

US Mariner V Sniffs Venusian Atmosphere

US spacecraft Mariner V October 19 sailed past the mystery planet Venus with its closest approach occurring at 12:34 CDT. Mariner V's findings during its two-hour sweep past the cloud-shrouded planet were stored on tape and later telemetered back to earth tracking stations.

Mariner V flew within 2,500 miles of Venus at a communications (direct) distance of about 49 million miles from Earth.

Launched by NASA last June 14, Mariner V had traveled about 217 million miles in its arching trajectory when it passed closest to the planet.

Preparations for the encounter with Venus began at NASA's

Jet Propulsion Laboratory, Pasadena, Calif., about 13 hours before closest approach—or at 6:24 am CDT—when the spacecraft was commanded to turn on a planet sensor.

The sensor was required to signal automatic commands to the spacecraft during encounter and to turn on power to Mariner's tape recorder.

As Mariner approached Venus, its scientific instruments began measuring any of the planet's magnetic field; charged particles and gasses present in the upper atmosphere, and radiation levels.

Mariner's flight path then curved behind the planet and it vanished from view of tracking stations on Earth. Just before it went behind the planet (as seen from Earth) its radio signals passed through the atmosphere of Venus.

The effect of the Venusian atmosphere on Mariner radio signals was measured, thereby providing a measure of the density of the planet's atmosphere. Current scientific theory on the density ranges from five times Earth's atmosphere to several hundred times.

This density measurement was one of the prime objectives of the Mariner V flight project.

Some of the scientific data gathered as Mariner passed Venus were immediately transmitted to Earth. While it is behind the planet, other data were recorded on tape for later transmission to Earth. The tape playback began about 14 hours after

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Trimble Named Deputy Director

MSC Director Robert R. Gilruth October 12 announced the transfer of George Trimble from the Office of Manned Space Flight in Washington,



D. C. to serve as MSC deputy director.

Gilruth also announced that through arrangements agreed to by Dr. Wernher von Braun, director of the Marshall Space Flight Center at Huntsville, Alabama, von Braun's deputy director, Dr. Eberhard Rees will serve for the period immediately ahead as a special assistant on manufacturing problems to George Low, Manager of the Apollo Spacecraft Program Office, MSC.

Dr. George Mueller, Associate Administrator for Manned Space Flight, and NASA Administrator James E. Webb, announced the transfer of Edgar M. Cortright from the Office of Space Science and Applications to the office of Manned Space Flight to serve as deputy associate administrator. In this position, Cortright will be the senior official under Mueller, responsible for NASA's manned space flight programs.

In the Office of Space Science and Applications Cortright served as deputy associate administrator. For his leadership and important contributions to many projects, including Ranger, Surveyor, Lunar Orbiter, and Mariner, Webb announced that Cortright will be recognized through the award of NASA's distinguished service medal at ceremonies to be held at NASA Headquarters later this month.

LM-2 Switched To Unmanned, Backs Up LM-1

NASA has asked Grumman Aircraft Engineering Corporation, Bethpage, N. Y. to deliver the second lunar module (LM-2) in an unmanned configuration rather than in a manned version as previously planned.

The change was made so that LM-2 will be available for a backup mission if necessary to the Apollo V mission. Apollo V is an unmanned test of the lunar module (LM-1) in earth orbit. It is scheduled for launch early in 1968 aboard an uprated Saturn I (AS-204).

Under the earlier plan, the LM-2 in a manned configuration would have been available as a backup to the Apollo V mission, but modifications would have to be made. With the LM-2 on hand, in an unmanned version, NASA will be able to schedule a backup mission and launch it without having to wait for these modifications.

The backup mission would use the uprated Saturn I launch vehicle number 206. If the Apollo V mission achieves its objectives sufficiently to validate the lunar module for subsequent manned missions, LM-2 will then be prepared for a later manned mission.

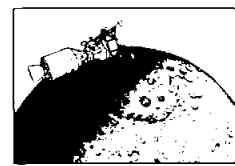


Trophy Trio
ROSE GARDEN CEREMONY—President Lyndon B. Johnson presents the Harmon International Aviation Trophy to joint recipients B-70 test pilot Alvin S. White, left, and Gemini XII crewmen Edwin E. Aldrin, Jr. and James A. Lovell, Jr. in White House Rose Garden ceremonies October 13. Witnessing the event are pioneer Arctic aviator Col. Bernt Balchen (behind Lovell), Lt. Gen. James H. Doolittle, USAF Ret., (at President's right rear) and Gen. Carl A. Spaatz, USAF Ret., (behind Doolittle).

ROUNDUP

NASA MANNED SPACECRAFT CENTER

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Apollo IV Stack Completes KSC Flight Readiness Test

Spacecraft, launch vehicle and hardware development tests in support of Apollo IV and subsequent Apollo missions were under way this week at MSC and Kennedy Space Center.

The Apollo IV Flight Readiness Test—starting at T-19 hours and running to T+5 hours—began Tuesday morning at Kennedy Space Center Launch Complex 39 and its associated Firing Room at the Vehicle Assembly Building. Except for propellant loading being simulated, the Flight Readiness Test is similar to the Countdown Demonstration Test conducted earlier this month.

Planned in the Test was a brief hold to assure launch vehicle and spacecraft counts being together. At Roundup press time, a hold had been called in the count because of

difficulties with ground support equipment. The count was expected to be picked up momentarily.

In Apollo V/LM-1 preflight preparations, rework of LM-1 propellant lines has been completed. A new series of checks has revealed no leaks. Helium tests of the plumbing had earlier revealed minute leaks in several flange joints. The lines were returned to Grumman-Bethpage for beefing up and substitution of improved redundant seals. LM-1 is in reassembly following installation of reworked plumbing.

In crew equipment development, thermo-vacuum and compatibility testing of the A-7L redesigned Apollo pressure suit is scheduled to begin in mid-November in the Life Systems Laboratory eight-foot chamber.

The A-7L suit features replacement of flammable materials. Nonflammable fiberglass Beta-Fabric has been substituted for the outer layer of Nomex; carbo-nitroxy rubber has replaced polyurethane for boot soles; and Beta-Fiber insulation has replaced the earlier aluminized Mylar/Dacron insulation.

At the Space Environment Simulation Laboratory, Lunar Module Test Article-8 (LTA-8) last Friday was placed into Chamber B in preparation for manned testing early next year. Following installation of work stands around the spacecraft, technicians will install cabling

and plumbing. LTA-8 will undergo individual and combined systems checkout for the remainder of 1967.

In related testing, Structures and Mechanics Division has completed all but two in a series of 30 flammability tests on Lunar Module mockup M-6.

Kranz Receives Sperry Award

Eugene F. Kranz, deputy chief Flight Control Division, last night received the American Institute of Aeronautics and Astronautics 1967 Lawrence Sperry Award at the AIAA honors night banquet in Anaheim, Calif.

The Sperry Award, named for pioneer aviator and inventor Lawrence Sperry who died in a 1923 forced landing while attempting a flight across the English Channel, is given "for a notable contribution made by a young man to the advancement of aerospace."

The citation with Kranz' award read, "For outstanding contributions in directing space-flight mission planning, in developing flight control teams, and as flight director of manned Gemini spaceflight missions."

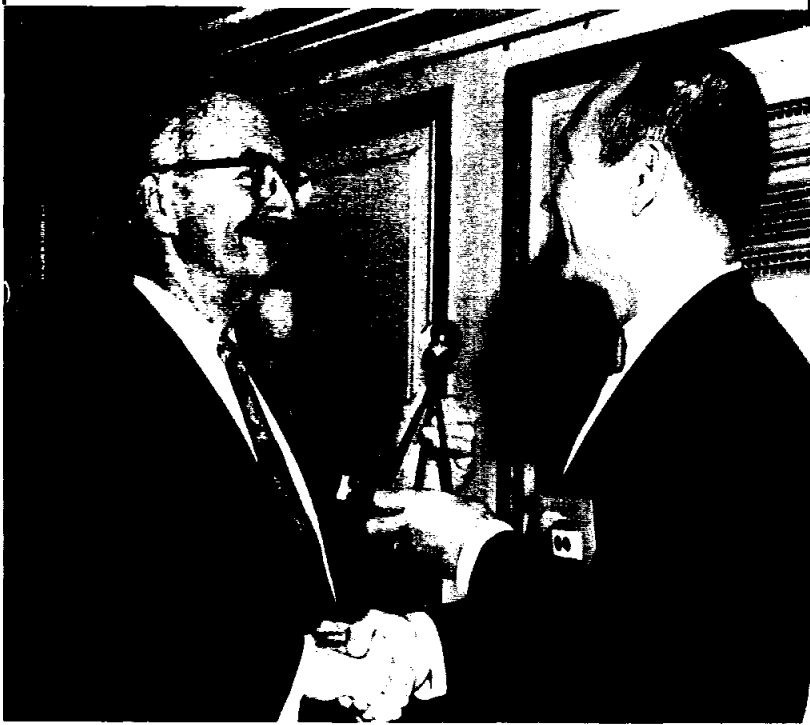
MSC spaceflight pilot Joe H. Engle received the Sperry award in 1966 and Robert O. Piland, MSC Deputy Director of Science and Applications, received the award in 1962.

Free Flu Shots Given Nov. 15-16

For the price of reciting one's Social Security number, MSC and on-site contractor employees may receive influenza immunizations November 15 and 16. Immunizations will be given in the Lobby of Bldg 8 and at the MSC Dispensary at Ellington AFB Bldg 339 from 8 am to noon and from 1 to 4 pm each day.

Contraindications ruling out taking the shots are allergy to eggs or egg products and pregnancy.

Recognition for Earth-Bound



GOLDEN OMEGA—Graham Lee Moses, chairman of the seventh annual Electrical Insulation Conference, left, presents the group's Golden Omega Award to MSC Director of Engineering and Development Maxime A. Faget, accepting on behalf of MSC scientists and engineers "in recognition of the outstanding and little publicized work these men have done in successfully putting our astronauts into space." The Conference was held October 15-19 at the Palmer House, Chicago.

MARINER V

(Continued from page 1)

the spacecraft passed the planet. Transmission of all the information to Earth took 34 hours.

On October 11, the gravitational pull of Venus began to increase the velocity of Mariner V when it was some 1.4 million miles from the planet. The velocity relative to Venus increased from 6,900 miles per hour on October 11 to a maximum of 19,000 miles per hour on October 19 as Mariner V whipped around in front of Venus.

The gravitational attraction of Venus altered the spacecraft's flight path, bringing it closer to the Sun than any other US spacecraft. Mariner V will come within 54 million miles of the Sun early next January.

MSC Extends FEC Contract

NASA has extended its contract with Federal Electric Corporation, Paramus, New Jersey, for logistic and technical information support services at MSC. Valued at \$4.6 million, the one year renewal extends the contract through August, 1968. Total value of the cost-plus-award-fee contract is approximately \$11 million.

Under terms of the contract, Federal Electric will provide support services including technical writing, library, documentation, and data retrieval services, graphic art services, and supply catalog services. The terms also include operation of warehouse facilities, quick copy and microfilm stations, moving, hauling and delivery services and publications and form distribution.

Federal Electric Corporation is a subsidiary of International Telephone and Telegraph Corporation.

Mariner II flew past Venus at a distance of 21,648 miles on December 14, 1962. Mariner IV flew past Mars at a distance of 6,118 miles on July 14, 1965.

Bendix Picked To Build, Test AAP Cryo Tanks

NASA has selected the Bendix Corporation, Detroit, Michigan over four other firms for negotiation of a contract for design, development, qualification and delivery of long duration cryogenic gas storage tanks for the first 56-day manned flight in the Apollo Applications Program.

Decision to award the procurement, assuming negotiations are successful, will not be made until after FY 1968 appropriation and expenditure levels for NASA have been established.

It is contemplated that a cost-plus-incentive-fee contract valued at approximately \$4.5 million and requiring about 18 months to complete will be negotiated. Performance will be at Bendix's Instrument and Life Support Division in Davenport, Iowa.

The tanks are of double-walled construction and will be approximately 39 inches in diameter. Seven of them are required for long duration storage of liquid hydrogen, oxygen and nitrogen in support of spacecraft electrical power and environmental control systems.

The tanks are a critical pacing item for long duration manned flights in the Apollo Applications Program. Completion of negotiation will permit early award in the event the project as programmed by NASA is carried forward.

MISSION FOCAL POINT—

Control Center to be Busy Place During Apollo IV Count, Mission

By Milton Reim

Command control of the Apollo IV mission will be centered in the Mission Control Center-Houston after the launch vehicle lifts off the pad in Florida.

Nearly 400 people will be actively supporting the mission from Houston during the final phases of the pre-launch, and during the period from launch to splash in the Pacific. Just prior to and during the launch phase, the MCC-H will be a beehive of activity from top to bottom.

The role of MCC-H in the hours prior to liftoff is more one of preparation than of direct action toward the Apollo vehicle on the launch pad in Florida.

A flurry of activity in MCC-H takes place during the midcount when flight controllers support and monitor the pad count from T-36 hours until T-29 hours and 30 minutes from their consoles in the Mission Operations Control Room of MCC-H.

Control Center preparations for the final portion of the countdown leading up to the launch gets underway as this group of flight controllers leave MCC-H, to return later in the count.

At T-29 hours and 30 minutes, the activity begins that will bring the MCC-H up for the final countdown portion of the Apollo IV mission.

Computers Diagnosed

The first acts of preparation in MCC-H for the final countdown of Apollo IV are diagnostic checks of the computer hardware in the building. Special programs are run through the computers to enable the individual computer to analyze its own capabilities to verify that it is ready to perform its function for the mission.

During this same period of checking out the computers, hardware checks are made throughout the building of various items such as trajectory plotters for the flight dynamics people and of other display equipment that will be used by the flight controllers during the mission.

At T-24 hours, the diagnostic tests and hardware checks are completed and more people come into MCC-H to begin the closed-loop ORACT (Operational Readiness And Confidence Tests). This is a series of tests designed to check specific subsystems throughout MCC-H, utilizing a computer program in the IBM 360/75 computer. These validation tests of building subsystems are directed by the network controller.

"Five by Five"

From T-17 to T-15 hours, communication checks are made with all the stations around the world to verify their ability to support the mission communications-wise.

At T-15 hours and 30 minutes, loading of the software into the computers for the mission is begun and interface between the mission operations computer,

dynamics standby computer and the communication processor computer is established. Following this, integration of all subsystems in MCC-H begins.

Some 30 minutes later at T-15 hours, an interface is established between the MCC-H and the Apollo Launch Data System at the launch site in Florida. At the same time, the communications network around the world begins its interface with Houston.

Dry Runs

More action is initiated at T-14 when the world-wide tracking system is brought together and trajectory runs are played through the Florida launch site computers, then to and through the MCC-H computers. This action, in addition to tying together the Ground Operational Support System (GOSS), is also used to further check out the hardware in the MCC-H.

At T-12 hours, the command carriers are brought up and command interfaces are run with the launch site to verify that commands can be sent from Houston.

The first of two shifts of flight controllers for the mission (the countdown team) reports on site at T-11 hours and 40 minutes, and begin checking their consoles and documentation in preparation for the mission.

Monitoring of data from the launch site by the flight controllers begins at T-11 hours and continues through the terminal count. During this period, the flight controllers establish trends in the data received by observing certain parameters such as voltages as they oscillate within set limits. This helps them check any tendency toward degradation of the systems.

Between T-8 and T-5 hours, all communications to the world-wide tracking network are put on a priority system and traffic to the stations is limited to mission oriented items while the stations are actively supporting the mission.

The flight controllers onboard the *Vanguard* tracking ship and at Carnarvon, Australia, come on site and begin confidence testing their equipment at about T-5 hours. During the ensuing hours before launch, they rerun the flight dynamic trajectory runs and command confidence tests. The latter to verify their ability to send commands to the Apollo vehicle.

First String

At T-3 hours, the prime team of flight controllers come on station in the MCC-H, and, at this time, trajectory confidence runs are made by the flight dynamics officer in MCC-H with specific sites around the network.

Two hours before launch, a TV picture from the launch pad in Florida will be brought up in MCC-H. A TV picture with the capability of transmitting any of the MCC-H displays will be activated in Houston and

sent to Kennedy Space Center beginning at T-30 minutes.

A first-motion-check with the launch area will be made by MCC-H at T-1 hour and 35 minutes to assure that when the launch vehicle lifts off the pad, it will activate sequencers that will start and/or stop various timing devices here and at KSC.

A status for terminal count start and booster systems engineer check is made to the flight director by the flight controllers in MCC-H at T-1 hour and 15 minutes. The flight director then holds a final mission rules review with the flight controllers at T-1 hour.

At T-35 minutes, another status report is made to the flight director by the flight controllers in MCC-H.

At T-15 minutes, the Real Time Computer Complex (RTCC) is conditioned for launch and a report is made to the flight director. A network status check is made at this time and at T-10 minutes, the final status for commands and launch is made to the flight director by the MCC-H flight controllers.

Final Status Check

Final commands to the spacecraft are sent by Guidance, Navigation and Control (GNC) and the Guidance Officer at T-8 minutes and 45 seconds. Final status for launch will come from the network stations at T-7 minutes and a Flight Dynamics Officer voice check with the Range Safety Officer at the launch site will be made at T-5 minutes.

At liftoff, all command will come to MCC-H. The launch vehicle is scheduled to clear the launch pad tower at T+10 seconds.

In performing the control function and determining the progress of the flight, the MCC-H will receive tracking and telemetry from the world-wide Manned Space Flight Network. This data will be processed through the RTCC and then used to drive displays for flight controllers and engineers working the mission. After liftoff, the job of the flight controllers is basically one of making sure the mission adheres to the flight plan, and taking corrective action if the mission deviates from the plan.



Local Theater Opens With 'Inherit the Wind'

Clarence Darrow and William Jennings Bryan clash again in the courtroom November 9 when the Clear Creek Country Theater has its opening performance of the Pulitzer Prize winning play, "Inherit the Wind."

First play in the Country Theater's 1967-68 season, "Inherit the Wind" is based upon the so-called "monkey trial" in Dayton, Tennessee in 1925 of high school teacher William Scopes, accused of teaching Darwin's theory of evolution.

The play is by Jerome Lawrence and Robert E. Lee.

Play director Dave Goldenbaum of ASPO Test Division said that every attempt is being made to achieve realism—real food will be eaten onstage, a monkey and hurdy-gurdy are in the cast, musical instruments are used and the cast is dressed in the clothing styles of 1925.

Goldenbaum said that two male small parts are still to be cast—both walk-ons with one line of dialog. To try out, call Goldenbaum at Ext 5091.

"Inherit the Wind" performances are scheduled at 8:15 pm November 9, 10, 11, 16, 17 and 18 at the Clear Creek Country Theater in League City. All seats are \$2. Season memberships are \$10 per couple and are good for admission to the Country Theater's three plays of the season, "Inherit the Wind," "Blood Sweat and Stanley Poole," and "Picnic."

MSC employees in the cast of "Inherit the Wind" are Goldenbaum and Andrew Lamache, both of ASPO Test Division; John C. Lyon, Flight Support Division; Frank Mabley, Landing and Recovery Division; Junius B. Fox, IESD Standards and Quality Assurance Branch; Doug Burns, management intern; Paul Penrod, Science and Applications Directorate office; Helena Leet, wife of Dr. Robert Leet, aerospace medicine intern assigned to the Biomedical Research Office, and Joan Aldrin, wife of MSC spaceflight pilot Edwin Aldrin.

Support contractor employees in the cast are: Cecil Kelly, Bob Matteson and Al Mitchell, Jr., all of GE; Bill Koelsch, TRW, and Greg Odams, Philco-Ford.

Golf Medalists Final Tourney Set Nov. 10

The eleventh monthly medal play MSC Golf Association tournament was completed at Hermann Park October 14, leaving only one tournament in the 1967 season.

Standings in each of the four flights have tightened, except for the championship flight where a two-man battle is evident. Flight standings for those having a chance to win are as follows: Championship Flight—Max Engert 237, Dana Boatman 224, First Flight—Norm Cooper 200, Lorrin Remmich 195, Bob Kosinski 195 and Bob Reaves 162. Second Flight—John E. Jones 182, John McWhorter 157, Lou Leopold 151 and Roy White 150. Third Flight—Jim Neal 143, Charles Levy 137, John Conlon 135 and Carey Lively 123.

The final Association tournament will be played November 10, with the Championship and Second Flights playing at Atascosita and the First and Third Flights at Sharpstown. Trophies for first and second place in each flight have been ordered and should be awarded shortly after the final tournament.

Individual match play competition is dragging slowly to conclusion. MSCGA officers ask that this competition be wound up before the end of November so that 1967 books can be closed and 1968 planning begun.

CU Has Open Job

The MSC Federal Credit Union has open a two-day per week position requiring a book-keeping background and which is mostly auditing. For details, contact Credit Union manager Peggy Ray at 2066.



OBJECTION OVERRULED—Three members of the Clear Lake Country Theater cast of "Inherit the Wind" are shown as they will appear Sunday night in a preview excerpt from the play at the Freeman Memorial Library National Children's Book Week observance. Left to right are Worth McCauley, John Elder and Oscar James. (See Country Theater story this page).

Theater Party's Williams Show Rescheduled

Holdes of EAA Theater Party membership discount tickets are reminded that the Roger Williams show, originally scheduled for November 3, has been rescheduled for sometime in February.

The first program in the series is now Capriccio, a Spanish ballet starring Molina, on November 20.

Theater Party memberships are still available at \$1 each, permitting a 20 percent discount on all Nell Harris Associates entertainment production, from the following employees-Bldg/room:

Bobbie Wright-2/548, Sherman Kendall-2/147, Bob Merrifield-4/356, Mary Lopez-12/206A, Donna Bowers-16/2019, Kitty Cornish-30/2033, Claude Ingels-31/135, Beverly Hobbs-45/516, Juanita Bower-419/106, Arminta Yanez-330 EAFB, Robert Dotts-13/208 and Terry White-NB6/226.

Freeman Library Holds Children's Book Week

A five-day program of theater, music and special events will highlight the Clear Creek area's observance of National Children's Book Week October 29 through November 4.

Sponsored by Freeman Memorial Library in conjunction with their annual Book Fair, the program includes ten events aimed specifically at various age levels, including adults, and represents a radical departure from previous years.

All events will be held at Book Fair headquarters in the Camino South Shopping Center, Clear Lake City. Space behind the stage and spectator area will be decorated as a comfortable home to facilitate the display of some 1,000 books.

Sunday evening the Clear Creek Country Theatre will present a courtroom scene from the play "Inherit the Wind". Attorney Worth McCauley will play the part of defense attorney Henry Drummond (Clarence Darrow). The performance will begin at 8 pm.

On Monday, Nancy Wood, storyteller and reviewer for the "Library Treasures" radio program on station KMSC, will present a program of stories for elementary school children at 10 am. At 11 a demonstration of techniques of water color painting by Evelyn Stebbins will be offered. She will repeat her program at 2 pm, and it will contain material of interest to children and adults.

High school students and adults—particularly the gardeners—are especially invited to a lecture Tuesday at 10 am on "Great Gardens of Europe", illustrated with color slides. Lecturer will be May Dell Flagg, Garden Editor of the *Houston Post*.

On Wednesday, at 1 pm, organist Bob Shapley will give an informal concert of music with notes and comment on the organ, and the music written for it. This program is scaled to students of intermediate school age.

Three events will climax the series Thursday when actress, monologist and reviewer Loraine Meyer will discuss the book *Shakespeare's Theatre* at 11 am. She will use a scale model of the London Globe Theatre and C. W. Hodge's book on Elizabethan stages and drama. The lecture is for children of junior and senior high school age, as well as adults.

At 1:30 Mrs. Meyer will review the book, *Carl Sandburg, A Pictorial Biography*, and offer some short readings of Sandburg's poetry.

Children of all ages are issued a special invitation to hear Dr. John Montroy and Dr. Willard McCalment, authors of *Animal Frolics*, in a musical zoo review—narrative, songs and drawings, to be presented at 7:30 Thursday evening.

Entries in the poster contest sponsored by the Clear Creek Art League will be on display during the week at the Book Fair Headquarters. The contest was open to students of all grades, with entry deadline at 9 pm to-night.

Clear Lake Club Issues Invitation To Sail Regatta

The Clear Lake Sailing Club issues an invitation to all MSC and contractor skippers to take part in the second annual Open Regatta November 11.

The skippers' meeting will be at 9:30 am at the T pier of Clear Lake County Park, with three races starting at 10:30, 1:30 and 3:30. Trophies will be awarded to individual classes and open classes, depending upon the number of entries.

Series entry fee is \$1 and refreshments will be available. In case of bad weather on Saturday, the Regatta will be slipped to Sunday.

For Regatta entry forms, call Bob Ward at 4971.

Space Station Planners



EARN SSPs—Eight Advanced Spacecraft Technology Division employees September 25 received Sustained Superior Performance awards for their work in preparing a four-volume study, *Preliminary Technical Data for Earth Orbiting Space Stations*, which will serve as a guide for future work in space station development by other NASA organizations and by industry. Seated, left to right, are: Allen J. Louviere, Ellsworth Phelps, Jr., Charles Schneider and Maynard C. Dalton. Standing: James C. Jones, Louis E. Livingston, Thomas O. Ross and William K. Creasy.

LATE in 1837, Sam Houston, never much in favor of a Texas Navy or too respectful of the men who fought in it, reluctantly signed a bill appropriating money for a second fleet. But President Mirabeau B. Lamar, inaugurated the following year, favored a navy as strongly as Houston opposed it. Lamar's feeling was supported by the Texas Congress, whose Senate went so far as to pass a secret resolution that Texas buy the Mexican fleet captured by the French!

The first ship to take its place in the second navy was the brig *Potomac*, bought early in 1838. She never became a seaworthy fighting ship, and spent her days tied to a Galveston wharf, serving as a "receiving ship." Next was the brig *Charleston*, which steamed into Galveston harbor in March, 1839, and was promptly renamed the *Zavala*, in honor of Texas' first Vice President, Lorenzo de Zavala.

Five more ships were bought in 1839: the *San Jacinto* (formerly the *Viper*), a 170-ton schooner of eight guns; the *San Antonio* (formerly the *Asp*), a 170-ton schooner of eight guns; the *San Bernard* (formerly the *Scorpion*), a 170-ton schooner of eight guns; the *Wharton* (formerly the *Colorado*), a 400-ton brig of 16 guns; and the *Austin*, a 600-ton sloop-of-war of 38 guns — easily the largest and most heavily armed ship in the fleet.

The *Archer* (formerly the *Galveston*), a 400-ton brig of 16 guns, was bought in April, 1840, bringing the total to eight ships.

With the new fleet came a new commodore. A great many had been gracious enough to offer their services, but all were passed over in favor of 29-year-old Edwin Ward Moore, Lt., U.S.N. Entering the American Navy as a midshipman at the age of 15, Moore had served for another ten years before winning his lieutenantcy. Fearful that he might well wait 25 more for his captaincy, Moore's bird-in-hand philosophy was pleased with the prospect of a commodore's post in the Texas Navy. Upon taking over in December, 1839, he immediately made the *Austin* his flagship.

Shifting Winds

The first Texas Navy had spent a good part of its time fighting an armed enemy on the high seas. The second whiled away a good part of its time in less spectacular fashion, fighting a less deadly, but more dogged, foe: financial troubles and the shifting winds of political storms.

By the spring of 1840, hostilities had broken out between Yucatan and Mexico. Texas quite naturally decided to supply what it could in aid and comfort to Yucatan. Once again, it ap-

peared that the Texas Navy could limber its guns and clear its decks for action. Accordingly, a base was established for the fleet at the Arcas Islands, some 100 miles west of the port of Campeche.

The navy spent most of 1840 in what has been accurately termed "diplomatic cruising." Ships under Moore took some prizes, but few engagements could be dignified with the word "battle." On one occasion, being strapped for ready cash, Moore decided to take it where it was most conveniently available. Going upriver to the Tobasco coast town of San Juan Bautista, he levelled his guns on the place and exacted a tribute of \$25,000 from the fearful populace. The money came in handy; without that windfall the navy might have been on short rations!

Yucatan was pleased with the effectiveness of the Texas Navy, and in 1841 the Yucatan government made an agreement with President Lamar of Texas to rent the fleet for \$8000 a month.

Commodore Moore received these orders in a sealed packet with instructions not to open it until he had put to sea. Lamar was obviously afraid of public disapproval of his agreement. After recruiting new men and reequipping his ships, Moore crossed the bar of Galveston Bay on December 13, 1841, and opened the mysterious packet.

Moore, of course, found the agreement to his liking and proceeded at once to Yucatan. When he arrived he learned to his chagrin that the Yucatecos had made their peace with Mexico. After some dickering, however, Yucatan agreed to pay the rental for a few months and keep the Texas fleet on hand, just in case Mexico should fail to keep its promises. After a tumultuous five months, Yucatan yielded to Mexican pressure and a depleted treasury and cancelled the agreement. Moore and the fleet returned to Galveston in May, 1842.

Mutiny

The year 1842 saw the first and only mutiny in the Texas Navy. Actually, the plot had been hatched among disgruntled seamen off the Yucatan coast the year before. The smouldering conspiracy flared into open mutiny while the schooner *San Antonio* lay anchored in the Mississippi River off New Orleans on February 11, 1842.

High ranking officers had gone ashore. Fearing desertions, they left orders that the crew be kept aboard. As might be expected, this brought on more than the usual amount of growling and grumbling in the forecabin.

Mutiny began to bud when, somehow, a few bottles of liquor were smuggled aboard, no doubt by someone less interested in

the good of the ship than in turning a fast dollar. Fired with liquor, conspirators worked themselves quickly into an ugly mood. Marine Sergeant Seymour Oswald approached Lt. M. H. Dearborn and demanded shore leave for himself and his friends. Dearborn refused, and a bitter argument began. Lt. Charles Fuller, the *San Antonio's* ranking officer then on board, came up from below to investigate the trouble.

Fuller decided (unwisely, as it turned out) to nip what appeared to be incipient riot by turning out the marines under arms, detailing Sgt. Oswald to issue weapons. The psychology of placing Oswald in position to quell trouble he had been instrumental in starting should have worked — but it didn't. When he had the chance, Oswald issued arms not only to the marine guard, but also to his cronies. Into his own belt he thrust a pistol and a tomahawk.

Approaching Lt. Fuller as if to report that the guard was armed, Oswald suddenly struck viciously at the officer with his tomahawk, but missed. Out came Fuller's pistol, and a wild fight took place on deck. When the smoke cleared away, Fuller lay dead, two midshipmen were seriously wounded, and Dearborn had suffered the embarrassment of being knocked down the hatch and locked in.

Oswald and his mutineers lowered a boat and made a run for it. They had a short-lived "freedom." Cries from the wounded and imprisoned officers brought help from the nearby U. S. Revenue Cutter *Jackson*, which caught and returned some of the mutineers. Others were rounded up in New Orleans, where they spent a long time enjoying the hospitality of the local jail.

Mutineers Sentenced

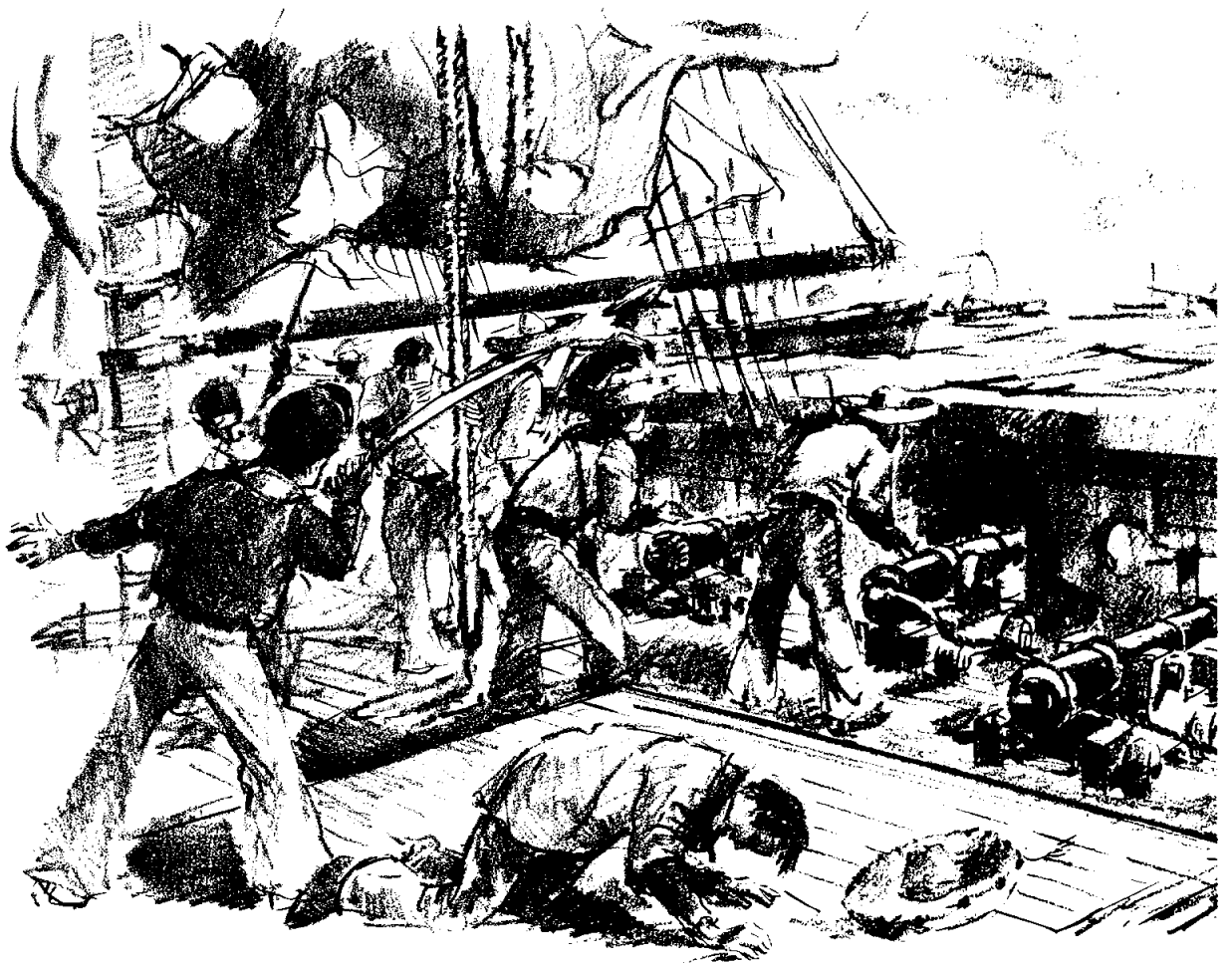
When word of the mutiny reached Commodore Moore, he vowed to "mete out to the rascals

the uttermost penalties of the law." How well he kept his word is described, in an eyewitness account, by Midshipman Alfred Walke, who kept a journal written in clear, flowing script. Walke's journal, which reposes in the Texas State Archives at Austin, describes the sentencing of mutineers as it took place aboard the *Austin* in 1843:

"On board the *Austin*, April 21st, 1843: During the night of the 20th, the brig (*Wharton*) parted company with us . . . At 10:30 a.m. called all hands to witness sentence of court martial in the case of the mutineers of the Texas schooner of war *San Antonio*. When the Articles of War were read, the charges and specifications of charges also read against Frederick Shepperd (late boatswain of the *San Antonio*), who was acquitted and released, John Williams (seaman) who was not guilty of the

1st and 2nd charges but guilty of the 3rd but recommended to mercy and was pardoned and released from confinement, & William Barrington (seaman) who was guilty but in consideration of his informing Mr. Dearborn (Lt. on board the *San Antonio*) at the last moment that a mutiny was to take place his sentence was 100 lashes with the cats and told he would have it inflicted on him the next day at meridian. The charges were Mutiny, Murder or an attempt to Murder, and Desertion.

"April 25th, 1843: . . . At 11:30 called all hands to witness sentence of court martial in case of schooner *San Antonio* . . . against Edward Keenan who was guilty of the 3rd charge and punished immediately with 100 lashes with the cats & released and Antonio Landois (Marine), Wm. Simpson (Cpl., Marines), Isaac Allen & James Hudgins



Battle off Yucatan



The history of Texas from its earliest exploration through its colonization and growth into a republic, and finally as a state of the Union, is an extremely interesting history. Through the courtesy of Humble Oil and Refining Company, articles from Humble's *Texas Sketchbook* will appear in the *Roundup* during the next several months. The articles were written by F. T. Fields. Pencil sketches and watercolors accompanying the articles are by the noted Texas artist E. M. "Buck" Schiwetz. Many of the places described in the series are within weekend driving distance of MSC.

Texas Republic's second Navy encountered depleted treasuries and political storms as often as it did the enemy

The Texas Navy: Part II



by E. M. Schiwetz

(seaman) who were found guilty of all the charges and sentenced to be hung at the fore yardarm & given until meridian next day to prepare to die when the crew was piped down & the prisoners were secured on the quarter deck abaft No. 9 gun.

"April 26, 1843: ... At 11:45 called all hands to execute sentence of court martial when they were addressed by Commodore Moore on the subject of mutiny. At 12:00 the prisoners were carried forward & placed upon the scaffold. After addressing the crew the ropes were placed around their necks. Until this time they appeared to believe they would be pardoned and did not evince much fear, but now the truth flashed upon them and they knew they had to pay the penalty of their crimes and commenced praying eagerly and piteously for pardon. At 12:30 the signal gun was fired & the four prisoners run up to the fore yard.

"April 27th, 1843: At 1:30 p.m. lowered the prisoners down & gave them ... to prepare for burial. At 1:40 filled away. At 2:30 laid the main topsail to the mast and called all hands to bury the dead and after reading the funeral service over them their earthly remains were committed to the deep ..."

Two of the leading mutineers were not aboard the *Austin* when sentence was carried out. Seymour Oswald, the mutinous sergeant, had escaped before the party was surrendered to Moore. Benjamin Pompilly had died in prison, confessing on his deathbed that it was he who had killed Lt. Fuller. Shepperd's (or Shepherd's) testimony during the court martial developed that the mutineers had plotted to seize the *San Antonio* and sell her to Mexico. Shepperd, though he escaped death by hanging, had not long to live. He was killed three weeks later by a shell fired in an engagement off Yucatan

from either the *Montezuma* or the *Guadalupe*.

The Last Sea Battles

April 30, 1843, found the Mexican and Texan navies locked in the first major naval battle since the Texas Revolution. (War had broken out again between Mexico and Yucatan, and the Texas Navy had been rented again to Yucatan.) On that day, Moore, joined by a few tiny vessels of the Yucatecan flotilla, came upon the entire Mexican fleet, less one armed steamer. Commanding the Mexican warships *Guadalupe* and *Montezuma* were a couple of former officers of the British Navy, captains Charlewood and Cleaveland.

A more cautious commander would have thought twice before closing with the formidable Mexican fleet, but not the stout-hearted Moore. Badly out-gunned (some of the enemy mounted 68-pounders, as opposed to the 24-pounders that were the heaviest guns in Moore's fleet), and with his ships manned by no more than half their full war strength, Moore closed and began a running brush with the Mexicans.

The enemy withdrew for a time, but bore down again later in the day. Ships drew close together and withering broadsides were exchanged. The *Austin* received a 68-pound shot which narrowly missed killing Commo-

dore Moore. A shot received by the *Wharton* caused the only Texan casualties—two killed, four wounded.

It was learned later that the enemy casualties included Capt. Cleaveland and 14 men killed aboard the *Montezuma*, with 30 men wounded. The *Guadalupe* had seven men killed and several wounded.

Shortly before noon, the squadrons had become so separated that firing became ineffective. With a parting shot or two, the fleets parted, Moore and his fleet continuing on to Campeche.

Two weeks later, Moore and the Mexicans were at it again. On May 16, the *Austin* and *Wharton*, with the small Yucatecan flotilla, set out to meet the enemy. Before noon that day, the two Texan warships were exchanging fire with the *Montezuma* and the *Guadalupe*, while lesser craft circled and fought in lesser orbits of battle.

In a 14-mile running fight, the *Austin* received so many hits in her rigging from the giant 68-pounders of the enemy that Moore was unable to close with the Mexicans. He had at one time, however, a chance to place his ship between the two principal enemy craft and give both a good blasting from his port and starboard batteries.

With his ship's rigging badly riddled, Moore had to turn back

to Campeche, taking the *Wharton* with him. Both sides claimed a victory. Casualties aboard the *Wharton* were two men killed when a gun vent was not stopped properly, and none wounded. The *Austin* lost three killed, six severely wounded, and 17 slightly wounded. It was learned later from an Englishman who deserted the *Guadalupe* that his ship, completely riddled, had suffered 47 killed, 32 so wounded as to require amputation, and 64 badly wounded. The *Montezuma*, heavily damaged herself, lost 40 men killed or wounded.

Battle Witness

An interesting account of the second major battle off Yucatan is told in the journal of Midshipman George F. Fuller, aboard the flagship *Austin*:

"A curious experience is that which comes by being shot at from a long distance. One sees the flash of the gun, then hears the whistling of the ball, and then the report, the ball out-traveling the sound.

"After a little study of the coming balls one could determine very nearly where they were going to strike. Two of them I shall always remember. Of the first one I said, 'This is going to pick a man from my gun's crew.' It struck just under the port between wind and water. As it was jammed between two of the timbers it was

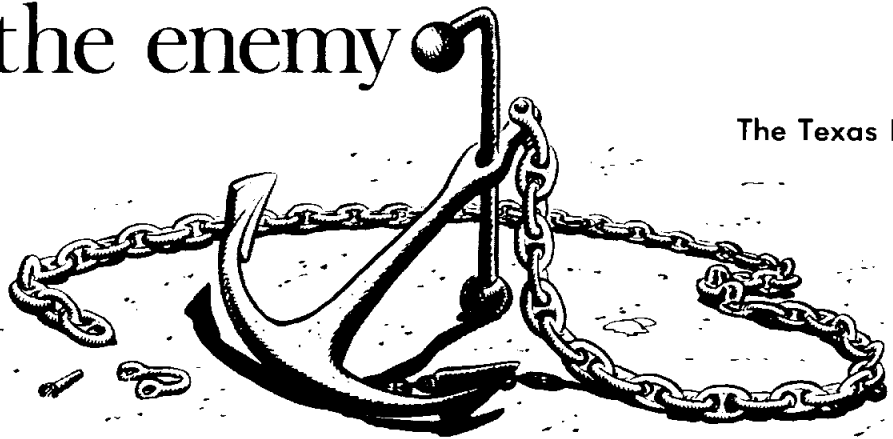
found impossible to drive home a shot plug.

"The other shot which announced its intention to become intimate struck the deck of the topgallant forecandle directly over my head (for I was at gun No. 1) and tip-tip-tipped overboard, simply denting the planks. Walker, who was master's mate of the forecandle, looked over, and with his peculiar lisp, exclaimed, 'Fuller, that was devilish close.'"

End of the Navy

When the last shot was fired in the second engagement off Yucatan, the Texas Navy had engaged the enemy in mortal combat for the last time. The governments of Mexico and Yucatan, both tired and their treasuries emptied by the long struggle, made their peace. The Texas Navy sailed back to home ports and Commodore Moore for the next many months had a fight on his hands of a more personal nature. Besides being faced with a number of charges such as disobedience, neglect of duty, and misappropriation of funds, Moore was dishonorably discharged and relieved of command. Subsequent trials, however, cleared him of all charges.

As for the gallant Texas Navy, it found a permanent berth when it was absorbed in June, 1846, into the Navy of the United States.



Tribute from Tobasco

by E. M. Schiwetz

Management Intern Program Offers Avenue for Career Advancement

By Doug Burns
Management Intern

In 1955 the US Civil Service Commission established a test for locating and encouraging potential administrative/management talent, the Management Intern Option Federal Service Entrance Examination. Since then, thousands of men and women have taken the test—as many as 25,000 compete yearly—but the washout rate is high. Less than five percent passed the examination in 1965-66.

Testing is in two steps: the written exam and an oral exam.

Written exams are given by CSC regional offices, and several colleges sponsor written exams and notify graduating students of time and place.

The 10 percent that pass the written exam are invited by the CSC to take an oral examination which is given periodically at various locations across the country.

The oral examination consists of a panel of five to eight applicants who discuss two problems while being rated on their problem solving and communication abilities. Managers of two federal agencies conduct the oral tests, after which each applicant is interviewed individually.

About half of the applicants are weeded out during the oral exam and interview phase.

Names of those surviving go on a Washington register of eligibles, where more than 30 federal agencies sponsoring management intern programs compete for the candidates.

While each agency molds its management intern program to fit its specific needs, the MSC management intern program is generally typical of programs conducted by other agencies.

One prime objective of the program is to attract and groom college graduate men and women who show a potential for growth to high-level career positions in federal service.

Although colleges supply the greater number of interns, agencies also sponsor promising employees in an intern program, provided they have passed the written and oral examinations.

Management intern programs run from one to three years, during which period interns work in several agency areas, attend special seminars and receive additional academic training with the goal of preparing interns to ultimately handle top administrative positions.

A competent non-intern would also likely move up into top management without aid of a special program, but since the federal government often is accused of using hit-or-miss methods of selecting potential management people, there is a definite need for the flexibility provided by both the program

and the "non-program" approach.

More than 50 employees to date have completed the management intern program at MSC. The latest group of 11 interns have been aboard since June 19.

At MSC, the management intern program begins with a one-week period of Center orientation on management philosophy and becomes familiar with Center facilities.

Following orientation, interns enter a 24-week period of rotational assignments of two to six weeks in both technical and administrative areas. The variety of assignments provides an overall view of Center functions while giving the intern an opportunity to discover an area in which he would like to work on a permanent basis.

As a part of their training, interns also attend a series of case-study seminars during the first six months of the program. For example, MSC management interns attended a Civil Service seminar on government administration September 25-27.

At the end of the 24-week rotational period, the intern chooses the area in which he would like to spend six months of more specialized training. He becomes at the end of the year one of the regular "troops" and receives his only guaranteed promotion.

Some former management interns have left MSC at the end of their training to join other NASA centers or other government agencies, and a few have resigned to continue their education. But overall, the MSC management intern program has been successful, and many former and present interns are making valuable contributions to MSC and NASA functions.

Long fight with short stick . . .



ALL FOR A CLOSE PARKING PLACE—

Heavy-Footed Drivers Are Menace to Kids

Some drivers apparently think that the absence of a police car within sight of a marked school crossing zone is a license to ignore posted speed limits and jam their feet into dual carburetors to get to work on time.

While the slow posted school zone speeds may be academic during rush hour traffic—no one can move fast enough to exceed the limit—there are times when traffic is light between shift starts

and the temptation to ignore the zones is too great for some.

Probably a large majority of the heavy-footed drivers have school-age children back in Houston or Pasadena who at that very time are also crossing streets on the way to school. Too often it takes the sight of a child's mangled body after being dragged under a car's chassis to make one realize that school zones are no joke.

Most drivers pride themselves on their rapid reaction times, yet it takes about three-fourths of a second from the signal to get from the brain down to the brake foot, and several more seconds—depending upon speed—for the car to come to a stop. In rainy weather the stopping distance can be twice as long.

The most obvious location near MSC where school zones are often ignored by drivers is on NASA Road 1 through Webster, though there are likely other zones equally abused.

The time saved by speeding through a 15-mile per hour school zone that is perhaps 300 yards long amounts to a few seconds, and getting a parking slot perhaps 10 feet nearer one's building is not worth the potential of running down a child.

If it is all that important to get a close-in parking place or to get to an early meeting, it would pay to do without that second cup of breakfast coffee and leave home earlier.

Your conscience and the parents of children who are still alive will be thankful that you took heed of posted school zone speed limits.

Ten New 'Thou Shalt Nots'

Federal employees are obligated to foster continuing improvement in service to and communications with the public. L. J. Andolsek, vice-chairman of the US Civil Service Commission, has brought the following "Ten Commandments of Human Relations" down from the mountain:

I: Speak to people; these is nothing as nice as a cheerful word of greeting.

II: Smile at people; it takes 72 muscles to frown and only 14 to smile.

III: Call people by name; the sweetest music to anyone's ears is the sound of his own name.

IV: Be friendly and helpful; if you would have friends, be friendly.

V: Be cordial; speak and act as if everything you do were a real pleasure.

VI: Be genuinely interested in people; you can like everyone if you try.

VII: Be generous with praise, cautious with criticism.

VIII: Be considerate of the feelings of others; it will be appreciated.

IX: Be thoughtful of the opinion of others. There are three sides to every controversy: your's, the other fellow's, and the right one.

X: Be alert to give service; what counts most in life is what we do for others.

The Roundup is an official publication of the National Aeronautics and Space Administration Manned Spacecraft Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for MSC employees.

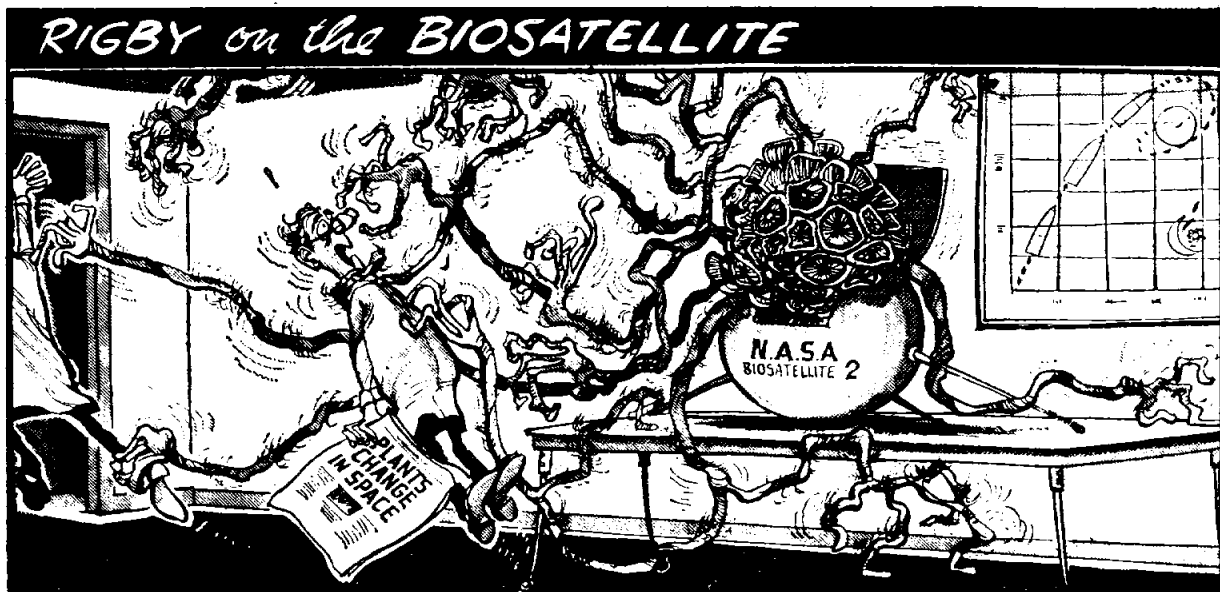
Director Dr. Robert R. Gilruth
Public Affairs Officer Paul Haney
Editor Terry White
Staff Photographer A. "Pat" Patnesky

Astronomers Plan Saturn Watch

The planet Saturn and the Spiral Galaxy M33 will be the optical targets tomorrow night when the MSC Astronomical Society holds a public observation at Shoreacres Park. If the sky is not 80 percent clear, the observations will be postponed until Sunday night.

Saturn is about 887 million miles from earth (1.3 light years) and M33 is 2.3 light years away.

The Society's next regular meeting will be November 7 at 7:30 pm in the MSC News Center, Nassau Bay Bldg 6. William A. Chanis at 4371 will answer inquiries about the group.



"So that's what happens when you send a petunia round the moon!!"

— Filched from the Melbourne, Australia Truth

Roundup Swap-Shop

(Deadline for classified ads is the Friday preceding Roundup publication date. Ads received after the deadline will be run in the next following issue. Send ads in writing to Roundup Editor, AP3. Ads will not be repeated unless requested. Use name and home telephone number.)

FOR SALE/RENT—REAL ESTATE

4 bdrm, 2 baths, home in El Lago, MSC area. W. J. Kapryan, PA 9-2281 or in Indianapolis, Fla., 305/727-1813.

50'x120' waterfront lot, 10 miles from Freeport; new marina within 500 yds; water and electricity avail; elev. 10'. WI 5-4451, Ext 202. After 6-534-2100, Dickinson, Tex. 3011 Longwood Lane.

3-2-2 brk, large den, 3 yrs old; Deer Park-14 mi. from MSC. Contract for deed and equity. 113 Arbor Dr.; Dick Gadbois. GR 9-1761.

Contemp 3-2-2, built-in kitchen, central A/H, detached garage, pier priv, 10 min from NASA. Ann Hardeman GR 1-4776.

For RENT: Unfurnished apt. in home in Nassau Bay for conservative MSC employee. (No real estate agents please). 591-2510, nights.

FOR SALE — AUTOS

67 Corvette Coupe, 427 engine, 3 dual carbs, FM, air, pwr steer, 4-speed close-ratio trans, 3.70 rear end, 10,000 mi. P. R. Charlton, 944-0208.

66 Impala 4-dr hdtip, fully equipped. Will arrange financing, best offer. James Lovell, 877-3250.

59 Fiat 1100, 4 dr sed, 4 good tires, mileage less than 60,000. Any reasonable offer considered. Richburg, Ext. 3891 (No home phone).

65 Bonneville spt cpe, 421 cu in, 4 spd trans, pwr and air. Immaculate, \$2195. Richard Courtney, Kemah, 877-2083.

60 Buick Invicta, 2 dr hrdtp, good tires, low mileage, pwr and air. \$495. Richard Courtney, 877-2083, after 4:30.

63 Pontiac Grand Prix, air, full pwr bks/steering/windows, good rubber. \$1195. Jack Kahanke, HU 8-2592.

66 Chev Caprice, air/heat, bucket seats, pwr bks/steering. Stereo radio. \$700 for equity; bal \$2134.08. Gloria B. Martinez, OV 6-5307.

54 Chev Bel Air, good cond, \$100. Linda Shinault, 944-3457.

63 Olds 88, completely equipped, good cond. Frank Borman, Seabrook, GR 4-2756.

66 Chev Impala Convert, 396 w/Delta Mark IV transistor ignition, turbo-hydraulic, all power, air, comfortilt steering, wire wheel covers, full factory warranty (22,000 mi) Firestone 500's w/5,000 mi., midnight blue. Dick St. John, HO 5-0234.

65 Dodge Polara Sta Wgn, 383 cu in eng, air cond, fully equip, excellent cond, best offer. Erral Atha, 946-1986.

66 Malibu Super Spts, big V8, automatic shift, white ext, black naugahyde int. No down payment, credit union member. \$2190. Barbara Matelski, 484-1280.

63 T-bird-Landau, excelnt cond, caspian blue, air, pwr, new tires, low mileage. Best offer. Duane Mosel, 644-7210.

67 Pontiac LeMans, blk w/white vinyl top. Wire wheel covers, air, pwr, AM/FM, other extras. Under warranty. Bill Dozier, RI 8-0536.

59 Ford Galaxie, pwr brks/steering, automatic, V8, 4 dr, (air-temporarily disconnected), good running condition. Best offer. 946-6870 after 6 or weekends.

57 Porsche, Speedster, sun deck. Just overhauled and repainted. New brakes. Highest offer over \$700. A. E. Hyatt, GR 2-8466.

65 Pontiac LeMans Spts Cpe, white w/gold interior. Excellent cond, original owner. Lucy Neely, MI 9-0438.

66 Honda 50, 400 mis. \$190 or will trade on VW or similar auto. Travis Moebes, HU 8-1696.

Tonneau cover (black) for Austin-Healy 100. Occasional four seater. In exclnt cond. Best offer over \$35. R. W. Armstrong, 762-5927.

FOR SALE—MISCELLANEOUS

Lowrey transistorized electric organ-2 manual, full pedal board, Leslie speaker, many extras, including bench. Walnut finish, 2 yrs old, like new. Cost \$1450. Will sell for \$900. Can be financed at \$24/mo. James C. Weaver, 932-2371.

12 x 12 Wonderplush, antique gold, \$100. 9 x 12 nylon, off white, \$50. Also, baby crib. James B. Irwin, GR 1-0373.

25-in, 1959 table model Zenith TV, B&W, good condition. 12 x 14 ft. cotton beige carpet, excellent condition, Mrs. Edward H. White, 877-2231.

67 250-cc Suzuki Motorcycle. Excellent condition, 7 mo old. \$475; will consider excellent condition Browning 12-ga automatic in trade. Ed McElwee, GR 4-3476.

Kenmore food mixer, juicer, grinder. \$20. Kenmore 2 sp washer, \$25; Kenmore hair-dryer, \$20; ¾ bed, metal frame, \$12, Thompson, HU 6-7768.

Blk wrought iron table with grey formica top, oval, 6 chairs. \$200 new, will sell for \$45. James G. Prejean, HU 2-7796.

Catalina gas stove, 4 burner, \$50; Westinghouse air cond, 1 ton, \$40; Roger Hicks, MI 4-2913.

Barbell and dumbbell set, \$25. Two Tijuana brass stereo 8-track tape cartridges, "S.R.O." and "What Now My Love". Ray Johnson, 944-7020.

18 hp Evinrude mtr and gas tank. Exlnt cond, \$135. J. Prejean, HU 2-7796.

8 x 10 Coleman tent, zippered windows and dr, 4 mos old, New cost \$72, Will take \$55. Hammock, portable, four point suspension, steel frame, 4 mos old, new cost \$14, will take \$9. Paul Coan, HU 6-5425.

Innerspring crib mattress, good condition; car bed converts to car seat, with extra pad. Frank Boyle, 534-5695.

Cabinet model Magnavox AM/FM/record monaural music system, \$50; Anso 35mm camera, \$10; Heiland Professional flash-gun with bulbs, \$7.50; Film developing tank, \$6; Argus 35mm slide viewer, \$3; ACME photoflood reflector in carrying case, \$2.50. D. R. Puddy, 944-4796.

Eldon Road Race set with mounting board (only used a few times), \$10; Hedge shears, \$3; Lawn edger, \$2; child's wagon, \$2; child's scooter, \$2; Portable TV stand, \$3. D. R. Puddy, 944-4796.

14' Lido sailboat, complete w/sails, new galvanized trailer, all accessories. Excelnt cond. J. L. Munson, HU 8-0195.

24" boys bike, good cond, cost \$40, will sell for \$16. Bob Hymer, MI 9-0416 after 6 p.m.

Professional pool table, with que sticks and the works. 2 yrs old in exclnt cond. \$700 new; will sell for \$300. Joyce Bourque, GR 9-1882 after 5 p.m. or GR 9-1754. weekends.

Fine Austrian 12-ga double-barrel shotgun, both bbls full choke, beautifully engraved, selective automatic ejectors. Suberb goose and duck gun. \$225, Jim Richards, 591-2547.

New Sky Kennel large dog collars, \$12.30. Maurice B. Johnston, HU 8-4112.

Full length human hair wig, dk brwn, below shoulder length, only worn twice; black patent wig carrying case and wig stand with three pins, \$50.00. Linda Blankenship, 944-0750 after 4:30.

65 Harley Davidson motorcycle, 165 cc "Scat". Used very little (2800 mi). Perfect condition. Owner in Army, must sell. Cost \$500, asking \$300. Wayland E. Hull, 877-1324.

Communications Engineering textbook, \$10. Davenport and Root, *Random Signals and Noise*, McGraw-Hill. New, unused. Dick Glover, 944-4863.

Deer hunters haul them back. 1965 Honda trail bike, 90 cc, buddy seat, rack mirrors, helmet and goggles, 2200 mi. Adult rider, like new. \$250. Underhill, 946-8390.

15 ft. Yellow Jacket (needs deck re-finished). Mark 55 Mercury (needs water pump). Big wheel trailer; boat has: top-built on windshield, skis, anchor, life jackets, built-in bait well. No Rot, \$350.00 Underhill, 946-8390.

59 Cushman Eagle (Unassembled). new paint, rebuilt engine, good tires. Sell or swap for 14" mag style steel wheels to fit Cougar. Underhill, 946-8390.

Pure Sable Pekingese at stud—"Tu Cheng Tzu of Helo". International championship blood line, \$75 or pick of litter. Underhill, 946-8390.

Siamese kittens, 7 wks old, weaned, housebroken, reasonably priced. Jeff Vyner, Ext 3241 (no home phone).

New Firestone 6.70-15, 4-ply nylon white-wall tire. J. Whiteley, 946-3804 after 6.

Small platform rocker, turquoise, perfect cond. \$20; Caramel colored recliner, needs partial recovering, \$10; Silver-tone TV about 10 yrs old, works part of the time, \$5. Silver-tone portable phonograph/radio-radio doesn't work; \$10. 946-6870 after 6 and weekends.

Sailboats for sale or rent: 13'9" Scorpion board-boat, 15'3" Demon centerboard sloop. Bob Ward, 591-2182.

Maple desk, 7 drawers, 42"W, 30"H, 20"D. Excelnt cond, Ed Latier, 534-2756.

14 ft. fiber glass w/2 baitwells, 35 hp electric start Evinrude, big wheel trailer. Excelnt fishing rig. \$375. Donald L. Boydston, HU 6-0495.

Zenith and Heathkit B&W console walnut TVs. Good cond. 1 captain's desk, antiques, red, \$20. R. Talbert, 643-9206.

8mm movie camera, 3 lens, (wide angle, telephoto, and conventional). Turret model. Light bar and light meter included. \$40. Like new. Bill Whipkey, HU 2-7012.

Polaroid camera 250 w/flash attachment. Ann Hardeman, GR 1-4776.

Small red Dachshund puppies. AKC registered; 8 wks; wormed. One Male, one female, \$75. ea. John Copeland, 932-2708.

Aspen Snow Ski Trip—The newly formed Clear Lake Ski Club is planning a ski vacation for Jan 19-27, 1968. Travel and lodge reservations are being made now. For info call Jay M. Lewallen, ext. 3581.

WANTED

Model airplane ignition engines and parts. Also magazines: *Flying Aces*, *Air Trails*, *Model Airplane News*, etc. A. C. Copeland, Jr., 944-3104.

Trade girls 26" Schwinn bike, good cond, for boys bike in similar cond. J. McCown, GR 1-0716.

Twin size mattress and springs. Must be in good cond. T. Sampsel, GR 1-0172.

Ride urgently needed from 409 Perkins Ave., League City, to Bldg 15, 8:30. Bertrand Thomasee, 932-3997.

Used dining room suit w/6 chairs or more. Used Stingray boys bike. Bob Hymer, MI 9-0416 after 6.

Ride wanted to Dallas, 1 or 2 wkends/mo. Share car expenses. Lv Fri or Sat; ret Sun. Send phone No. to: E. M. Smith, Gen Del., Webster, Tex.

NASA secretary seeks outside typing in home. Please call V. Morris, Ext. 5271 (no home phone).

FOUND

The following items were found on October 14 during the MSC Picnic:

1 transistor radio, 1 new child's sweater (still packaged), 1 man's wrist watch, 1 Boy Scout cap, 1 comb, and 1 child's red tennis shoe. Call Mary Dunn, ext. 3941. Must be able to identify articles.

Distributive Pulchritude



SOMETIMES CASHIER — Clear Creek high school senior Becky Ewers spends three hours a day five days a week as a cashier in the MSC Federal Credit Union under the school's distributive education program. Becky is president of the DE class and a member of the student council. She plans to major in sociology at Texas Woman's University. The Credit Union plans to support the DE program by providing employment for young men and women in the future.

MSC Judo Club Joins Gulf Coast Judo League

The MSC Judo Club recently affiliated with the Gulf Coast YMCA Judo League, composed of ten clubs located between Galveston and Conroe. The league was formed to promote

judo as a competitive sport through the YMCAs and to develop a standard promotional system and organization for members' mutual benefit.

The league holds a monthly judo match or clinic at one of the club dojos, and will be affiliated with the AAU and the Armed Forces Judo Association, thus allowing members to compete nationally and at sanctioned events.

League technical director is Jim Giles, Manfred "Dutch" von Ehrenfried is president; John Llewellyn is vice president; and Dick Stachurski is secretary.

Each club will have a representative on the League Board of Governors.

A match was held October 7 at Galveston, with the next match scheduled November 4 at the East End YMCA.

In the Galveston match junior division the Karl Geis Judo club placed first, the Conroe Judo Club second, and the American Judo Dojang third. In the senior division: Karl Geis Judo Club first, American Judo Dojang second, and Galveston YMCA third.

Fourth degree Black Belt holder Phil Porter of the AFJA Central Office October 16 conducted a judo clinic at the Clear Lake City Recreation Center at which four clubs were represented. New ideas on training methods and techniques were covered in the clinic.

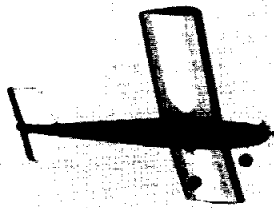
The MSC Judo Club Tuesday began the second women's self-defense course. The Club has contributed \$25 from this activity toward the Edward White Memorial Youth Center fund.

Gone to the Prairie Dogs



TAKE COVER, FELLAS!—There aren't really prairie dogs on the moon (we hope), but the comparison between lunar soil as seen by Surveyor V and the dredgings of *cynomys Ludouiciamus* (prairie dog) near Flagstaff, Ariz. was too much of a temptation for a photo editor. Lunar geologists see some similarities between the dent left by Surveyor's footpad and the spoilbank thrown up by a prairie dog's claws.

Flight Line in Miniature



SPOTLANDING MEET—Gusty winds did not hinder members of the MSC Radio Control Club from holding a spotlanding contest October 8 on the Antenna Test Range. Each pilot tries to land his plane as close to a mark as possible, and a judge paces off the distance. The nearest two out of three distances of each competitor are averaged for a final score. At left John Kiker ground launches RCC President Bill McCarty's Falcon 56. In the center photo,

the Falcon glides toward the mark. The airplane has a 56-inch wingspan, full-proportional rudders, elevator and throttle controls, and weighs four pounds. McCarty won the competition with a low average from the mark of 8½ paces. At right, spectators and competitors mingle among the fuel cans, wingtips and radio transmitters. (Photos by Tim Brown)

NASA Headquarters Assignment Shuffled

NASA last week announced a number of key personnel changes, effective immediately, in the Office of Space Science and Applications and Office of Manned Space Flight.

Dr. John Naugle is the new Associate Administrator for Space Science and Applications filling the spot left vacant by Dr. Homer E. Newell's assignment as NASA Associate Administrator October 1. Dr. Naugle has been Deputy Associate Administrator (Sciences), which is the Chief Scientist position in OSSA.

Oran W. Nicks has been named OSSA Deputy Associate Administrator, a post recently made vacant with the appointment of Edgar M. Cortright to Office of Manned Space Flight as Deputy Associate Administrator.

Nicks has been Director of the Voyager Program as well as Acting Director, Lunar and Planetary Programs for OSSA. As such he has been in overall management of such programs as Ranger, Surveyor, Lunar Orbiter and Mariner.

George Hage, OSSA Deputy Associate Administrator (Engineering) has been named Deputy Director (Engineering) of the Apollo Program, Office of Manned Space Flight. He will be responsible to Maj. Gen. Samuel C. Phillips, Director of the Apollo Program for technical and engineering aspects of Apollo. Before joining NASA last July, Hage managed the highly successful Lunar Orbiter program for The Boeing Co. and before that directed engineering functions necessary to activate the Minuteman missile assembly and test complex at Cape Kennedy.

Donald P. Hearth, Voyager Program Manager, takes over the post vacated by Nicks as the new Director of Lunar and Planetary Programs. Before assuming his duties as Voyager Program Manager in 1964,

Solar Seminar Held

MSC and the University of Houston Wednesday jointly presented a solar physics seminar on "Primary Cosmic Ray Electrons and Their Relation with Various Astrophysical Phenomena," by Satya Dev Verma, research associate at the Enrico Fermi Institute of the University of Chicago. The seminar was held in the Bldg 30 auditorium.

Mariner IV Switches Guide Stars in Tests

For the first time since 1964 the long-lived Mariner IV Mars probe is cruising through space without pointing at a guide star to stabilize itself.

Mariner was commanded to break its lock on a guide star, thereby reactivating certain

equipment for the first time in 34 months. Mariner IV was launched toward Mars in November 1964.

The Mariner IV exercises were conducted to demonstrate techniques for controlling a sister spacecraft, Mariner V, in case its star sensor should fail as it flew near the planet Venus. Mariner V was launched last June 14 and passed within 2,500 miles of Venus on October 19.

Mariner IV has cruised more than 1.3 billion miles in its orbit of the Sun. Its sensor has been locked on an unknown star to control attitude through its long journey.

Engineers at NASA's Jet Propulsion Laboratory, Pasadena, Calif., on October 5 commanded Mariner IV to break lock on that star and locate and lock onto its intended guide star, Canopus. After adjusting its star seeker, Mariner promptly located and locked on to Canopus.

Another series of commands turned off the Canopus sensor and turned on the spacecraft's inertial control gyros to maintain spacecraft stabilization. This was the first use of the gyros since December 1964.

With the gyros controlling the spacecraft, it was possible to orient Mariner IV so that its high-gain antenna could be pointed toward Earth.

AFGE Meets Nov. 13

Lodge 2284 American Federation of Government Employees November 13 will hold its monthly meeting in the Bldg 30 auditorium at 5 pm. Non-Lodge members are invited to attend to learn the functions and objectives of a government employees' union.

Lodge officers available to answer questions about AFGE activities are President Alma Hurlbert, First Vice President William C. Scott, Second Vice President Billie D. Rowell, Chief Steward Herman P. Fisher, Secretary Jean Stone and Treasurer Norbert Philippi.

Charles A. Lindbergh completed the first solo non-stop trans-Atlantic flight, New York to Paris. During the 48-hour flight,



MAY 21, 1927

Lindbergh had only one communication with the ground.



This came as he passed over a fleet of fishing boats on the second morning. Lindbergh descended to an altitude of 50 feet and shouted for directions. The fisherman returned only a blank stare.

Data on Apollo crew and system status must come in an uninterrupted manner. Voice and television transmissions must reach the earth from 250,000 miles away. This requires a system more sophisticated than ever used before. Lunar mission communications are all important. You really can't hear anyone shouting from the moon!



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