the frieze was left incomplete. Costaggini's work includes:

Colonization of New England
Peace Between Governor Oglethorpe and the Indians, 1732
Battle of Lexington, 1775
Reading of the Declaration of Independence, 1776
Surrender of Cornwallis at Yorktown, 1781
Death of Tecumseh at the Battle of Thames, 1813
Entry of General Scott into the City of Mexico, 1847
Discovery of Gold in California, 1848

Numerous legislative efforts to appropriate sufficient money and to find a suitable artist to complete the frieze were unsuccessful until 1950 when a resolution providing for completion was signed into law. The Joint Committee on the Library agreed that the unfinished area of the frieze should contain suitable scenes depicting:

The Civil War [1865]
The Spanish-American War [1898]
The Birth of Aviation in the United States [1903]

Allyn Cox was engaged to complete these panels. Mr. Cox finished his painting in the summer of 1953, and that fall he cleaned and restored the original Brumidi-Costaggini work. The frieze was illuminated and dedicated with appropriate ceremonies on May 11, 1954.

ORIGINAL SKETCHES OF THE ROTUNDA FRIEZE

The original sketch for the Rotunda frieze, from which Constantino Brumidi made the larger cartoons, was presented to the Government by Mrs. Myrtle Cheney Murdock in 1961. It is preserved in the Office of the Architect of the Capitol.

Rep. Solomon Ortiz
Kika de la Garza
Bill McKenzie

McNally/Simon
May 4, 1990
Draft Two (TX-A&I)

PRESIDENTIAL REMARKS: TEXAS A. & I. COMMENCEMENT
KINGSVILLE, TEXAS
FRIDAY, MAY 11, 1990, 11:00 A.M.

S12-
S98-3207

MAN-WEL [EE-BAHN yez]

Thank you, President [[MANUEL]] Ibanez, and good afternoon to you all. It's always a pleasure to be back in Texas -- back in one of my home states. \\\ And it's always good to see Governor Clements, Senator Gramm, and so many distinguished members of Texas' congressional delegation. And congratulations to the families and friends and faculty of these students -- and, most of all: **The Texas A & I Class of 1990**. \\\

When Manny first contacted us about A & I's graduation, he called my son, George, and said that you wanted to hear a commencement address from a popular but aging Texan who has risen to the top of his field. And George said: "Does that mean you're inviting **Nolan Ryan**?" \\\

But I'm honored to be in the home of the legendary Javalinas -- the wild boars. And I'm deeply honored to be speaking from a space on the playing field usually reserved for **"Porky."** [[A & I's JAVALINA MASCOT]] \\\

But I noticed your mascot's nowhere to be seen today. **Guess he heard my favorite snack is barbecued pork-rinds!** \\\

Javelinas aren't the only wildlife native to South Texas. The warm winds of Kingsville are abundant with doves, deer are ample, and rattlesnakes are rampant in the mesquite. It's a

special place for the Bush family. I come down this way almost every December to hunt quail just outside Beeville.

But the reputation is changing. When I told Barbara I was flying down to South Texas to talk with college students and see the wildlife, she said: "Aren't you getting a bit old to be going to South Padre for **Spring Break**?" \\\

Like the state and the region it calls home, Texas A & I is a place of pioneers. The first four-year college in South Texas. A leader in bi-lingual education, with the first such doctoral program in the U.S. Home to research and innovations from natural gas engineering to snake venom to the Rio Red grapefruit we've enjoyed at the White House. And many of you are yourselves pioneers -- the first in your families ever to attend college -- let alone stay the course to graduate.

Of course, Texas has always produced its share of pioneers and visionaries. One was Sam Houston. Where others saw empty plains and dust, he saw farms, and ranches, and towns. Where others saw obstacles, he saw **opportunity**.

But Houston could ~~hardly~~ scarcely have imagined that, little more than a hundred years after his death, the entire planet would hold its breath as his name became the first word ever uttered on the plains and dust of another world.

It was July 20, 1969. And although Apollo 11 had just survived one of the most harrowing landings in the history of space, the voice of Neil Armstrong was confident, strong,

American. He said: "Houston: Tranquility Base here. The Eagle has landed." Eight words. And the world was changed forever.

When America decided to accept the Apollo challenge, we rolled up our sleeves and took on a daunting and dangerous job. Apollo 11 proved we could meet our commitments to ourselves and to the world, lifting the spirits of a generation, and raising forever the horizons of the human race.

Today, America is still enjoying the dividends that flowed from Apollo's outpouring of new science and technology. Today, we take for granted the knowledge and capabilities that were simply unimagined when the moon mission was announced. But that far-sighted investment is the reason America's aerospace industry remains first in the world -- last year producing a $19 billion tide of black ink in our balance of trade.

And Project Apollo spurred a burst in technological education throughout the country. During that short decade, we tripled the number of graduating physical scientists, doubled the mathematicians, and more than doubled the engineers.

Apollo energized a generation of intellect, a generation America's relied on for 20 years to permit our complex modern society to compete and succeed on the cutting edge. **The lesson history teaches us is that the benefits are there for those who dare to reach for them.**

Last summer, in a speech commemorating the 20th anniversary of the Apollo Moon landing, I announced three major space policy objectives: First, to have Space Station Freedom up before the

century is out. Second, for the new century, a permanent lunar base: "Back to the Moon, back to the future -- and this time -- back to stay." And third, a manned expedition to Mars.

Together these objectives form one of the cornerstones of my Administration's far-reaching plan for investing in America's future. The space program is the only national endeavor which in one effort brings together all those factors historically critical to America's greatness: Pushing back frontiers. Creating economic opportunity. Looking beyond the horizon to offer a better world for the children of tomorrow.

200 miles north of where we stand, the city of Houston was born as a frontier town. And a frontier town it remains -- a town on the frontiers of space.

Frontiers summon the creativity, imagination, and inventiveness of the human mind to conquer them. **Each time we go to the frontier and beyond, we bring back more than we could hope for. And today we have the chance to bring back more than we can imagine.**

Our space program will revive public interest in science, and revitalize an area of our educational system that has become disturbingly weak. It will revolutionize everything from computers to communications, from medicine to metals, regaining and retaining America's high-tech competitive edge. It will create new technologies, new industries, and new jobs.

It's a revolution I hope many of you will be part of. And it's a revolution that's already underway.

The Space Shuttle program is back and ushering in a new era in space science. And it's led by a new generation of skilled astronauts. Scientists like Franklin Chang-Diaz, NASA's first Hispanic astronaut, who was on the last Shuttle flight to go up before the Challenger accident. Last fall Dr. Diaz helped put America back in space, part of the team that deployed the Galileo spacecraft on its 6-year journey to Jupiter. Galileo is the most sophisticated robotic spacecraft ever built, and sails in the vanguard of a flotilla of complex craft now readying an assault on longstanding mysteries of the stars, the solar system, and our own planet Earth.

You are coming of age during a Golden Age of space science. And there's no better example of this than the miracle that's circling high above Kingsville even as we speak -- the Hubble Space Telescope. It will see farther than ever before, to the furthest reaches of the universe, to the very edges of time. (It will, in fact, even enable astronomers to see back in time -- perhaps far enough back to when the Dallas Cowboys last had a .500 season!) oilers?

And it's hoped that the telescope can resolve objects so well that, in theory, it could pick out the writing on a dime -- 100 miles away. **Talk about the "Vision Thing!"** \\\

And even while Galileo and Hubble begin to look out across the vast reaches of space -- another array of new satellites will be looking back at Earth -- taking the pulse of the most important planet in the universe. (Do you remember a couple

years back when Time magazine named Earth "Planet of the Year?" Comedian Jay Leno said: "What did you expect? All the judges came from Earth!")

We call this initiative "Mission to Planet Earth." It's an effort of such magnitude, it drawfs everything in the past -- a worldwide effort studying the complex interactions between the land, the sea, the ice, and the air -- as well as between the Earth and the Sun.

Initiatives like these mark a critical investment in America's future. They will help protect the environment, fuel an educational renaissance, and hone America's competitive edge.

But the importance of the space program -- especially the manned space program -- goes deeper than that. Throughout our history, America has been a nation of discoverers, founded on the spirit of exploration. In fact, this week marks the date the Lewis and Clark Expedition left St. Louis to map much of what was to become the great American West. Lewis and Clark were the pioneers of American government-financed exploration, which began by crossing the Mississippi and, in our time, saw Americans land on the Moon.

But today, we're no longer just asking for the Moon. We've been there. We're looking further, to begin living outside Earth for good, wherever opportunity, curiosity, and need will take us.

It's time to open up the final frontier, permanently, to the point of no turning back. America's space program is what

civilization needs to begin this journey, and to perfect the commitment to go beyond.

We stand at a halfway point in our exploration of the immediate solar system -- the planet Earth, its Moon, and the terrestrial neighborhood. 30 years ago, NASA was founded and the space race begun. And 30 years from now -- I believe Man will stand on another planet. **And so I am pleased to return to Texas today to announce not only a goal but also a timetable: I believe that before Apollo celebrates its 50th anniversary on Earth -- the American flag should be planted on Mars.**

We live in a century that began with great promise and hope for America, then only beginning to assume its place on the world stage. That hope has been fulfilled -- and surpassed -- beyond the wildest dreams of our founders. And the promise of America -- the promise of free choices, free chances, and free ideas -- is beginning to be tasted by more people in more places than ever before.

And so as this century closes, it is in our hands to determine the kind of nation, the kind of people, we will become in the next.

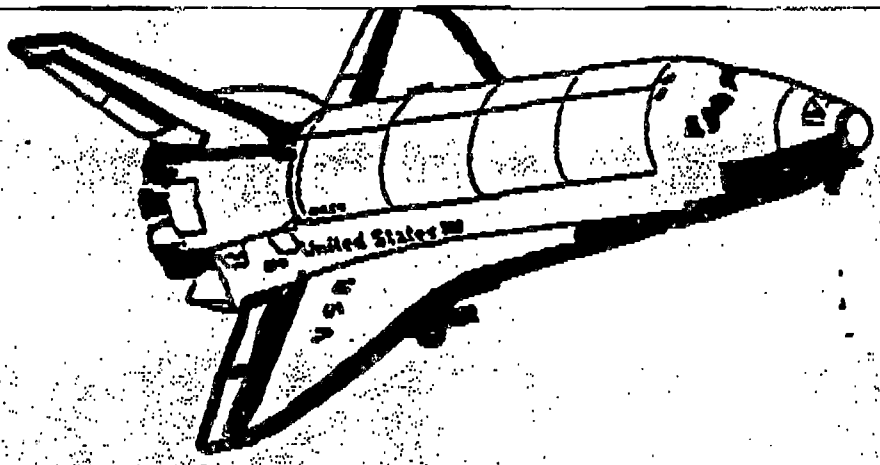
Around campfires, by moonlight and starlight across the ages, men and women have turned their gaze skyward and dreamed an ancient dream. And somewhere in America today, maybe here in this stadium, there is a young man or woman who, like Neil Armstrong, will seize this dream and change the world for all time. **I believe, I truly believe, that the Class of '90 will**

leave footprints not only in the sands of Texas -- but also in the sands of time -- and ultimately in the sands of Mars.

You who have lived these past four years in Kingsville know a lot about the sky. The plains of South Texas are flat as the sea -- a land without hills or impediments, a land of limitless horizons and dreams to match. It offers exactly the kind of night-time sky where the cream of America's youth -- the cream of Texas A and I -- can point confidently to the stars -- to eternity -- and to the future of themselves and this great Nation.

America is proud of you and the families you represent. God bless you in the challenges to come. And God bless the United States.

# # #



NASA HEADQUARTERS NEWSROOM
FACSIMILE COVER SHEET

DATE: MAY 2, 1990

TO: Bob Simon

FROM: Ed Campion

TOTAL NUMBER OF PAGES INCLUDING COVER SHEET:

5

COMMENTS: These are the two Hispanic astronauts currently in the astronaut corps at JSC.

IF THERE ARE ANY PROBLEMS WITH THIS TRANSMISSION CALL 202/453-8400.

MAY 2 '90 9:39 FROM HQ NEWSROOM 2 PAGE.001

Dr. Ellen Ochoa
Ast. conducted
graduate from Mexico
BS physics
PhD. E.E. Stanford

Biographical Data

NASA

National Aeronautics and Space Administration

Lyndon B. Johnson Space Center
Houston, Texas 77058

NAME: Franklin R. Chang-Díaz (Ph.D.)
NASA Astronaut

BIRTHPLACE AND DATE: Born April 5, 1950, in San José, Costa Rica, to the late Mr. Ramón A. Chang-Morales and Mrs. María Eugenia Díaz De Chang. His mother resides in Costa Rica.

PHYSICAL DESCRIPTION: Brown hair; brown eyes; height: 5 feet 8-1/2 inches; weight: 150 pounds.

EDUCATION: Graduated from Colegio De La Salle in San José, Costa Rica, in November 1967, and from Hartford High School in Hartford, Connecticut, in 1969; received a bachelor of science degree in Mechanical Engineering from the University of Connecticut in 1973 and a doctorate in Applied Plasma Physics from the Massachusetts Institute of Technology in 1977.

MARITAL STATUS: Married to the former Peggy Marguerite Doncaster of Alexandria, Louisiana.

CHILDREN: Jean E., December 22, 1973; Sonia R., March 31, 1978; and Lidia A., March 1, 1988.

RECREATIONAL INTERESTS: He enjoys music, glider planes, soccer, scuba-diving, hunting, and hiking.

SPECIAL HONORS: Recipient of the University of Connecticut's Outstanding Alumni Award (1980); NASA Space Flight Medal (1986); the Liberty Medal from President Ronald Reagan at the Statue of Liberty Centennial Celebration in New York City (1986); the Medal of Excellence from the Congressional Hispanic Caucus (1987); NASA Exceptional Service Medal (1988); and awarded the Cross of the Venezuelan Air Force by President Jaime Lusinchi during the 68th Anniversary of the Venezuelan Air Force in Caracas, Venezuela (1988).

EXPERIENCE: While attending the University of Connecticut, he also worked as a research assistant in the Physics Department and participated in the design and construction of high energy atomic collision experiments.. Following graduation in 1973, he entered graduate school at MIT--becoming heavily involved in the United States' controlled fusion program and doing intensive research in the design and operation of fusion reactors. He obtained his doctorate in the field of applied plasma physics and fusion technology and, in that same year, joined the technical staff of the Charles Stark Draper Laboratory. His work at Draper was geared strongly toward the design and integration of control systems for fusion reactor concepts and experimental devices, in both inertial and magnetic confinement fusion. In 1979, he developed a novel concept to guide and target fuel pellets in an inertial fusion reactor chamber. More recently, he has been engaged in the design of magnetic divertor systems for energy recovery and impurity control in fusion power plants, as well as new concepts in rocket propulsion based on high temperature plasmas. In October 1983 he was appointed as visiting scientist with the MIT Plasma Fusion Center where he travels periodically to continue his research on advanced plasma rockets. He has presented numerous papers at technical conferences and in scientific journals.

In addition to his mainline fields of science and engineering, he worked for 2-1/2 years as a house manager in an experimental community residence for deinstitutionalizing chronic mental patients, and was heavily involved as an instructor/advisor with a rehabilitation program for hispanic drug abusers in Massachusetts.

NASA EXPERIENCE: Selected by NASA in May 1980, Dr. Chang-Díaz became an astronaut in August 1981, qualified for assignment as a mission specialist on future Space Shuttle flight crews. While undergoing astronaut training he was also involved in flight software checkout at the Shuttle Avionics Integration Laboratory (SAIL), and participated in the early Space Station design studies. In late 1982 he was designated as support crew for the first Spacelab mission and, in November 1983, served as on orbit capsule

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designated as support crew for the first Spacelab mission and, in November 1983, served as on orbit capsule communicator (CAPCOM) during that flight.

From October 1984 to August 1985 he was leader of the astronaut support team at the Kennedy Space Center. His duties included astronaut support during the processing of the various vehicles and payloads, as well as flight crew support during the final phases of the launch countdown.

He has logged over 1,500 hours of flight time, including 1,300 hours in jet aircraft.

Dr. Chang-Díaz flew on Shuttle mission STS 61-C which launched from the Kennedy Space Center, Florida, on January 12, 1986. During the 6-day flight of Columbia he participated in the deployment of the SATCOM KU satellite, conducted experiments in astrophysics, and operated the materials processing laboratory MSL-2. STS 61-C made a successful night landing at Edwards Air Force Base, California, on January 18, 1986. With the completion of this flight he logged 146 hours in space.

Dr. Chang-Díaz was instrumental in implementing closer ties between the astronaut corps and the scientific community. In January 1987, he started the Astronaut Science Colloquium Program and later helped form the Astronaut Science Support Group, which he directed until January 1989.

On his second flight, Dr. Chang-Díaz was a member of the crew of STS-34, aboard Shuttle Orbiter Atlantis. STS-34 launched from Kennedy Space Center, Florida, on October 18, 1989, and landed at Edwards Air Force Base, California, on October 23, 1989. During the mission crew members successfully deployed the Galileo spacecraft on its journey to explore Jupiter, operated the Shuttle Solar Backscatter Ultraviolet Instrument (SSBUV) to map atmospheric ozone, and performed numerous secondary experiments involving radiation measurements, polymer morphology, lightning research, microgravity effects on plants, and a student experiment on ice crystal growth in space. Mission duration was 79 orbits of the earth, and logged him an additional 119 hours and 41 minutes in space.

CURRENT ASSIGNMENT: Dr. Chang-Díaz is assigned as a mission specialist on the crew of STS-46. During this seven day mission the crew will deploy the European Retrievable Carrier (EURECA), an ESA-sponsored free-flying science platform, and will also demonstrate the Tethered Satellite System (TSS), a joint project between NASA and the Italian Space Agency. STS-46 is scheduled for launch in mid-1991.

OCTOBER 1989

MAY 2 '90 9:41 FROM HQ NEWSROOM 2 PAGE.003

Biographical Data

NASA

Lyndon B. Johnson Space Center
Houston, Texas 77058

National Aeronautics and Space Administration

NAME: Sidney M. Gutierrez (Lt. Col., USAF)
NASA Astronaut

BIRTHPLACE AND DATE: Born June 27, 1951, in Albuquerque, New Mexico.
His father, Mr. Robert A. Gutierrez , resides in Albuquerque, New Mexico.
His mother, Mrs. Sarah E. Gutierrez, is deceased.

PHYSICAL DESCRIPTION: Black hair; hazel eyes; height: 5 feet 10-1/2 inches; weight: 160 pounds.

EDUCATION: Graduated from Valley High School, Albuquerque, New Mexico in 1969; received a bachelor of science degree in Aeronautical Engineering from the U.S. Air Force Academy in 1973, and a master of arts degree in Management from Webster College in 1977.

MARITAL STATUS: Married to the former Marianne Sue Cremer of Jefferson City, Missouri.
Her parents, Mr. and Mrs. Lee G. Cremer, reside in Brackettville, Texas.

CHILDREN: Jennifer Anne, August 30, 1980; David McNeill, March 31, 1984; Katherine Elizabeth, January 29, 1988.

RECREATIONAL INTERESTS: He enjoys camping, woodworking, and racquetball.

ORGANIZATIONS: Member of the Society of Experimental Test Pilots, the Air Force Association, the U.S. Air Force Academy Association of Graduates, and the Mexican-American Engineering Society.

SPECIAL HONORS: Distinguished Graduate of the USAF Academy; awarded the Air Force Meritorious Service Medal, Air Force Commendation Medal with 1 Oak Leaf Cluster, 2 Air Force Outstanding Unit Awards, National Defense Service Medal, and Air Training Command Master Instructor.

EXPERIENCE: Gutierrez was a member of the National Collegiate Championship Air Force Academy Parachute Team with over 550 jumps, and a Master Parachutist rating. After graduation from the Academy he completed undergraduate pilot training at Laughlin Air Force Base in Del Rio, Texas. He remained there as a T-38 Instructor Pilot from 1975 through 1977. In 1978 Gutierrez was assigned to the 7th Tactical Fighter Squadron at Hollomon Air Force Base, Alamagordo, New Mexico, where he flew the F-15 Eagle. He attended the USAF Test Pilot School in 1981 and was assigned to the F-16 Falcon Combined Test Force after graduation. While there, Gutierrez served as primary test pilot for airframe and propulsion testing on the F-16 aircraft. Test projects included the F-100 Digital Electronic Engine Control, F-16C & D Model Structural and Performance Testing, F-16 Maximum Performance Braking Tests, and F-16 Mobile Arrestment Qualification.

He has logged over 3,000 hours flying time in approximately 30 different types of airplanes, sailplanes, and balloons.

NASA EXPERIENCE: Selected by NASA in May 1984, Gutierrez became an Astronaut in June 1985. In his first technical assignment he served as Commander for the Shuttle Avionics Integration Laboratory (SAIL) flying simulated missions to verify Shuttle flight software. Following the Shuttle Challenger accident he served as an Action Officer for the Associate Administrator for Space Flight at NASA Headquarters. His duties included coordinating requests from the Presidential Commission and the U.S. Congress during the investigation. In 1986 and 1987 he participated in the recertification of the Space Shuttle Main Engines.,

MAY 2 '90 9:41 FROM HQ NEWSROOM 2 PAGE.004

Main Propulsion System, and External Tank. In 1988 he became the Astronaut Office lead for Shuttle software development, verification, and future requirements definition. Most recently, he has supported launch activities at the Kennedy space Center.

CURRENT ASSIGNMENT: Lt. Col. Gutierrez is in flight training as pilot on the crew of STS-40, scheduled for launch on the Orbiter Columbia in 1990. This will be a dedicated life and space sciences mission, during which crew members will conduct more than two dozen life sciences investigations in the microgravity environment.

SEPTEMBER 1989

(Instructions on Reverse)

1. TRANSMITTING STATION NO.	2. VOICE PHONE CONTACT NO.	3. MESSAGE NO.	4. TOTAL PAGES (Including lead)	5. DATE
755-2568			4	5/2/90

6. FROM (Name, organization and location):

John D. Schumacher
Advisor to the Administrator
NASA
Washington, DC 20546

7. OFFICE CODE: AF

8. OFFICE PHONE NO.: 453-1005

9. TO (Include Office Code and telephone number.) (May also be used for remarks):

Mr. Bob Simon (FAX #: 456-6218) (Tele #: 456-7750)
Research Assistant
Office of Speech Writing
The White House
111 Old Executive Office Building

Mr. Simon:

The attached is forwarded per your request to Mr. Guitierrez.

John D. Schumacher

NASA FORM 1120 DEC 78 PREVIOUS EDITION MAY BE USED.

MAY 2 '90 18:59 FROM NASA HQS OFC OF ADM PAGE.001

SOME HISPANIC NASA EMPLOYEES

DR. FRANKLYN CHANG-DIAZ

BORN IN COSTA RICA. BS IN MECHANICAL ENGINEERING FROM U. OF CONNECTICUT, PHD FROM MIT IN PLASMA PHYSICS. FIRST HISPANIC-AMERICAN ASTRONAUT, HAS FLOWN TWO (2) MISSIONS

LT. COL. SYDNEY GUTIERREZ, USAF

BORN IN ALBUQUERQUE, NM. GRADUATE OF THE US AIR FORCE ACADEMY. FIRST HISPANIC-AMERICAN PILOT ASTRONAUT. SCHEDULED FOR HIS FIRST FLIGHT ON AUGUST 29, 1990

DR. ELLEN OCHOA

BORN IN CALIFORNIA. PARENTAL GRANDPARENTS WERE MEXICAN IMMIGRANTS. BS IN PHYSICS FROM SAN DIEGO STATE, MS AND PHD IN ELECTRICAL ENGINEERING FROM STANFORD. SELECTED AS FIRST HISPANIC-AMERICAN FEMALE ASTRONAUT CANDIDATE ON JANUARY 1990, WILL JOIN ASTRONAUT TRAINING PROGRAM IN JULY, 1990.

MR. RAUL ERNIE REYES

BORN IN EL PASO TX. BS IN ME FROM NEW MEXICO STATE UNIVERSITY. WORKING AT KENNEDY SPACE CENTER AS DIRECTOR OF QUALITY ASSURANCE (SES)

MR. EARL MONTOYA

BORN IN NEW MEXICO. BS. IN CHEMICAL ENGINEERING FROM NEW MEXICO STATE UNIVERSITY; MBA FROM GOLDEN STATE UNIVERSITY, ALFRED SLOAN FELLOW AT MIT (MASTER IN SCIENCE OF MANAGEMENT). WORKS AT NASA HEADQUARTERS AS PROGRAM MANGER FOR SPACE LAB MISSIONS. SERVED PREVIOUSLY AS PROGRAM MANAGER FOR VOYAGER DURING THE URANUS ENCOUNTER. (GS-15)

MAY 2 '90 18:59 FROM NASA HQS OFC OF ADM PAGE.002

DR. NITZA CINTRON

BORN IN PUERTO RICO. BS IN BIOLOGY FROM UNIVERSITY OF PUERTO RICO, RIO PIEDRAS CAMPUS, PHD IN MICROBIOLOGY FROM JOHNS HOPKINS UNIVERSITY. EMPLOYED AT JOHNSON SPACE CENTER AS CHIEF, BIOMEDICAL LABORATORIES BRANCH.(GM-15)

MR. JOSE MARMOLEJO

BORN IN ILLINOIS. BS IN ELECTRICAL ENGINEERING FROM MARQUETTE UNIVERSITY IN '83. WORKING AS PROJECT ENGINEER FOR EXTRA VEHICULAR ACTIVITIES DISPLAYS AND CONTROLS, DESIGNING THE SPACE SUIT FOR USE ON THE SPACE STATION FREEDOM. (GS-12)

MR. FERNANDO RICO-CUSI

BORN IN MEXICO. BS IN ELECTRICAL ENGINEERING FROM THE UNIVERSITY OF TEXAS AT EL PASO IN '85. WORKING AT KENNEDY SPACE CENTER AS MANAGER, SPACE STATION FREEDOM CAD/CAE SYSTEMS (GS-12)

GRADUATES FROM TEXAS A&I

AT THE NASA JOHNSON SPACE CENTER ALONE THERE ARE TWENTY TWO (22) TEXAS A&I GRADUATES EMPLOYED. OF WHICH EIGHT (8) ARE HISPANICS. AMONG THEM ARE THE FOLLOWING:

MR. RUBEN ZAVALA

Post Challenger paper

BORN IN ROBSTOWN, TX. BS. IN MECHANICAL ENGINEERING FROM TEXAS A&I IN '77. EMPLOYED AS AN AEROSPACE ENGINEER WORKING IN PAYLOAD INTEGRATION AND MECHANICAL/STRUCTURAL SYSTEMS. (GS-13)

MR. TIVO PEREZ

BORN IN KINGSVILLE, TX. BS IN MATH FROM TEXAS A&I IN '71. HE IS THE HEAD OF THE SHUTTLE TRAINING AIRCRAFT SIMULATION SECTION. (GM-14)

MAY 2 '90 19:00 FROM NASA HQS OFC OF ADM PAGE.003

MR. JESSE CONTRERAS

BORN IN SAN MARCOS, TX. BS IN MATH/PHYSICS FROM SOUTHWEST TEXAS UNIVERSITY IN '68; MS IN MATH/PHYSICS FROM TEXAS A&I IN '74. EMPLOYED AS A SPACE SHUTTLE PROGRAM ANALYST, MANAGING SPACE SHUTTLE CONTRACTS. (GS13)

MR. EULALIO NANDIN

BORN IN EAGLE PASS TX. BS IN ELECTRICAL ENGINEERING FROM TEXAS A&I IN '83. WORKING AS PROJECT MANAGER IN NETWORK SIMULATIONS SYSTEMS UPGRADE (GS-13)

MAY 2 '90 19:00 FROM NASA HQS OFC OF ADM PAGE.004

Corpus Christi Caller - Times 5-9-90

A Presidenti

Bush trips date back to 1960s

By Ben Goodwin
STAFF WRITER

George Bush will be the first president to visit Kingsville while in office when he arrives Friday to address the Texas A&I graduating class, but it won't be his first stopover in the South Texas town.

Bush's political appearances in South Texas date back to the mid-1960s when he was a 40-year-old Republican candidate campaigning for a seat in the U.S. Senate, a race he lost to Democrat Ralph Yarborough.

The King Ranch was the site of a fund-raising hamburger party for Bush on Sept. 24, 1964, an event that attracted more than 600 supporters.

The party, hosted by Richard Kleberg Jr. and his wife, Mary Lewis Kleberg, attracted people from throughout South Texas. Buses came from Corpus Christi full of Bush supporters who paid $5 for the trip and a hamburger with the candidate.

Bush made campaign stops in Corpus Christi, Robstown and Bishop earlier in the day before the King Ranch appearance.

During his brief talk at the ranch, Bush said if elected, he would fight for a tax credit for parents who send their children to college, and pledged efforts to "strengthen our state's universities, colleges and junior colleges."

Bush returned to Kingsville Oct. 2, 1970, when he was a Republican congressman from Houston running what would be an unsuccessful campaign against Democrat Lloyd Bentsen for a chance to succeed Yarborough as U.S. senator.

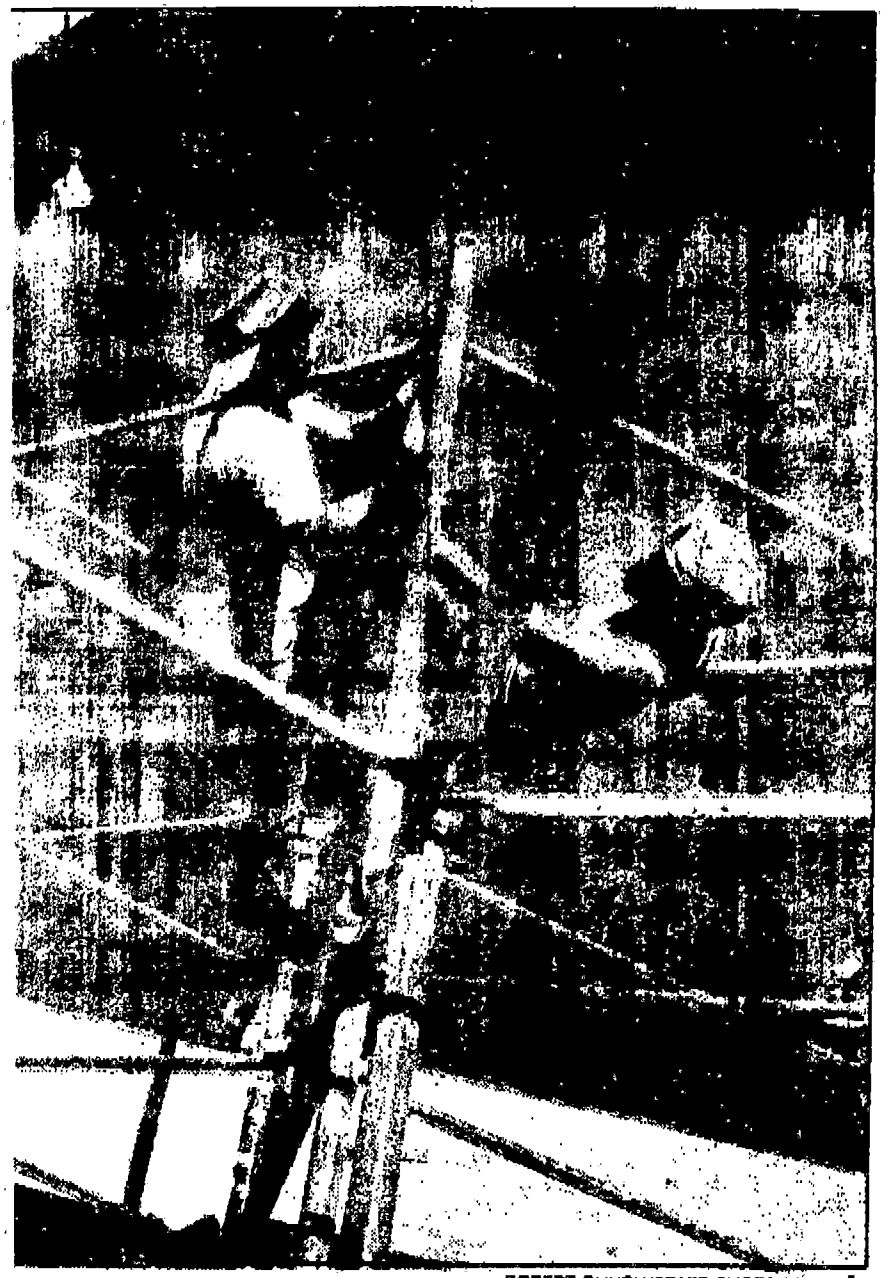
Lynn Baxter (center, on ground) gives directions to Jack Beardsley and Audie Williams (on scaffold) as they ci ing around the stage w

Bush spoke to an audience of about 200 Texas A&I students, telling them he favored an all-volunteer army and voting rights for 18-year-olds.

The two campaign stops were the only Bush visits local residents could recall Wednesday, and the consensus among those interviewed was he will be the first president to visit Kingsville while in office.

"He hasn't visited here often. We had the hamburger supper once for him at the ranch," said John Cypher, who joined the the

al Pilgrimage



ROBERT BUNCH/STAFF PHOTOGRAPHER

y construct the scaffold- e where President Bush will speak at Javelina Stadium on the Texas A&I campus in Kingsville.

King Ranch administrative staff in 1948 and was later named assistant to the ranch president. "Otherwise, there really wasn't any reason for him to visit the ranch," said Cypher.

Cypher also couldn't recall a presidential visit to Kingsville or Texas A&I.

"President Taft visited the King family but that was in Corpus Christi and not at the ranch," Cypher said.

Jimmie Picquet, director of

P see Bush/B2

Kingsville prepares barbecue for visitors

By John Bruce
STAFF WRITER

KINGSVILLE – Harried preparations for President Bush's visit to Texas A&I University Friday will halt temporarily tonight when Washington officials and local organizers will be feted in a South Texas-style celebration.

About 400 guests, including White House staffers, Secret Service agents and media representatives, will attend a barbecue dinner tonight at J.K. Northway Exposition Center in Kingsville, to take a break and experience local hospitality, said Dick Messbarger, executive director of the Kingsville Chamber of Commerce.

"We've invited everyone who has worked on this project, including the Texas A&I staff, the Naval Air Station Kingsville staff and the people involved in the (Kingsville) cleanup campaign," Messbarger said.

"We've invited people from every major newspaper and television network in the country," Messbarger said, adding that several Mexican journalists chronicling the president's visit will attend tonight's festivities.

The "Presidential Round-up and Barbecue," sponsored by the Corpus Christi Mustangs, Kleberg County and the Kingsville Chamber of Commerce, will serve two purposes, Messbarger said.

For the Washington, D.C., visi-

Please see Bar ue/B2

um to dark brown hair. He was wearing a silver St. Benedict's

To call Crime Stoppers, dial 888-TIPS.

land Outdoor Lumber, had served on the Gregory City Coun-

night, Saldivar said.

Bush

FROM PAGE B1

A&I's Conner Museum, joked that Kingsville has been ignored by presidents who never found time to stop.

"Lyndon Johnson probably came through here before and after his presidency, but all the rest like Reagan, Ford and Eisenhower have never visited . . . ," said Picquet, who has been with the museum 20 years.

Picquet said a quick check of Kleberg County history revealed Teddy Roosevelt made a whistle stop in Kingsville, but didn't remain long.

Roosevelt, who at the time was a former president, was on a campaign promoting the Bull Moose Party, which never got off the ground.

Bush is scheduled to arrive at Naval Air Station Kingsville Friday morning and give the commencement address at 11 a.m. in the university's Javelina Stadium. Officials expect about 12,000 people to attend.

Although local officials are pleased Bush will address the graduating class, the president was not the speaker first sought by the university.

"I had asked U.S. Education Secretary Lauro Cavazos to be our speaker," A&I President Manuel Ibanez said, "to which he replied, 'I can do better than that' and he asked the president to speak to the graduates. He accepted. We are thrilled."

Bush has been coming to South Texas for years, with most of the attention focused on his annual bird-hunting trips on a Bee County ranch owned by a friend.

However, the largest South Texas turnout on record to greet Bush occurred in 1985 in Hebbronville.

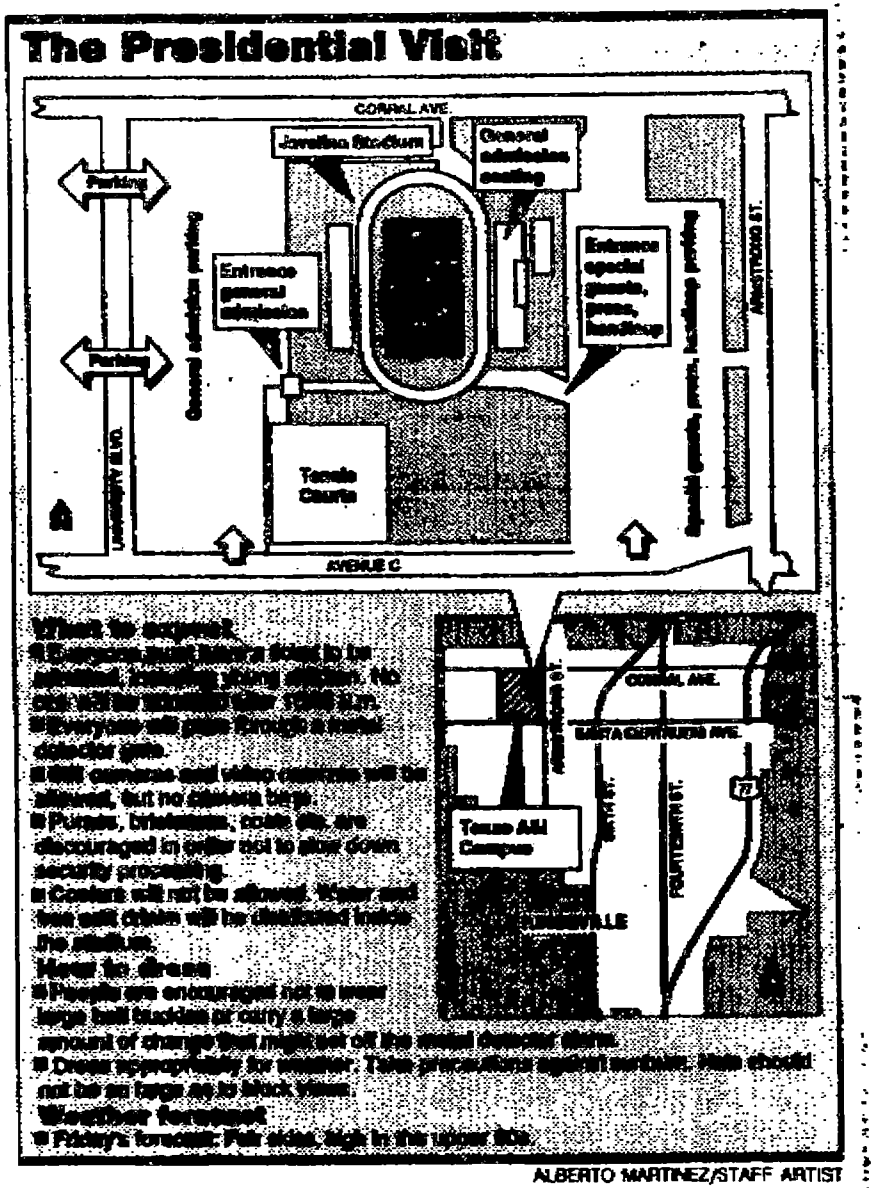
More than 2,000 people from throughout South Texas traveled to that city to honor Bush when he was vice president at a free barbecue held on the ranch of Tony Salinas, a longtime supporter.

Salinas, 43, is owner of the Jim Hogg Enterprise and chairman of the Jim Hogg County Republican Party.

Salinas first met Bush in 1970 when he worked on Bush's U.S. Senate campaign against Bentsen. Bush, in 1985, described Salinas as one of his trusted advisers.

Bush also came to Hebbronville in 1974 when he was Republican Party national chairman.

A spokesman for Jim Hogg Enterprise said Wednesday Salinas was in Washington and would attend Friday's ceremony in Kingsville.



ALBERTO MARTINEZ/STAFF ARTIST

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Barbecue

FROM PAGE B1

tors and the newspaper, radio and television reporters from throughout the state and nation, the barbecue will be an opportunity to experience local color.

For the dozens of local volunteer workers, including helpers from NAS Kingsville and A&I, the event will be an opportunity to relax, make final plans for Bush's visit the next day, and be thanked for their efforts, Messbarger said.

"Mariachi Juvenil," a locally acclaimed mariachi band comprised of Gillett Middle School students, will be the highlight of the evening affair, Messbarger said.

OFFICE OF THE VICE PRESIDENT

Embargoed until delivered -- 9:40 AM (MDT) - April 10, 1990

TEXT OF REMARKS BY THE VICE PRESIDENT

SIXTH NATIONAL SPACE SYMPOSIUM
UNITED STATES SPACE FOUNDATION

Broadmoor Hotel
Colorado Springs, Colorado

Good Morning. Thank you, Jim (Hill) for the warm introduction. It is a pleasure to be back here at the Broadmoor. This beautiful city of Colorado Springs is such an important center for America's space activities. Here, under Cheyenne Mountain, and at Falcon and Peterson Air Force Bases -- the men and women of Space Command are at work, 24 hours every day, tracking, monitoring and controlling spacecraft. These people are the unsung heroes of our space program.

And, of course, the Space Foundation is based here. Since 1983, you have been a cornerstone of our thinking and planning for space. And you have dedicated yourselves to inspiring our fellow citizens to sustain their commitment to our space efforts.

Today is special. For today the Space Shuttle will -- we hope -- leave earth to carry the Hubble Space Telescope 380 miles to earth orbit. We have waited a long time for this launch -- but if all goes well today, the wait will have been worth it. For the Hubble telescope,

along with the other Great Observatory satellites, which will soon follow it into space, will revolutionize our scientific knowledge.

The Hubble will mark a scientific advance comparable to Galileo's invention of the telescope almost 400 years ago. It will rewrite our children's textbooks, and begin a whole new chapter in our understanding of time and space. It will help lead us to answers to some of the most ancient and fundamental questions -- such as the age of the universe, and it will allow the human eye to penetrate the darkness of space to find objects only so far imagined. As one scientist has said, "We'll be like a little nearsighted child in a classroom who is given a pair of glasses and at last can see what the teacher has been writing on the blackboard."

I'm struck by the kind of excitement the Hubble launch has already generated -- not just among the space community, but among Americans at large. The Hubble is generating excitement like the Voyager sailing past Neptune during the dog days of August, transmitting its beautiful pictures back to us. We neeed to return excitement to our space program.

There are skeptics and naysayers who claim that Americans have lost their taste for exploration, for discovery, for challenging the limits of our knowledge.

They are wrong. The thrill I experienced at the Jet Propulsion Laboratory when Voyager's pictures came in was shared by millions of Americans. And it is this human quest for discovery, for excitement, a quest inspired by a sense of wonder and awe, that leads us to reach out, to know what can be known, to see all that can be seen, to go anywhere there is something to be discovered, and to follow to the limits of our imagination. It is this quest that lies at the basis of our commitment to space exploration and discovery.

During my year of serving as Chairman of the National Space Council, I've become more convinced than ever that our space program is fundamental to the very mission of America. We have always been an exploring nation. From the Oregon Trail to the dunes of Kitty Hawk, part of America's greatness was embodied in the willingness to break the bonds of our tradition and to explore new spaces. That is why the President and I believe that in the 21st Century, America must be the world's preeminent spacefaring nation.

But we explore space not only because we are a nation of explorers. We also explore space because of the real, tangible benefits we derive from our space program.

The Space Foundation's terrific television spots -- the series called "Space, What's in it for You" -- highlight many of these benefits:

-- new medical technologies to help the deaf, the blind and the disabled, and that allow us to perform previously unimaginable feats like bone marrow transplants and laser surgery;

-- technologies that are revolutionizing our communications capabilities;

-- technologies that will lead to better crop production;

-- and even everyday items like the athletic shoes that seem to be replacing every other kind of shoe in this country!

But space makes so many other contributions. Space activities support our efforts to improve our children's education. By providing exciting space achievements, heroic space pioneers, and new discoveries, our space program helps create the incentives that make our young people want to excel in math and science. Improved math and science education is absolutely fundamental for our nation's future.

Space is also vital to our efforts to preserve and protect the environment here on earth. The Landsat satellite system, which the Space Council reviewed last spring, has been a primary source of our current understanding of environmental change. And the new Earth Observing System, which we will begin to build in 1991, will provide us with the in-depth knowledge we need to understand global climate change.

Space also has helped us build a more peaceful and stable world. For example, space systems enable us to verify arms control treaties. And as communications satellites have linked peoples around the globe more closely, the communications made possible by satellites have contributed to the fight against repression and totalitarianism.

But we have only begun to enjoy the concrete benefits of space exploration. I recently had dinner with a number of the "senior statesmen" of the space community. They were all very enthusiastic about what the future holds for man if we continue and renew our commitment to space. They told me, for example, that in the next century space may be key to allowing us to satisfy our energy needs from space without damaging the environment; providing us with increased access to rare and essential metals and minerals;

and allowing us to develop new information services which could further the revolution in communications which has already begun. And, of course, in the next century, research in space could lead to new medicines or medical treatments of incalculable benefit to mankind.

You and I understand all these benefits and opportunities that space provides. But what about a key participant in this whole enterprise -- the taxpayer who is footing the bill. Have we done enough to explain the significance and meaning of these accomplishments to the average citizen? The average taxpayer needs to be shown that there is a link between our space expenditures -- his space expenditures -- and the quality of his or her life. We simply need to do a better job.

As you know, the National Space Council, which I chair, has developed a five-part strategy for space, designed to cut across the traditional divisions. I am pleased to see that you have structured your agenda for this conference along the lines of these five strategy elements. We will be listening to your discussions here, and look forward to hearing your conclusions and recommendations.

Let me spend a just a few minutes reviewing for you what we are doing in each of these areas. First, we are working to develop space launch capabilities as a national resource to make access to space routine and affordable in the future. Where would highway transportation be today if we had built only those roads and bridges that could be fully justified on the basis of a specific need at the time? Needless to say, we did not do that. Space access is the essential first step in our national space program.

Second, we are committed to opening the frontiers of space through both manned and unmanned exploration. We are well underway with in-depth unmanned exploration of the Solar System. Viking, Voyager, Magellan, Galileo and, today, Hubble are our unmanned voyages of discovery continue to be spectacular accomplishments. And the initiative to return to the Moon, then go on to explore Mars, is this Administration's first major space decision has given shape to the manned space program.

The third element of our strategy is to intensify our use of space to solve problems here on Earth. I already talked about the important benefits we are deriving and can derive here on earth from space and would only repeat the need to help explain these benefits to our fellow citizens. Dick Cheney spoke to you yesterday about the importance of the Strategic Defense Initiative.

I wholeheartedly agree with him. The Brilliant Pebbles program, which uses technologies available today, is a deterrent we can't afford to be without.

Fourth, we will want to ensure the freedom of space for exploration and development. Space will become to the future what oceans have always been; highways to discovery and commerce. But the sea lanes can also be dangerous. They can be open or closed. They can even be used as springboards for attack. For these reasons we must ensure the freedom to use space for exploration, for development, for ourselves and for all nations.

The final element of our strategy is to foster our economic well-being by capitalizing on the unique environment of space. Until a few years ago, space was almost exclusively the domain of governments. Now we are committed to bring the energies of America's marketplace to space. Our challenge is to create an environment which encourages the development of new, private sector space efforts.

Let me expand on this point for a minute. It was America's technology that led the way in space. It was America's genius that put a man on the moon. And it will be America's entrepreneurial spirit that keeps us first in space. The United States is the only nation with a non-governmental private space sector. Last week's successful

launch of Pegasus is a classic demonstration of the wisdom of encouraging private investment. However, our space industries must be able to compete against foreign government-owned or supported industries. And very high initial investments are often needed to introduce new space products. These cannot be allowed to form barriers that keep us from developing new markets for the good of all Americans. In such cases, the government must take positive actions.

Let me be very clear: encouraging a competitive private sector is in America's long term self interest. And space and space enterprises are a traditional American strength. As Chairman of the National Space Council, I can assure you that we intend to keep it that way. I am pleased by the recent agreement in principle reached with Japan that will allow U.S. companies to compete for Japanese satellites. But other decisions, ranging from new spaceports to foreign cooperative programs, are still pending.

For this reason, the Space Council has initiated a high level, fast paced policy review. Later this year, we will be ready to announce a policy framework which outlines the appropriate government role in ensuring that America remains the world leader in space.

You know, as someone who grew up in the 1960's, seeing America first in space seems natural to me. After all, when my parent's generation was young, seeing a man on the moon was just a dream in some fantasy science fiction story. My generation saw it happen, though. And today, our children expect things that are beyond many of our dreams.

Last year, I visited the Space Camp in Huntsville, Alabama. During my visit a young man, 17 years old, told me, "Mr. Vice President, my generation is going to plant the American flag on Mars." I think he is right.

Like you, President Bush and I are committed to making that young man's dreams come true. Working with you, we can turn their dreams into reality -- for the benefit of ourselves and our children, and for the benefit of people today and future generations all over the world.

Thank you and God Bless you.

OFFICE OF THE VICE PRESIDENT

Embargoed until delivery -- approx. 11:45 AM, Jan. 10, 1990

TEXT OF REMARKS BY THE VICE PRESIDENT

AMERICAN ASTRONOMICAL SOCIETY
ARLINGTON, VIRGINIA

As you know, Space Shuttle Columbia is well into its second day. At this moment it is over Indonesia at an altitude of 338 kilometers. Its mission signifies America's successful return to space.

I am told the last time the American Astronomical Society dealt formally with the White House was in 1902, when you visited President Teddy Roosevelt. We've got to stop meeting so often.

Today, the United States leads the world in space science. In large part this is because of our leadership in space astronomy. And this leadership, in turn, reflects your efforts. So let me begin by paying tribute to you for your magnificent contributions to advancing our scientific understanding over the years.

America has been a leader in the scientific understanding of space. We also pioneered the space age. In the 1960's, we made a national commitment to both space science and space exploration.

For someone like myself, who grew up in the 1960's, the memories of those years are vivid. Like millions of other Americans, I especially remember July 20, 1969, the day Apollo landed on the Moon. I had just graduated from college and was at home with my parents awaiting word of my active duty assignment. As some of you may have heard, I served in the National Guard.

Quite frankly, my parents were much more impressed than I was

that America was actually landing on the Moon. You see, my generation grew up expecting Americans to land on the Moon. And my children's generation expects even more from us. As a 17 year-old New Yorker said to me during my visit to a Space Camp in Huntsville, Alabama, "Mr. Vice President, my generation is going to plant the American flag on Mars."

So we've got our work cut out for us. Unfortunately, over the past two decades, we have not maintained the momentum of the 1960's.

- In space launch, our competitive advantage in technology has disappeared.
- We have not sufficiently developed space as an arena for private enterprise; and, after developing the world's first space station in the early 1970's, we will be waiting until the late 1990's for a replacement.
- We have continued to have good ideas -- but our programs seem to be taking too long and costing too much to build. As a result, the rest of the world is catching up and may pass us by.
- And despite our continued scientific and technological preeminence, our government has not done as well as it could have in marshalling the resources and the leadership necessary to keep us ahead in space.

When President Bush established the National Space Council on April 20 last year, he asked me, as its Chairman, to take a fresh look at our space program. He asked me to work with others in the Administration and outside to reassert our world leadership in space.

He asked that we shape a space program that is aggressive and innovative, and that we challenge accepted ways of doing business.

As soon as I became Chairman of the Space Council, I began meeting with various groups of experts on our space program. And whatever their particular differences, I heard much the same thing from almost all of them; they told me that we can no longer accept the status quo.

And let me say this, we will not. Indeed, as Chairman of the National Space Council, I intend to bring the kind of innovative approaches to the space program of the 90's that were characteristic of Polaris, Atlas, Apollo, Voyager, and some programs in the Defense Advanced Research Projects Agency.

To do this, the Council is looking across the traditional divisions among civil, commercial, and national security activities. We are building a program that is more than the sum of these parts. Our strategy has several elements:

First, we intend to develop our space launch capability and its related infrastructure as a national resource. These large, complex, and expensive infrastructure elements are like the great railroad, highway, and dam programs of the past. They are as vital to space travel as the interstate highway system is to motor travel.

Moreover, they cannot be considered only within the context of a single government agency. They cannot be built to meet the needs only of a specific space program. They must be structured to accommodate both our current needs and our future programs.

We need to ensure reliable and affordable access to space. The

Space Council is consulting widely on ways to accomplish this. I believe we can lower the cost of space launch.

Our second goal is to open the frontiers of space. This includes manned and unmanned programs. Last July the President announced the goals of completing Space Station Freedom, going back to the Moon to stay, and going on to Mars. I reaffirm those goals today. I believe they have given focus to our manned space efforts, and are crucial to our space program as a whole.

But our manned space program will move ahead in conjunction with our unmanned program. Our unmanned space exploration provides excitement and fascinating results. Remember Voyager's encounter with Neptune last August?

I do. I was at the Jet Propulsion Laboratory on August 29th, congratulating the scientists there for a job well done. That mission taught all of us how central unmanned exploration is to space science and discovery. As Magellan now makes its way toward Venus and Galileo toward Jupiter, let me reaffirm our commitment to the unmanned, as well as the manned, exploration of space.

Let me also emphasize today the role of science in our future programs.

We are committed to a balanced scientific program. The large exploration programs we are planning will not emphasize human activities at the expense of scientific excellence.

When we return to the Moon, we will devote much of our effort to scientific research. At some point we hope to establish lunar astronomical observatories, to build on the foundations laid by the

Hubble Space Telescope and other Great Observatory satellites.

Similarly, our exploration of Mars will begin with an expanded series of unmanned scientific probes, perhaps including a return of Mars surface samples. This is the way we will use space to reassert America's leadership in basic sciences.

I believe that a great nation like ours, at the dawn of the 21st century, should explore space even if there were no tangible benefits on Earth. But of course there are, and the National Space Council is committed to intensifying our use of space to deal with problems on Earth. Environmental concerns are a top priority of people everywhere. Space can give us the means to understand the problems and devise solutions. This is our third goal.

In this regard, the most hopeful new initiative is the Mission to Planet Earth. At our Space Council meeting last November, we began a review of current plans for Mission to Planet Earth to make sure it is structured to give us the knowledge we need as efficiently and as soon as possible. We intend to move forward on this.

In addition, we believe the exploration of space will enhance our economic well-being and our overall national competitiveness.

Let me add here that besides heading the Space Council, there's another Council that I chair -- the Competitiveness Council. I believe these two are closely related and that space science and space exploration are crucial to our nation's technological and scientific development and economic competitiveness.

The final element of our strategy, of course, is ensuring that our space program contributes to our nation's security.

To achieve these goals, the Space Council is taking a fresh look at our current programs and options. In the Space Council we have already made some real contributions. We have restructured and improved the National Aerospace Plane Program which is leading technology for the future. And, we have preserved a national capability for civil earth remote sensing with LANDSAT.

Within weeks we'll meet on the issue of international participation in our new space exploration program. Shortly after the President's announcement, during my visit to Japan last September, I met with Prime Minister Kaifu. He and I agreed to start a dialogue about joint U.S.-Japanese ventures in space. This dialogue is likely to grow in importance in the years ahead, but now is the time to think through the whole issue of international cooperation.

In this as in other parts of our space program, we will be seeking new ways to accomplish our goals in space. In general, we will be seeking to do things faster and more economically, while maintaining high standards of safety and performance.

I know many of us are concerned over the time it takes to translate promising ideas into real space capability. A few months ago we launched the Galileo probe to Jupiter -- it will arrive there in the mid-1990's. A few months from now we will launch the Hubble Space Telescope -- a major milestone in the history of astronomy. But these projects began in the 1970's. Many of you started work on these magnificent instruments when you were students; only now are you seeing the results of your labors.

I think you will agree this just isn't good enough. Our

performance hasn't kept up with our science. We've got to figure out how to reduce the time from idea to realization from decades to a few years. I believe that this can be done.

That's why last month, I asked NASA Administrator Dick Truly to ensure that our space exploration program is benefitting from a broad range of ideas about different architectures, new systems concepts, promising new technologies, and the innovative use of existing technologies for space exploration. In performing this task, I asked him to query the best and most innovative minds in the country -- at universities, federal research centers, within our aerospace industry and elsewhere.

I have also asked the National Academy of Sciences and the Aerospace Industries Association to look at current approaches to space exploration and tell us about new, better approaches. And I'm asking you for your help today as well. We're open to your suggestions and ideas.

The federal government will do its part. An ambitious space program will not be cheap, but the necessary resources are well within our means as a nation. President Bush is committed to providing the resources, now and in the future. Despite the well-known budget constraints, and despite cuts by Congress in our proposal, our 1990 civil space budget is nearly 12% larger than 1989's.

But money alone will not be enough. We need fresh thinking. And we need a new sense of commitment -- a revival of the can-do spirit that has made our nation great.

At the start of my remarks, I mentioned that I grew up in the 1960's. The Apollo Moon landing was one of the highlights of the 60's, but there were other, more ominous events as well: the Berlin Wall, the invasion of Czechoslovakia, the Soviet promise to "bury" us.

Today, of course, the Berlin Wall is open. Czechoslovakia has embarked on the road to freedom. And far from burying the West, communism finds itself in decline and disrepute.

These events didn't just happen by accident. As many people have noted, they happened in part because even the Iron Curtain was not impervious to the Information Revolution sweeping the globe. And as you all know, space-based communications have played a key role in this revolution.

In other words, contrary to the fears of many, the progress of science, on the whole, seems to have benefitted the cause of freedom. I believe that scientific progress goes hand in hand with political and social progress -- that science and freedom are allies, not enemies. Also, progress in space can and should mean progress for all the peoples of the Earth.

So I look forward to working with you to ensure that our space program has many more memorable days like July 20th, 1969 and August 29th, 1989 -- days that benefitted us as a nation, days that we as a nation can be proud of. As the space ship Columbia continues on her voyage, our work on earth seeks to keep America number one in space now and forever.

Thank you and God Bless you.

OFFICE OF THE VICE PRESIDENT

Embargoed until delivery -- approx. 9:30 AM P.D.T., July 18, 1989

TEXT OF REMARKS BY THE VICE PRESIDENT

GENERAL DYNAMICS FACILITY
SAN DIEGO, CALIFORNIA

I am delighted to be here to talk to workers interested in the future and interested in tomorrow.

You are the men and women who are opening the door to tomorrow. And, having seen the Space Launch systems you build here, which support both our government and private sector needs in space, I feel that I myself have gotten a brief glimpse of the future.

In my remarks to you this morning, I thought I'd try to describe some of the features of tomorrow's world --the world that all of you are helping to build.

I am convinced that as the human spirit is liberated from the political and economic shackles that have constrained it in the past, our innate desire for knowledge and adventure, for learning and discovery, will give birth to a new Age of Exploration -- an Age of Space Exploration.

This is a vision of America's future in space that President Bush and I share. The President and I are committed to American leadership in the exploration, understanding, economic use and eventual settlement of space. We Americans have been pushing back frontiers

throughout our history. Today, space is America's frontier, and America's destiny is to discover and pioneer in space.

The Bush Administration intends to help America realize this destiny by providing vibrant, forward-looking leadership. We believe that the potential gains from space are great. Space can inspire current and future generations of the American people. It can further scientific understanding by many orders of magnitude. It can provide incentives to reinvigorate education in this country. It can provide the basis for whole new industries, spur the economy and add technologies which will improve the life of mankind and further the competitiveness of American industry. And it can also provide very tangible benefits in the area of education. For example, Apollo so inspired the youth of the 1960's that advanced degrees in the science and engineering fields more than doubled. By contrast, the number of such degrees awarded today has decreased markedly. Further, many of these degrees granted by American universities are going to foreign nationals and relatively few to American citizens. These negative trends can be reversed through a renewed commitment to space. In sum, space is a high-yield investment -- a very high yield investment -- in our nation's future.

For these reasons, the Bush Administration is moving forward to put the pieces in place for another great leap forward in space. If 1969 -- the year America landed on the moon -- can be compared to 1492 -- the year Columbus discovered the New World, then the time is now at hand for Americans to begin preparing for the equivalent of 1620 - the year the Pilgrims landed on the shores of Plymouth Bay and settled the New World. We, too, must begin to think about the voyage of a new Mayflower -- about expanding the human presence into the Solar System -- as a long-term goal.

The National Space Council, which I chair, was established to provide a high-level Administration focus on space. With many of the President's top advisors participating, the Council provides clarity, coherence and continuity to our space efforts.

In the brief period since its establishment, the Space Council has made a mark. It has provided clear guidance and set our course on the Nation's civil earth remote sensing program. As a result, the LANDSAT program will make a long term contribution to research on the global environment and be part of the "Mission to Planet Earth" program.

The Space Council has also provided recommendations on the National Aerospace Plane Program -- commonly called

NASP -- which will result in a strong, forward-looking research effort into the early 21st Century. In the long term, NASP will form the basis for future aerospace transportation systems and enhance our competitiveness.

Finally, the Space Council has revised, enhanced and revalidated our National Space Policy. The broad goals of our space policy are easily stated:

- We believe space leadership is critically important for achieving economic, scientific, technical, national security and foreign policy goals.
- We believe in the importance of exploring and using outer space for the benefit of mankind.
- We believe that encouraging private sector investment in space related activities will benefit our economy and national well-being.
- We believe our space programs must be geared to improving our quality of life on earth and to strengthening our national security.
- And we believe in the long-term goal of pioneering space -- pushing back the frontiers of our Solar System.

We must ask ourselves where we want to be in space by the dawn of the 21st Century, and then work out the best route to get there.

As we approach the year 2000:

- We must continue economic development with jobs and opportunities for all who want to work.
- We must be able to protect our space assets and interests.
- We must be on our way to pioneering the Solar System and establishing outposts on the Moon and Mars.
- We must supply the inspiration and leadership necessary to provide for more scientists, engineers and aerospace engineers.
- And we must reestablish our role as the dominant leader when it comes to space.

This is why the United States must continue to press ahead in space.

I therefore call on the Congress to join in a great national undertaking. As a first step, Congress should support full funding for Space Station Freedom, for LANDSAT and for the National Aerospace Plane. Recent funding reductions proposed by House Appropriation Subcommittees would have the effect of seriously undermining these important programs.

Beyond these major near-term programs, we ask the Congress to join with us in a bipartisan approach to planning our future in space. We are a compassionate Nation that looks to the safety and welfare of our people first, but we are also a people that look to the future --

the future of our posterity and the future of our planet.

Two days from now -- on July 20 -- Americans will celebrate the 20th anniversary of the Moon landing. We will recall the heroism of Apollo 11 astronauts Neal Armstrong, Michael Collins and Edwin Aldrin -- three Americans who, it was rightly said, "opened the door to infinity." And we will remember the words of John F. Kennedy: "We choose to go to the Moon in this decade," President Kennedy said at the ground-breaking of the Manned Spacecraft Center in Houston back in 1961, "not because [it] is easy, but because [it] is hard... because there is new knowledge to be gained and new rights to be won, and they must be won and used for the progress of all mankind."

That adventure has not ended; indeed, it has just begun. Having opened the door to the infinite reaches of space with Apollo 11, we must not hesitate at the threshold. We have the resources necessary to follow up on the achievements of Apollo 11, and the courage necessary to open a new chapter in human history. We are a Nation of pioneers, and we welcome the challenge of the unknown. As President Bush has said, "We must keep America first in space." And with your help, dedication, partnership and enthusiasm, we shall.

Thank you and God Bless you.

EXCERPTS FROM REMARKS PREPARED FOR DELIVERY:

ECONOMIC CLUB OF DETROIT
DEARBORN, MICHIGAN

FEBRUARY 27, 1990

RICHARD H. TRULY
NASA ADMINISTRATOR

THANK YOU DEANE (BAKER).

IT IS A GREAT HONOR TO BE HERE IN DETROIT ... AND TO ADDRESS YOUR CLUB. FOR SO MANY YEARS, THIS ECONOMIC CLUB OF DETROIT HAS BEEN WIDELY KNOWN AS A PREMIER ORGANIZATION ... A FORUM FOR DISCUSSION OF TOPICS THAT BEAR UPON THE STATE OF THE NATION'S ECONOMY AND THE FUTURE WELFARE OF ITS CITIZENS. SURELY, NASA FITS WELL INTO SUCH A DISCUSSION.

I FEEL VERY COMFORTABLE AT THIS PODIUM. IT IS ALMOST LIKE BEING AT HOME BECAUSE OF THE CLOSE RELATIONSHIP THAT NASA AND THE STATE OF MICHIGAN HAVE ENJOYED DURING OUR NATION'S RISE TO PREEMINENCE IN AERONAUTICS AND SPACE.

THAT RELATIONSHIP IS AS STRONG AS EVER, WITH MICHIGAN INSTITUTIONS PROVIDING THEIR EXPERTISE TO THE SPACE PROGRAM, AS WE BUILD ON TODAY AND LOOK AHEAD.

NASA'S NEWEST RELATIONSHIP WITH MICHIGAN WAS ANNOUNCED EARLIER THIS MONTH. WE AWARDED A $3.9 MILLION CONTRACT TO A CONSORTIUM --- THE ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN IN ANN ARBOR, THE SAGINAW VALLEY STATE COLLEGE, AND THE UNIVERSITY OF MICHIGAN. THEIR JOB ... TO FIGURE OUT HOW TO MANAGE AN ENORMOUS INCREASE IN DATA ABOUT THE EARTH ... DATA TO BE GATHERED OVER THE NEXT SEVERAL DECADES BY A LARGE NUMBER OF SOPHISTICATED NEW SATELLITES LAUNCHED IN AN INTERNATIONAL EFFORT TO UNDERSTAND THE ENVIRONMENT.

IN ANOTHER PROGRAM -- ALSO BRAND NEW -- FOUR MICHIGAN SCHOOLS ... WAYNE STATE UNIVERSITY, THE UNIVERSITY OF MICHIGAN, THE MICHIGAN TECHNOLOGICAL UNIVERSITY, AND SAGINAW VALLEY STATE COLLEGE ... WILL COMBINE THEIR TALENTS TO BETTER UNDERSTAND AND DEVELOP THE USE OF SPACE RESOURCES. THIS PROGRAM ... SPACE GRANT COLLEGES ... IS ABOUT CREATIVITY. WE ARE LOOKING VERY HARD FOR NEW WAYS TO DO THINGS, AND WE HOPE A FLOOD OF GOOD IDEAS WILL BE GENERATED BY OUR NATION'S SCHOOLS.

YET ANOTHER MICHIGAN CONSORTIUM ... AIMED AT PRIVATE ENTERPRISE ... HAS BEEN AT WORK FOR SOME TIME. IT'S CALLED "CENTERS FOR THE COMMERCIAL DEVELOPMENT OF SPACE," AND THE MICHIGAN STATE UNIVERSITY AND THE UNIVERSITY OF MICHIGAN ARE MEMBERS. THE IDEA HERE IS TO WED THE RESOURCES AND TALENTS OF SCHOOLS, COMPANIES, AND GOVERNMENT TO DEVELOP THE TECHNOLOGY BASE NEEDED FOR PRIVATE ENTERPRISE TO BECOME ACTIVE IN SPACE IN WHOLLY NEW AREAS OF ENDEAVOR.

I AM HERE TODAY TO TELL THE PEOPLE OF MICHIGAN THAT AMERICA'S SPACE PROGRAM IS IN EXCEPTIONALLY GOOD SHAPE. IN FACT, 1989 WAS ONE OF AMERICA'S BEST YEARS IN SPACE ... AND 1990 HAS ALREADY PICKED UP THAT MOMENTUM!

SINCE OUR RETURN TO SPACE FLIGHT FOLLOWING THE RECOVERY FROM **CHALLENGER**, WE HAVE COMPLETED EIGHT SUPERBLY SUCCESSFUL SPACE SHUTTLE MISSIONS ... AND **ATLANTIS** IS ON THE LAUNCH PAD AT THIS VERY MOMENT. I'M HEADED TO CAPE CANAVERAL FROM HERE ... IF THE FLORIDA WEATHER WILL FINALLY BE GOOD TO US, SHE WILL LIFT OFF TONIGHT, AND YET ANOTHER JOURNEY WILL BE ON ITS WAY. THESE MISSIONS HAVE STARTED AN ERA THAT THE WORLD WILL REMEMBER AS A GOLDEN AGE OF SPACE SCIENCE.

FOLLOWING DEPLOYMENT FROM **ATLANTIS** LAST MAY,

o MAGELLAN IS ON A JOURNEY TO LOOK THROUGH THE THICK SULFURIC CLOUDS OF VENUS AND MAKE A RADAR MAP OF ITS SURFACE.

o AND GALILEO, THE MOST SOPHISTICATED ROBOTIC SPACECRAFT EVER BUILT, BEGAN HER JOURNEY LAST OCTOBER ... ALSO FROM **ATLANTIS** ... A TRIP TO ORBIT JUPITER AND DROP A PROBE INTO ITS VIOLENT ATMOSPHERE ... AN ATMOSPHERE THAT CONTAINS PRIMORDIAL MATERIAL WHICH WILL HELP DETERMINE THE VERY ORIGINS OF OUR SOLAR SYSTEM.

o IN NOVEMBER, A DELTA ROCKET CARRIED THE COSMIC BACKGROUND EXPLORER INTO ORBIT TO STUDY REMNANTS OF THE BIG BANG THAT CREATED THE UNIVERSE AND TO LOOK FOR THE NATURE OF THE FIRST FEW MOMENTS OF OUR EXISTENCE ... TO ADDRESS THE QUESTION OF WHETHER THE UNIVERSE WILL EXPAND FOREVER OR COLLAPSE IN ON ITSELF TO START THE PROCESS AGAIN.

o SURELY, THE EYES OF THE WORLD WERE ON NASA'S JET PROPULSION LABORATORY WHEN A TEAM OF SCIENTISTS, ENGINEERS, AND TECHNICIANS CULMINATED 12 YEARS OF INNOVATION AND INGENUITY BY PUTTING VOYAGER 2 PRECISELY ON TARGET TO VISIT THE PLANET NEPTUNE -- 2.3 BILLION MILES FROM EARTH! I CALL VOYAGER "THE LITTLE SPACECRAFT THAT COULD" ... SHE TOOK US ON A THRILLING EXPLORATION OF ALL THE GIANT PLANETS.

LAST YEAR WAS ONLY A WARM UP! THIS APRIL, **DISCOVERY** WILL DEPLOY THE FIRST OF OUR FOUR SPACE-BASED GREAT OBSERVATORIES, THE HUBBLE SPACE TELESCOPE. THROUGH HUBBLE'S EYES, WE WILL PEER BACK, VIRTUALLY TO THE BEGINNING OF TIME, WITH UNPRECEDENTED CLARITY.

o IN MAY, **COLUMBIA** ASTRONAUTS WILL SURVEY THE SKY WITH AN ADVANCED X-RAY TELESCOPE TO GET PRECISE INFORMATION ABOUT MATERIALS CREATED WHEN A SUPERNOVA EXPLODES, PLUS KNOWLEDGE ABOUT THE NATURE OF QUASARS AND VERY HOT STARS.

THE LIST GOES ON ...

o IN AUGUST, A SPACELAB LIFE SCIENCES MISSION WILL STUDY THE EFFECTS OF WEIGHTLESSNESS ON THE HUMAN BODY.

o IN OCTOBER, THE ULYSSES SPACECRAFT WILL STUDY THE POLAR REGIONS OF THE SUN ... FOR THE FIRST TIME IN HISTORY.

o IN NOVEMBER, THE SECOND GREAT OBSERVATORY -- THE GAMMA RAY OBSERVATORY -- WILL LOOK AT THE HOTTEST EMISSIONS IN THE SKY -- THE PRODUCTS OF NEUTRON STARS, BLACK HOLES AND COLLIDING GALAXIES.

ALL TOLD, 36 EXTRAORDINARY SPACE SCIENCE MISSIONS IN A 5-YEAR PERIOD! WHEN WE ARE DONE, THIS ERA OF SCIENTIFIC EXPLORATION WILL HAVE RADICALLY CHANGED OUR UNDERSTANDING OF THE UNIVERSE ... AND OURSELVES.

I HAVE TALKED ABOUT LOOKING OUTWARD INTO THE SOLAR SYSTEM AND THE UNIVERSE BEYOND. THIS YEAR, PRESIDENT BUSH HAS ASKED CONGRESS TO ALLOW US TO BEGIN A NEW AND MASSIVE EFFORT TO LOOK INWARD -- BACK AT OUR OWN, PRECIOUS EARTH -- TO ALLOW US FOR THE FIRST TIME TO UNDERSTAND HOW THE PLANET WORKS AS AN INTERACTIVE SYSTEM THAT ALLOWS LIFE TO FLOURISH. ACCURATE INFORMATION WILL ALLOW DECISION MAKERS TO DETERMINE HOW TO BEST PROTECT THIS GLOBAL ENVIRONMENT AND BALANCE ACTIONS TAKEN AGAINST ECONOMIC AND POLITICAL CONSIDERATIONS.

I HATE TO TELL YOU THIS ... BUT THE EARTH IS IN TROUBLE ... AND WE -- YOU AND I -- ARE THE CULPRITS. WE ARE BURNING THE FORESTS OF THE WORLD AT A RATE OF ONE STATE OF TENNESSEE A YEAR. IN FACT, WE DUMP MORE THAN FIVE BILLION METRIC TONS OF CARBON IN THE FORM OF CARBON DIOXIDE INTO THE ATMOSPHERE EACH YEAR ... MORE THAN ONE TON A YEAR FOR EVERY MAN, WOMAN, AND CHILD ON EARTH. EVENTUALLY, SOME VERY TOUGH DECISIONS NEED TO BE MADE. FOR EXAMPLE, HOW MUCH SHOULD WE CURB USE OF FOSSIL FUEL? A BAD ANSWER ONE WAY RUINS THE ENVIRONMENT; A BAD ANSWER THE OTHER WAY RUINS THE ECONOMY.

THE EARTH IS THE MOST COMPLICATED PLANET IN THE SOLAR SYSTEM, WITH INTERACTIONS AMONG THE ATMOSPHERE, THE OCEANS, AND LIFE. AND WE ARE REMARKABLY IGNORANT OF HOW IT ALL WORKS. BUT WE ARE NOT IGNORANT OF WHAT WE NEED TO DO TO OBSERVE AND UNDERSTAND THE EARTH.

HARD QUESTIONS NEED ANSWERS BASED ON HARD DATA. THE WORLD DOES NOT HAVE ADEQUATE ENVIRONMENTAL DATA NOW. AND THE ONLY PLACE IT CAN GET IT IS FROM SPACE. SPACE OFFERS THE ONLY TRUE GLOBAL PERSPECTIVE OF OUR ENVIRONMENTAL SYSTEM, WITH ALL ITS CONSTITUENT PARTS. SPACE GIVES THE WORLD ITS BEST OPPORTUNITY TO PRESERVE THE BEAUTY AND BOUNTY OF OUR SMALL PLANET FOR ALL GENERATIONS TO COME.

NASA'S ROLE IN GLOBAL CHANGE IS WHAT WE CALL "MISSION TO PLANET EARTH." OF COURSE, NASA HAS BEEN BUILDING EARTH OBSERVING SATELLITES FOR YEARS. WHAT I AM TALKING ABOUT HERE IS AN EFFORT OF SUCH MAGNITUDE THAT IT DWARFS EVERYTHING IN THE PAST. THIS WILL BE A WORLDWIDE EFFORT EMBRACING MANY COUNTRIES. NUMEROUS SATELLITES WILL STUDY THE COMPLEX INTERACTIONS BETWEEN THE LAND, THE SEA, THE ICE AND THE ATMOSPHERE, AS WELL AS BETWEEN THE EARTH AND THE SUN.

THE EARTH OBSERVING SYSTEM ... THE CENTERPIECE OF "MISSION TO PLANET EARTH" ... IS ONE MAJOR COMPONENT OF A BALANCED, FORWARD-LOOKING FISCAL 1991 BUDGET REQUEST FOR NASA WHICH PRESIDENT BUSH PRESENTED TO CONGRESS ON JANUARY 29.

THAT BUDGET REQUESTS $15.1 BILLION FOR NASA, WHICH IS A 24% INCREASE OVER OUR FISCAL 1990 BUDGET ... THE LARGEST PERCENTAGE INCREASE FOR ANY FEDERAL AGENCY. BUT I COULD HAVE TOLD YOU LAST YEAR THAT THIS HAD TO BE ABOUT THE FUNDING LEVEL FOR NASA ... BECAUSE FULLY 98% OF THIS REQUEST GOES TO PROGRAMS ALREADY APPROVED AND APPROPRIATED BY CONGRESS!

WHY HAS THE PRESIDENT COMMITTED TO AN INCREASE OF SUCH MAGNITUDE DURING A TIME OF SEVERE FISCAL CONSTRAINT? THE OBVIOUS ANSWER IS THAT HE, LIKE THE MAJORITY OF AMERICANS, FAVORS A STRONG SPACE PROGRAM. BUT THE PRESIDENT'S REASONS GO FAR BEYOND THAT.

HE ALSO DID IT BECAUSE OF CONCERN HE SHARES WITH ALL AMERICANS, CERTAINLY WITH MEMBERS OF THIS CLUB AND WITH THE PEOPLE OF NASA. IT IS CONCERN ABOUT IMPORTANT PILLARS OF THE AMERICAN ECONOMY AND WAY OF LIFE.

THESE PILLARS ARE:

- OUR EDUCATIONAL SYSTEM.

- OUR ABILITY TO REGAIN AND RETAIN WORLD TECHNOLOGICAL LEADERSHIP.

- AND OUR ABILITY TO COMPETE SUCCESSFULLY IN THE WORLD MARKET PLACE.

THERE IS NO NEED FOR ME TO REPEAT THE DREARY LITANY OF TROUBLE IN THESE INTERWOVEN AREAS. WE ARE ALL KEENLY AWARE OF THE DECLINE OF EDUCATIONAL ACHIEVEMENT, ESPECIALLY IN MATHEMATICS AND SCIENCE, OF GROWING TECHNOLOGICAL PROWESS IN OTHER COUNTRIES, AND OF THE DECLINING POPULARITY OF VARIOUS AMERICAN GOODS AND SERVICES IN WORLD MARKETS. WHAT I WANT TO TALK ABOUT IS THE RESPONSE TO THESE CHALLENGES.

PRESIDENT BUSH CLEARLY KNOWS WHERE TO LOOK FOR SOLUTIONS. HE IS COMMITTED TO A STRONG, CONTINUING INVESTMENT IN AMERICA'S FUTURE. THAT IS WHY HE BOOSTED SCIENCE AND TECHNOLOGY IN SEVERAL MAJOR AREAS ... AND GAVE NASA ITS HEALTHY AND MOST NECESSARY INCREASE. NASA'S BUDGET IS FOCUSED UPON PROVIDING SOLUTIONS TO THE PROBLEMS WE FACE IN INNOVATION, EDUCATION, AND COMPETITIVENESS.

AND WITH THIS SUPPORT,

- NASA WILL MOVE BEYOND BASELINE PLANNING AND BEGIN ACTUAL FABRICATION OF SPACE STATION FREEDOM.

o WE WILL PRESS AHEAD WITH DEVELOPMENT OF THE EXTENDED DURATION SPACE SHUTTLE AND NEW ROCKETS TO BOOST HEAVIER PAYLOADS.

o WE WILL CONTINUE OUR LEGACY IN DEVELOPMENT OF CUTTING-EDGE AERONAUTICS RESEARCH ... LET'S NOT FORGET THAT THE FIRST "A" IN NASA STANDS FOR AERONAUTICS.

o AND WE WILL START DEVELOPMENT OF THE NEW TECHNOLOGIES REQUIRED FOR A SUSTAINED AND CONTINUING EXPLORATION OF THE SOLAR SYSTEM BY BOTH HUMANS AND ROBOTS.

IF THE PAST INDEED IS PROLOGUE, AMERICAN INDUSTRY WILL TRANSFORM THE NEW AERONAUTICS, SPACE, AND RELATED TECHNOLOGIES -- THAT EMERGE FROM OUR PROGRAMS -- INTO PRODUCTS AND PROCESSES THAT WILL CAPTURE WORLD MARKETS. IT HAS HAPPENED IN THE PAST; IT CAN HAPPEN AGAIN.

PRESIDENT BUSH IS WELL AWARE OF THAT, AND HIS MARCHING ORDERS ARE FOR US TO BE LEADERS ONCE AGAIN.

AN ABSOLUTELY ESSENTIAL PART OF OUR SPACE PROGRAM -- THE KEY TO PROGRESS -- IS SPACE STATION FREEDOM.

FREEDOM WILL BE A PERMANENT, LARGE, HANDS-ON LABORATORY FOR MATERIALS AND LIFE SCIENCES RESEARCH IN ORBIT. LATER, IT ALSO WILL BECOME THE ASSEMBLY POINT FOR THE SHIPS THAT GO TO THE MOON AND MARS, THE FUEL TANK FARMS TO SERVE THEM, AND THE LABORATORIES TO EXAMINE THE THINGS THEY BRING BACK AS WE LOOK FOR RESOURCES AND EVIDENCE OF LIFE.

SCIENTISTS ABOARD THE STATION WILL DEVELOP MATERIALS THAT ARE LIGHTER, STRONGER, AND MORE HEAT RESISTANT THAN ANY WE KNOW TODAY. PEOPLE HERE ON EARTH WILL BE THE BENEFICIARIES OF NEW PHARMACEUTICALS THAT WILL BE DEVELOPED THERE.

I WISH TO SUGGEST SOMETHING ELSE ABOUT SPACE STATION FREEDOM ... INDEED, ABOUT ALL OF OUR SPACE PROGRAM ... BY LOOKING TO HISTORY.

ON THE DAY THAT BENJAMIN FRANKLIN FLEW HIS KITE IN A THUNDERSTORM, DID HE FORESEE ELECTRIC LIGHTS, COMPUTERS, AND ALL THE REST?

ON THE DAY THAT ROBERT GODDARD LAUNCHED HIS TINY ROCKETS, DID HE EXPECT MEN TO WALK ON THE MOON?

ON THE DAY THAT SCIENTISTS DISCOVERED THE ATOM AND INVESTIGATED ITS STRUCTURE, DID THEY KNOW THAT A NEW PRACTICAL SOURCE OF ENERGY WOULD EMERGE?

DISCOVERY HAS PLAYED A SEMINAL ROLE IN HUMAN HISTORY, AND SPACE STATION FREEDOM WILL PROVIDE A WHOLLY NEW ENVIRONMENT ... WHICH ENCOURAGES DISCOVERY.

AND SPEAKING OF DISCOVERY, NOTHING NASA HAS DONE HAS SO BENEFITED THE NATION ECONOMICALLY AS OUR DISCOVERY AND RESEARCH IN AERONAUTICS.

THIS RESEARCH HAS ENABLED THE U.S. AEROSPACE INDUSTRY TO MAINTAIN AN UNQUALIFIED LEAD IN WORLD MARKETS. AEROSPACE INDUSTRY SALES REMAIN THE BRIGHTEST SPOT IN OUR BALANCE OF TRADE.

PLENTY OF NEW TECHNOLOGY WILL EMERGE FROM THE JOINT NASA/DOD NATIONAL AERO-SPACE PLANE. WHAT IS IT? IT IS A PLANE THAT WILL TAKE OFF LIKE A CONVENTIONAL AIRCRAFT, FLY INTO EARTH ORBIT, AND RETURN LIKE AN AIRLINER. ITS ENGINE WILL NOT BE EASY TO PERFECT BUT WILL BE EXTRAORDINARY WHEN COMPLETED.

ANOTHER MATTER IS RISING RAPIDLY ON THE NASA AERONAUTICS AGENDA. RECENT STUDIES CONSISTENTLY INDICATE A LARGE, VIABLE COMMERCIAL MARKET EMERGING AROUND THE PACIFIC RIM FOR A FAST, SUPERSONIC CIVIL TRANSPORT.
DO YOU REMEMBER WHEN THE NATION TERMINATED DEVELOPMENT OF A SUPERSONIC TRANSPORT ALMOST 20 YEARS AGO BECAUSE OF ENVIRONMENTAL CONCERNS? WE BELIEVE THAT NASA RESEARCH CAN LICK THOSE CONCERNS NOW -- THAT IS, PREVENT DAMAGE TO THE OZONE LAYER AND CONTROL SONIC BOOM NOISE. SO WE ARE RETURNING TO THAT RESEARCH.

IT IS A LONG WAY FROM THE PACIFIC RIM TO THE MOON AND MARS, BUT THE 21ST CENTURY WILL SEE HUMAN EXPLORERS IN BOTH PLACES.

IN THE 1991 BUDGET, PRESIDENT BUSH HAS PROPOSED THAT WE BEGIN WORK TOWARD THE CENTURIES' OLD DREAM OF EXTENDING THE HUMAN PRESENCE TO OTHER BODIES IN SPACE. THE DREAM BECAME NATIONAL POLICY LAST JULY 20, THE 20TH ANNIVERSARY OF THE APOLLO LANDING ON THE MOON. SPEAKING IN WASHINGTON, THE PRESIDENT DELIVERED THESE WORDS WHICH I BELIEVE WILL STAND THE TEST OF TIME:

"I AM PROPOSING A LONG-RANGE, CONTINUING COMMITMENT.
"FIRST, FOR THE COMING DECADE ... FOR THE 1990'S ... SPACE STATION FREEDOM ... OUR CRITICAL NEXT STEP IN ALL OUR SPACE ENDEAVORS.

"AND NEXT ... FOR THE NEW CENTURY ... BACK TO THE MOON. BACK TO THE FUTURE. AND THIS TIME, BACK TO STAY.

"AND THEN ... A JOURNEY INTO TOMORROW ... A JOURNEY TO ANOTHER PLANET ... A MANNED MISSION TO MARS."

HOW DO WE START? WE BEGIN BY DEVELOPING THE NEW TECHNOLOGIES AND SEARCHING FOR THE NEW KNOWLEDGE THAT MUST BE ACQUIRED. THE 1991 BUDGET CONTAINS MONEY TO GET STARTED.

WHEN YOU LOOK AT ALL THESE MATTERS -- SCIENCE, AERONAUTICS, AND DISCOVERY TECHNOLOGY -- AND DIVIDE THEM INTO THEIR COMPONENT PARTS, THE RELATIONSHIP BETWEEN NASA AND AMERICA'S TECHNOLOGICAL LEADERSHIP AND COMPETITIVENESS BECOMES READILY APPARENT.

WE ARE TALKING ABOUT SUCH CUTTING EDGE TECHNOLOGIES AS ADVANCED ROBOTICS, ARTIFICIAL INTELLIGENCE, SUPERCOMPUTERS, WIRELESS POWER TRANSMISSION, ULTRAHIGH STRENGTH AND HIGH TEMPERATURE RESISTANT MATERIALS ... THE LIST GOES ON AND ON.

THESE ARE THE TECHNOLOGIES WE WILL BE WORKING ON IN THE SPACE PROGRAM. JUST IMAGINE WHAT AMERICAN PRIVATE ENTERPRISE COULD DO WITH THEM!

I STARTED TODAY ... ON PURPOSE ... BY TALKING ABOUT MICHIGAN AND EDUCATION. AND THAT'S HOW I WOULD LIKE TO CONCLUDE. YESTERDAY, I WAS AT THE WHITE HOUSE WITH THE PRESIDENT AND THE GOVERNORS -- INCLUDING GOVERNOR BLANCHARD -- DISCUSSING THE NATIONAL EDUCATION GOALS.

NASA IS RESOLVED TO SUPPORT THE GOALS BY PUTTING INTO EFFECT EVERY GOOD IDEA WE CAN TO USE THE SPACE PROGRAM TO ENCOURAGE STUDENTS IN AMERICAN GRAMMAR AND HIGH SCHOOLS AND COLLEGES AND UNIVERSITIES TO DO BETTER -- TO BECOME WORLD CLASS AGAIN.

NASA ALWAYS HAS SUPPORTED A STRONG EDUCATIONAL PROGRAM, USING THE INSTINCTIVE INTEREST OF CHILDREN IN AIRPLANES AND SPACE EXPLORATION TO DRAW THEM INTO MATH AND SCIENCE DISCIPLINES.

SO IF YOUR TEENAGER COMES HOME WITH A GEOMETRY PROBLEM INVOLVING THE MOVEMENT OF PLANETS, OR AN ALGEBRA PROBLEM INVOLVING THROW WEIGHTS AND FUEL CONSUMPTION, OR A STATISTICS PROBLEM ABOUT THE POSSIBILITIES OF INTELLIGENT LIFE ELSEWHERE IN THE UNIVERSE, DON'T BE SURPRISED.

FOR NASA AND DETROIT, EDUCATION IS A TWO-WAY STREET. WE MUST SUPPORT EDUCATION BECAUSE THE EDUCATED SUPPORT US. BUT IT GOES BEYOND THAT. WE, AT NASA, ARE ACUTELY AWARE THAT AN INTELLIGENT NATION IS ONE THAT CAN SURVIVE, AND GROW, AND PROSPER ...

THANK YOU.

THE WHITE HOUSE
WASHINGTON

Fred Nelsch S.I.D.
512 - 595 - 3908

won seven nat'l. championships
79

more 1st team all-am. than
any other in div.

at least one 1st team all-am.
since 1965

76 turned pro
14 trying out this year

mid sixties - Gene Upshaw
darrell green - redskins - considered
fastest in NFL 82 grad

THE WHITE HOUSE
WASHINGTON

Div. II

No. 1 in poll not nat'l champ.

86 9-2
87 9-2
88 10-3
89 10-1
10-0 in reg. season

Johnny Bailey - college football's
all time leading rusher
going to Chicago Bears this fall

1973 - 1977 won 42 in a
(second-longest) row on field + away
46 for OKla (record)

selling crack - 2 players
(1 starter)
(2 others)

2 20 game straight basketball

men + women - compete with
rodeo other colleges
Northrup Coliseum

Don Heywood 595 - 3712
Jim Arnold

THE WHITE HOUSE
WASHINGTON

made national team roping competition

widow-maker bronco

women - barrel - racing
goat - roping