the astrogram

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MAR. 1, 1974

National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

"Mr. Dixon" the real educator

Actor and educator Lloyd Haynes – "Mr. Dixon" of the television series "Room 222" – visited Ames on Tuesday, February 12 with a group of 14 minority high school students who belong to a 9-month-old program designed and originated by Haynes entitled Education Through Aviation (ETA).

The group and Haynes flew from Los Angeles and were greated by Colonel Alfred M. Worden, Systems Studies Division Chief, who was their host for the day. They arrived at noon and headed for the Ames cafeteria to eat and compile their afternoon schedule. After lunch they proceeded to the Systems Studies conference room to see a film on Apollo 15. Colonel Worden discussed Apollo 15 preparations and requirements from an astronaut's point of view.

Other spokesmen were also present: Willie White, Jr., Chief of EEO, accompanied by his assistant Ava Johnson, presented information on the different types of programs at Ames designed to

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Windmill study

Configured like half of a kitchen mixer, a new windmill at Langley Research Center may one day supply auxiliary power for the average house power that is both inexpensive and nonpolluting.

Called a vertical axis windmill, the device resembles half an egg beater and it's based on a principle that was first patented in 1927. Two blades, curved like hunting hows, are attached at top and bottom to a vertical shaft. This circular configuration is atop a simple gear system and a generator that converts wind power into electrical energy.

The Langley windmill is located atop a two-story building about 50 ft. above the ground.

Langley's project follows a study made last summer by faculty researchers from West Virginia University. They came to Langley looking for ideas on how to adapt space technology to the problems of rural housing in Appalachia. Many possibilities were considered, including some kind of wind power energy source.

Joint venture

The fourth spacecraft in a joint Italian-United States cooperation program to investigate the upper atmosphere in the equatorial region was launched aboard a scout rocket from an Indian Ocean platform three miles off the coast of Kenya, Africa, around February 18.

The Italian-built spacecraft, San Marco C-2, carries an Italian accelerometer to measure atmospheric drag, and two U. S. mass spectrometers to study neutral concentrating composition and temperatures from 228 km (137 miles) above the equator (perigee) to 850 km (510 miles) above the equator. It will circle Earth every 95 minutes at an inclination of 2.9 degrees to the equator.

The San Marco project was jointly managed by the Centro Ricerche Aerospaziali (CRA) dell' Universita Degli Studi di Rp Roma (Aerospace Research Center of the University of Rome) Italy, and NASA's Goddard Space Flight Center.

Reed named Ames' Energy Manager

Verlin D. Reed has recently been appointed Energy Manager for Ames by Center Director Dr. Hans Mark. Reed will assume the responsibility from Robert E. Eddy for the direction of the Center's energy conservation program. He will also have cognizance over all Center activities related to contracts for the supplying of energy to the Center; he will integrate the activities of all elements of the Center in energy contract negotiations and he will serve as technical monitor for

all energy contracts unless some other individual is explicitly identified.

Reed, a native of Boswell, Indianna, graduated from Purdue University in aeronautical engineering. He served with the USAF as a Bomber Pilot during World War II. In 1948 Reed came to Ames when it was part of NACA. He worked in the 12-foot wind tunnel as an aeronautical engineer until 1956 when he transferred to the 11-foot Transonic Wind Tunnel Branch of the Unitary Plan Wind Tunnels. In 1963 he became Chief of the Experimental Investigations Branch within the Aeronautics Division which contained the consolidation of eight wind tunnels at Ames.

In October of 1971 Reed was named to work with the NASA Military Aircraft Program Office. The immediate objective of his new assignment was to assist the U.S. Air Force in the development of the new B-1 supersonic strategic aircraft. As the NASA B-1 Systems Program Office (SPO) representa-

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Report on Pioneer 10 & 11

The Jupiter Pioneers are continuing to extend outward the limits of explored space.

Pioneer 10 now is 60 million kilometers (37 million miles) beyond Jupiter, and Pioneer 11 is completing the second trip through the Asteroid Belt.

Round trip communications time from the Earth to Pioneer 10 and back, at the speed of light (fastest speed possible) has now increased to an hour and 42 minutes.

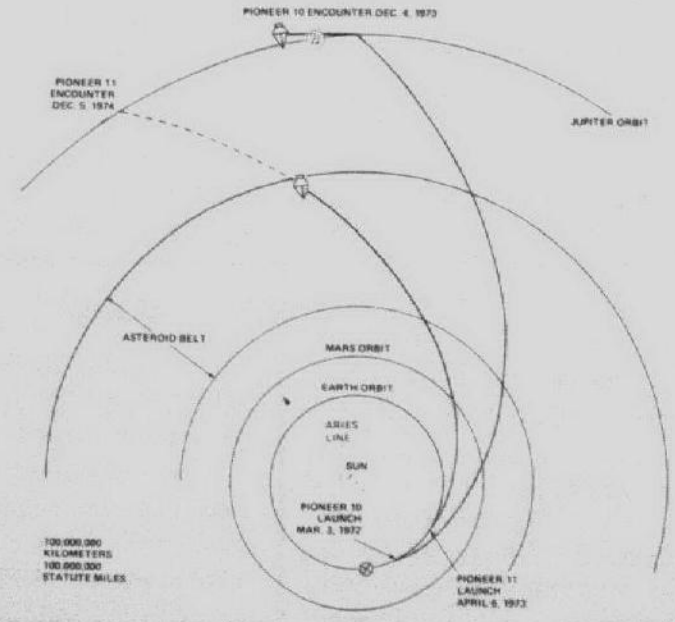
On Pioneer 11, all systems continue to run well. Pioneer 11 will reach Jupiter next December 5, and may then go on to Saturn.

The Pioneer 10 meteoroid detector has experienced two hits since leaving Jupiter. This suggests about the same concentration of the tiny, high-velocity dust particles beyond Jupiter as Pioneer found between the outer edge of the Asteroid Belt and Jupiter.

Pioneer 10 continues to function well. The minor changes in spacecraft systems caused by passage through Jupiter's intense radiation belts now have

(Continued on Page 3)

PIONEER 10 AND 11 POSITIONS FEBRUARY 15, 1974



(Dates GMT)

Minority recruiting

The present NASA budget presupposes a stabilization of the Agency's Civil Service work force and should offer the opportunity for the hiring of a limited number of June college graduates. Anticipating this opportunity, Ames has been given the job of college recruiting for both the Center and in the far western states, for NASA as a whole and will be responsible for covering universities and colleges in this area. Recruiting efforts will concentrate on identifying candidates for entry-level positions in Engineering, selected Physical and Life Sciences, and Administration. A major facet of the recruiting drive will be to develop sources of qualified minority and women professionals. The Ames recruiting team will be composed of personnel representing all Center organizations and representative professional vocations.

Additional information concerning this college recruiting activity may be obtained by contacting Armando Lopez, Extension 5568, or Jeanette Remington, Extension 5609.

Pioneer 10 team honored

The NASA Ames-TRW Systems Pioneer 10 Team has been selected to receive the Nelson P. Jackson Aerospace Award for 1974 by the National Space Club. The award will be presented at the Club's Annual Goddard Memorial Dinner which will take place on March 8 at the Washington Hilton Hotel in Washington, D. C. Charles F. Hall, Project Pioneer Manager, will accept the award for the NASA Ames Pioneer 10 Team.

Fellow employees share energy tips

The "Energy Crisis" has affected each of us in at least one way or another recently. It has become increasingly difficult to obtain gasoline without waiting in long lines on either an "even" or an "odd" day. It is time for each of us to do our part in helping to alleviate the "energy crunch."

Various buildings were visited last week by representatives from the "Astrogram" in an effort to question at random employees on what they are personally doing to help conserve energy. Here are a few ideas from fellow Ames employees:

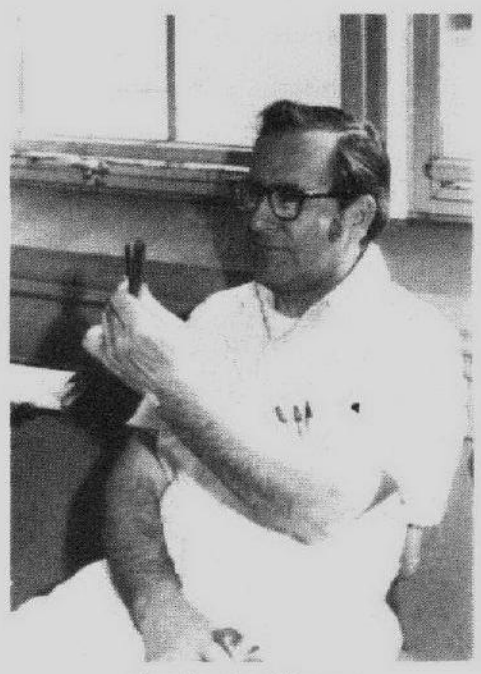
Nadine Kuhlmann, Personnel Manager, states, "I'm now riding to and from work with my Division Chief two days a week. My husband and I are not traveling as far as we used to on weekends. We are turning down the lights at home. And

Nadine Kuhlmann

each time I go to the grocery store I can't help but think tat the open freezers in all the grocery stores throughout the country are really misused when it comes to conservation. There must be a way to install covers for those freezers and cut down on the energy needed to cool the food and warm the store!"

Nancy Bouchet

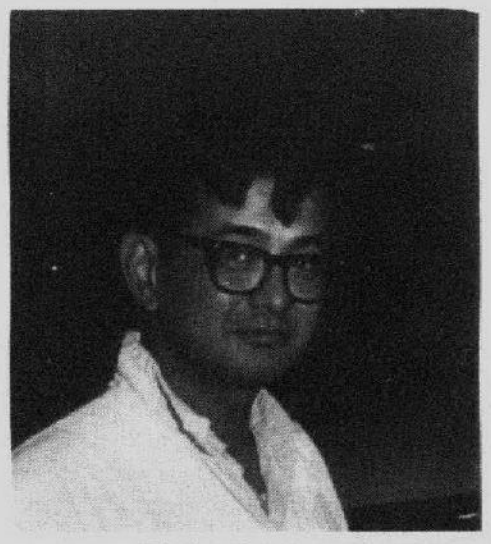
Nancy Bouchet, Ames Receptionist, claims, "We've turned down our heat at home and I now ride to work in a small car pool. I am definitely driving less and when I have an errand to do I wait until I have several errands so I can make the trip once. I use a quilt instead of an electric blanket and I am reading more instead of watching T.V. and finally, I don't cook--- somebody else does!"



Louis J. Flores

Louis J. Flores, a model maker, states, "We have cut down on the number of lights we use at home. We run our dishwasher only once a day at the most and rarely use the self-cleaning oven. (Strangely enough, however, our PG&E bill is higher than ever!) My wife is riding the bus to work whereas she used to drive."

Steven Belsley, Deputy Director of Development, says, "At home during the day we keep our furnace at 68 degrees; in the evening we turn it down to 65 degrees. I am of course using the car as little as possible and if I could figure out which way the ball is going to counce I'd buy a new car. I drive a nine year old Chevy now. I may even convert to a VW if I can find one reasonable priced. I think the important thing is for us all to just minimize."



Richard Lee

Richard Lee of Aircraft Services says, "I drive less now and I come to work with one other employee (since we come in a pick-up). I use the fireplace more than the furnace.

Lee Stoller, Chief of Technical Services Division, states, "I'm in a car pool with 3.2 people! In my office here at work I am saving 720

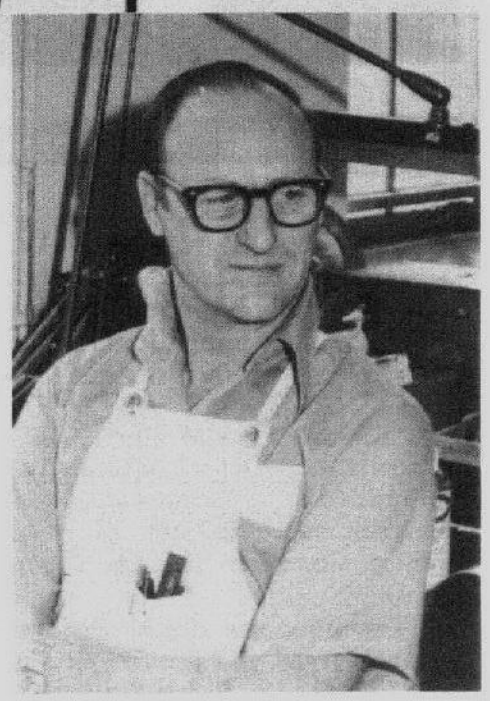
Lee Stollar

watts! At home we are going to build a clothes line and scrap our dryer. It's a start anyway! (Is that enough?)!

Fred Styles

Fred Styles, Staff Assistant to the Deputy Director, answers, "My family is walking a lot more than ever before. We walk to the store frequently to get groceries and also to the library etc. We have naturally turned down the heat and keep more lights off. The children now vie for the opportunity to be "Energy Conservation Manager of the Week," which runs a close second to "Table Setter" and "Table Clearer" job slots! Energy Conservation Manager tasks include keeping as few lights in the house on an possible, unplugging the fish tank filter as often as possible and turning the hamster cage heater lower or off in some cases."

Robert Tibbets, a model maker, claims, "I have been riding my bicycle quite a bit. At home we try to follow the various suggested recommendations we read in the news-



Robert Tibbetts

paper."

Three more model makers from the Ames machine shop have some energy-saving suggestions.:

Raymond R. Thomma states, "We do as much as we can at home to help conserve energy. I really do think there is a crisis. I spend a lot of time in the Feather River canyon area and have spoken with PG&E people in that area. They tell me there is really an energy shortage. And last October the state of Washington was hit pretty hard. We were up there then and there was quite of lot of cut back in highway lighting for example. Here in the shop we've cut off 27 out of 40 some odd overhead light fixtures."

Edward Gan states, I"I have always encouraged my children to turn off the lights when they leave a room. I like to ski a lot and now instead of driving my car to the mountains I go by bus---usually with the Ames Ski Club group. I tried to join a car pool through the computer but there is no one close to my home who works my swing shirt hours."

Conclusion: Everyone agrees that we must all work together to cut back and avoid an even tighter energy crisis! Many employees are already sick and tired of hearing the phrase "energy crisis" and since this is the case it is time for action and a true energy conservation push!

astrogram

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Editor . . . . . Meredith Moore
Reporters . . . . . NASA Employees

Deadline for contributions:
Thursday between publication dates

ETA GROUP . . . poses with Colonel Alfred M. Worden and an Ames Earth Resource Survey Aircraft.

The real educator

(Continued from Page 1)

help many students gain experience in work, responsibility and education. C. A. Syvertson, Ames' Deputy Director, also gave a brief summary of the overall work done at Ames.

The highlight of the day was a tour of Ames facilities by Ames' contract tour guide David Wilson. The students were especially interested in seeing the aircraft that Ames is currently working with.

Haynes' ETA program is essentially designed to motivate minority high school students to learn the value of education; the motivation is gained by means of aviation instruction. Students enroll in the class by contacting their high school career centers. Most high school districts within Los Angeles county have information on ETA and will give anywhere from 2-1/2 to 5 units of high school class credit to an enrollee. The class is 12 weeks long and meets 2 days a week at Santa Monica Airport for ground school instruction and perhaps one hour of flying time.

The only requirement for ETA enrollment is a willingness to learn and a steady attendance. If a student is absent for 3 days or more he/she is eligible for termination.

The ETA program depends on private citizens volunteering their own time and private planes to take the students flying. Thus far Haynes has had a great deal of cooperation from the surrounding county residents.

The class that visited Ames on Tuesday is the third ETA class. Nearly every one of the 14 students currently enrolled has experienced an improvement in his/her class grades at school.

Haynes has found that aviation is an intriguing area to the youth of today. It seems to stimulate their minds and promote an eagerness to learn. Aerospace is here to stay and Haynes states, "Our goal is to have aerospace education in every high school."

Aerospace motivates students to learn. It turns students on and teaches them that acquired knowledge and theory may be practically applied to the real world. Haynes feels strongly that the sooner students are "turned on" to education (through aviation!) the more chance educators will have to keep those youths off the streets and in the classrooms of high schools, junior colleges, colleges and universities.

Reed

(Continued from Page 1)

tive Reed was the primary contact for NASA personnel who had a "need to know" about any elements of the B-1 program. He coordinated all NASA activities in support of the B-1 program. Reed worked full time in the B-1 SPO office at Rockwell International Aircraft plant in Los Angeles. He recently returned to the Experimental Investigations Branch.

Reed says he is pleased to have been named Ames' Energy Manager. In a recent interview he stated, "I am looking forward to the opportunity of obtaining solutions to energy shortages and familiarizing myself and the Center to the regulations being established to cope with these shortages prior to their becoming a crisis and a restriction to Center functions and scientific program."

Pioneer 10 & 11

(Continued from Page 1)

either disappeared, or are having no effect on performance. One of Pioneer 10's cosmic ray instruments suffered some loss of functions in the radiation belt, and experimenters now are assessing the seriousness of the problem with this instrument.

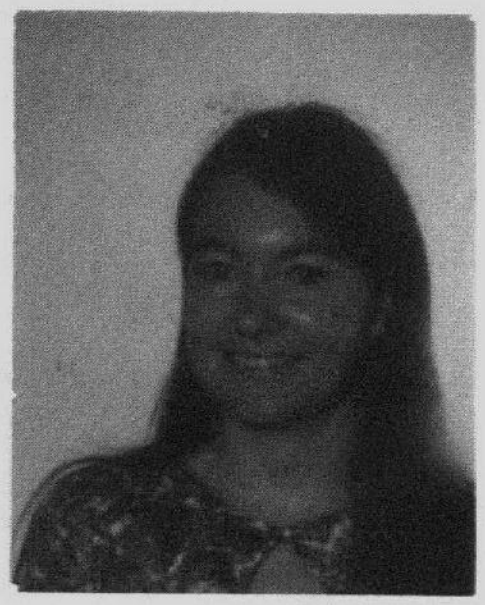
Pioneer controllers now are taking measures to anticipate possible losses in sun-sensor accuracy. Currently, as seen from Pioneer 10, the Sun and the Earth are almost on a line.

On February 18, the Earth as seen from Pioneer 10 passed directly behind the Sun. No special experiments were planned for this passage.

Pioneer 11 has so far experienced eight hits on its meteroid detector by high-velocity meteoroids in the Asteroid Belt.

Pioneer 11 now is 410 million miles from the Earth, and is traveling along its billion kilometer flight path at 36,000 mph.

Janet Carson-Budget Analyst



For the past five years the state of California has had a surplus of well qualified credentialed teachers who have never taught because of the limited number of positions available in both the primary and the secondary grade levels. Though Budget Analyst Janet Carson is one of many Ames employees who fall into this teacher category, she is a person who has found a great deal of satisfaction in her work here at Ames for nearly three years.

In a brief interview two weeks ago, Janet stated, "Though I was trained and schooled to be a teacher, the teaching field originally appealed to me because of the variety it offered. I have found that 'variety' ingredient in my present work at Ames and I thoroughly enjoy it."

In addition to wanting variety in a job, Janet personally requires that a job allows her to learn and grow. Her current budget analyst work fulfills these requirements.

There is a constant learning process involved as she takes on more and more responsibility.

Janet works basically with R&D (Research and Development) operations. She keeps records of funds which come into the Center and those funds that Ames sends to other Centers. She also handles reimbursable funds that Ames receives from other government and non-government agencies. All job order requests are routed through Janet's office. She does some complement tracking. Janet is currently involved with putting together Program Operating Plans (POPs), and imputting annual budget information into computer reports.

To hasten the learning process Janet is usually enrolled in at least one evening class. This current school semester is the first semester that she is not diving into some business or art class. She felt she needed a rest! Janet and her husband, however, are keeping busy by remodeling the kitchen in their new 18-year old home in Santa Clara which they bought a year and a half ago. Janet enjoys projects such as these – especially once they are completed! She says, "It may look as though the end will never come but eventually it does and then all the disruption and confusion seem well worth the effort. Everyone should replace his kitchen sink and tile at least once (if needed)! It's really something else! You'll never do it again, but you'll be glad you've had the experience."

Janet and her husband met in their home town of Lodi, California. Though Janet was born in San Jose, she grew up in Lodi and went to San Joaquin Delta Junior College where she received her AA degree in 1-1/2 years. She transferred to Sacramento State for one semester and a summer. She then married her husband and moved to Fresno where she attended Fresno State University and graduated after one year with a BA in Social Science and a provisional teaching credential. By carrying a full load of units (18 or so) each semester and taking evening and summer school classes, Janet managed to graduate from college in 3 years rather than the normal 4 years.

With Janet's husband in the armed forces, the couple moved to Texas where Janet worked at Fort Hood and took graduate classes. When they moved back to California, Janet received her life primary teaching credential from San Jose State and then came to work at Ames.

Janet has a number of outside interests which are basically centered around the arts. She enjoys crafts such as needlepoint, embroidery, sewing, crewel, quilting, knitting, tatting, and crocheting. In addition, she plays the piano, does some painting, and practices interior design with the results of her craft efforts! Together, Janet and her husband enjoy camping and traveling. Locally, they especially like to camp in Yosemite. They have traveled extensively within the United States with concentration on the western and mid-western states.

Janet is a talented and enthusiastic young woman employee who enjoys an active life and a challenging career at Ames.

New Space film

A new film that takes a different look at how man has benefited from the billions spent in the space program is now available without charge for use by service organizations, schools, and other community groups.

The 22-minute color film, "A Giant Step in Communications," tells the story of dedicated, but virtually unrecognized, ground-support personnel and the communications and control technologies they perfected to protect astronauts in space and bring maximum scientific value from each mission.

Produced for Philco-Ford Corporation, the movie credits the space program with developing new methods and systems for communicating, for handling and analyzing information, and for responding instantly to fast changing or difficult situations.

Prints of the 16-mm film, "A Giant Step in Communications," can be borrowed by writing to Film Library, Ford Motor Company, The American Rd., Dearborn, Mich. 48121.

Members of the Ames Joggernaut Club pose with their plaque which notes how many miles (i.e., 5,000, 1,000, 500 or 250) each member has run since December 1, 1972. The plaque will be on display in the Ames Cafeteria.

Runners pictured and their respective mile category are (front row, left to right): Paul Sebesta, 1,000; Ted Passeau, 1,000; Angel F. Melendez, 1,000; Jerry Barrack, 1,000; Bruce Ganzler, 250; Dora Willoughby, 250; and Art Mandell, 1,000. (Back row, l. to r.): Roger Mueller, new member; Everett Palmer, 250; David Colburn, 250; Al Bakke, 250; Roger Hedlund, 500; Bob McCracken, 1,000; Jerry Christian, 500; Ralph Donaldson, 500; Tim Woodruff, 1000; Bruce Castle, 500; and Vito Daloia, 1,000. (Not pictured): George Lenahan, 1,000; Thomas M. Carson, 500; Donn E. Kirk, 500; Don Kornreich, 500; Frank H. Nichols, Jr., 500; Roy M. Wakefield, 500; Dennis S. Matsuhiro, 500; Gerald N. Malcom, 250; Ronald J. Hruby, 250; Gerd Kanning, 250; Dick Willoughby, 250; David S. Colburn, 250; and new members Herb Finger, Alan Herald, Bruce Kelley, Ron Mancini, and Charles Stinmetz.

The Joggernauts welcome new members. A token membership fee is $1 per year. Contact Jerry Barrack, Joggernaut President, if you have questions. Remember Jogging can be fun. You may jog at your leisure and have no one to depend on except yourself. It's an invigorating exercise.

AIAA-ARC Galileo Memorial Scholarship

Ames Research Center and the San Francisco Section of the American Institute of Aeronautics and Astronautics are sponsoring a scholarship program as a memorial to the men who perished in the April 12, 1973, accident of "Galileo I."

Roy Adkins, Northrop Corp.
Frank J. Brasmer, NASA Ames
Herbert V. Cross, NASA Ames
Gaeton P. Faraone, NASA Ames
Ernest Forslow, Teledyne
James F. Remington, NASA Ames
James P. Riley, NASA Ames
Clayton Robinson, Northrop Corp.
Bryce Sorenson, Teledyne
Phillip R. Wilcox, NASA Ames
John W. Yusken, NASA Ames

At least one $500 scholarship will be awarded annually to a high school senior seeking a career in engineering, mathematics, or the physical or natural sciences. Over 60 applications have been received for the first scholarship to be awarded in May of this year.

The AIAA San Francisco Section is currently conducting a drive to raise a $10,000 trust fund to help support the scholarship program. Tax deductible contributions to the AIAA/ARC Galileo Scholarship Fund may be mailed to Mr. John MacKay, Mail Stop 233-10.

Fellowship & share

Each Tuesday (1145-1230) we gather in conference room 102 of building 237. We meet in order to fellowship and to share with one another concerning real life situations. For us, answers to problems that we all face have been revealed to us through Jesus Christ. We want everyone to be included in this. Come and bring your lunch. Relax and learn with us. If you have questions regarding these meetings, do not hesitate to call Dewey Hodges, coordinator, at 5835 or 946-0349 (evenings).

Update your file

Employees are reminded to be certain that their qualifications, special training, and education achievements are a matter of record in their Official Personnel Folder in the Records and Reports Branch. In addition, employees who are presently participating or have participated in activities, such as Federal Executive Boards, Federal Executive Associations, Federal Business Associations, or other interagency service and voluntary community services should periodically supplement their Official Personnel Folder to assure that these activities are given proper recognition in evaluating employee performance, promotion potential, and qualifications.

Supplemental information should be forwarded to the Records and Reports Branch in the form of a SF 172 to Mail Stop 241-5.

Speakers Bureau

Guy Ferry (Planetary Science and Applications Branch) presented a Skylab program for the members of the Martinez Rotary at their meeting on February 6.

Lt. Col. Alfred Worden (Chief, Systems Studies Division) addressed the students in the Ames/Foothill Junior College District's Work Engagement Program on February 19. He talked about both his Apollo 15 experiences and the future of NASA.

George Holden (Chief, Simulation Experiments Branch) updated the members of the Cupertino Rotary on the latest accomplishments of NASA at the club's meeting on February 27.

Eugene Jesse (Pioneer Project) discussed the Pioneer spacecraft and gave an overview of the Pioneer-Jupiter missions at an open lecture on February 28 at San Francisco State University. The lecture was sponsored by the student engineering group at the university.

Jim Rogers (Flight Operations Branch) traveled to Stockton on February 25 to address the Navy League of Stockton. Jim talked to the group about the Skylab program.

On February 24 Barbara Busch (Educational Programs Office) talked about NASA and Scouting at a Cub Scout Blue and Gold Dinner in Sunnyvale. On February 5 Barbara talked to the Sonoma County Council of the Navy League at its meeting in Santa Rosa. Her presentation, which dealt with Ames' accomplishments in research, was delivered under somewhat unusual circumstances – a wind storm caused a power failure in Santa Rosa just moments before Barbara's speech, so she made the presentation by candlelight!

John Wolfe (Pioneer Project Scientist and Chief, Space Physics Branch) will be the banquet speaker at the East Bay Astronomical Society's annual meeting on March 9, in the Oakland area. John will discuss the scientific results of the Pioneer-Jupiter 10 mission.

Jeanette Remington (Personnel Division) talked to the business English class of Monta Vista High School on February 21 about Civil Service employment and careers in NASA.

BOWLING

Need good exercise during the summer vacation? Well, here's your chance.

The Summer League Bowling will be held on Tuesday evenings beginning at 6:15 p.m. with warm ups. A meeting to select team captains will be held March 5 during the noon hour in the cafeteria.

Additional information may be obtained by contacting Billy Allan, ext. 5674.

Want ads

Transportation

1971 Camero R/S, 350 V8 2 br, 4 sp, AM/FM 8 trk, tires OK, other extras. Recently tuned, clean car, not a hot rod. $2,400. 258-0962, Ruben.

Housing

WANTED: Woman to share 2-bedroom house, quiet area, Mt. View. Non-smoker. $90/mo. Call 948-2720, 10 a.m.-4 p.m.

Miscellaneous

FOR SALE: Stereo Amplifier, 100 watts, Heathkit, new $200, now $75. Hardly used. Go-Kart Deluxe Bonanza, McColough engine, sacrifice $75. 948-4678.

Used Flute, $90. Joel, 321-9407, 603 Middlefield Rd., near University Ave., Palo Alto.

DINETTE SET, 30x54 Formica table (incl. one leaf) and 6 chairs, $20. 259-6069.

Dining Set, white pedestal table with pecan top and 8 matching chairs, $300. 964-2170.

MISSING: Carousel Slide Projector, Eastman Kodak, Serial No. 160357, Ames Decal No. 42596. Anyone knowing its whereabouts please call Lea Dodge, Ext. 5355. Projector was kept in Room 118, Bldg. 202.

Special offer

The SAN JOSE COMMUNITY CONCERT ASSOCIATION extends the offer to you to join the association in its 1974-75 season. Concerts by Lili Kraus, world renowned pianist, the Royal Welsh Choir, the Festival Orchestra of Buenos Aires, and Six Stars of the Ballet will be presented. Memberships for the entire season cost $10.00 for adults, $5.00 for children. No single performance tickets are available. Contact Bob Reutter, 327-6463, or extension 5323; Dick Barnoski, 961-4967, or extension 5383, or Dave Brocker, 377-9345, or extension 5324, for tickets or more intormation. Don't miss this opportunity to attend these excellent concerts through the Community Concert Association, a volunteer, nonprofit organization.

Attention veterans

Veterans Affairs Counselors from DeAnza College will be at Ames on Tuesday, March 5 from 12 noon to 1 p.m. Employees who have questions concerning their veterans benefits may come to room 147 in building 241 (Training and Special Programs Branch).

"Thank you"

Dear Friends:

I want to thank all of you for the "Leaves" on the Money Tree that was given to me Friday, Feb. 1st. And I want you to know there were a *lot* of them. I have big plans for this tree.

Thank you so very much.

Helen Faber

the astrogram

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MAR. 15 1974

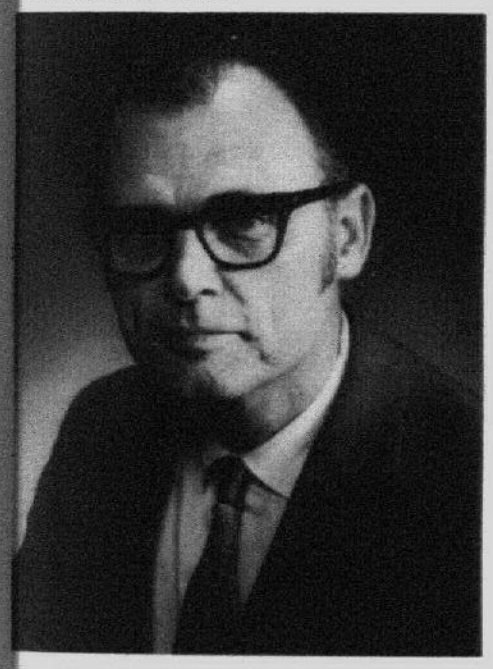
National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

Dr. Dean Chapman heads Astronautics

Dr. Dean Chapman, Chief of the Thermo- and Gas-Dynamics Division has been named Director of Astronautics at the Center.

He succeeds Mr. Glen Goodwin, who is retiring after 30 years service with the National Aeronautics and Space Administration.

In his new post, Dr. Chapman will administer organizations doing research in computational and experimental fluid mechanics, thermal protection, materials science, physical gas dynamics, and laser research; as well as in advanced chemical applications, earth science applications, airborne science, astrophysics, planetary science applications, space physics, and theoretical studies.



Dr. Chapman joined Ames as an aeronautical engineer in 1944 and has made fundamental contributions to the understanding of aerodynamic flow separation at supersonic speeds, to the effects of trailing edge bluntness on drag and lift, to atmosphere entry physics, and to tektite origin. Tektites are glassy objects found widely on Earth, the origin of which is an unsettled scientific subject. They are theorized to come from the moon, as a result of Dr. Chapman's work.

In 1952, he received the Lawrence Sperry Award of the Institute of Aeronautical Sciences for contributions to aeronautics. In 1959, he received a Rockefeller Public Service Award for a year of study at the University of Manchester, England, and Jodrell Bank. In 1963, he was awarded the NASA medal for Exceptional Scientific Achievement for his work on tektites, atmosphere entry physics, and space mechanics. In 1971, he received the H. Julian Allen Award of the Ames Research Center for his tektite work.

Dr. Chapman is author of numerous

(Continued on Page 3)

Reorganization of NASA

Dr. James C. Fletcher, Administrator of NASA, and Dr. George M. Low, Deputy Administrator, have announced a reorganization of the NASA Headquarters and named several senior officials to fill key positions in the new organization. The changes and appointments become effective March 15.

Dr. Rocco Petrone has been named Associate Administrator, replacing Dr. Homer E. Newell, who has retired. As Associate Administrator, Dr. Petrone will be responsible for the overall management of the Agency's research and development programs. He will direct the activities of the Headquarters program offices, including Manned Space Flight, Space Science, Applications, Aeronautics and Space Technology, and Tracking and Data Acquisition. These offices previously reported to the Administrator.

Dr. Petrone is currently Director of the Marshall Space Flight Center, Huntsville, Ala., and prior to that served as Apollo Program Director at NASA Headquarters. In addition to his duties as Associate Administrator, he will con-

(Continued on Page 3)

Water and soil may tell story

Dr. Melvin Silverman is a Research Scientist in the Life Detection Systems Branch. Dr. Silverman has recently been doing research in the probability of the past occurance of water on other planets, because it is improbable that life could ever evolve on a planet that never had water.

It is known from experience on Earth that rocks dissolve very slowly in water. However, running water will dissolve chemical elements from rocks over a long period of time. The water with its dissolved elements will begin to accumulate in the low places. If the water in the low places evaporates, chemical elements will be left behind as salt.

If, for example, scientists were to sample a dry basin and find that the material in that basin forms a salty solution, then they would conclude that there once could have been water in that basin. If no salty solution forms then they would conclude that there had been no water present.

Dr. Silverman found that basin soils contain more salt than soils from the sides of the valley or rocks from which soils develop.

Some photos taken by Mariner 9 of Mars show what looks like empty stream beds leading to basins.

Dr. Silverman actually measures the electrical conductivity of the soil water solutions. The higher the electrical conductivity the more salt there is present.

He also measures elements within solutions such as sodium, potassium, calcium, and magnesium. Dr. Silverman and his assistant, Elaine Munoz, have found that there is a strong association between the electrical conductivity and relatively high sodium and calcium in soils from the sloping valley basins. But there is poor correlation between the electrical conductivity and in sodium and calcium in solutions from rocks or the sloping walls of valleys. This may be a method of determining whether other planets such as Mars ever had water on them.

Ames awarded Area Emmy

The Governors Award

Richard R. Rector notified the Public Affairs Office on Wednesday, March 6, that the Governors Award will be presented to Ames "for its outstanding contributions to the Science of television technology for its work on Pioneer 10 and the Jupiter remote telecast, December 3, 1973."

Rector is President of The National Academy of Television Arts and Sciences' San Francisco Chapter.

Charles F. Hall, Pioneer Project Manager, will accept the award on behalf of the Pioneer 10 Team at a formal dinner on March 23 at the Mark Hopkins Hotel in San Francisco. The Area Award Program will be broadcast live on KTVU, Channel 2, from 8:00 to 9:30 p.m. that evening. Hall is expected to give a brief response citing contributions of the Pioneer Team, particularly on behalf of Dr. Thomas Gehrels, Principle Investigator for the Imaging Photopolarimeter Experiment on Pioneer 10.

So far as is known, Ames is the only center to have won a television emmy award. It acknowledges the technical feat of displaying in real time TV images of Jupiter last December 3.

The Board of Governors Awards for this Chapter Area Award Emmy must be for truly outstanding and unique accomplishments.

Message from the Men of Jupiter

" The Director
Pioneer 10 Project
National Aeronautics and Space Administration
Houston
Texas
U.S.A.

"Dear Sir:

" I was more than a little surprised, on 3rd December, to read in the Newspapers that something called Pioneer X was hoping, that night, to navigate extremely close to us in JUPITER. This additional collision hazard during our crossing of the, already Tanker-crowded, Oman Sea occasioned me sufficient anxiety for me to instruct my Officers of the Watch to call me should Pioneer approach to within 81,000 miles. In the event, however, nothing was sighted and I wondered whether perhaps you had been misinformed about our position. At midnight on 3rd/4th December, JUPITER was at zero altitude in position 25°N, 57½°E on a course of 145°, speed 18.

" This failure to rendezvous must, I fear, be attributed to a breakdown in communications as we had no idea that you were looking for us. Nor did we realizethat you were curious about our appearance and make up and about our life and habits on board. On at least one of the points raised by the Newspapers I can put your mind immediately at rest. I gather that you are puzzled by the red glow which emanates from us. This is caused by our red, all round, anti-collision light which is permanently showing from the top of our mast.

" As enclosures to this letter, I have attached a couple of photos which, on the one hand, show an overall impression of our little world and, on the other, show the life species on board.

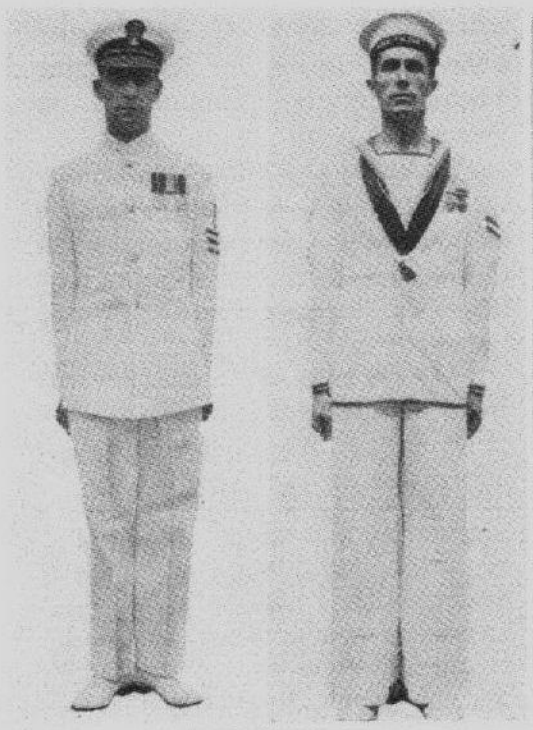
" Our colony is a male one and one might be forgiven for drawing an analogy with a Bee Hive. Unfortunately, however, there are no females on board and the Queen Bee – like person around whom all the others seem to buzz is, in fact, the Captain. The reproductive arrangements and the perpetuation of the species are not dissimilar to those of the Salmon and Sea Trout. The inhabitants of JUPITER lay their' eggs up the great rivers and estuaries and then go off into the oceans for a 9 month gestation period. JUPITER's favourite rivers are the Tamar and the Solent and most of our young have been hatched out in the vicinity of their' banks and upper reaches. Occasionally, the vagaries of sea life force JUPITER to take refuge up unfamiliar rivers and even though (or some would say because) several thousand miles away from the home river, spontaneous mating has been known to take place.

" After a couple of years in JUPITER individual inhabitants are usually pretty burnt out and replacements are drawn from parent colonies up the Rivers Tamar and Solent. In this manner, the population remains stable at two hundred and fifty odd.

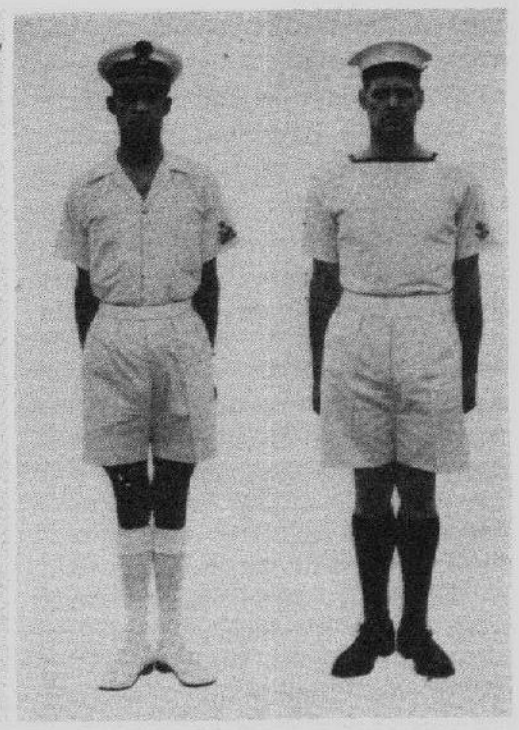
" I hope that my comments will help to clarify the situation for you and I would suggest that, if you have any other queries about JUPITER, you should write to me. At the price of an Airmail stamp, this may be a competitively economic way of getting the information and I hope that you have not spent much more than this amount in pursuing the alternative avenue of Pioneer 10.

Yours sincerely,
Commander J.P. Gunning
Royal Navy"

"HMS Jupiter"

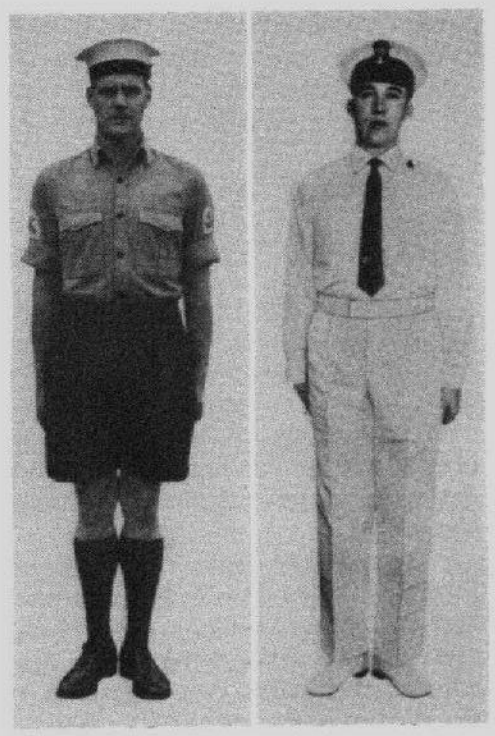


No.6 Dress
No.7 Dress:without medals



No.10 Dress

Dress code for the men from Jupiter



No.10A and 7A Dress

* * *

Editor's Note: This letter from "The Men of Jupiter" was recently received by Stan Miller, Chief of the Public Affairs Office (PAO). The letter was originally sent to Johnson Space Center shortly after the Pioneer spacecraft encountered the planet Jupiter. JSC routed the letter to Ames' Pioneer Project Office which in turn sent it to PAO. It was decided that it would be fun to share it with all Ames employees since we are all so familiar with Pioneer/Jupiter.

Mariner 10 may answer mysteries

Does Mercury have an atmosphere? How much hydrogen is there? How hot is the planet's surface?

Definitive answers should be supplied by two scientific instruments aboard Mariner 10 which will fly by the planet on March 29.

The reported presence of hydrogen at Mercury could be confirmed by Mariner ultraviolet instruments. Temperatures of the surface crust will be measured by the infrared radiometer.

Both experiments disclosed important new data about Venus early in February as Mariner passed the planet in history's first two-planet mission by a single spacecraft.

Mariner 10, first spacecraft aimed at Mercury, is primed to perform seven scientific experiments, including snapping some 4,000 TV pictures from March 23 through April 13.

One of the more challenging scientific goals will be verified by the extreme ultraviolet experiment (EUV) of the Soviet Union's reported discovery of a thin atmosphere of hydrogen extending 375 miles out from Mercury.

The first evidence of an atmosphere at the smallest planet was reported last month (February, 1974) by Professor Nikolai A. Kozyrev of the USSR. He said spectral analysis at a Crimean observatory disclosed a high atmosphere composed mainly of a light gas such as hydrogen.

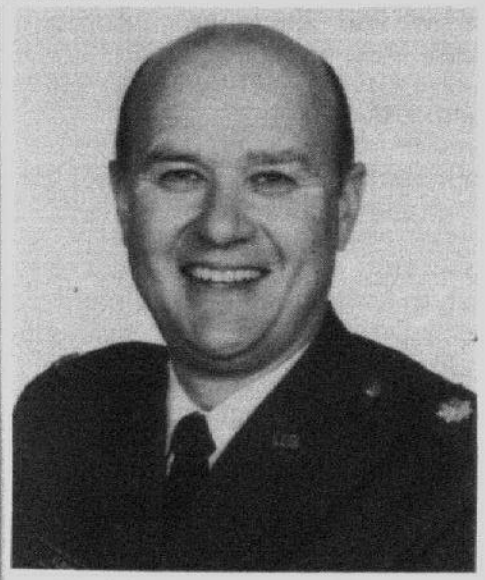
From Earth, Mercury's hottest surface temperature has been figured at 650° F, its coldest near 300° F. By both U.S. and Soviet space probes, Venus' temperature has been measured at 900° F, independent of time of day or latitude on the planet.

Mercury is twice as close to the Sun as Venus, but thick layers of clouds around Venus retain the heat of the Sun by a process described as the "greenhouse effect."

Major Album joins Center

Major Album just arrived at NASA-Ames. He is the first Air Force officer to be assigned to this Center under a new Air Force/ NASA agreement by which officers will work with NASA engineers and scientists on important cooperative programs that directly support Air Force flight vehicle technology. These officers will remain assigned to the Air Force and under its supervision, but they will act in engineering and management capacities on supporting NASA programs. In addition, they will provide the key contacts by which results of these NASA programs will be transitioned into use by the Air Force.

This is the first NASA Center where this new means of utilizing NASA capabilities has been initiated by the Air Force Systems Command.



At the current time, Major Album is officially designated as Chief, Flight Vehicle Technology Office, Prototype Division, Air Force Flight Dynamics Laboratory (AFFDL), Air Force Systems Command (AFSC).

Dr. Chapman

(Continued from Page 1)

technical papers, and a fellow of the American Institute of Aeronautics and Astronautics and of the Meteoritical Society. He was born in 1922 at Fort Sumner, New Mexico and received his B.S. and M.S. degrees from California Institute of Technology in 1944, graduating with the highest scholastic average in his class. He received his PhD from Cal Tech in 1948 under a National Research Council fellowship. He has taught mathematics at Cal Tech and Aerodynamics at Stanford. From 1944 to 1946, he was a Lt. J.G. in the U. S. Navy.

Dr. Chapman and his wife, Marguerite, live at 21221 Canyon View Dr., Saratoga, California. They have two children, Anita, 26 and Donald, 22.

Soldering training

A limited number of students will have an opportunity to meet NASA soldering standards – the highest in the area – through this six-week course held at Ames.

The course is designed both for adults already in the electronics industry and for those preparing for employment.

Classes will be held Mondays, Wednesdays, and Fridays from 9 a.m. to noon. The first meeting will be held Monday, March 25 at 9 a.m. at the Ames Lobby (Building 200).

A $16 fee is payable at registration. Students should register early. Telephone 967-7986, Mountain View High School Adult Education.

Financial management memo

The Center has been directed by the General Services Administration to reduce by 20% the privately-owned vehicle (POV) mileage incurred during official travel. POV official travel mileage includes all mileage for which the traveler is reimbursed. Included is temporary duty mileage, mileage used in traveling to and from air terminals, local or vicinity mileage, and permanent change of station mileage.

Currently, slightly over half of the POV mileage paid for official travel is that incurred in travel from airline terminals. Ames travelers will be requested to voluntarily use limousine service rather than POVs in trips between residences or the Center and airports. Limousine reservations should be made through the Travel Reservations Office, extension 5305.

BLOODMOBILE
MARCH 22
9-12
AUDITORIUM

"Thank you"

To my many friends.....My sincere thank you for the wonderful retirement dinner given in my honor and the beautiful, well selected, gifts.

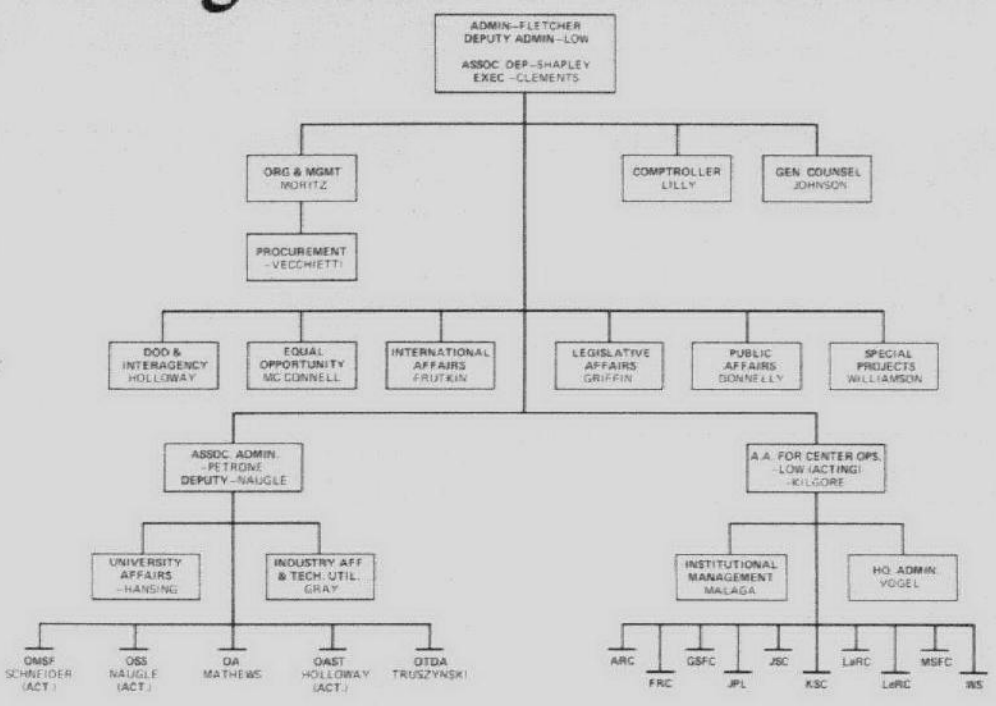
Several of you have called since February 8 telling me that you thought it was one of the finest retirement parties you had ever attended and I want you to know that I couldn't agree with you more.

My deepest gratitude to the committee members for their combined efforts in planning the event. The evening was perfect in every detail.

I shall cherish your beautiful gifts and the memory of my retirement dinner forever. Tommy and I thank all of you for making my "send off" such a memorable occasion. Best wishes to each of you for the future.

Sincerely,
Betty Thomsen

Reorganization announced



15 MARCH 1974

(Continued from Page 1)

tinue to serve as Director of the Marshall Center until early summer to oversee organization and personnel changes now under way at that installation.

Dr. John Naugle has been named Deputy Associate Administrator. Dr. Naugle is presently the Associate Administrator for Space Science, and will also continue acting in that role until a successor is named.

NASA also announced the creation of a new post: the Associate Administrator for Center Operations, who will be responsible for Agency-wide planning and direction of resources and activities at the NASA field installations. The directors of the ten major NASA field installations will report to the Associate Administrator for Center Operations. These installations are the Ames Research Center, Moffett Field, Calif.; Flight Research Center, Edwards, Calif.; Goddard Space Flight Center, Greenbelt, Md.; Jet Propulsion Laboratory, contractor-operated facility in Pasadena, Calif.; Johnson Space Center, Houston, Tex.; Kennedy Space Center, Fla.; Langley Research Center, Hampton, Va.; Lewis Research Center, Cleveland, Ohio; Marshall Space Flight Center, Huntsville, Ala.; and Wallops Station, Va.. Prior to the change, these installations reported to designated Headquarters institutional directors.

Dr. George M. Low, NASA Deputy Administrator, will serve as Acting Associate Administrator for Center Operations until a permanent appointment has been made. Mr. Edwin C. Kilgore, Deputy Associate Administrator for Aeronautics and Space Technology (Management), will assist Dr. Low in the new office on a full-time basis during the interim period.

Dr. Fletcher said the changes were made as a result of the completion of Apollo and Skylab, and the transition to the space programs for the remainder of the 1970's and into the 1980's. The new organization will provide the needed mechanisms for the phaseover from conventional launch vehicles to the Space Shuttle, and to the payloads which will make use of the Shuttle. At the same time, the new organization will provide for a more dynamic interaction with NASA's field center, and thereby with NASA's people – the engineers, scientists and managers who are the key to NASA's success.

Both the Associate Administrator and the Associate Administrator for Center Operations will report to the Administrator.

Also announced effective March 15 were the appointments of Mr. Bernard Moritz as Associate Administrator for Organization and Management and Gen. Bruce Holloway as Acting Associate Administrator for Aeronautics and Space Technology. (Gen. Holloway will also continue to serve in his present position of Assistant Administrator for DOD and Interagency Affairs.)

Dr. William R. Lucas, Deputy Director of the Marshall Center, will become Center Director in early summer when Dr. Petrone expects to move to Washington on a full-time basis.

CAREFUL OF BATS

Once again, rabid bats have been sighted in various sections of Santa Clara County.

A word of warning comes from Ames Safety Officer, John Habermeyer, "Please don't touch any bats you may see. Rabies can be easily contacted."

If any bats are by chance seen at Ames, please notify the Safety Office at ext. 5602 or 5606; off Center, please contact Neil Bohnet, Chief of County Animal Control, Santa Clara County Health Department, at 297-1636, ext. 287.

astrogram

Room 142
Admin. Mgt. Building
Phone 965-5422

The Astrogram is an official publication of the Ames Research Center, National Aeronautics and Space Administration, Moffett Field, California, and is published bi-weekly in the interest of Ames employees.

Editor . . . . . Meredith Moore
Reporters . . . . . NASA Employees

Deadline for contributions:
Thursday between publication dates

Speakers Bureau

During the time that they are at Ames, students in the Ames/Foothill Work Engagement Program attend seminars presented by Ames scientists and engineers on a variety of the research activities at Ames. During this winter academic quarter, the students heard the following seminars, arranged by Rich Lenhart, Instructor/Coordinator for the program at Ames: William Jones (Computation Division), "Illiac IV, World's Largest Computer," January 23; Harold Hornby (Systems Studies Division), "Assessment of Research and Development Impact on the National Economy and Energy Futures," January 31; Hermilo Gloria (Equal Opportunity Office), "Air Pollution Modeling," February 8; Hervey Quigley (STOL Research Aircraft Office), "Augmented Jet-STOL Research Aircraft," February 11; Lt. Col. Al Worden (as reported previously, on February 19); and Charles Jackson (Flight and Systems Research), "Advanced Avionics for General Aviation," February 27.

Dr. R. T. "Bob" Jones (Senior Scientist) will describe his antisymmetrical wing aircraft research to the El Camino Real Chapter of the Air Force Association at their meeting on March 15.

Jerry Barrack (STOL Research Aircraft Office) has been asked to present a program on "Augmented Wing Jet STOL Research Aircraft" at California State University/San Jose. The March 26 program, sponsored by San Jose State's Aero Club, will be open to all students and faculty.

On March 18, Meredith Moore (Editor of the ASTROGRAM and Employee Development Specialist) will talk to students at Homestead High School in Cupertino about the high school exploratory work-experience program at Ames.

Dr. S. N. "Sy" Stein (Guest Scientist) will present a lecture on March 18 at Foothill College. The lecture, open to the public, is sponsored by the Electronics Museum at Foothill. Sy will discuss medical electronics of the space program.

Betty Baldwin (Theoretical Studies Branch) will present two seminar sessions at the American Association of University Women's conference held in Saratoga on March 16. Betty's seminars are entitled "Technology Benefits You." The all-day program is sponsored by the Los Gatos-Saratoga Chapter of the AAUW.

On March 28, George Nothwang (Integration and Test Manager for the Pioneer Project) will discuss the Pioneer-Jupiter mission for members of the San Fernando Valley Section of the American Society for Quality Control. The program is part of the section's observance of "California Quality Week."

John "Jack" Dyer (Chief of Mission Analysis for the Pioneer Project) will travel to Texas to deliver a presentation on the Pioneer-Jupiter mission for participants of the 12th Annual Regional Science Fair, being held at Wharton County Junior College. The program will be March 29.

Henry Lum (Systems Development Branch) was guest speaker for the Mountain View Lions on March 6. His presentation was entitled "Forest Fire Prediction via Satellite."

Angelo Margozzi (Earth Science Applications Office) discussed the general field of NASA's work in earth resources for the Palo Alto Sertoma Club at its meeting on March 5.

Robert "Skip" Nunamaker (Deputy Manager, Pioneer Project) updated the Los Altos Kiwanis on the Pioneer- Jupiter mission at the group's meeting on March 5.

Dr. Kenneth Billman (Ass't. Chief, Physical Gas-Dynamics and Lasers Branch) delivered an invited seminar to the Physics Department, University of California, Berkeley, on January 21. The title of the seminar was "X-Ray Laser Research."

GOLF

Winners of the first two Ames Golf Club Tournaments:

San Ramon National Golf Course, San Ramon, on Febuary 9: 1st Flight: 1 - L. Walsh, 2 - O. Koontz, 3 - R. Eddy, 3 - G. Lazzeroni (tie); 4 - F. Lazzeroni, 4 - D. Banducci, 4 - T. Alamjuelao (tie); 2nd Flight: 1 - C. Eddy, 2 - M. Radovich, 3 - M. Walsh, 4 - E. Magee, 5 - D. Davis, 6 - E. Mitz; 3rd Flight: 1 - E. Watson, 2 - B. Gray, 3 - W. Hurley, 4 - R. Dowell, 5 - K. Bruck, 6 - E. Levin.

Spring Valley Golf Course, Milpitas, on February 23: 1st Flight: 1 - O. Koontz, 2 - A. Petretti, 3 - G. Lazzeroni; 2nd Flight: 1 - C. Turnbill, 2 - D. Graham, 2 - E. Magee (tie); 3rd Flight: 1 - D. Davis, 2 - B. Scott, 2 - E. Menefee (tie); 4th Flight: 1 - M. Kelley, 1 - M. Walsh (tie); 2 - T. Nelan.

There is still time to join. We have 11 more tournaments between now and December. For more information, call Clark White, ext. 5438, or Donna Johnson, ext. 5336.

AIAA to meet
R.T. Jones to speak

"From Biplanes to Oblique-Wing 7/7," will be the subject of Dr. R. T. Jones' illustrated lecture at the March 28, 1974, meeting of the San Francisco Section of the American Institute of Aeronautics and Astronautics at Rick's Swiss Chalet in Palo Alto. Members and guests are welcome to attend the lecture at 8:00 p.m., preceded by a social hour at 6:00 p.m. and dinner at 7:00 p.m. For dinner there is a choice of New York steak at $7.25 or Sauerbraten at $5.75, including tax and tip. For reservations please call Helen Drew at ext. 5397 before March 26.

WANT ADS

Transportation

1967 Mustang V8, 3 sp. stick shift, mag. wheels, air shocks, new brakes, $1,475., 20 MPG. 948-5968

1969 Javelin, good condition, built-in tape & radio. $1,000. or best offer. Call 279-1716

1968 Mercury, 2 dr. hdtp, power str., air cond., good condition. $625. Call x 6052 or 255-1168

ACE COURSES START APRIL 1.

Ames boaters

A course in boating safety and basic seamanship will be held for six weeks beginning March 25 at Fremont High School in Sunnyvale.

The courses, presented by the Coast Guard Auxiliary, will feature 12 sessions on Mondays and Wednesdays from 7 to 9:30 p.m. Subjects to be covered will include rules of the road, legal responsibilities, aids to navigation, charts and compass, marlinspike, sailing, weather, and other topics. Registration will take place at the first session. A small charge will be made for registration and text materials. For more information, call George De Young, Ext. 5639.

SOFTBALL

Anyone interested in playing on the NASA-Ames softball team contact Mike Green x6079.

1965 Rambler Classic V8 Conv., AT, PS, PB, R&H, bucket seats, good tires, very clean. $325. Collard, 969-0217

Housing

FOR RENT: 2 homes, big yards, appliances. 2 bedrooms, Mt. View, $235/mo; 3 bedrooms, 2 baths, Sunnyvale, $245/mo. Call 732-7492.

FOR RENT: South Tahoe Cabin, sleeps 8, 2 baths, w/w carpet, central heating, fireplace, 225-8043.

Miscellaneous

OLYMPUS PEN FT. 1/2 frame, SLR w/25mm & 150mm lens. Excellent condition. $180. or offer, 867-5728.

BROWNING OVER-UNDER SHOTGUN, 20 ga., 3 inch magnum, mod. full, grade I, excellent condition. Present cost approx. $650. Sell for $425. 263-1873

Simmons double bed—box spring and mattress. Excellent condition. $75. 243-1176

Genuine silver and turquois jewelry, handmade by Navajo Indians. Wholesale prices. Lewis, 257-1921, after 5:30.

LOST: Ladies Jade Ring. Bright yellow "chinese gold" scroll work band. Stone is oval light colored Jade. Sentimental value. Lost in or around Bldg. 203. If found please contact Donna Ray, Fiscal, x5316. Reward.

WANTED: Small dog house. Call 374-1236 after duty hours.

WANTED: Women (21 - ?) for ALL-WOMEN Softball team in Mt. View Women's League. Contact Judy Bell, Ext. 5381.

Commuter's Corner

Having no success in locating a car pool? Well maybe the following local transportation might be of interest to you:

The Castro/Evelyn intersection (near Mtn. View S.P. Depot) is served by County Transit Bus No. 42. One "Westbound" bus leaves Kaiser Hospital at 7:00 a.m.,West on Homestead to Wolfe (7:09 a.m.), then via Reed, Fairoaks & Evelyn, through downtown Sunnyvale, ending up at Mtn. View S.P. Depot at 7:37 a.m. After work the return bus leaves S.P. Depot at 4:19 p.m.

From the other direction, No.42 leaves Foothill College at 7:05 a.m. via El Monte to El Camino & Castro (7:18 a.m.) and down Castro to Mtn. View S.P. Depot at 7:21 a.m. After work, the return bus leaves S.P. Depot at 4:52 p.m.

Another bus, No. 43, leaves Philco Ford plant at 6:52 a.m., via Middlefield and California Streets, and arrives at El Camino Real and Castro Street in Mtn. View at 7:09 a.m. From the other direction, the bus leaves Fremont and Grant Roads at 7:21 a.m. and arrives at El Camino Real and Castro Street at 7:33 a.m. After work, the return bus leaves El Camino Real at 4:43 p.m., arriving at Philco Ford at 5:00 p.m. In the other direction, the bus leaves El Camino Real at 4:16 p.m., and arrives at Fremont/Grant Roads at 4:26 p.m.

If there are employees who are interested in these routes, please call 5668. If sufficient utilization is assured, a shuttle bus service will be considered from Ames to the Mtn. View S.P. Depot, Greyhound Bus Depot, and the bus stop at El Camino Real and Castro Street.

Route Maps and schedules of the County System can be obtained at the ARA Store.

By September 1974, the Transit District expects to have a new greatly expanded bus system in operation which will service Ames with one scheduled bus line, as well as a specialized dial-a-bus service. Information on this new system will appear in the Astrogram before inauguration of the new service.

the astrogram

VOLUME XVI
NUMBER 12
MAR. 29, 1974

National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

Pioneer 11 to be retargeted to Saturn

NASA will change the course of Pioneer 11 to make it skim within 42,000 km (26,000 miles) of Jupiter, then fly back across the solar system on an extended five-year trip to Saturn.

The course change is calculated to provide investigators with much better data on Jupiter than would have been possible from a repetition of the 1973 Pioneer 10 mission.

Pioneer 10 flew past the equatorial portion of Jupiter last December at a distance of 131,000 km (81,000 miles), taking photographs and making measurements.

On its new course, Pioneer 11 will pass the giant planet closer to the polar region, covering a much wider range of latitudes and coming three times closer than its predecessor.

Controllers at Ames will command the firing of Pioneer 11's thrusters late in March or in mid-April to make the course change.

The change in velocity will slow the spacecraft, bringing it to within 42,000 km (26,000 miles) of Jupiter's banded cloud tops on December 5. Pioneer will approach the planet from below Jupiter's south pole, then be pulled rapidly upward by Jupiter's enormous gravity, intersecting Jupiter's equatorial plane at an angle of 55 degrees. The spacecraft will then exit from Jupiter, well above the planet's north pole.

The close approach to Jupiter will speed up the spacecraft to 175,000 km/hr (110,000 mph), relative to the planet. This speed, plus the high angle of approach to the disc-like radiation belts, should bring Pioneer through Jupiter's zone of intense radiation very rapidly. It is hoped that this will reduce the cumulative radiation dose to spacecraft systems to acceptable limits. If Pioneer 11 can survive this passage it will measure the thickness of Jupiter's radiation belt and pave the way for future Jovian orbiting missions planned for 1981.

Under the new plan, Pioneer 11 will fly in front of Jupiter (to the left as seen from Earth) as it moves in its orbit. The spacecraft will then pass behind the planet, emerging on Jupiter's right side. With such a passage, Jupiter's gravity and orbital motion will kill some of Pioneer's velocity, putting it into a looping orbit toward the opposite side of the solar system. This will first bring Pioneer inside Jupiter's billion-mile-diameter orbit, then far out beyond Jupiter's orbit until it intersects Saturn's orbit and encounters the ringed planet.

If the course-change maneuver is successful, Pioneer 11 will reach Saturn in September 1979, 6-1/2 years after its launch. This is well beyond the spacecraft's design lifetime, but there is a fair possibility that it will be at least partially operational and able to return data.

The added bonus of a Saturn encounter could provide preliminary data on such things as the planet's radiation belts, if any, the nature of its rings, its heat environment, and other phenomena. If Pioneer's imaging system continues to function, it could return man's first close-up views of Saturn and its rings.

McKenzie receives H.Julian Allan award

The H. Julian Allan Award was established in 1969 to recognize outstanding scientific and engineering papers authored by members of the Ames staff. Each year the award is presented along with an honorarium of $1,000 for the paper judged best by the Award Committee.

Based on the recommendation of the Award Committee, Dr. Hans Mark, Ames Director, recently announced that the 1974 H. Julian Allan Award will be presented to Mr. Robert L. McKenzie for his paper, entitled "Diatomic Gasdynamic Lasers."

The award and the honorarium will be presented to the winner in conjunction with a presentation of his paper to the Center staff on April 5 at 3 p.m. in the main auditorium.

Noise Abatement Program Award

George Schwind, United Air Lines Program Director for the B-727/DC-8 Two-Segment Noise Abatement Program, was awarded the annual United Air Lines Maintenance and Operation Division Award for outstanding performance in directing the NASA-funded noise abatement programs. Schwind received his award Tuesday, February 26, 1974 in Chicago at the annual United Air Lines Awards ceremony.

Commuter's Corner

Some questions have arisen regarding the impact of participation in car pools on individual insurance policies. A November 1973 release from the Insurance Information Institute, which speaks for the industry, concerning this important subject is quoted. It is also suggested that employees advise their insurance agents or companies of their participation in car pools in order that coverage may be adjusted where required.

"With growing national concern over the possibility of gasoline rationing, the interest in car pools for work and school is reaching its highest point since World War II.

"Joining a car pool can be a convenience and a time and money saver – as well as a way of improving the quality of our air, but many people are reluctant to enter such arrangements.

"They fear they will expose themselves to a lawsuit which won't be covered by their regular auto insurance.

"The Insurance Information Institute advises that, in terms of insurance coverage, car poolers probably have nothing to worry about. However, a few words of caution and explanation are in order.

"Insurance on a privately owned, pool-shared vehicle is placed in jeopardy only if the pool is operated for a profit. In the situation where everyone in the pool uses his car an equal amount of time there is, of course, no problem.

"The problem most often arises when one of the car pool participants does not share in the driving chores and thus pays a regular fee.

"Medical payments is another important coverage. If written with limits of $1,000, each person in the car can receive up to $1,000 for medical expenses incurred within one year of an accident regardless of who is at fault. The Institute emphasizes that because the dollar limits applies to *each* passenger separately, there is no need to increase the limits in order to cover additional passengers.

"Property damage liability coverage, which protects the motorist against claims resulting from damage to other people's property, is not likely to be affected by involvement in a car pool since the number of passengers would not ordinarily contribute to the amount of property damage done by the car in an accident."

"To preserve insurance coverage, the Institute points out, any car pool fee should not be more than the fair share of the gas, oil, and general depreciation on the car. A simpler way for the nonsharing passengers to reimburse the pool members is to give a gift sometime during the year to the drivers.

"This divorces the concept of "fee" from the privilege of riding in a car pool and leaves the insurance protection intact.

"In the case of car pools involving children, the Institute stresses the importance of wearing seat belts not only to protect the children in the case of an accident but also to prevent the kind of antics that might distract the driver's attention.

"Once a car pool participant is convinced his regular auto insurance is valid, his next concern is the amount of coverage he has.

"He should consider bodily injury liability coverage with high limits, according to the Institute, since this is what protects him against claims which others – including his "pool" passengers – can bring against him after an accident.

"As an example, says the Institute, limits of $300,000/$500/000 would provide up to $300,000 coverage for one injury in an accident with a $500/000 per accident limit."

Director's report

Dr. Hans Mark, Ames Director, delivered his Annual Report to the Center to Ames' organizational directors and deputy directors, division and branch chiefs, on March 11 in the auditorium. The test of his speech is printed, in full, on pages two and three of this issue.

✶✶✶ Director's annual report to the Center ✶✶✶

Five years is something of a milestone. It is a reasonable fraction of the Center's history as well as of my own life. It is a time for reflection and I am very pleased to have the opportunity to be here and to share some thoughts with you on this occasion.

When I spoke before this group for the first time five years ago, my main theme dealt with the negative public attitude toward technology that existed at that time. It has been this negative atmosphere that has dominated the political situation in which we have operated for the last five years. The circumstances created by public opinion to which I refer led to the reductions-in-force that we have had to face and to the very restricted budgets under which we have operated.

Are there changes on the horizon? I believe that there are. I believe that the anti-scientific and anti-technological trends in thinking that were current five years ago happened to coincide with the early signs that our resources and our environment are indeed finite. After some disputes and some very interesting public debate, I believe that it has finally been recognized by the public at large that the search for the new techniques to deal with the situation of finite resources is absolutely essential. This, in turn, has created a resurgence of interest in technical subjects. For example, it is significant that engineering enrollments in our schools and colleges are no longer declining precipitously as they did five years ago. In the latest issue of "Engineering Education," the journal of the ASEE published figures that show slight enrollment increases in the freshman classes of major engineering schools. Indeed, these figures show that engineering enrollments are increasing fairly rapidly relative to those in other nonscientific or engineering areas. However, I should quickly add that the interest in engineering today seems to be somewhat different from the one that prevailed in technical universities 20 to 25 years ago when many of us received our technical educations. In those days we were optimists, and we felt that all problems ultimately had some good technical solution. We are probably not as optimistic today, but perhaps we are somewhat more discerning. Probably the best description that I have been able to find of the new way of thinking is illustrated by a quote from a recent book, "What is Science For?" by the distinguished British biologist and journalist, Dr. Bernard Dixon:

> "It is, of course, fashionable in some circles to suggest that the type of questions we have discussed are all short term and partial; that instead of controlling nuclear weapons, we should abolish war; that instead of putting filters on car exhausts or taking lead out of gasoline, we should abolish the automobile; that rather than build more power stations, we question the basis of a society which wastes energy on luxury comforts and entertainment; that developing countries should be advised to remain in their "more natural" state. Such pontifications usually come from those who have taken for granted the staggering benefits of science in medicine, agriculture, communications, and other fields, and who are happy to continue to do so. As with agnostics living off the moral capital of an apparently discarded Christianity, such judgments resemble the inanities of fans at pop festivals a few years ago, ferried there by technology, clothed by polymer science, fed by food technology, supported by medical science in the event of appendicitis or tetanus, listening to commercial music amplified by electronic wizardry, and telling everyone how marvelous it was to create an alternative society. We should, of course, question continuously the sort of society we have created and consider radical changes, but a total redesign of society and men's minds is simply not on the agenda for the foreseeable future. Meanwhile, there are formidable problems that require science to solve them and scientific choices to be made. Far more important than the intellectual speculation about a new Jerusalem is to insure that the community at large has proper access to the decisions that are taken."

Dr. Dixon's paragraph describes in a few well chosen words the current attitude towards science and technology. People may not like some of the consequences of technology, but for better or for worse, they must have technology to help solve the most pressing problems faced by the society. In that context I would like to reemphasize the last sentence of Dr. Dixon's paragraph. Precisely because people distrust technology and its practitioners, they will want "access to the decisions." It is this desire that will make our life as technologists, and probably also as citizens, somewhat more complicated in the future.

For the past five years, we have tended to operate in what might be called a "survival" mode. Our actions were governed to a considerable extent by a very real concern for the survival of our Center as a working research and development institution. There is now good reason to believe that this situation has changed and that the future will present us with different and perhaps even more complex problems.

I am convinced that there will be more technology not less, but I am also convinced that it will be more controlled and more politically influenced. People will, indeed, have "access to the decisions." I need only cite the structure in Congress that is being built to assess new technologies, the activities in the State of California that have followed the creation of a Director of Science and Technology in the Governor's office, and even the use of new technology now by certain local governments and governmental districts. These efforts are still groping and uncertain, but, in my opinion, they presage something new in the way we will do things. In the future the premium will be on understanding political currents and, then, providing the advanced technologies needed as a logical consequence. As technologists, we will have to try to stay ahead of the game in predicting what will happen. Instead of "survival," our problem will be to adapt rapidly to changing circumstances if we are to prosper.

Having said this, I suppose I am now obligated to stick out my own neck and make some predictions. Before doing so, I should stress that the opinions I will now state are personal ones, and that I expect to debate them with you in the coming months in order to develop the appropriate posture for the Center as a whole.

Perhaps the most important new circumstances to which we will probably have to adapt are changes that will be forthcoming in the NASA charter. There are now about a dozen bills before the Congress to alter some of our missions and functions and it is probable that one or more of these will eventually become law. I believe that it will take some time for these charter changes to come about since the Congress will first want to deal with the organization of the research and development efforts in the area of energy use and energy production. (The reorganizations in the energy field, by the way, will also lead to some important charter changes for other well established Federal Research and Development Agencies.) It is, therefore, somewhat too early to tell exactly what form the NASA charter changes will take, but it is certainly clear that we should be alert for any new opportunities that may develop as a result of such changes. The changes I anticipate are not of a drastic nature. I do not foresee, for example, any massive new responsibilities that the Agency will get in energy, environment, or some of the other areas that have great political popularity at the present time. Rather, I believe, the changes will be evolutionary. They may, for example, redefine our role in aeronautics more carefully with respect to civil and military agencies that also have responsibilities in this area. New charter changes might also give us certain operational responsibilities that we do not now possess. One of the proposals, for example, would give NASA operational jurisdiction over earth observation satellites. Even though the charter changes that I foresee are evolutionary rather than revolutionary, they could present the Agency as well as the Center with some very important new opportunities. I believe that the new organizational structure at NASA Headquarters was partially designed to increase our flexibility to meet new challenges. By clearly separating programmatic offices from the NASA institutions, it is quite possible that it will be easier for both to respond more quickly to some of the charter changes that I have mentioned. In the coming months, I expect to be able to discuss with you in detail some of the changes that might be forthcoming when I meet with each of you during the next round of Branch reviews.

What will some of the possible changes I have alluded to mean for Ames? Early last year, Dr. Low asked each Center to define its primary roles and missions. Many of you have helped to develop the material that we submitted. As you know, the culmination of this effort was the OAST Institutional Plan that was developed by a group under Sy Syvertson's leadership and that was issued late last year. It might be worthwhile for me to repeat here what we said regarding our primary programs in response to Dr. Low's request and then try and relate our plans to the possible changes I have discussed.

As a matter of policy, we said that we would concentrate most of our efforts on a few major programs where we are either already clearly in the lead or where we have an excellent chance of gaining a leading position. Specifically, we identified six major areas of excellence:

I. Short Haul Aircraft Technology: Ames has a long tradition of leadership in this field. We have operating at Ames the world's most advanced experimental jet short-takeoff-and-landing aircraft, the modified C-8 Buffalo. Much information has already been gained regarding the handling qualities and the operational properties of aircraft of this kind in the current experimental program which is now about half way through its planned work. The STOLAND system has been installed on the aircraft and will be flown in conjunction with microwave landing system in a cooperative program carried out with the Federal Aviation Administration. The joint Army-NASA Tilt Rotor Research Aircraft Program is well on its way. We have a good contractor and in the next two or three years we will work hard to create the two experimental aircraft that the program calls for. Following that, there will be a significant experimental flight program to thoroughly explore the flight properties of these unique new aircraft. The Quiet Short Haul Research Program has been put into the President's FY 1975 budget and we expect eventually to have an experimental aircraft that will allow us to prove out this particular technology. Finally, we are

working hard to develop follow-on research aircraft using concepts that will bring vertical takeoff and landing transports into being. In many of these programs, we are working closely with military agencies who also have a strong interest in work of this kind. I have already mentioned that the Tilt Rotor Research Aircraft is a joint program with the U. S. Army. The Quiet Short Haul Research Program is closely integrated with the U. S. Air Force Advanced Medium STOL Transport Program. Finally, we expect that our work in advanced Vertical Takeoff and Landing Aircraft will also be closely related to work in this area being done by the U. S. Navy.

II. The Art and Science of Flight Simulation: We have at Ames one of the best facilities for flight simulation in the world. That this statement is true is attested to by the fact that the Flight Simulator for Advanced Aircraft now has severe scheduling problems caused by the great demands for time on this machine by many other agencies. In particular, we are working hard to accommodate the FAA and military aeronautical organizations. Flight simulation has proved itself important in the design of new aircraft, investigations of modifications on existing aircraft, the certification of aircraft, and in the investigation of aircraft accidents. Consistent with our interest in short and vertical takeoff and landing aircraft, we have recently asked for authorization to proceed with the development of a vertical motion simulator that will more accurately reproduce the motions that such aircraft execute in takeoff and landing. The vertical motion simulator, a project calling for the expenditure of 3.6 million dollars, is in the President's budget as a construction of facilities item for FY 1975, and I expect that this facility will add greatly to our capability in the important area of flight simulation.

III. Theoretical Fluid Mechanics: I have spoken to you a number of times about the importance of providing better theoretical models for the design of aeronautical and space vehicles. In order to use these models in a practical sense, large new computing facilities are necessary. The Illiac IV, the world's largest computing facility, is now almost in working order. We have had a number of hardware problems in recent months, but nothing has yet turned up to indicate difficulties of a really fundamental nature. The machine is now already being used for calculations of flow fields around the Space Shuttle Vehicle, and we hope that it will shortly be employed in the analysis of flow fields around other vehicles as well. The Illiac system is now in operation for users for approximately one shift every day and we expect that by next year it will be fully operational as the major resource on the ARPA network. Once that happens, we believe, that a new era in theoretical aerodynamics and hopefully aircraft design will start.

IV. Planetary Exploration with Special Emphasis on Planetary Atmospheres: The flyby of the planet Jupiter by Pioneer 10 last December was a major event in the history of the Ames Research Center. Next December, Pioneer 11 will fly by the planet, and we hope to target the spacecraft in such a way that three years later we will be conducting a flyby of the planet Saturn. In the last two years, we have worked hard to orient our planetary exploration program around work on planetary atmospheres and planetary entry. The Pioneer-Venus project, which is a new start in the President's FY 1975 budget, is a result of these efforts. We have recently chosen the prime contractor for this work, and we are hoping that the project will now proceed without any further delays. In addition to our studies of planetary atmospheres we have also initiated some programs dealing with the earth's atmosphere. In particular, we are concerned with the development of models of the upper atmosphere and perhaps even the troposphere using the new computational facilities we have currently at our command.

V. Airborne Sciences and Applications: The successful operation of the airborne telescope on the C-141 aircraft has recently been demonstrated. This event is clearly a milestone in the development of modern astronomy. With the help of our friends at NASA Headquarters and elsewhere in Washington we have also been able to replace the Convair 990 aircraft that was lost in the tragedy last April. We are looking forward to a very active career for the new airplane similar to that which the first 990 enjoyed. A particularly important facet of the work to be performed with the new aircraft is to simulate Space Shuttle flights in order to get some feeling for the kind of operational procedures that might be employed for scientific investigations. Finally, I should mention the great practical successes of our Earth Observations Program using the two U-2 aircraft based at Ames. I have recently had a chance to read a survey of opinions of the principal investigators using the airplane and I can assure you that their comments are most impressive indeed.

VI. The Life Sciences: Ames is and remains the principal Center in the National Aeronautics and Space Administration for work in the life sciences. We have recently completed a review of this work with the NASA Director of Life Sciences and I am confident that we will be able to maintain and even advance this position. Even though we are facing a reduction in manned space flight, the Space Shuttle Vehicle will require a great deal of research before it can be used in a way which is compatible with our current mission model. I expect that we at Ames will be deeply involved in this research. We will continue to expand and to develop our work in the life sciences related to aeronautics. We are planning to construct at Ames jointly with the Federal Aviation Administration a low visibility research facility or fog chamber that will help to solve some of the problems that have been encountered in low visibility landing situations. Finally, we will continue to work in the area dealing with research for extraterrestrial life. I have said many times that this program is of great importance to Ames intellectually as well as programmatically. The Viking flight in 1975 will be the first actual test of some of our instruments in space and we are now working to develop some logical follow-on plans to be executed after the viking landing.

This is an impressive list and it gives us much to do. These are the areas in which we intend to lead. This does not mean that we will not do things in other fields, however, they will in general be done in support of other agencies or other Centers in NASA that have the prime responsibility for work in other areas. A good example of a large program of this type is our very important work in thermal protection systems for the Space Shuttle Vehicle. Another is our work in fire retardant aircraft materials in support of the U. S. Air Force, and a third is our work in the field of supersonic inlets in support of the Advanced Supersonic Transport program.

Let me say a word about the relationship between the programs I have just outlined and the probable changes in the NASA charter that I have alluded to earlier in my talk. What is most important about many of our primary programs, especially in aeronautics, is that they are heavily "user" oriented. We have existing collaborative agreements with our major "user" agencies and if a NASA charter change occurs that tightens our relationships with these "user" agencies, we should be in a good position to take advantage of it. Furthermore, through our work in things like the Airborne Sciences, we are gaining substantial operational experience that might stand us in good stead should NASA be given some new operational responsibilities. It is too early to tell whether I am correct in these speculations but I think they are not unreasonable.

Up to this point, I have dealt with philosophical and programmatic topics. Obviously, I cannot leave things here. It does no good to make the right program choices and then to find that they cannot be implemented because the institutional resources are not present. I have said that we are probably out of the "survival" mode. One reflection of this situation is that, for the first time in the last five fiscal years, there will be no reduction in the Ames Civil Service manpower ceiling during FY 1975. In spite of this, I believe that in the next few years, manpower and its proper use will be by far our most serious institutional problem. We simply do not have enough people to adequately staff all the programs we have in mind. This circumstance was painfully obvious in two recent reorganizations that we conducted, the creation of the Aircraft Operations Division and the reorganization of the Pioneer Project to do Pioneer Venus. In each case, legitimate functions were identified for which no Civil Service positions were available. This obviously means that we will have to continue to look very closely at all our activities and to delete some with low priority in order to make up for deficiencies in more important programs. Another problem is to provide appropriate opportunities for our younger people and to make sure that career development steps exist even in the limited growth situation we are experiencing. Unfortunately, it is obvious that we simply will not be able to do as much as we would like to accomplish along these lines. One hopeful sign is that the recent organizational change at NASA Headquarters has explicitly recognized our institutional problems by the creation of a new position to be filled by a high level official who is specifically responsible for dealing with institutional problems.

Under these circumstances, it is easy to become discouraged, especially if the stimulus of a "survival" situation is no longer present. You have shown in the past five years that you have the ability to live under difficult circumstances. In the coming years we will face a different set of difficulties. I hope very much that you will all fight hard for your programs and your viewpoints. I pledge to you that you will receive a fair and thorough hearing from those of us charged with the responsibility for making the final decisions. However, when decisions go against you, as they inevitably will at certain times, I ask for patience and forbearance. We should have vigorous debate but it must not become destructive to the general health of the institution.

For the longer term future, I think we have an excellent intellectual foundation on which to build. We have continued to maintain our high standard in fundamental work in science and engineering. I am very pleased to report to you that of the seven Exceptional Scientific Achievement Medals awarded for work in OAST Centers, three were earned by Ames people – Harv Lomax, Joan Danellis, and Bill Mehler. This is about twice the rate one would expect on the basis of the OAST population, although the statistics are admittedly poor. These awards obviously show that we are continuing to do more than our share to lay the scientific foundation for NASA's future. I am also very pleased to report that R. T. Jones was honored by election to the National Academy of Engineering as well as the American Academy of Arts and Sciences for his signal achievements in the aeronautical sciences. As always, it is most important that we maintain a vigorous posture in basic research and the names I have listed constitute the best evidence that we have, in fact, done so. This is the best insurance for our continued existence as a high quality research organization in the future.

Finally, I would like to add a few personal words of thanks to all of you for your efforts in the past five years. I am very pleased and proud to be one of you and I guess that at some point along about now, I can begin to call myself an "old timer." As a result of your work we can look forward to the future with great confidence.

Thank you. Hans Mark

Speakers Bureau

Dr. Edward Merek (Life Detection Systems Branch) served as a judge for the Campbell Union Elementary School District's science fair held at Castlemont School on Saturday, March 23. Ed helped judge the biological exhibits of the 4th through 8th grade entries.

Dr. Paul Callahan (Biochemical Endocrinology Branch) presented a seminar at the California Scholarship Federation's conference on March 23. The all-day conference, held in San Francisco, was entitled "Challenge of Mankind in 1984." Paul's seminar was appropriately entitled "Life Sciences Challenges in 1984."

Dr. Edwin Erickson (Astrophysics Branch) was guest speaker for the Stockton Astronomical Society on March 11. Ed presented "Observations of Comet Kohoutek" at the society's evening meeting.

On March 29, Dr. S. N. "Sy" Stein (Guest Scientist) will present "Another Side of the Moon" to the American Society for Clinical Pharmacology and Therapeutics at its annual meeting in San Francisco. His luncheon address will concern the general field of space medicine.

Robert Whitten was the speaker at the March 15 Physics and Chemistry Department Colloquium, at the U. S. Naval Post-Graduate School in Monterey. Bob presented "Pollution of the Upper Atmosphere by Aerospace Vehicles."

The Santa Clara Valley Science and Engineering Fair will be held the first week of April at Gateway Hall at the Santa Clara County Fairgrounds on Tully Road, San Jose. The Fair will be open to the public, free of charge, from 9 a.m. to 4 p.m., April 4-6.

The San Francisco Bay Area Science Fair will be held at the California Academy of Sciences, Golden Gate Park, San Francisco. The Fair will be open to the public on March 30 and 31. There is a 50 cent entry fee to the building.

Special offer

The Life Sciences Library, Building 239 (basement), is preparing to surplus books no longer needed in the library or branch library collections.

Before instituting formal surplussing procedures, the staff wants to be certain that all local needs are being met. The items being surplussed will be available for examination by Ames employees. They may select any titles pertinent to their work for retention in offices or laboratories.

Stop by the library during the week of April 1-5 and the staff will show interested employees where the material is on display.

Persons selecting materials are reminded that the books remain government property and may not be appropriated for addition to private libraries or collections.

Federal Personnel Council Scholarship

The Federal Personnel Council of Northern California has announced the annual college level Scholarship Award Program for 1974. At least six one-year scholarships in the amount of $500 will be paid to the winners upon their enrollment in a recognized junior college or an accredited college or university.

Those eligible must be the son or daughter of a career civilian employee presently employed in a Federal agency in Northern California; or the son or daughter of a retired or deceased career civilian who was employed by a Federal agency in Northern California at the time of retirement or death; or currently employed in a Federal agency in Northern California under the President's Stay-in-School Campaign; or have been employed during the summer of 1973 under the Summer Youth Opportunity Program; and a high school senior graduating in January or June 1974.

Deadline for making application for the scholarship is April 15. Application forms may be obtained by contacting Mrs. Dorothy M. Evans, Training and Special Progrms Branch, extension 5624.

Garden club sale

The Foothill Men's Garden Club's Annual Show and Sale will be Saturday, April 13, at the Rancho Shopping Center on Foothill Expressway in Los Altos. Cut flowers, bedding plants, hangers, succulents, etc., will be available for purchase. The funds from the show enable the FMGC (a non-profit organization) to support constructive civic and youth garden projects in the local communities.

Conserve Library power

Return your library books on time. Due date is Friday, March 29, 1974 (Main Lib. 202-3, Life Science Lib. 239-13).

AIAA

The American Institute of Aeronautics and Astronautics (AIAA) is a national professional society with 23,000 members dedicated to advancing the arts, sciences, and technology of aeronautics, astronautics, and hydronautics. The AIAA San Francisco Section has 1050 members including over 200 Ames Research Center scientists and engineers. Currently serving as officers are Chairman Mamoru Inouye, STT, and Treasurer Melvin Watson, SST.

Underway now is a membership campaign which allows Ames employees to donate $10 of their first year's dues to the AIAA/ARC Galileo Memorial Scholarship Fund. Contact M. Inouye, ext. 5126, for further details.

Credit Union

The Annual Meeting of the Moffett Field Credit Union was held on Saturday, 9 March 1974, at the Napredak Hall in San Jose.

The business session was called to order by John F. Pogue, Chairman of the Board of Directors – a NASA-Ames procurement officer.

Reports of credit union progress during 1973 were given by John F. Pogue, Board President; Jack Davidson, Treasurer; Harold Cobrunson, Credit Committee Chairman; Bill Hurley for the Supervisory Committee; and Fred G. Mayer, Credit Union Manager.

The election of Directors and committee personnel was held with the following results:

Directors elected for three-year terms: John F. Pogue, NASA-Ames; Rena A. Estes, Special Services; and Eugene P. Long, Simulation Exp. Branch, Ames.

Elected to the Board for unexpired terms were: Captain R. R. Hedges, Commanding Officer, NAS Moffett Field; and Captain K. Daryll Nelson, Air Force Satellite Test Center.

Course offered

A DeAnza College course entitled "Racial and Cultural Minorities of the U.S." will be held on the Air Station beginning March 27 through June 12. The class will meet twice weekly on Mondays and Wednesdays, 1430-1610. The course is an interdisciplinary study of varied racial and cultural aspects of American society: the role of the minority groups, the nature of prejudice, and its effect upon human behavior.

Missing

MISSING: 2 or 3 manila folders tabbed "Monthly Flight Reports" from Inspection Branch (Aircraft). The reports cover years from 1964 to 1971. They are original, lists of all Ames aircraft, monthly flight time, number of flights, leased and rented aircraft and other pertinent flight information. Anyone knowing the location of these reports, please return to Kathy Cossey, Inspection Branch, Building 211, Room 250. They are very important to many people on the Center.

GOLF

Winners of the Ames Golf Club Tournament at San Jose Municipal Golf Course, March 16, 1974:

1st Flight: 1 – A. Petretti, 2 – R. Hedlund, 3 – D. Banducci, 4 – R. Sutton, 5 – B. Beam.

2nd Flight: 1 – L. Brennwald, 2 – J. Silver, 3 – J. Bull, 4 – R. Dick, 5 – C. Turnbill.

3rd Flight: 1 – B. Kelley, 2 – N. Krause, 3 – B. Scott, 4 – E. Menefee, 5 – B. Nevotti.

4th Flight: 1 – R. Forrest, 2 – T. Nelan, 3 – P. Strawbridge, 4 – M. Kelley, 5 – R. Oyama.

Co-chairmen were Fred Wirth and Earl Levin.

Next tournament – Del Monte Golf Course, MONTEREY! April 6th. There's still plenty of time to join if you're not already a member. Call Clark White, ext. 5438, or Donna Johnson, ext. 5336.

WANT ADS

Housing

FOR RENT: weekends, weekly, Tahoe Keys, 4-bdrm., TV, fireplace, near heated pool, tennis and Heavenly; 948-0569.

Summer months (3) or longer term if compatible: 4 bdrms, large yard (front and back), furnished or unfurnished, 1 bath, piano. Off of Moffett Blvd., near Denny's. Call 961-4645 any time.

Transportation

FOR SALE;

Must sell, leaving country, BMW 2002, 1970, white, garaged car, very clean, in excellent condition. 40,000 miles, 26 mpg, Michelin X tires, $3700/offer. Call 324-0798 after 7 p.m.

1966 Chev. P.U., 8' Fleet Side, C. Cab, P.S., P.B., AC, 283 V-8, 3-speed, 411 Pos. Track Camper Shell, 739-7310 after 5 p.m.

FOR SALE: 3½ H.P. Cat Mini-Bike, $80.00. Must see to appreciate. Days call 739-8313. Nights, John Sekulo, Ext. 5177, Machine Br.

PORSCHE WANTED, 1964 or 1965, 356C or SC in top condition. Will pay cash for right car. Bob McCracken, 578-2676.

Miscellaneous

FOR SALE: large selection of HO scale locomotives. Both steam and diesel. Call 262-6567.

Smith Corona portable, elite manual typewriter, in good condition. $50. Call 321-1858.

120,000 BTU Gas Furnace. Call 266-4027 after 5 p.m.

COUNTER TOP RANGE, Thermador, 4-element. Stainless steel finish. Clean and in perfect working order. J. Lepetich, 948-8002.

WALL OVEN: Thermador, large size, stainless steel front. Clean and in perfect working order. J. Lepetich, 948-8002.

GE BUILT-INS, oven, range, dishwasher, brown, $100. Two covered cornice boards, 8 ft and 6½ ft, beige and white, $15 each. Baby buggy $25. 266-6518.

Nearly new G78-15 tires and/or gravely ill '66 LTD. 732-2870.

METAL STORAGE SHED, 5'x7', w/floor. Exc. cond. $75. 968-2364.

FOR SALE: 3 violins; ½-size $100; ¾-size $100; full size $125. All in good condition with case and bow. 248-4690.

Golden Retriever, male, 7 months, ribbon winner, to good home. $200 or offer. 265-5523, Pat or Terry.

WANTED: Naval uniform for Sea Scouts. Need blue dress and white dress; size medium. Call eves. 948-7983.