



The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

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ASTRONAUTS Training Report

The men who are being trained as Astronauts for NASA's Project Mercury have recently completed special zero gravity experiments in their course of training. Flown in F-100F aircraft, they have been subjected to weightless conditions similar to those which they will experience in 1961 when one of the Astronauts will climb into a Mercury capsule and be sent out on a manned orbital flight.

The planes used in the investigations provided 50 to 60 continuous seconds of weightlessness. The Astronauts were required to work psychomotor units throughout the duration of the weightless periods. This gave a measure of their timing, speed, and accuracy in being able to reach for objects or for a specific point while weightless. The problems investigated concerned possible deviations from normal, tending to overshoot or undershoot, response, comparing first performances with last to determine if any improvements have been made, and the possibility of learning to adjust and adapt in this strange environment.

The Astronauts were also given the opportunity to fly some of the parabolas themselves, giving them a chance to actually measure their own responses and reaction times during the weightless condition under characteristic flight operation. In the actual Project Mercury flight, the Astronaut will experience a period of weightlessness for about 5½ minutes. Dr. Willard Hawkins, of the USAF School of Aviation Medicine, stated that they have not only been happy to provide the Astronauts with some additional training, but have had the opportunity of collecting some very valuable and important physiological data that heretofore they have not been able to achieve.

When asked what will be the

VANGUARD III TRANSMITTERS NOW SILENT

The tracking and telemetry transmitters within the Vanguard III satellite have become silent. Launched September 18, the Vanguard III transmitted tracking signals and scientific data over a period of 85 days. The satellite's silver-zinc batteries had a nominal lifetime of 90 days.

The Vanguard III, the last experiment in the Vanguard series, was instrumented to measure the earth's magnetic field, X-rays from the sun, and environmental conditions in space. Shaped like an over-sized ice cream cone -- a 26-inch tapered tube extending from a 20-inch sphere -- the satellite was fabricated of magnesium and fiberglass. The instrumented payload weighs 50 pounds; the attached third-stage casing weighs an additional 50 pounds.

During its transmitting lifetime, Vanguard III traveled approximately 30,874,000 miles in its 938 orbits around the earth. The now silent satellite is expected to remain in orbit up to 40 years.

Telemetry records from the satellite are still in the early stages of processing and analysis. However, scientists connected with the experiment report the quality and quantity of data received have been excellent.

future of the other six men, once one man has been picked for the flight, Alan Shepard, one of the Astronauts replied at a recent Astronauts Press Conference, "We all fall on our swords!"

In comparing experiences in the centrifuge with the lack of gravity experienced in their most recent training, Scott Carpenter, another Astronaut, reported that the effects of increased acceleration are much harder to live with than the lack of gravity. Shepard added that it was a real pleasure to go the "other way"

Continued on Page 4

"SPACE - THE WORLD'S FRONTIER"

A schedule of the Astronautics Lecture Series sponsored by Foothill College and held at the Lockheed Missiles and Space Division auditorium in Palo Alto, 3251 Hanover Street, Building #202, is as follows (8:00 p.m.):

January 18--"The Role of Research in Spacecraft and Missile Design," Dr. Wayland C. Griffith, assistant director of research, Lockheed Missiles and Space Division.

January 25--"Man in Space", Ronald Smelt, manager of satellite systems, Lockheed Missiles and Space Division.

February 8--"Interplanetary Flight", Dr. Donald T. Perkins, deputy chief scientist, Lockheed Missiles and Space Division.

February 22--"Space Communication", Dr. Allen M. Peterson, manager of communication and propagation laboratory, Stanford Research Institute.

March 7--"Chemical Rocket Propulsion", Dr. W. R. Kirchner, manager Polaris development engineering division and associate manager of research and development, Aerojet General, Inc.

March 21--"Scientific Experimentation in Space", Bruno W. Augenstein, consulting scientist to staff to chief scientist, Lockheed Missiles and Space Division.

April 4--"Problems of Atmospheric Entry and Landing of Space Ships", Dr. A. J. Eggers, Jr., division chief of the Vehicle-Environment Division, Ames Research Center.

April 18--"Biological Problems of Space Flight," Dr. Heinrich W. Rose, space medicine research staff scientist, Lockheed Missiles and Space Division.

May 2--"The Environment of Space", Dr. Martin Walt, consulting scientist in nuclear physics, Lockheed Missiles and Space Division.

Continued on Page 4

Astroventuring...
★ with walt krumm

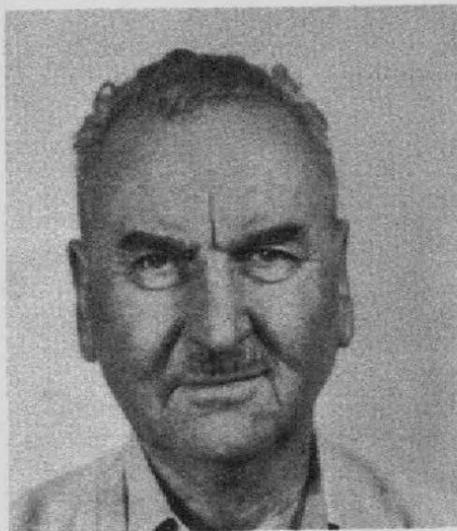
THE ORIGIN OF THE SOLAR SYSTEM

Since the only method available for a theory on the origin of the Solar System is the deductive one based on physical theory, it is clear that a number of assumptions will have to be made before we can arrive at a coherent picture, and that the only real test of the theory will be its self-consistency and freedom from logical contradiction.

Our first assumption in the origin of the Solar System will be that the various bodies were once a part of the Sun or its parent body. The planets lie, for the most part, in a plane. They all revolve about the Sun in a common direction. All have similar, orbital eccentricities. And the Sun's equatorial plane is common to all. Such uniformities in a system so complex is surely no accident. But we must account for all the differences and discrepancies in our theory.

If we try the NEBULAR THEORY, we must assume the Solar System was once a mass of gas. This gas rotated. Rotation caused a bulge. The bulge accelerated the rotation, the mass even faster. Time would come when a ring was formed and the ring would separate from the mass. This would be repeated until sufficient rings were formed to equal in number the planets. The remainder would form the Sun itself. These rings would cool and condense, eventually, and draw into bodies that would form the planets. This theory is lacking for there is nothing to prove rings would form, or separate if they did form, or condense into a single body or even multiple bodies.

The German physicist, von Weizsacher, theorized a nebulous shell with temperatures at planetary distances from the center to be at planetary temperatures. Cells would form within the shell of gas and elements, normally liquid, would condense into pockets between the cells to further condense into planets. This theory would produce planets where they were supposed to be in distance. Revolutions would be the same. Rotation would be direct. And further lead to the planet's satellite formation correctly. Much is left for



RETIRING

John E. Keen, Aviation Metal-smith in the 40- by 80- retired on December 31, 1959, after having served almost sixteen years here at Ames and all of it in the 40- by 80- Branch.

John and his wife plan on moving to their farm in Grass Valley in the near future. They would also like to travel the country extensively. They have a special visit to Florida in mind.

clarification - for one thing - why is only one planet formed for each cell within the entire shell? How about the retrograde satellites? Etc?

We must not lose sight of our first assumption - a fundamental mass of gas to start with. If we have this and assume two stars to start with let us try again.

In a binary system of two stars, the stars are mutually attracted to each other by gravitation and rotate about the larger or a point in space. If we assume that at one time we were a binary system of which one "burned" itself out and exploded into pieces, we would have another theory. These pieces would cool further and establish themselves into orbits to form the planets-- smaller pieces, to make the satellites, even smaller ones for the asteroids. Retrograde motion of some could be explained by direction they took from the explosion.

Or could our Sun have captured another from space by attraction at close approach to form the planets as in the case of the binary system?

Apparently we do not have sufficient data so far to postulate a theory which cannot be broken by contradiction. Someday we may gain a workable theory for the origin of the Solar System.

The Ames Entertainment Committee would like to extend their thanks to the various branches and individuals who helped make the Christmas Party the success that it was.

The Committee would also appreciate receiving suggestions for possible themes for a Spring dance.

A REMINDER----

for those of us who have pledged our contributions to charity. The collectors for the NASA-Ames Givers will be contacting us at the end of the month to collect the installment due on our pledge.

BORN 80 YEARS TOO SOON

The following is a set of instructions issued to employees of one company in Salt Lake City in 1870. How does it compare with what is expected of us as employees today?

'OUR BUSINESS CODE -- The store opens at 7:00 a.m. and closes at 8:00 p.m., except on Saturday, when we are open at 7:00 a.m. and close at 9:00 p.m. This is in effect the year 'round. This store will remain closed each Sabbath.

DUTIES OF EMPLOYEES -- Sweep floors, dust furniture, office shelves, and show cases. Remember, 'Cleanliness is next to Godliness. Trim wicks, clean chimneys and fill lamps. Make your pens carefully, but you may whittle the quills to suit your individual taste. Open the windows for fresh air. Each clerk should bring in one bucket of water and one scuttle of coal. These things are necessary to prepare us for the day's business.

Any employee who smokes Spanish cigars, uses liquor in any form, gets shaved at the barber shop, or frequents pool halls or public dance halls will give his employer every reason to suspect his integrity, worthy intentions, and his all-round honesty.

Men employees will be given one evening off each week for courting purposes. Two evenings each week if they go regularly to Church and attend to Church duties. After any employee has spent his thirteen hours of labor in the store, he should then spend his leisure time in the reading of good books and the contemplating of the Glories and the building up of the Kingdom of God!

Taken from the 5th Region Spotlight.

Ames Closeups



DON GAULT

Part-time trombonist with the Peninsula Symphony, part-time cabin-planner, architect, and painter, and part-time pigeon hunter, Don Gault is also a full-time Aeronautical Research Engineer in the Hypervelocity Ballistic Range Branch.

Don, on board since 1944, came to Ames as a member of the Naval Attachment that year. He was born in Chicago, raised in Highland Park, Illinois, and attended Purdue University until beckoned by the Navy. He finished college while in the Navy, went to Midshipmen's School, and on graduation was assigned to Ames.

His first assignment was to the 7- by 10-. After helping to close down that tunnel, he says, he was transferred to the 12-Foot. Somehow the 12-Foot managed to survive, Don continued, until his transfer last month to HBR, and probably has a good chance of staying in business! Following his service in the Navy, Don stayed right on as a civilian, preferring to remain in California.

In 1947 he met an attractive computer in the 7- by 10- whom he promptly married. Don and his wife, Mary, have three children, Kathleen, 10, Frank, and Jan, 4. Their home is in Los Altos.

Don likes to hunt and fish, but he admits that these activities have been curtailed to some degree while his children were in the infancy stage. Now that they are getting old enough to appreciate outdoor activities, Don says, they spend more and more time in the Sierras.

In 1951 Don was fortunate enough to obtain a lease from the Forestry Service on a cabin in the Stanislaus National

Forest near Ebbett's Pass. Don immediately erected a cabin on the spot and it proceeded to collapse under the first winter's snow. He hastens to point out, however, that the snow fall that particular year was extremely heavy (it even stopped the City of San Francisco westbound over the Sierra that year)! He estimates that his rafters supported several tons of snow before finally giving way. The following summer he rebuilt the cabin from the foundation up and has spent each succeeding summer remodeling or adding to it in some way with the help of his family and friends.

Mary joins him on his fishing trips, but shies away from his hunting expeditions. Don prefers to hunt with bow and arrow. The season, which begins two weeks ahead of the rifle season, is much more peaceful and quiet, Don assures us. There's no worry about being hit by a trigger-happy hunter. (Odds are more in your favor against being hit by a wild arrow). How many deer has Don brought back... well, none; but he sure has scared a lot of them!

Around the Peninsula, Don is recognized as a trombonist in the Peninsula symphony. He played in dance bands in high school and college. His father was a professional trombonist, later opening a music store in Chicago.

In his free hours he is currently building an astronomical telescope with his son and trying out his marksmanship with a blow gun.

In this latter capacity as a blow-gunner, Don has tried to assist Ames in solving their excess pigeon problem. The pigeons have been multiplying over the years to the point where they have become a nuisance. With trusty blow gun in hand, Don stalks the birds... to date, the results are about the same as with the deer. He hasn't depleted the pigeons in numbers, but if you've noticed, they seem to be a lot more nervous! His friends at the 12-Foot believe he requested his move to HBR to be nearer the pigeons that roost on the 40- by 80-. Some even say Don is working on a "two stage" blow gun that will reach the higher roosting altitudes of the 40- by 80- pigeons!

FOOTHILL COLLEGE SPRING SEMESTER CLASS SCHEDULES

More than 143 day courses will be offered in 31 subject areas for the spring semester at Foothill College. Evening courses offered for the spring semester

Ames Airings

Many Ames employees took trips over the holidays to be with relatives... RALPH MAINES (Security) flew to New Jersey by jet to visit his family for the holidays. He left December 17 and returned the 5th of January... Relatives in Redondo Beach welcomed TOM and BETTY THOMSEN (Proc. & Supply and Personnel) for Christmas... JOHN LEVEEN (Personnel) drove to Fresno to spend on to Bakersfield for Christmas Day... RUTH S. RYDER (8x7) has been visiting her parents in New Bedford, Massachusetts for two months. She is returning on January 11... Los Angeles was the destination for JANIS COLVILLE (Ad. Serv.). She and her husband spent 10 days with relatives... Another fortunate spectator of the Rose Bowl Parade was IRMA RAMEY (8x7) who spent New Year's Day in Pasadena... FRED BLUME (Proc.) has just returned from a coast to coast jaunt of 6,000 miles via Texas, Georgia and Florida... EMMA ROOT (Proc.) recommends Harrah's new Theater Restaurant at Stateline. She enjoyed the snow last week end at Tahoe... and the Astrogram Editor, BRAD WILSON (Personnel) left Christmas Eve to spend several days in Ukiah with his family, returning to his task of editing the news January 4, 1960... MERRILL H. MEAD (Office of the Director) was host to Dr. Ryuma Kawamura and Dr. Hideo Tanaka of the University of Toyko when they visited the Center on December 15... BRIAN DOOLIN (Guidance & Control) will be leaving around the middle of the month for New York City to present a paper before the 6th annual meeting of the American Astronautical Society. The paper entitled "The Influence of Gravity on the Angular Motion of an Earth Satellite" is co-authored with WILLIAM TRIP-LETT (Guidance & Control).

total 75. Day and evening sections are available in most fields, according to Dr. H. H. Semans, dean of instruction. Classes are taught from 8 a. m. to 10 p. m. daily. Spring semester instruction for both day and evening classes begins on February 1.

Printed schedules for both day and evening classes are now available at the college and in the Ames Personnel Office.

ASTRONAUTS TRAINING REPORT
Continued from Page 1

for a change after fighting the centrifuge until it whipped you or you whipped it. As a group, the Astronauts took between 14 and 16 G's with some taking as high as 18 G's.

A good portion of the Astronauts' time in the next few months will be taken up in the business of making engineering contributions to the final delivery of the systems. Each Astronaut has been assigned to a subject area of specialization. Alan Shepard and Scott Carpenter's (the only two Astronauts attending the press conference) were recovery process and navigational aids, respectively. In these specialized areas they are members of working panels composed of NASA people and representatives of the other agencies that are involved in the particular system under study and they are, as engineers, actually making a contribution to the development and production of these systems.

"SPACE - THE WORLD'S FRONTIER"

Continued from Page 1

May 16--"Space Science - Problems and Accomplishments", R. T. Jones, research scientist, Ames Research Center.

The capacity of the Lockheed auditorium is limited to 200 persons. Advance reservations for any lecture or the total series may be made by calling the college at YOrkshire 8-6521, ext. 8. The lecturers will speak for 40 or 50 minutes and the talk will be followed by a question and answer period.

BLOOD BANK DUE HERE
JANUARY 21

Those employees who are planning to donate blood to the Santa Clara Valley Blood Center, are reminded that the mobile unit will be here from 9:00 a.m. to 12:00 noon on January 21. Donors may sign up on the sheet provided for that purpose in each branch chief's office. Employees may also sign up for other members of their family who may wish to donate on that date.

Those who have donated before as well as those who will be donating for the first time are urged to sign up now. All employees are also reminded that they or their immediate family can obtain blood from the bank.

IT'S ALMOST TIME AGAIN

A new two-page Federal income tax return form has been devised by the Internal Revenue Service for use by individual taxpayers as an additional short form. The new return, Form 1040W, will help taxpayers who are not eligible to use the punch-card Form 1040A, but whose affairs do not require the use of the business and investment schedules on regular Form 1040.

This short form will be of particular benefit to wage and salary earners who wish to claim (a) head of the household or exclusion and credit for dividends received; (d) estimated tax payment credit; or (e) itemized deductions for contributions, interest payments, medical payments and the like.

With the addition of the new form the taxpayer will be able to better select the income tax return form that suits his needs. The requirements for each of the available return forms are as follows:

Form 1040A - This is the easiest form if the taxpayer is eligible to use it. He may use this form if:

- (1) His gross income is less than \$10,000 and (2) It consisted of wages reported on withholding statements (Form W-2) and not more than \$200 total in other wages, interest, and dividends, and (3) He wishes to take the standard deductions instead of itemizing deductions.

Form 1040W - This is the new form. A taxpayer may use this form if:

- (1) His income consists of salary and wages regardless of amount, and (2) Not more than \$200 of dividends and interests, and (3) No other items of income.

Form 1040 - This is the standard form which anyone can use.

These forms can be obtained from the Local Internal Revenue Office.

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Editor: B. P. Wilson
Reporters: NASA Employees.

WANT ADS...

For Sale--University 3-way speaker system, C-15W woofer, Cobreflex horn with T-30 driver squawker, HF-206 hypersonic tweeter including all horns and 3-way crossover. \$120. Call Bill Kerwin, ext. 341.

For Sale--1955 Nash Metro, 32,000 miles, R & H, 2 spare tires. 30 miles per gallon. H. Blomquist, ext. 218 or ALpine 2-6229. Price: \$600 or best offer.

For Sale--or trade for chain saw --a Roto Tiller Rotoette. Call Schillerstrom, Machine Shop.

For Sale--1949 Chevy, 4-door; good transportation. Starts easily, runs well; in good condition. Clean; new seat covers. \$185. Phone: CHestnut 5-2319.

Wanted--Rider for car pool in vicinity of O'Connor Hospital, San Jose 8:00 to 4:30 shift. Call Fallo ext. 340.

For Sale--1953 Chev. Bel-Air, 4-door sedan. Original owner, radio, heater, stick shift, good rubber, A-1 condition. Call Beverly Jaques, CH 8-1764 or ext. 244 at Ames.

Wanted--Rider wishes to join car pool in vicinity of Darvon Park, Santa Clara. 8:00 to 4:30 shift. Call Ron Berlin, ext. 385.

For Sale--Simmons hide-a-bed, good condition. Call CH 5-114 after 5.

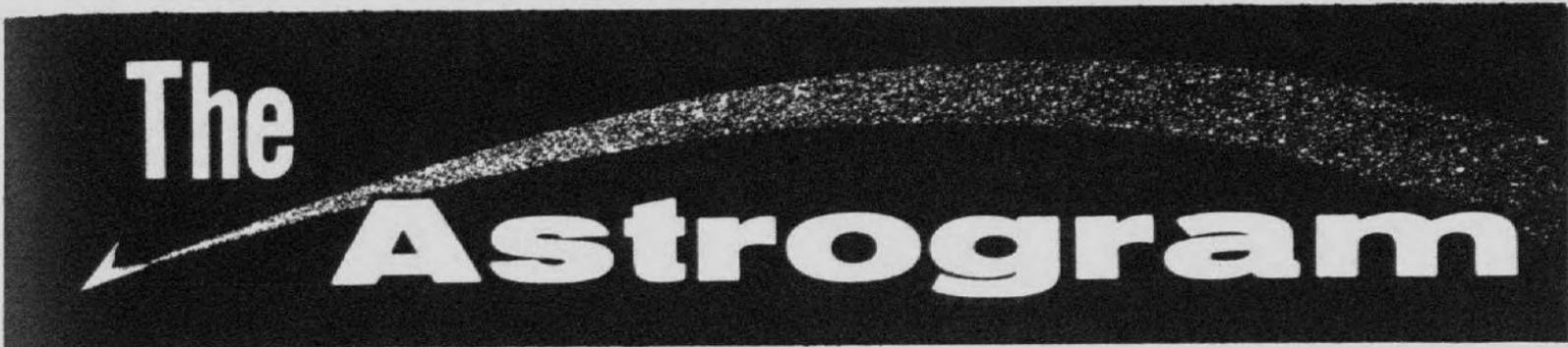
FICA RATE INCREASE DUE

NASA Headquarters has announced an increase from 2 1/2% to 3% in Federal Insurance Contribution Act (FICA) tax rates to be effective on January 1, 1960.

Employers' contributions have similarly been increased to 3% making a total of 6% for both. The new rates are applicable to the first \$4800 paid on or after the effective date.

The rate change affecting those with FICA deductions will be reflected in the first paychecks received after the first of the year.

No change in income tax withholding deduction rates is involved in this announcement.



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Upper Stages for Saturn Ordered

The National Aeronautics and Space Administration and the Department of Defense have requested the Army Ballistic Missile Agency to initiate negotiations with industry within a month for upper stages powered by cryogenic propellants for the Saturn space vehicle.

The action follows approval by NASA of a Saturn development program recommended by the Saturn Vehicle Team composed of representatives of NASA, ARPA, ABMA, Department of Defense Research and Engineering, and the Air Force. NASA assumed technical direction over Saturn under a NASA-DOD agreement of 18 November 1959 pending formal transfer of ABMA to NASA. (NASA Release No. 59-251).

The upper stages will be mounted on the Saturn 1, 500, 000 pound thrust booster under development by ABMA since August 1958. The booster is powered by a cluster of eight Rocketdyne H-1 engines using liquid oxygen and RP-1 propellants contained in nine tanks. The booster is scheduled for its first test flight in the 1961-62 period.

The Saturn development plan approved by NASA Administrator T. Keith Glennan calls for an initial vehicle of two or three stages depending on specific missions. It will be about 150 feet high in its three stage configuration.

FAREWELL PARTY FOR KEEN

A farewell party for John Keen, who retired December 31, 1959 is being held February 5, 1960 at the "Old Plantation" restaurant on El Camino and San Antonio Road, Los Altos. The menu is fish or steak. Price is \$3.25 per person, including present and tip. Tickets available from Tom C. Moore or Bud Farris 40 x 80, ext. 244.

NASA Appoints Congressional Liaison Officer

David Keyser has been appointed Chief Congressional Liaison Officer for the National Aeronautics and Space Administration to serve under the Assistant Administrator for Congressional Relations, James P. Gleason.

Keyser was administrative assistant to Representative Charles J. Kersten of the Fifth District of Wisconsin from 1951 to 1955.

Keyser will contact members and committees of the Senate and House of Representatives on matters relating to NASA.

Prior to his NASA appointment, he worked as a municipal consultant, assisting various city governments in the East and Middle West to organize and modify city ordinances.

Keyser was born in Milwaukee, Wisconsin, on September 27, 1918. He attended schools in Milwaukee and graduated with a bachelor of laws degree from Marquette University in 1942.

During World War II, he served with the Army Air Corps as communications officer for a P-47 fighter squadron in the European theatre.

CHANGE IN LOCATION OF "SPACE - THE WORLD'S FRONTIER" LECTURE SERIES

The heavy demand for reservations for the space lecture series sponsored by Foothill College has necessitated moving the lectures, which opened January 18, to the Palo Alto High School auditorium.

This auditorium is located on Embarcadero Road at El Camino Real. All lectures in the series will be held in the Palo Alto auditorium and will begin at 8 p. m. The new auditorium seats more than 600 so advance reservations are not necessary.

NASA Renames Headquarters Unit

The National Aeronautics and Space Administration has renamed three of the four major offices in its headquarters organization.

They are:

- Office of Advanced Research Programs (formerly the Office of Aeronautical and Space Research), under direction of Ira H. Abbott, and charged with advanced research in aeronautics and space.

- Office of Space Flight Programs (formerly the Office of Space Flight Development), under direction of Dr. Abe Silverstein, charged with mission planning, payload design and development, and in-flight research and operation.

- Office of Launch Vehicle Programs, a newly-formed headquarters unit under Maj. Gen. Don R. Ostrander, USAF responsible for development and launch of space vehicles.

The fourth major headquarters unit, the Office of Business Administration, will continue with the same name and functions.

OTTO MECKLER GETS SECOND HOLE-IN-ONE IN THIRTY YEARS OF GOLFING

A long time golfer and present champion of the Ames Golf Club, Otto Meckler rounded out the year 1959 with a hole-in-one on the eleventh, 160 yard, par three hole at El Rancho Verde Golf Course in San Jose, on December 31, 1959.

His ace was witnessed by Bob Thompson and Ernie Medeiros of Structural Fabrication and Chuck Tompson of San Jose. Incidentally, Otto made his first hole in one at this same golf course on the sixteenth hole earlier the same month. So, if you are trying to locate Otto next December, you will probably find him at the El Rancho Verde Golf Course striving for his third hole-in-one.

Astroventuring... ★ with Walt Krumm

THE ZODIACAL LIGHT

If you follow the zodiac from horizon to zenith on a good dark night you will notice a thin triangular shaped region of soft light similar to the Milky Way but much more faint. This is the Zodiacal Light and it extends from either side of the Sun along the zodiac. It is best seen in spring or autumn evenings when the zodiac is most nearly vertical. If too faint because of town lights and haze, try the skyline and look west toward the horizon (when there is no moon).

This real but inconspicuous glow is thought to be explained by the sunlight reflecting from a band of meteoritic particles and dust that lies in the plane of the ecliptic. Fath, at Lick, found the spectrum of the zodiacal light to be the same as sunlight and Elvey finds the light to be yellow though slightly variable. This infers the particles are larger than those of the atmosphere which scatter light to produce the blue of the sky.

THE GEGENSCHWEIN

Far more difficult to see, and quite imperceptible when there is the least haze or artificial light, is the Gegenschein. This is a dim oval spot of light exactly opposite the Sun and following the Sun's annual motion.

If an infinitesimal body were launched at the proper speed and direction about a million miles out and exactly opposite the Sun, it would remain there indefinitely. The motion is an example of the three body problem and UNSTABLE (three in a line - remember the triangular case in the example of the Trojan Asteroids of Jupiter?). Any external force, ever so slight, would disturb it and certainly the attractions of the other planets would do so. Now - in the Gegenschein, it is thought that meteoritic particles in their moving through interplanetary space reflect sunlight at this particular spot (the anti-solar point) and that the glow remains constant because of the continuous flow of particles past this point.

REVIEW OF THE SOLAR SYSTEM

The above sketch shows the solar system as seen from outside. Next we will put the entire system

Personnel-ly Speaking

The following is the fourth in a series of questions and answers prepared by the Civil Service Commission concerning eligibility, plans, cost, and other features of the new health benefits law passed by the last Congress. Federal employees will be given full information in ample time to enroll for benefits before the law becomes effective in July, 1960.

Q. What is the reason for having various plans and options?

A. There are two main reasons. First, it allows employees free choice of the kind of plan they prefer, for example, service benefits or indemnity benefits. Second, some employees may feel that they do not need as much protection and should not have to pay for coverage that they do not want. With the various plans and options you will be able to choose one which best fits your needs.

Q. How will I be able to decide which option or plan is best for me?

A. Before the law becomes effective, you will be given literature explaining the benefits of each plan and each option. You will then be able to select the plan or option you like best.

COST

Q. I have health benefits now. Will I be able to save any money if I enroll under the new law?

A. If you enroll in a plan or option with approximately the same benefits you now have, you would save money because the Government will be contributing part of the cost you now pay.

However, many employees will be able to enroll in a plan which offers much better benefits and will cost more than the plans they now have. But, because the Government will be contributing part of the extra cost, they will be paying approximately the same amount as they do now. Thus, such employees will be getting much better benefits at little or no additional cost to themselves.

Q. How much will the Government contribute toward the cost of my coverage?

A. Except in the situation explained in the next question, the Government will contribute not less than these specified amounts:

\$2.80 a month if you enroll for yourself only;

\$6.75 a month if you enroll for yourself and family.

(Note: The amounts mentioned here and in the next questions do not apply to a female employee who enrolls for self and family which includes a nondependent husband. If you are such a female employee, see later questions which apply to you.)

into space in the galaxy but first let us put the solar system together from the pieces we've been discussing in the past articles.

At the center our star - the Sun - dominates the entire system with a diameter 10 times Jupiter's, (the next largest body in the system) and 109 times the diameter of the earth. If you took a spherical liter flask as the scale size for the sun, our earth would be as a B-B shot in comparison.

Going outward from the sun we have the planets in their orbits - Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto - with their attendant satellites. And between the orbits of Mars and Jupiter the asteroids. Then the comets which closely circle the sun at their perihelion and move in vast ellipses out into space at their apogee. Interspersed among all this are the meteors (macro-meteors, regular

meteors and micro-meteors) from large bodies to the dust-like smallest, some of which move in orbits of extinct comets.

We know of no planet within our solar system to sustain life as we have it, other than the earth. We know of no other star that has a planetary system such as ours. It is suspected that some suns have ONE planet for we know that a few suns have dark bodies circling them and if we calculate the mass of these dead bodies, measure their temperatures, etc., we can calculate if they are only a double star system (one of which has burned out) or if they fit into the dimensions of a planet.

There is nothing to indicate that life as we know it does not exist elsewhere, but were we to develop space travel, it is indicated that we must look for a solar system other than our own in which to find it.

Ames Closeups



MARCUS ZEIGER

Who's Who in Engineering currently lists Marcus Zeiger as a "propeller specialist". Marcus, however, says that to solve the problems encountered in modifying conventional propeller configurations, a "windmill wizard" is what is needed! By any name, Marcus Zeiger has been doing the job at Ames since 1945.

A native of Canton, Ohio, Marcus attended John Carroll University in Cleveland before joining the Army Air Corps in 1933. Following training in the Air Corps Technical School, he took a propeller specialist course in 1938, a Link Trainer course in 1940 and a general engineering course at the University of California in 1944. During these years he served as an instructor at Chanute Field, Illinois and prior to coming to Ames worked as an instructor and department head of the Boeing propeller section of United Airlines.

Since coming to Ames, Marcus says he has worked on just about every propeller that has come to this Center. He is not dismayed by the jet and rocket age, but continues to keep busy with his "pin-wheels" and props for the many VTOL craft now being tested here. He has even assembled and balanced propellers with alternating positive and negative angled blades for calibrating electric motors.

He's not the only Zeiger at Ames, either. Bob Zeiger, in the Machine Shop, is Marcus' son. He also has a daughter, Mary, 14. Marcus and his wife Marian, together with their children currently reside in San Jose. When not tending his windmills, Marcus goes hunting and fishing with Bob in the Marble Mountain wilderness area in the northeastern part of the state. Last year they packed in

RECENT ARRIVALS

Employees recently reporting to work include ALBERT J. NEVOTTI of San Francisco, a graduate of Omaha University, assigned to Fiscal as an Accountant; CYNTHIA M. GENTRY of Sunnyvale, assigned to the 40-by 80- as a Math Aid; F. ELMER DEBEVOISE of Los Altos, a graduate of Syracuse University, assigned to Procurement and Supply as a Contract Specialist; RICHARD F. WEICK of Albuquerque, New Mexico, a graduate of Texas A & M College, assigned to Flight Systems Simulation as an Aeronautical Research Engineer; EDITH M. WILLIAMS of Sacramento, assigned to Electronic Machine Computing as a Digital Computer Systems Operator; ALLA M. HEMBROW of Mountain View, a former employee, assigned to Fiscal as a Voucher Examiner; EDITH M. LAZZERONI of Santa Clara, a former employee also, assigned to Procurement and Supply as a Clerk Typist; ELSIE K. BAXTER of Kingsville, Texas, assigned to Fiscal as a Cost Accounting Clerk; VYRA M. OLSON of San Jose, assigned to Ad Services as a Clerk Typist; FLOR-ENCE IRWIN of San Carlos, assigned to the 40- by 80- as a Secretary Stenographer; and VENIA E. MCCLOUD of Palo Alto, a former employee, assigned to Flight Systems Simulation as a Math Aid.

to the Elk creek area near Happy Camp and discovered gold! They staked a claim and now have a bonafide gold mine they have dubbed the "Fawn".

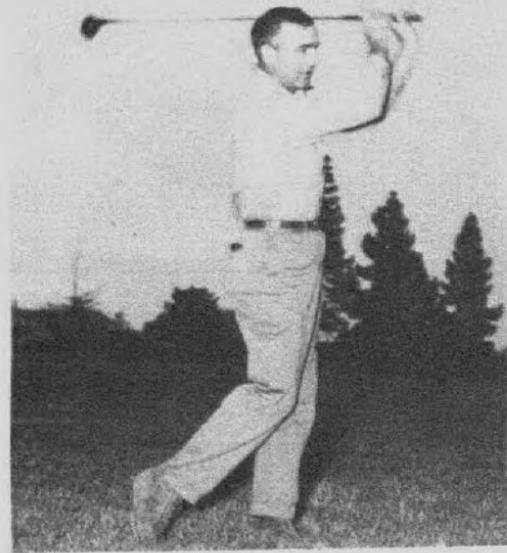
Marcus' hobbies include guns and Cadillacs in addition to his gold mine. He and Bob frequently get under the hood of the Cad, take it apart, and reassemble it after making certain that every part is in order to function properly. He also enjoys working on his guns and doing his own reloading.

An active member in Civil Defense for the past ten years, Marcus is President of the radiological group (known in CD circles as "Zeiger's Geigers"). In spare moments, he also becomes engaged in real estate activities as a salesman for Donovan Realty, in San Jose.

A member of the Institute of Aeronautical Sciences since 1944, Marcus reminisces about the past 15 years at Ames. He says he has enjoyed every minute of it and believes it would be hard to find a more select group of artisans than his fellow employees right here at Ames.

Ames Airings

JO DAUGHERTY (VED) and daughter Helene Daugherty (formerly of 40- by 80-) spent Christmas with her brother whom she had not seen in 23 years. He is a retired Army officer, now living in Phoenix. They visited Arizona, Palm Springs, and Desi Arnez hotel at Indian Wells. . . . CLEVE FOSS (Personnel) returned from a 3-week classification survey at Langley Field, Virginia to recuperate for a couple of weeks before leaving for Edwards, where he is currently spending 2 weeks. . . . A lovely setting was provided by the Wayside Chapel on the Santa Cruz Highway for the marriage of KENNETH MORT (40- by 80-) and the former Irene Cameron on December 27, 1959. The couple honeymooned in southern California for about a week, returning to make their home in San Jose. . . . Carline Pierce (formerly of Personnel) was honored at a combination baby shower and luncheon by several Ames employees at the "Berry Farm" on January 16. . . . VERNON ROSSOW (Theo.) will present a paper at an international meeting on Magnetohydrodynamics in Williamsburg, Pennsylvania on January 22, 1960. Dr. Rossow is presenting the paper in recognition of his significant contribution in this subject. Scientists from all over the world have been invited to the meeting and the Center is especially honored to have Dr. Rossow represent the NASA.



Otto Meckler, of Structural Fabrication Branch, waited thirty years to make a hole-in-one--then made two, both this year. See story on page one.

WANT ADS...

For Sale--Two twin spring and mattress sets. One set - \$15, mattress separately - \$5, spring separately - \$10. One Lawson maroon sofa \$25. One mahogany radio-phonograph console with a three-speed record changer - \$25. One ladder-back chair - \$5. One radio speaker with an extension cord \$5. Call DA 2-7921.

For Sale--1949 Buick 4-door sedan. Good tires, radio, heater, \$100. Call Fallo, ext. 340.

For Sale--Upright piano. Good condition; reasonable. Call ext. 260.

For Sale--1954 Olds Holiday Coupe. Radio, heater, hydramatic, power brakes. Very good condition. Phone ext. 305 or CH 5-1141.

Wanted--Rider to join car pool vicinity O'Connor Hospital. 8:00 to 4:30 shift. Call Fallo, ext. 340.

For Sale--1951 Nash 4-door sedan, overdrive, R & H, many extras, \$175. Call YO 7-3027 or ext. 237.

Wanted--Rider wishes to join car pool in vicinity of Lawrence Station Road & El Camino Highway, Santa Clara. 7:30 to 4:00 shift. Call Bob Hughes, ext. 226.

For Sale--Two mahogany Mersman end tables. Ext. 385.

For Sale--Aquarium. Holds six tanks. Sand blasted blond front, on castors. A few tanks, etc. Also Divan love seat. Call Andy Thomas, ext. 327 or RE 9-0851.

For Sale--Frigidaire electric stove Imperial model, pink, french doors. Never used. \$225.00

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Editor: B. P. Wilson
Reporters: NASA Employees.

IAS Flight Test Engineering Fellowship

The days of test flying by sheer courage and guesswork are long past. It still takes plenty of courage, but the guesswork has been largely replaced by science.

Today, scientific skill and accuracy are demanded for the observation and reporting of the flight behavior of tomorrow's air/space craft. The primary prerequisite of competence is a solid foundation of advanced technical training in the science of test flight.

To help meet this demand the IAS awards Fellowships in Flight Test Engineering. The candidates selected pursue two years of graduate study at Princeton University, leading to a master's degree or doctorate in engineering. The Fellowship award covers the course of study and related research for one year.

The total grant of the Flight Test Fellowship is payable to the University which distributes the stipend to the Fellow in accordance with its standard procedures. Renewal for the second year is contingent upon satisfactory performance during the first year.

Applications are invited from candidates possessing bachelor's degrees in engineering. Candidates may be enrolled in an educational institution or be employed when making application. Applicants must be citizens of the United States.

The total award for the First Year Fellow is \$3,350 and the total award for the Second Year Fellow is \$4,450. Awards are made on a competitive basis. The Board of Award consists of Dr. Hugh L. Dryden, Deputy Administrator, NASA; Professor Courtland Perkins, Chairman, Aeronautical Engineering Department, Princeton University; and S. Paul Johnston, Director of the Institute of the Aeronautical Sciences. The closing date for applications is March 1.

For further information concerning the IAS Flight Test Engineering Fellowship, contact your Training Officer, John Leveen, room 109, Administration Building, phone ext. 260.

MILTON B. AMES NAMED DEPUTY DIRECTOR OF ADVANCED RESEARCH PROGRAMS

Milton B. Ames, Jr., has been named Deputy Director of the Office of Advanced Research Programs in the headquarters of the National Aeronautics and Space Administration. The office is responsible for advanced research in aeronautics and space conducted or sponsored by NASA. Ames was formerly Assistant Director of Research for Aeronautics and Flight Mechanics. The appointment to the new post was effective January 10.

Ames, a native of Norfolk, Virginia, was born September 21, 1913. He earned a Bachelor of Science degree in Aeronautical Engineering from Georgia Institute of Technology in 1936.

He joined the staff of the National Advisory Committee for Aeronautics, the predecessor of the NASA, as an aeronautical research engineer at the Langley Research Center in 1936. From 1941 to 1943 he was Engineering Assistant to the NACA Director at headquarters. During the following three years he was Engineering Assistant to the Chief of Military Research in Washington. In 1946 he was appointed Chief of the Aerodynamics Division and later became Chief of the Aerodynamics and Flight Mechanics Research Division when the NASA was established October 1, 1958. He was promoted to Assistant Director of Research for Aeronautics and Flight Mechanics May 12, 1959.

A Fellow of the Institute of the Aeronautical Sciences, Ames was chairman of the Washington Section in 1948-49. He is the author of a number of technical publications.

BASKETBALL

Last Call - This is your last opportunity to join the Ames Inter-Branch Basketball League. The league is open to all Ames employees. The Mountain View Gym will be available for regular play on Monday evenings.

Mr. P. Nicholas, Mountain View Recreation Director has offered Ames the use of the gym on Monday evenings, free of charge.

An organizational meeting will be held in the private dining room at 2:30 p.m., January 22nd. Be sure to be present if you desire to enter a team - or to be put on one.

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOL. II

FEBRUARY 4, 1960

NUMBER 8

Golovin Named Deputy to Associate Administrator

Nicholas E. Golovin has been appointed Deputy to NASA's Associate Administrator, Richard E. Horner. Before joining NASA, Dr. Golovin was Deputy Chief Scientist and Director of Technical Operations Division of the Defense Department's Advanced Research Projects Agency.

In his new post, Dr. Golovin will assist in the general management of the operations connected with NASA's space and aeronautical programs.

Dr. Golovin was born in Odessa, Russia, on March 18, 1912, and came to the United States in 1923. He earned undergraduate and graduate degrees in mathematics and mathematical physics from Columbia College and University. In 1955 he received his Ph. D. in theoretical physics from George Washington University. In addition, he is a graduate of the nuclear reactor engineering course at the Oak Ridge School of Reactor Technology.

Dr. Golovin joined the ARPA staff in February 1959 as Director of the Technical Operations Division, responsible for the management of that agency's programs in military space technology and advanced research in ballistic missile defense and solid propellants.

BEGINNING RUSSIAN

Foothill College will again offer a course in beginning Russian. The course started last Monday night (Feb. 1) and will meet weekly on Monday and Wednesday evenings from 7 - 10 p. m.

Students enrolling in the course must first successfully complete the English counseling examination.

The course will include the fundamental principles of Russian grammar and syntax, with intensive drills in pronunciation and conversation.

Credit Union Holds Annual Meeting

All members of the Moffett Field Credit Union were invited to attend the annual meeting of the organization held Tuesday evening, January 19, in the Ames Auditorium.

An election of officers was held with the following results:

Elected to the Board of Directors were: Joe Bergen, Abe Brass, Ben Shoemaker of Ames, and Larry Ferguson, Navy. Elected to the Credit Committee were Rene Estes, Chief, of the Naval Air Station, and Dale Shute of Ames. Glen Baker of Ames was elected to the Supervisory Committee.

A 4½% dividend was declared at the meeting with total number of credit union shares currently held by members given in the amount of \$222, 711. 91.

Topics discussed included the

NASA BALLOON SENT OUT 250 MILES

NASA launched a 100 foot diameter balloon from Wallops Island, Virginia, on January 16. Made of micro-thin plastic with a coating of aluminum, the sphere reached an altitude of 250 miles. At this height it acted as a reflector for a continuous radio signal sent from a transmitter at Holmdel, New Jersey.

NASA officials have announced plans to send a similar sphere from Cape Canaveral in the spring as a communications satellite. Radio stations, oceans apart, may use the orbiting balloon as a reflector to send radio messages.

various types of insurance designed to protect the accounts and bans of credit union members. Guest speaker for the evening was "Frenchy" Doublet, Director of Field Services of the California Credit Union League.



Present at the regular weekly meeting of the officers of the Moffett Field Credit Union on February 1, were the Ames personnel pictured above. Left to right are Ben Shoemaker (Photo), Glen Baker (Electronic Instrument), Abe Brass (Machine Branch), standing, and Joe Bergen (Fiscal) and Annette Bratlien (Fiscal), seated.

Astroventuring... ★ with Walt Krumm

THE MILKY WAY SYSTEM

We have been discussing our solar system and its components in the past issues of the Astroventurer. Now we will put our solar system into space and we must remember that -- (1) our Sun is a star -- and (2) we cannot see the solar systems of other stars.

All of the stars we can see by eye and a lot more that can be seen by telescope are in our galaxy - the Milky Way Galaxy. If we survey these stars and plot them three-dimensionally we get a diagram that appears much like the picture we so often see of the Great Andromeda Galaxy. In fact, the Andromeda Galaxy has often been called our twin. On this diagram our Sun would appear about 3/4 the way out from the center but within the main disc of the galaxy.

As we survey these stars for our diagram, we can find their distance, brightness, luminosity, size, temperature, proper motion, and radial velocity - these properties of a star we will discuss in future articles.

The ancients grouped the stars into constellations and gave them names after mythological characters they thought they could see in the sky. Even today the astronomers use these constellation names given by the ancients.

Probably the most interesting of the constellation names are those of the zodiacal constellations that lie along the path of the sun, moon, and planets through the sky. Aries (the Ram), Taurus (the Bull), Gemini (the Twins), Cancer (the Crab), Leo (the Scalis), Scorpius (the Scorpion), Sagittarius (the Archer), Capricornus (the Sea Goat), Aquarius (the Water Carrier) and Pisces (the Fishes).

Just how one sees the Fish as outlined by the stars of Pisces, for example, or how one can make a Ram of the three visible stars of Aries, etc., is sometimes beyond comprehension, but mythology is one of the fascinating topics in astronomy.

The astrologers - those who use the psuedo-science which treats of the influences of stars upon human affairs and of foretelling of terrestrial events by their positions - have misused the work ASTROLOGY so much that we must now use the ASTRONOMY

Personnel-ly Speaking

The following is the fifth in a series of questions and answers prepared by the Civil Service Commission concerning eligibility, plans, cost, and other features of the new health benefits law passed by the last Congress. Federal employees will be given full information in ample time to enroll for benefits before the law become effective in July, 1960.

Q. In what kind of situation would the Government contribute less than the \$2.80 or \$6.75 a month mentioned in the previous question?

A. If the total charge for the plan in which you enroll is less than twice the specified Government contribution - that is, if the charge is less than \$5.60 or \$13.50 a month -- then the Government will contribute one-half the cost of your enrollment. For example: If you enroll for yourself and family in a plan the total cost of which is \$10 a month, the Government would contribute \$5 and you would contribute \$5; if you enroll for yourself only in a \$4 a month plan, the Government would contribute \$2 and you would contribute \$2.

Q. What will be the monthly charge of the various plans in which I will be able to enroll?

A. The exact charge for each plan will not be known until the specific benefits which each plan will offer you have been agreed upon.

However, it is expected that at least one option in the two Government-wide plans will offer both basic health and "catastrophic" benefits at a total charge of about \$13.50 a month for a family enrollment so that you will pay about \$6.75 and the Government will pay \$6.75. Similarly, at least one of these options will cost about \$5.60 a month for a self-only enrollment so that you would contribute about \$2.80 and the Government would contribute \$2.80.

The other options of the Government-wide plans will offer greater benefits and therefore will cost more.

Q. If an employee -- or survivor-annuitant continues the health benefits coverage, does he have to pay for it?

A. Yes. However, he does not have to pay more than an employee who is enrolled in the same plan.

Q. Will the Government contribute to the cost of an annuitant's enrollment?

A. Yes -- on the same basis as to an employee's.

Q. How will an annuitant pay his portion of the enrollment cost?

A. It will be withheld from his monthly annuity.

Q. Will an annuitant be entitled to the same benefits as an employee?

A. Yes. All plans will provide the same benefits for annuitants as they do for employees.

BASKETBALL

The Ames Basketball League will commence action on the 8th of February at the Mountain View High School Gym. The 3.5 Foot

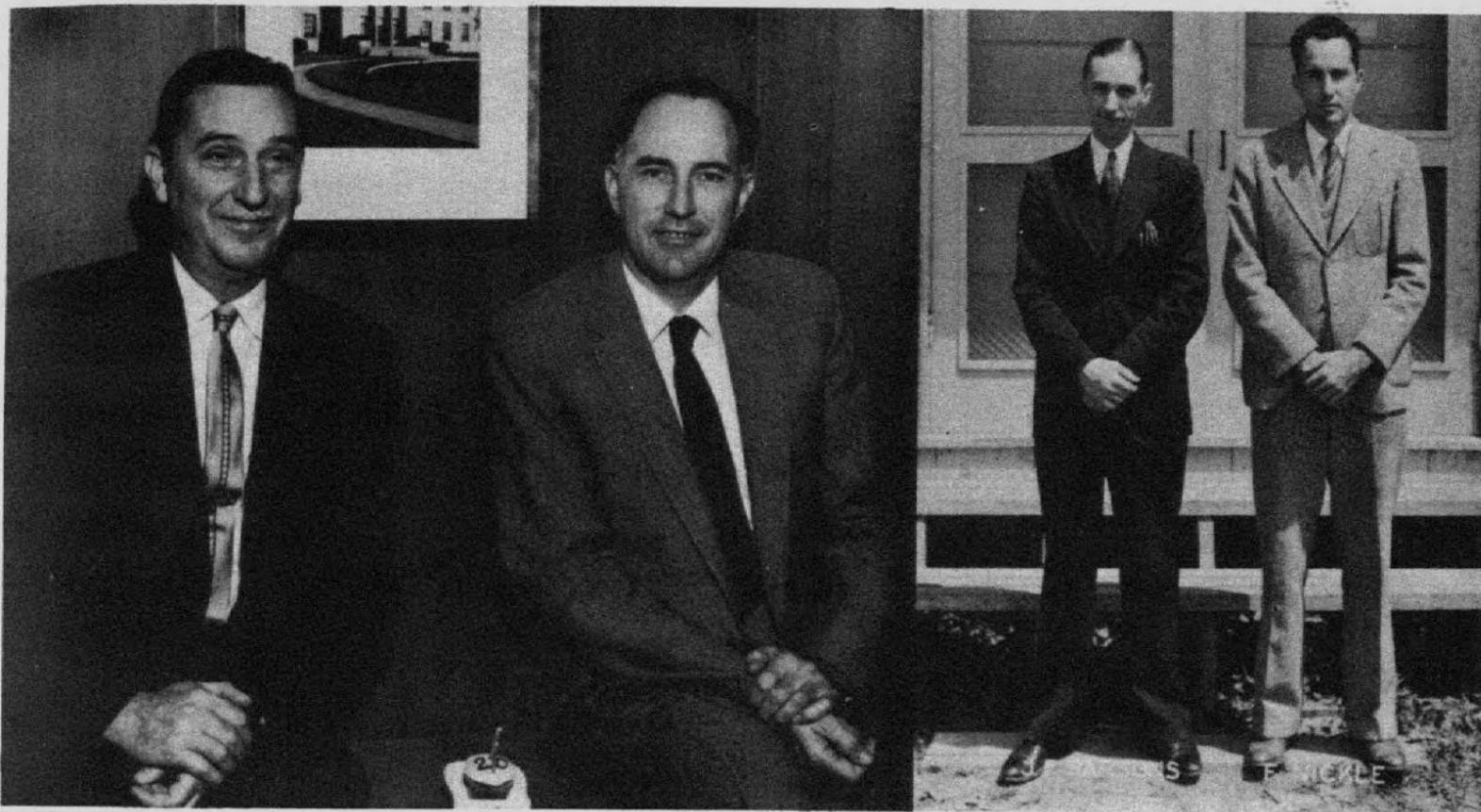
will play the Shops at 7:15 p.m. and the Orphans will tangle with the 8- by 7-Foot Wind Tunnel at 8:15 p.m. The teams will play a round robin schedule for six weeks and the final two weeks will be reserved for playoffs. All league games will played on Monday nights at the Mountain View High School Gym.

Every effort has been made to make the teams as evenly balanced as possible so it should prove to be an interesting season. If there are any employees who wish to play and have not been assigned to a team, please contact either Rich Petersen, ext. 401 or Harry DeVoto, ext. 235.

for our science - which treats of celestial bodies, their magnitudes, motions, constitutions, etc.

And with the stars we see in the sky we find double and multiple stars, variable stars, diffuse nebula, planetary nebula, star clusters, globular clusters, etc. These we will discuss in later issues also.

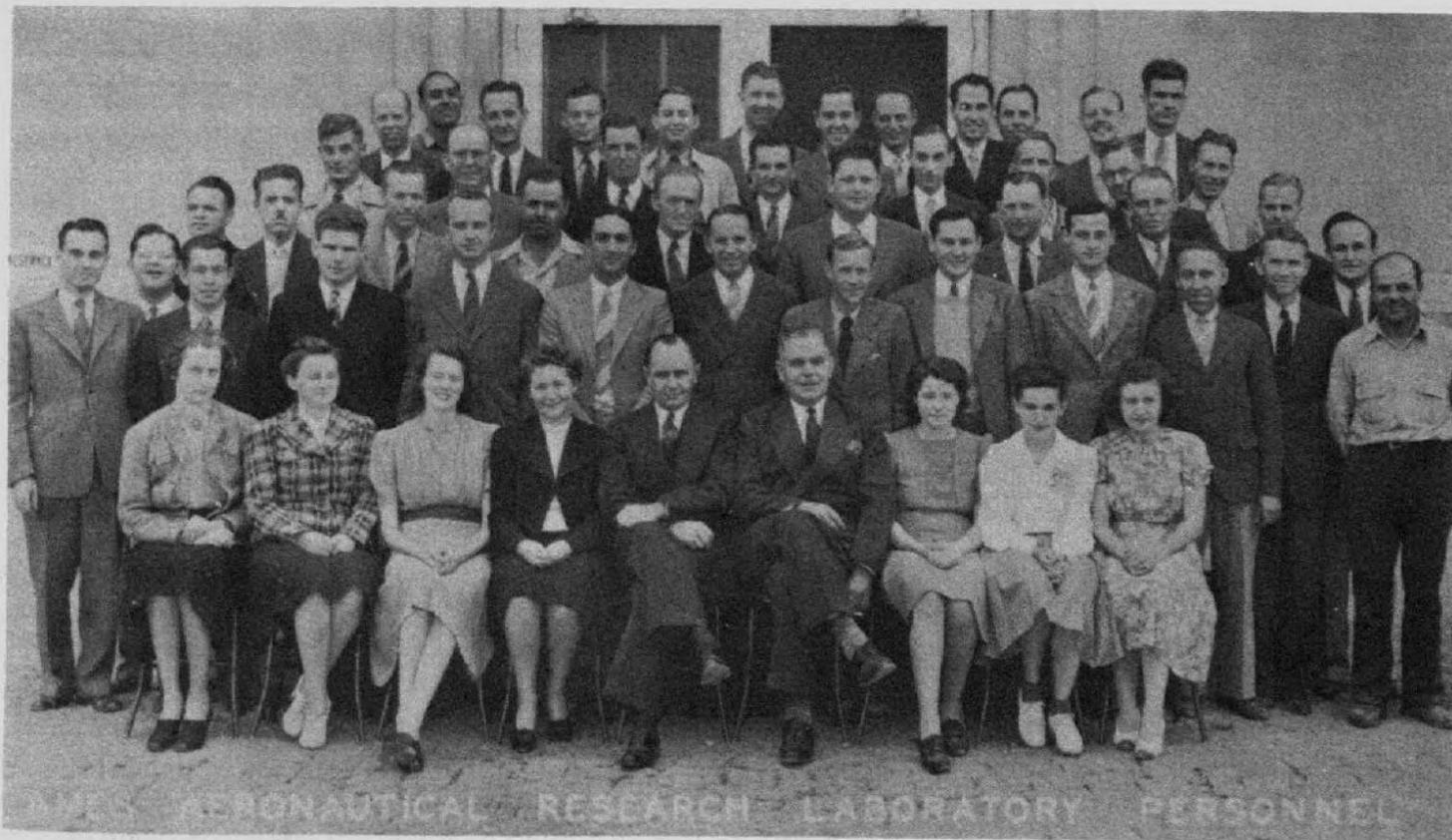
Celebrating 20th Anniversary



Ferril Nickle, Ames Budget Officer, remembered January 29 and brought an "Anniversary Cake" to John Parsons, Associate Director, in honor of their 20th anniversary at Ames on that date. Parsons, on the left, refrained from cutting the cake long enough for our photographer to get the above picture.

Twenty years ago, Parsons and Nickle posed for another photographer in front of the construction shack that was to be their temporary headquarters. They were the first NACA members to arrive from Langley. The "shack" still exists, but was moved outside the main gate where it is in service as part of the Navy NCO Club.

TWENTY YEARS AGO



By August 30, 1940, the staff of Ames had been increased considerably. The above picture was taken on that date. Many of the people shown here are still at Ames. How many can you identify?

Ames Closeups...



HARRY DE VOTO

If Harry DeVoto had been twins, he could have substantially aided the war effort during World War II. As it was, he enlisted in the Air Force to do his duty only to be separated in the middle of the war and assigned to NACA as a mechanical draftsman. Langley was seriously in need of men in this field in 1944 and in October of that year Harry was selected to be returned to civilian life and duty at Langley.

When the war ended, Harry received his official discharge from the Air Force, but he continued at Langley where he joined the technical illustration staff as an illustrator. Prior to the war he had been a draftsman in the damage control group of the New York Shipbuilding Corporation. A native of Norfolk, Virginia, he attended Pitman High School in Pitman, New Jersey. His early years, Harry says, were spent travelling from Massachusetts to Cuba and back. (His father was in the Navy and his family moved to each new post of duty).

In 1946, Harry was selected for a temporary assignment to Ames to aid in preparations for the Triennial Inspection. He liked Ames and Ames liked Harry. Six months later, he transferred to this center permanently. For two years he worked under the direction of Lucille Davis. Then from 1949 to 1955, Harry was the whole illustration section. However, with additional projects assigned to the section, the staff was gradually increased to its present level.

Away from work, Harry heads for the Sierras winter or summer. He has a cabin up at Strawberry on Highway 108 where he spends pleasant summer vacations fishing and hiking with his family which

Ames Airings

Congratulations are in order for BETTY SCARBROUGH (Office of the Director) who announced her engagement to David Kay on January 21. A tentative wedding date has been set for sometime in May of this year. IRVING ISRAEL (Proc. & Supply) and his wife sailed for Honolulu on January 17, 1960 for two weeks of vacationing on the Islands. They returned by jet on January 31, 1960 DR. STANLEY F. SCHMIDT (DA) has been invited to be a panel member at the general meeting of the AIEE in New York City during the week of February 1 to 5. Dr. Schmidt will present a paper discussing the problems of saturation in control systems on February 3. The home of ALLAN SANBORN (Proc. & Supply) was graced with the presence of a lovely baby girl, born January 26 at 7:50 a.m. Lorna Jean weighed in at 5 lbs., 3 ounces.

includes his wife, May, his daughter Donna, 18, and his son Danny, 13. Winter trips are for skiing in the Dodge Ridge area near Strawberry, with the whole family taking an active part. When the fish aren't biting and they are all hiked out, Harry and Danny spend summer afternoons skin-diving in Strawberry Lake at Pinecrest. The rest of their time is taken up in completing their four-bedroom cabin. Around the Peninsula, Harry is a sometime golfer and an oftentime basketball manager. He has organized the Ames basketball league each year for a number of years and played on the team until last year.

The DeVotos live in Palo Alto. Harry says he was introduced to gracious California living the first two months he was at Ames. During that period, while his family was still back in Virginia, he lived with Harvey Allen, now Assistant Director at Ames. It's the best way to indoctrinate easterners, Harry admits.

Here at Ames, Harry's prime responsibility is to visualize ideas presented to him by the research staff and transfer these ideas into graphic art that will aid in the presentation of the report. He particularly enjoys the free reign in imagination that working for NASA allows.

What does the future hold for Harry? Well, he likes what he is doing right now, including his

WANT ADS...

For Sale--1952 Hudson Wasp hardtop convertible. Radio and heater, white wall tires. Very good condition. \$250. AL 2-2090.

Wanted--Driver to join car pool vicinity of S. 10th Street, San Jose. 7:30 to 4:00 shift. Call Ben Locks, ext. 349.

For Sale--18' w-man Foldboat. Complete with sailing equipment. \$95. DA 3-6881.

For Rent--Three-room apartment, furnished, with kitchen, downtown Palo Alto, single employed woman preferred, available February 1. \$80. Call DA 3-1123.

For Sale--12' runabout, motor, ski equipment and trailer. New paint job. Reasonable. Call AL 2-4986.

For Sale--22 cal. Springfield rifle, excellent condition, long bolt, government issue, ramp front sight and lyman rear. 30 cal. prewar Lugar pistol with American eagle crest, excellent condition, 7" barrel, collector's item. Call Addison, ext. 230.

To Trade--3 books Blue Chip stamps for S&H Green stamps. Call E. Thiemann, ext. 347.

For Sale--Frigidaire electric stove Imperial model, pink, French doors. Never used. \$225. Call ext. 411.

For Rent--Two-bedroom home, unfurnished, stove and refrigerator, fireplace, large yard, fruit trees. Inquire 26 Gladys Avenue, Mountain View or call DA 2-2390.

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jaunts to the Sierra. However, if he had it to do over again, he would probably wait a bit longer to teach Danny how to ski. Danny took his first lessons at 6. Now at 13, Harry can't keep up with him!



AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOL. II

FEBRUARY 18, 1960

NUMBER 9

CHANGE IN SECURITY CLEARANCE REQUIREMENTS

NASA officers, employees and members of NASA Advisory Committees may now be permitted access to Restricted Data relating to aeronautical and space activities on the basis of security clearances granted by NASA. AEC clearances are no longer needed for NASA personnel except in those few instances where access will be needed to Restricted Data outside the scope of aeronautical and space activities.

Most of the "Q" clearances granted by AEC to NASA personnel have been cancelled. Those few persons whose AEC clearances are being retained will be so advised.

**DR. ALLEN PETERSON
SPEAKER IN LECTURE SERIES**

"Space Communication" will be the topic of Foothill College's fourth lecture in the current series, "Space--the World's Frontier", to be held Monday night, February 22.

Dr. Allen M. Peterson, manager of communication and propagation laboratory, Stanford Research Institute will present the address at 8 p. m. in the Palo Alto High School auditorium.

Approximately 500 persons have attended each lecture in the series of 10, which are scheduled to run through May 16. All lectures are open to the public without charge and will feature speakers from NASA, Lockheed, Stanford Research Institute, and Aerojet-General Corporation.

SERVICE PINS TO BE AWARDED TO NASA PERSONNEL

Announcement was made this week by the Personnel Officer that Service Pins will be awarded to NASA personnel sometime next month. A number of pins will be given out covering various lengths of total Federal and military service ranging from one to forty

U. S. AND BRITISH SCIENTISTS DISCUSS COOPERATIVE EXPERIMENTS IN SPACE

During meetings held last month at NASA, scientists of the United States and Great Britain reached informal agreement on six experiments which the first joint U. S. -British Earth Satellite will carry.

The decision was based on an agreement in principle made last July between the two nations to unite in a cooperative scientific program of space research. This had followed a U. S. offer made through COSPAR to cooperate with other nations in space experiments.

The first jointly-sponsored satellite will contain these experiments: ion and electron studies by probes to measure electron temperature and concentration, and ion mass spectrum; electron density measurements; solar radiation studies; and primary cosmic ray measurements. These experiments were reviewed by COSPAR and then transmitted to NASA.

Organizational arrangements under which the joint project will be conducted were also made during the meetings last week. Members of the working group and the project managers are now in the process of being selected.

The launching vehicle for the satellite will probably be the four-stage Scout rocket which is expected to be operational this year. Although no firm date has been set for the first joint experiment, it is planned for late 1961.

Representatives of the United Kingdom in the U. S. -British discussions were: Professor H. S. W. Massey, Chairman of the British National Committee on Space Research; Dr. A. P. Willmore, Department of Physics, University College, London; and Dr. H. Elliot, Department of Physics, Imperial College, London.

years.

Further details on the award of these pins will be reported in the next issue of the Astrogram.

NASA Plans Tour of Europe

The NASA Recreation Association is sponsoring a 30-day all-expense tour of Europe for NASA members and relatives at a cost of only \$795 each.

The transatlantic flight, via TWA, will leave New York's Idlewild Airport on Saturday, May 14, 1960, and return to New York on Saturday, June 12, 1960. (For Government employees, only 19 days of annual leave need be taken). The tour will include visits to England, Belgium, Germany, Switzerland, Austria, Italy, France, Monte Carlo, and Liechtenstein.

The chartered plane is a TWA Jetstream, pressurized equipment with full crew and first class service en route, including full-course meals and beverages aloft. Those wishing to take the flight to London only may do so at a cost of \$325 for the round trip. The land tour will be made in a luxury motor coach with an experienced English-speaking European courier.

The success of previous tours in 1957 and 1958 indicates that applications for reservations should be made as early as possible. A deposit of \$100 with the application is required--balance to be paid before April 1, 1960. Full refund will be made should insufficient participants apply or if participant requests cancellation before April 1. No refund will be made after April 1, unless an acceptable replacement is furnished by the applicant or a replacement is available from the waiting list.

A full copy of the itinerary, which includes events such as the "Folies Bergere" in Paris, a theatre in London, a Gondola night (with serenaders) in Venice, sight-seeing tours, etc., is available in the office of each division chief and branch chief. Complete details on the trip may be obtained by contacting Sharon Scharmen in Personnel, where a limited number of itinerary copies are also available.

Astroventuring... ★ with walt krumm

THE MILKY WAY GALAXY

How do we know?

What can we know of an individual star and from this what can we know of the entire stellar population? A discussion of parallax, distance, brightness, luminosity, diameter, temperature, proper motion and radial velocity will be discussed in this and following issues of the Astrogram.

How far?

If we note a star's direction from two widely separated positions, the angle between the two observations is the star's parallax. The line between the two positions of observations is the base-line. Now the distance to the star can be determined, namely: $d = 206,265 \text{ b/p}$ where d is the distance in the same units as b , the length of the base-line, and p the star's parallax in seconds of arc.

When we use the diameter of the earth's orbit as the base-line and take our observations at intervals of 6 months we have our longest base-line. Even with this base-line, only the distance to the close stars can be measured.

To extend parallactic measurements further we use the background of remote stars as reference points, still using the earth's orbit as our base-line, and measuring the change in position of the nearer star for our angle. The lowest parallax obtained with any certainty is about $3/1000$ of a second of arc. This amounts to approximately 100 light years. The 206,265 of our formula is in astronomical units, earth-sun distance, and equals one light year. One parsec, a term often used, equals the distance of a star whose parallax equals one second of arc or 3.258 light years. One light year amounts to 5.88 trillion (5.88×10^{12}) miles.

After we reach the limit of direct measurement (parallax) we must rely upon some other method to extend our distance "yardstick" into space. In the Cepheid variable stars such a method has been found. A Cepheid variable is a star that pulsates (expands and contracts) and its light varies in magnitude as it does this. A survey of all the Cepheids divides these stars into two classes. Those having a period of less than a day and those whose period is longer than a day. Further, the

(Continued on page 3)

Personnel-ly Speaking

WHAT DO YOU KNOW ABOUT YOUR NASA EXCHANGE?

Who runs the vending machines at Ames? Is our cafeteria run by a private concern? Where may financial assistance for employee group activities be obtained?

Many of us are already aware that these and many other services here at Ames are provided by our NASA Exchange Council. This organization was created to obtain group benefits for Ames employees. The exchange is authorized to engage in the following activities which contribute to the efficiency, welfare and morale of NASA personnel:

1. Operate a cafeteria.
 2. Finance group purchases of items for NASA employees such as safety glasses or laundering services for shop clothes.
 3. Provide financial assistance where needed for employee activities, such as banquets, dances, athletics and other recreational programs.
 4. Grant vending machine concessions within the Center.
- A limited amount of the profits from the vending machines are made available by the council to help defray the expenses of employee activities such as the recreational programs mentioned above. All services are provided at the lowest possible cost.

Many employees are presently not taking full advantage of the convenience of their cafeteria. The Exchange Council will appreciate any suggestions as to improvements in service or menus. Such suggestions should enable the Council to provide a service more acceptable to a larger number of employees. Submit your suggestions to Cleve Foss, Personnel, or phone him at ext. 335.

QUESTIONS AND ANSWERS ON HEALTH INSURANCE

The following is the sixth in a series of questions and answers prepared by the Civil Service Commission concerning eligibility, plans, cost, and other features of the new health benefits law passed by the last Congress. Federal employees will be given full information in ample time to enroll before the law becomes effective in July, 1960.

Q. Will I be able to continue my health benefits coverage after I retire?

A. Yes, if you meet certain requirements.

Q. What are the requirements I must meet?

A. There are five requirements, all of which you must meet.

They are as follows:

1. You must retire under the Civil Service Retirement System or some other system for civilian employees of the Federal or District of Columbia Government.
2. You must retire after the date the health benefits program became effective in your employing office--that is, after the first day of your first pay period which began on or after July 1, 1960.
3. When you retire, you must have been enrolled in an approved plan for at least the shorter of the following two periods of time:
 - (a) the five years of service immediately before your retirement
 - or
 - (b) all your service between the time you first had the opportunity to enroll and the time you retire.
4. You must retire after at least 12 years of service or on account of disability. (The 12 years of service can include military service, but must include at least 5 years of civilian service.)
5. You must retire on an immediate annuity--that is, the beginning date of your annuity must be not later than one month after your separation from service.

Q. If I should die, would my wife (or husband) and children be able to continue the health benefits coverage?

A. Yes, if they meet certain requirements.

Q. What are the requirements they must meet?

A. There are two requirements:

1. At the time of death, you must have been enrolled for yourself and family and have completed 5 years of civilian service.
2. Your wife (or husband) and children must be eligible to receive a survivor annuity from your retirement system.

Ames Airings

Honor was bestowed on ALFRED J. EGGERS, JR. (VED) who was selected to the grade of Fellow by the Institute of American Sciences for the year 1959. A certificate was presented to him at the Honors Night Dinner at the Hotel Astor, New York on Tuesday, January 26, 1960.

A baby shower was given by the Admin. Services Branch for JOYCE SCOGGINS, SARAH OGATA, and JANIS COLVILLE, Wednesday evening, February 10, in the home of BEA AIKMAN.

CHARLES COE (Struc. Dynamics) took his family on a month's vacation to New Orleans, returning the middle of January. He says they enjoyed the good food and Southern hospitality for which that part of the country is famous. A new member by the name of Lynn was added to the family of EUGENE FOLGARELLI (Elec.) on January 31, 1960, by the name of

Lynn. Mr. Frank McGuire of the "Missiles and Rockets" magazine, visited Ames on February 9 to interview ROBERT CRANE (ATD) for a forthcoming article, (look for it the end of this month). GLEN STINNETT (OPER.) came home from the hospital Monday, February 8, to recuperate from his accident with the Ryan test plane on February 2. He is expected back at work in a couple of weeks.

ASTROVENTURING

(Continued from page 2)

longer period Cepheids are much closer to us than are the short period "cluster type" Cepheids and the distance can be measured to these. A relationship has been established between the period and the luminosity of the Cepheids which results in a fascinating new

way of determining distance. One need only to measure the period of a Cepheid to know its luminosity. The luminosity and the apparent brightness gives the distance. As the brightest of the Cepheids are very luminous our distance scale is extended to several million parsecs. The reliability of the Cepheid period-luminosity-distance scale has to be assumed for it cannot be proven directly.

A less reliable method has been derived to extend the distance scale even further - even to the extent that our largest telescopes can "see" today. If we survey the closer galaxies that we can resolve into individual stars and use the period-luminosity relationship for the Cepheid variables we find we get a distance for these galaxies. If we use galaxy factors such as type, density, brightness, and size, we can derive a yardstick for measuring the distance to the entire of the visible universe.

WANT ADS...

For Sale--Hotpoint electric range, excellent condition, \$75. Call YO 8-1190.

For Sale--1959 two-door Ford. Straight shift, heater, 6,000 miles, white. Call Jurscaga, ext. 232.

For Sale--Memberships in the Ames Flying Club. Cessna 120, hangared at San Jose Municipal Airport. Hourly flying rate \$3.60, monthly dues \$5.00, membership \$245. Contact Walt McNeill or Joe Douvillier, ext. 206 or 207.

For Rent--One bedroom apartment with wall to wall carpeting, refrigerator and stove, 2 swimming pools, 2 sun decks, water and garbage paid. Washers and dryers available. 22 Coleman Place, Menlo Park.

For Sale--Three bedroom, 2 bath home, approximately 1300 square feet plus 21x23 garage, built-in electric kitchen, fireplace, water softener. Many other extras. Located in Sunnyvale. \$18,750. Call Warren Wilson, CH 5-1567.

Wanted--To buy - duplex located Mountain View or Palo Alto area, or property with two homes on it. Phone Alpine 2-3267.

NATIONAL CONFERENCE OF CHRISTIANS AND JEWS

BROTHERHOOD

believe it...
live it...
support it...

BROTHERHOOD
WEEK Feb. 21-28, 1960

NATIONAL
AERONAUTICS
AND SPACE
ADMINISTRATION



AMES RESEARCH CENTER
MOFFETT FIELD, CALIFORNIA
YORKSHIRE 7-5581 TWX: MOUNTAIN VIEW CAL 843

IN REPLY REFER TO

February 19, 1960

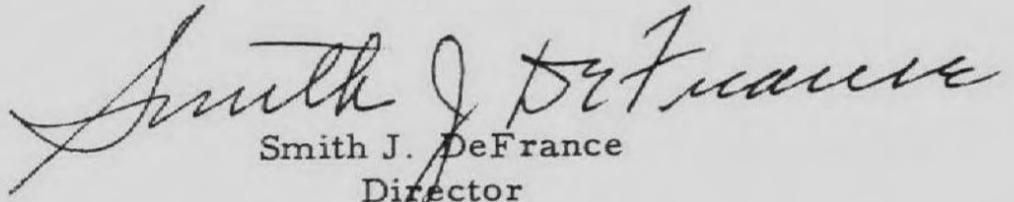
Dear Friends:

The nationwide observance of Brotherhood Week, February 21 - 28, 1960, provides an opportunity for all of us to consider our American way of life. The concept of brotherhood: giving to others the same rights and privileges we would like for ourselves, is maintained and strengthened to its fullest extent in practice.

Inherent in the functioning of a free democracy are the principles of respect for people and human rights. We all realize that discrimination, bigotry and prejudice are harmful deterrents in attaining the high ambitions and goals we aspire to as individuals and as a nation. Our science and technology, in shrinking the world, have brought our national policy in dealing with our fellow men into sharp focus for all men to consider as a way of life. The events of last year, both at home and abroad, are forceful reminders of the need to renew our devotion to the cause of understanding and fair play among all nations and all peoples.

To promote the climate in which peace and harmony may flourish in our country, it is fitting at this time to rededicate ourselves to the faithful practice of these great ideals. The degree to which we observe these principles in our daily lives will determine our strength and wisdom in meeting the challenge and enjoying the benefits of a true brotherhood of nations.

Sincerely,


Smith J. DeFrance
Director

BASKETBALL

The Ames Inter-Center Basketball League opened play with a pair of games in the Mountain View Gym Monday evening, February 8. The initial contest saw the Shops lose a close contest to a strong 3.5-Foot W.T. team. Final score was 30 to 28. In the early going, neither aggregation could find the hoop and by the end of the first quarter the score read 8 to 7. However, Dick Peterson, (3.5-Foot) found the range for 12 markers, the last two-pointer winning the game, while Jerry Hall tallied 10 points to lead the Shops.

Low scoring was also a factor in the late contest that saw the Orphans and the 8x7 lock horns, with the Orphans winning 29 to 23. The losing 8x7 team found Dick Muhl, Tom Gregory and Leroy Fletcher contributing six points apiece to the cause. Willie White and John Viegas tanked 10 and 7 points to swell the Orphans winning effort. Attendance was light at both games, however, caliber of play should improve as more experience is gained in future games and it is expected that the new and comfortable gym will provide many exciting contests. Ed Lang (Maint.) was, as always, an enthusiastic and non-partisan spectator in addition to many newcomers.

First Game Totals:

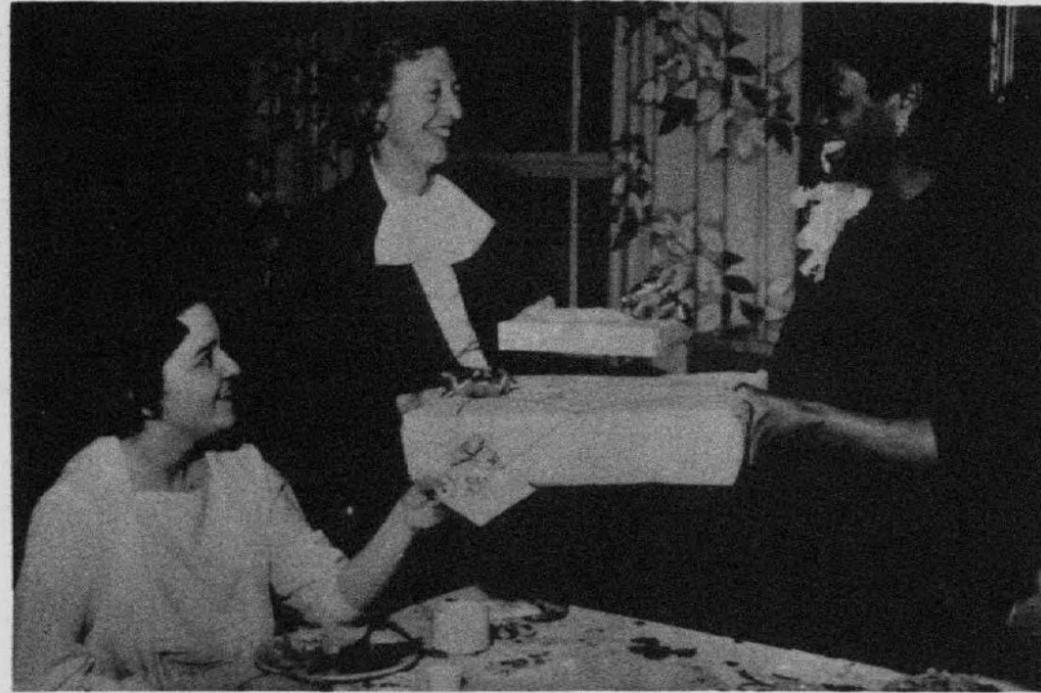
Shops	FG	FT	TP
M. Smith	3	2	8
A. Billalba	0	0	0
J. Laranjo	0	0	0
A. Perkins	0	0	0
R. Schlaegel	2	0	4
J. Park	0	0	0
H. Frankel	0	0	0
J. Hall	5	0	10
O. Meckler	3	0	6
			28

3.5-Foot W.T.

H. Jackson	2	2	6
J. McDevitt	0	0	0
J. Rakich	3	0	6
J. Axelson	0	0	0
R. DeLosSantos	1	0	2
J. Cleary	1	0	2
R. Nysmith	0	2	2
W. Nelson	0	0	0
R. Peterson	6	0	12
			30

Second Game Totals:

Orphans	FG	FT	TP
M. Kussoy	0	0	0
R. Maines	1	0	2
J. Leveen	2	0	4
W. White	4	2	10
J. Viegas	3	1	7
M. Fohrman	1	0	2
8x7			
W. Isler	1	0	2



Miss Ruby Evans, shown above receiving farewell gifts, was the guest of honor at a luncheon February 5, in honor of her forthcoming marriage. Twenty-four friends gathered in the Ames Private Dining Room for the event. Miss Evans will be married in Los Angeles this month and will make her home there. She will be missed by the many friends she has made in the Library, where she served as a Library Assistant, as well as by those in other Branches of the Center. Alberta Alksne, of the Theoretical Branch, and Joy Mobley, of the Library, are seen making the presentations.



SKIN DIVING--A HANDY SIDELINE!

Milton Henderson, of the Mechanical Instrument Branch, went skin diving on February 4 in the salt ponds on the edge of San Francisco Bay. This wasn't strictly for pleasure. His fame in this endeavor had spread around his branch and he was asked if he wanted to assist in retrieving parts of the Ryan plane that recently landed in the ponds. This he willingly volunteered to do and succeeded in dredging up parts that had settled in the ooze. Henderson said the greatest depth was only 10 feet, fortunately.

P. Nelms	1	1	3
T. Gregory	2	2	6
L. Fletcher	3	0	6
A. Levin	0	0	0
R. Muhl	3	0	6
E. Hopkins	0	0	0
B. Lampkin	0	0	0
R. Robb	0	0	0
J. Daugherty	0	0	0
			23

The ASTROGRAM, an official publication of the Ames Research Center, NASA, Moffett Field, Calif., is published bi-weekly in the interest of Ames employees. Send contributions to The ASTROGRAM -- phone 385. Deadline: Thursday between publication dates. Editor: B. P. Wilson. Reporters: NASA Employees.

NASA COMPILES
AERONAUTICAL DICTIONARY

The "Aeronautical Dictionary," compiled by the NASA, is now on sale at the Government Printing Office.

Written by Frank D. Adams, formerly in the Technical Information Division, the 199-page dictionary lists and defines about 4,000 aeronautical terms. No attempt was made to cover space technology terms unless they have aeronautical application. Space terms will be defined in a future NASA publication.

The aeronautical dictionary may be purchased for \$1.75 from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

**For a Safer 1960... a
Backward Glance at 1959!**

The year 1959 was particularly unsuccessful from the standpoint of our accident record. To those who were injured on the job, each accident represented more than a statistic. It represented a painful experience! Some of the accidents that occurred during the past year will be described in this and subsequent issues.

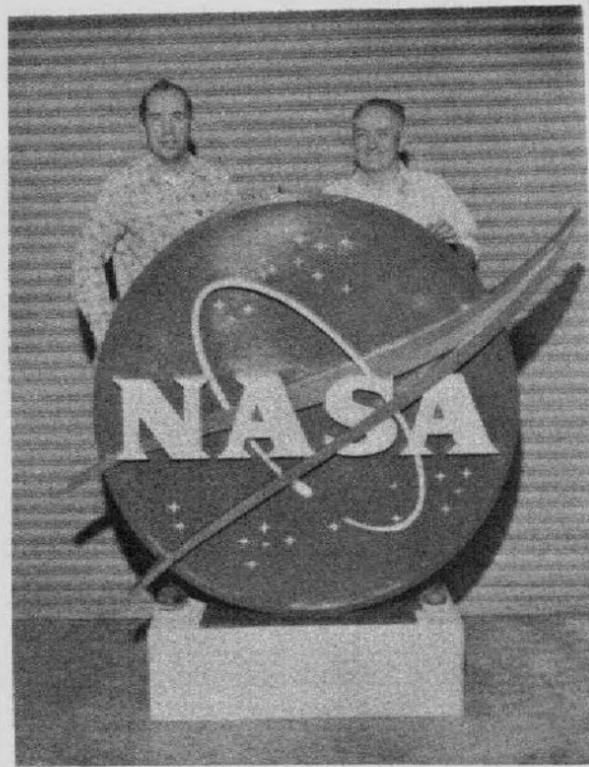
THE CASE OF THE
PLUMMETING POLE



It started out as a bright and cheery morning. Electricians were going about their task of replacing burned out light bulbs in one of the hangars. This was accomplished by standing on a skyscraper platform and using a long rod with an attachment on one end for changing bulbs. Movement of the platform from one location to another was accomplished with a tow tractor.

In towing the platform, the rod, which had been placed across the rails surrounding the platform, rolled off and struck the driver of the tractor on the top of the head inflicting a painful injury.

This accident could have been fatal had the rod been heavier... it could have been prevented if the rod had not been placed loosely across the rails--or if the driver had been wearing protective head gear.



NEW PLAQUE FOR WOO
DESIGNED AT AMES

Jim Neely, of the Model Finishing Branch, and Armando Seghi, of the Model Construction Branch stand behind the new six foot reproduction of the NASA insignia they created. The plaque will be hung in the lobby of the Western Operations Office in Santa Monica. Seghi was assisted by Frank Luft, also of the Model Construction Branch, in designing the object. Neely was responsible for the fine hand-rubbed finish.

THE WHITE HOUSE

WASHINGTON

January 26, 1960

JOB SAFETY WEEK

During the 1960's, to meet the competition of our age, America needs an ever-increasing number of skilled working men and women. These are the Nation's pride and strength. And their safety at work is a national concern.

During Job Safety Week, February 28 - March 5, I have invited leaders from business, agriculture, labor, Government, educational, insurance and safety organizations to meet in Washington for the President's Conference on Occupational Safety. I hope this Conference will devise a program of voluntary action to bring about a better safety record in all places where Americans are at work.

I hope that State and local officials will join in similar efforts during Job Safety Week to emphasize the need to raise the standards and practices of occupational safety across the land.

Dwight D. Eisenhower

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOLUME II

March 3, 1960

NUMBER 10

CANADIAN GROUP AND NASA TO CONDUCT SATELLITE STUDY OF IONOSPHERE IN 1961

The NASA has announced that the first arrangements have been concluded for a joint satellite project in its program of international cooperation in space sciences. The project will be conducted by the Defense Research Telecommunications Establishment of Canada and the NASA to study the ionosphere by means of a sweep frequency topside sounder satellite. The cooperative Canadian-U. S. experiment is scheduled for 1961.

The Defense Research Board (DRB) is the scientific element of the Canadian Department of National Defense, and the Defense Research Telecommunications Establishment (DRTE) is one of its research agencies.

According to the arrangements, the DRTE will provide the satellite and its instrumentation and will operate a network of receiving stations within Canada for recovering telemetered data. NASA is to provide high altitude sounding rockets and launching services to test the Canadian satellite prototype instrumentation, the satellite launching vehicle, and launching facilities. NASA will be responsible for ground-based telemetry and recording apparatus outside Canada to recover telemetered data for at least one year, and will furnish copies of satellite data recorded outside Canada for exchange with Canada.

The sweep frequency topside sounder experiment is expected to enhance greatly our knowledge of the characteristics of the upper levels of the ionosphere (electrically charged regions of the upper atmosphere). Existing ground stations are able to obtain information by reflecting radio waves from the bottom side of the ionosphere, i. e., up to about 200 miles, at approximately 140 locations throughout the world. Soundings obtained with the Canadian-U. S.

Spring Dance Planned by AEC

The Ames Entertainment Committee has announced plans for the annual spring dance scheduled to be held Friday evening, April 22, from 8:30 to 12:30 p. m. in the Ames cafeteria. Dress will be casual.

Featured in the evening's entertainment will be Center talent, live music and a floor show. Tickets will be sold by subscription at 75¢ per person.

In charge of the event will be Dick Kurkowski, program chairman; Mike Bondi, ticket chairman; Irving Israel, Bob George, Jerry Hall and Burt Skow, refreshment committee; Barbara Citti and Mike Bondi, reception committee; and Hy Zimmer, publicity committee.

Red Cross First Aid Course Scheduled

Three First Aid classes will be held for Ames employees during the next several months. Each class will meet in the Private Dining Room from 9:00 to 10:00 a. m. on Tuesdays and Thursdays for five weeks. Employees satisfactorily completing the 10 session course will be awarded certificates by the Red Cross.

It is hoped that eventually, as a result of these classes, there will be employees qualified in First Aid procedures in each building or work area. Employees interested in attending these classes should notify their Branch Chief. He will, in turn, submit the names of those employees selected to participate in the course to the Personnel Office.

experiment will extend the ground station data to altitudes of about 700 miles and in addition, will furnish information for geographical areas which are not covered by the present ground station network.

Celebration for Schnitker



Shown above is Ed Schnitker, Assistant Budget Officer, inspecting the Stereo AM-FM tuner presented to him by his friends and associates on the occasion of his 30th anniversary with NACA-NASA. The luncheon, held in his honor in the Ames Cafeteria, Monday, February 29th, was attended by over 150 people. Dr. DeFrance is seated at Schnitker's left.

DR. KIRCHNER TO SPEAK IN SPACE LECTURE SERIES

Dr. W. R. Kirchner, of the Aerojet-General Corporation, will speak Monday night, March 7, in the series "Space--the World's Frontier", sponsored by Foothill College. "Chemical Rocket Propulsion" will be the topic of Dr. Kirchner's lecture which will begin at 8 p. m. in the Palo Alto High School auditorium.

Dr. Kirchner is manager of the Polaris Development Engineering Division and associate manager of research and development at Aerojet in Sacramento.

All lectures in this series are open to the public without charge and feature speakers from Ames, Lockheed Missiles and Space Division, Aerojet-General Corporation and Stanford Research Institute. The series of ten lectures ends on May 16.

Astroventuring...

★ with walt krumm

THE MILKY WAY GALAXY

How do we know! Size?
(Stellar diameters)

The stars are so far away that even in the telescope we see them as mere points of light and it is quite impossible to measure their diameters directly as we did the Sun, Moon, planets, etc. This statement is only partially true as we shall explain later, but other methods, more or less indirect are used to determine the size of a star.

Probably the most used method of obtaining a star's size is obtained from its brightness. A star's rate of radiation may be computed from its temperature. From its absolute magnitude and color index, may be computed the total radiation sent out per second by its entire surface. The total surface of a star in square centimeter and the radius obtained by dividing further by 4π . Since the color index depends on temperature, temperature may be dropped from the computation and we arrive at the formula

$$\log D = 0.821 I - 0.20 M + 0.51$$

where I is the color index and M the absolute magnitude.

The light curve of an eclipsing binary affords a unique way of determining the diameters of these specific stars. An eclipsing binary is a double star system where one star revolves about the other and an eclipse is produced as they cross along our line of sight. The diameters are made known in terms of their mean distance apart. Spectroscopic studies, if both spectra are visible, give the projection of this distance as one of the elements of the relative orbit ($a \sin i$); and as $\sin i$ (which is always nearly unity in an eclipsing binary) is also known from the light curve, the scale of the system and the diameters of the stars can easily be computed. It is interesting to note that in this method the determination of the diameters of the eclipsing pair does not depend on the star's distance of parallax. If these are known the diameters may be double checked. This advantage is not possible in the case of a single star.

Now for the case that made our opening statement only partially true; the direct measurement of a star's diameter, but only a very few. The ability of a telescope to

Personnel-ly Speaking

QUESTIONS AND ANSWERS ON HEALTH INSURANCE

The following is the final in a series of questions and answers prepared by the Civil Service Commission concerning eligibility, plans, cost, and other features of the new health benefits law passed by the last Congress. Federal employees will be given full information in ample time to enroll before the law becomes effective in July, 1960.

Q. Would the Government always contribute one-half of the cost of the plan?

A. In many instances, as in the examples in the two previous questions, it would. However, if you enroll in a plan the total monthly cost of which is more than twice the specified Government contribution that is, if the charge for the plan is more than, say, \$5.60 for a self-only enrollment or \$13.50 for a family enrollment, then the Government will still make its specified contribution and you will pay the difference. For example: If you enroll for yourself and family in a plan the total cost of which is \$15 a month, the Government would make its specified contribution of \$6.75 and you would contribute \$8.25; if you enroll for yourself only in a \$6.00 a month plan, the Government would contribute \$2.80 and you would contribute \$3.20.

Q. How much will the Government contribute for a female employee?

A. The Government's contribution for a female employee will be on exactly the same basis as for a male employee under the following conditions:

- If she enrolls for herself only.
- If she enrolls for herself and family and the family does not include a husband or does include a dependent husband

Q. How much will the Government contribute for a female employee under a family enrollment which includes a husband who is not dependent?

A. In such a case the Government will contribute not less than \$3.90 a month if the total charge for the family enrollment is \$13.50 or more a month. The employee will contribute the difference between the \$3.90 and the total charge.

If the female employee enrolls in a plan the total charge for which is less than \$13.50 a month for the family enrollment, the Government will contribute 30% of the charge and the employee will contribute 70%.

separate two points (definition) is a function of the size of the objective (lens or mirror) only. In the case of a star's diameter this is not two points but the ends of its diameter. The formula for definition, as every amateur astronomer knows is $4.55/D =$ separation in seconds of arc. For the 200-inch telescope this amounts to .023". There are a few stars whose diameters are greater than this (Betelgeuze, .047"; Mira, .056", etc.) and these should be directly measurable.

To extend the diameter of a telescope to increase its definition, a method was devised by Michelson and applied to the 100" telescope at Mt. Wilson. The BEAM INTERFEROMETER employs a beam of structural steel (50-feet) across the end of the telescope with small mirrors at its ends to collect the star's light and another pair at the center to send the light down to

the edge of the primary mirror. Stars' diameters obtained with this method check very well with the absolute-magnitude-distance method but only the large very close stars are measurable.

If we try to use objects in our Solar system for units of comparison we find an enormous diversity in stellar size. So far as our knowledge goes the largest star is approximately 2000 times that of the Sun (ϵ Aurigae A). If this star was placed at the position of our Sun it would extend out to approximately the orbit of Saturn. The runner-up is 1,200 times that of the Sun. Then a series of smaller but still giant stars. Our Sun a medium sized star? That depends if you consider size by the number of stars or by size from either extreme. It's nearly medium, anyway. The smallest star known (Wolf 457) is 0.003 that of the Sun in size which makes it smaller than the Earth.

Ames Closeups



CHARLES HEMINGWAY

Ames Research Center owes a debt of gratitude to Eli the Birdman for stimulating the thinking of at least one youth which resulted in the youth's fascination and lifelong association with engines. Eli came to Hanford, California with his bi-plane about the same time that Studebaker was considering putting an engine in its wagons. The plane flew only about 100 yards, but everyone that witnessed the event was satisfied --it did fly!

It was more than this that interested young Charles Hemingway. The plane had an engine! From that day on, his interest was in engines and what made them tick. His first job was hauling scrap to a foundry. When orders were received to overhaul an engine, the first step was to round up some scrap, send it to the foundry and have them make you some pistons and rings! Shortly thereafter, Charles went to work for a garage, where he remained for several years.

Shortly before World War I, he left Hanford for San Francisco where he attended an RCA Radio school and obtained a commercial operators license. In 1918, he joined the Merchant Marine, travelling first on a steam schooner along the coast and later on a freighter to Europe. Following this he went to Los Angeles for a year to attend an auto school.

On returning to northern California, Charles went into the garage business in Santa Cruz where he repaired marine, aircraft and auto engines. He took his first plane ride in a Waco biplane in 1933. In 1942, after about 20 years in the garage business in Santa Cruz, he moved to King City where he was employed at a

NASA-AMES INTERPLANT BASKETBALL LEAGUE--- 1960 SCHEDULE

Teams

- 1. Shops
- 2. 3x5 W. T.
- 3. Orphans
- 4. 8x7 W. T.

Date: 3/7 3/14 3/21
 7:15 PM 4-3 3-2 4-2
 8:15 PM 2-1 1-4 3-1

Playoffs - March 28, April 4

All games are played in the gym of the Mountain View Union High School.

primary Air Force training base.

Charles came to Ames in 1945 from Salinas Army Air Force Base, where he had taken his first Civil Service position at the end of World War II. Now employed in Aircraft Service Branch, he says he is proud to be a member of the "black gang" (engine mechanics), the best team of aircraft mechanics he has ever known. Changing needs at Ames are breaking up the "old gang" with only about half the original group currently assigned to engine work. Charles is currently working on engines to be tested on full-scale models in the 40- by 80-.

An avid "rock-hound", Charles spends much of his time, away from Ames, on rock-collecting expeditions. Last summer he covered the area around Moab, Utah, collecting uranium samples. He likes kids, boats, and hiking, and has been connected with the sea scouts for over 15 years, serving part of this time as a scout's mate at the Palo Alto yacht harbor. On hiking expeditions, he has covered the High Sierra, crossing Red Mountain Basin and Hell-For-Sure Pass in 1955. The following year he escorted a writer for the National Geographic Magazine on a 1000 mile Jeep trip into the White Mountain area across Owen's Valley. On this trip they discovered the Bristlecone Pine, now claimed to be the oldest living trees known to man, dating back 4600 years. As an additional hobby, Charles takes colored slides of his various trips.

Keeping busy when at home in Mt. View, he currently teaches a Sunday School class of 8th Grade boys. A widower, Charles has a married daughter, Miriam Inlow, who is currently living in Santiago, Chile.

When he retires, Charles says he is aiming at ownership of a sailboat big enough to travel in. However, knowing Charles Hemingway, sail or no sail--it will have to have an engine in it!

Ames Airings

It's midnight feeding time at the home of ROY NARIMATSU (Elec.) since baby James was born February 6, 1960..... PHYLLIS GOURLEY (Ad. Serv.) was fortunate enough to be able to attend the Winter Olympics at Squaw Valley the past holiday week-end. She spent two days there, having an opportunity to see Carol Heiss ice skate..... The sixth little Tillman made her debut at the home of HENRY TILLMAN (Elec.) on February 13, 1960. Her name is Carol Sue..... Desert Hot Springs, California was the vacationing spot for BEA AIKMAN (Ad. Serv.) and her husband over the holiday week-end. They also visited Palm Springs, enjoying the beautiful weather..... Brightening the home of JOYCE SCOGGIN (Ad. Serv.) is Sherie Renee born February 16, 1960. Sherie weighed in at 7 lbs., 6 ounces.. Other Squaw Valley visitors were HARRY DE VOTO (Mech. Eng.) and his son. They spent February 14, 15 and 16 viewing the Olympic trials. Harry and his son participated in a skiing event of their own while there. EMERSON SHAW (Photo) and his wife spent a day in Squaw Valley also, leaving February 26 and returning February 27. MEL FOHRMAN (Heat Trans.) returned last week from Chicago where he spent a few days visiting his family. He said it was a pleasure to arrive in California's sunny weather after experiencing the cold and snow of Illinois..... RALPH BEYSTROM (Maint.) spent the holiday week-end visiting his grandchildren in Modesto.



Stan Schmidt (Dyn. Anal.) was featured performer at several Ames functions such as Spring Dance planned for April. See story, page 1.

WANT ADS

For Sale--All furniture from 4 bedroom house, reasonable, 3 desks, lamps, tables, chairs, book cases, chest of drawers, etc. Also good redwood patio furniture. Call ALpine 2-0736.

For Sale--15-foot Mercury vacation trailer. Electric brakes. Very good condition. Call Nick J. Piccolo, RE 9-6728.

For Sale--Knight "Space Spanner" 2 band radio receiver and cabinet. Covers standard broadcast band and short wave 6.5 to 17 megacycles. 4" PM speaker and highly regenerative circuit. Excellent condition. \$12.00. Call A. Brass, ext. 232.

Wanted--A small or medium sized piano in good condition. To be used in connection with Ames social functions only. Call Hy Zimmer, ext. 258 or Robert George, ext. 224.

Wanted--One or two more acts for the Ames dance Friday evening, April 22. If you have talent, please call or see Dick Kurkowski, ext. 247, 9x7-foot Wind Tunnel.

For Sale--1960 Chris Craft in-board V/8 185 HP with trailer. 2 hours on boat. Complete \$3650.00. Call Reid-Selth, ANDrew 9-1477.

For Sale--Keystone movie camera turret lens and built-in filters with case. \$65. Call Reid-Selth, ANDrew 9-1477.

Wanted--Clerk-Stenos and Clerk-Typists. If your wife is interested in working as a steno or typist, or if you know someone else who may be interested, please have them contact the Personnel Office, extension 305. Vacancies now exist and more are anticipated in the near future.

The ASTROGRAM, an official publication of the Ames Research Center, NASA, Moffett Field, Calif., is published bi-weekly in the interest of Ames employees. Send contributions to The ASTROGRAM -- phone 385. Deadline: Thursday between publication dates.

Editor: B. P. Wilson
Reporters: NASA Employees

ICE FOLLIES TICKETS AVAILABLE

The Shipstad and Johnson Ice Follies have made available to Ames employees 200 tickets at discount price for their show on Sunday, July 10, 1960 at 5:30 p.m. Prices are as follows:

\$4.00 tickets for \$2.90

\$3.50 tickets for \$2.40

Children admitted at same price. Most of the seats are downstairs.

The last day of sales is July 1 at 3:00 p.m. For tickets or more information, call Hy Zimmer, ext. 258, or use coupon below.

Date _____

HY ZIMMER!

Please reserve

_____ Ice Follies tickets @\$2.90

Reg. \$4.00 Total _____

_____ Ice Follies tickets @\$2.40

Reg. \$3.50 Total _____

Grand Total _____

Name _____

Branch _____

Send to or call Hy Zimmer, Dynamics Analysis, ext. 258. Last day of sales - Friday, July 1, 1960 - 3:00 p.m.

BLOODMOBILE TO VISIT AMES NEXT MONTH

The Santa Clara County Bloodmobile will visit Ames sometime next month. It should be noted that the Ames Blood Bank is maintained for all Ames employees and the members of their immediate families and employees may use this service regardless of whether they have been previous donors or not. However, our deposit should be maintained at the maximum level so that a plentiful supply will be available for our employees at all times.

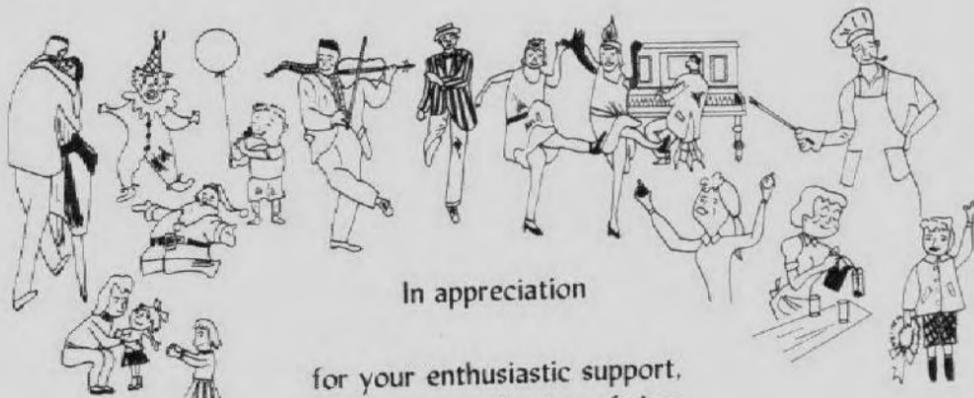
If you have never been a donor and are in good physical condition, plan to sign up for the next visit of the Bloodmobile.

NAVY SIDE OF MC CORD AVENUE NOW "ONE WAY"

Saturday, February 20, saw the traffic pattern on McCord Avenue changed to a one way northbound direction.

This change applies only to Navy side and became necessary as a result of traffic congestion in this area. Southbound cars in the Ames area of McCord Avenue must now turn east or west at Bushnell.

CERTIFICATE TO BE AWARDED BY AMES ENTERTAINMENT COMMITTEE



In appreciation

for your enthusiastic support, generous contribution of time, and helpful participation which made successful for your friends and associates and their families.

CHAIRMAN
AMES ENTERTAINMENT COMMITTEE

COMMITTEE MEMBER
AMES ENTERTAINMENT COMMITTEE

The Ames Entertainment Committee plans to award copies of the above certificate to the many deserving employees of Ames who have given so freely of their time and talents to support the Committee activities. The name of the employee and the particular event in which he participated will be inscribed on the certificate.

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOLUME II

March 17, 1960

NUMBER 11



The President's Award for Distinguished Federal Civilian Service was presented to Dr. Hugh L. Dryden, Deputy Administrator of NASA by President Eisenhower at a White House Ceremony on March 8. See story on page 6.

Russian Classes To Be Given

The Adult Education Branch of Fremont High School has announced the offering of "Intermediate Russian", a class to begin March 22 and continue through the Spring Quarter.

The class is intended for those who have had previous study of the Russian language, but who wish to "brush up" and further their knowledge of this timely subject.

Class meetings will be held Tuesdays and Thursdays, 7:30 p.m. to 9:30 p.m. Instructor for the class is M. N. Ivanitsky, a native born Russian. A small tuition fee will be charged.

For further information contact Elwood Stewart, ext. 206, or Nick Piccolo, ext. 232.

AUGENSTEIN TO SPEAK IN FOOTHILL LECTURE SERIES

Bruno W. Augenstein of Lockheed Missiles and Space Division will speak Monday night March 21 in Palo Alto on "Scientific Experimentation in Space." The address will begin at 8 p.m. in the Palo Alto High School auditorium.

Dr. Augenstein is the sixth speaker in the Foothill College lecture series, "Space--the World's Frontier", which runs through May 16. These informative lectures are open to the public without charge.

U. S. & Japan Hold Space Talks

The NASA recently announced that informal preliminary technical discussions have been held with Japanese scientists to explore the possibilities for cooperative experiments in space research.

Held in Washington at the invitation of the NASA, the meeting followed an expression of interest on the part of Japan in participating with the United States in cooperative scientific space programs, an interest welcomed and reciprocated by the United States.

During their visit the Japanese scientists met with representatives of the Goddard Space Flight Center and toured the Langley Research Center and Wallops Station, Virginia.

This meeting of NASA and the Japanese scientists is a result of an offer NASA made to all world scientists in 1959 at a meeting of the International Committee on Space Research (COSPAR). As part of its program of international cooperation in space science, NASA offered to conduct space research experiments with other nations which would be of mutual interest.

Office Of Life Sciences Added to NASA

Dr. Clark T. Randt has been appointed Director of the new Office of Life Sciences of NASA, Dr. T. Keith Glennan, NASA Administrator, announced recently. The new office was established by Dr. Glennan following the recommendation of NASA's Bioscience Advisory Committee, formed last July to recommend long-range plans concerning research and development in U. S. space-related life sciences.

The office forms the fifth major division of NASA covering the fields of biology, medicine and psychology. While advising NASA to make the fullest possible use of existing aeromedical facilities, the Committee specifically advised establishment of a life sciences research center.

In its report to Dr. Glennan, the Committee emphasized two objectives of space research in the life sciences: to provide for research, development, and training in the scientific and technologic aspects of manned space flight; and to investigate fundamental biological problems relative to space environments, including the search for extraterrestrial life.

Dr. Randt has served for the past year as Executive Secretary of the Bioscience Advisory Committee. He is a member of the Armed Forces-National Research Council Committee on Bioastronautics and the Bioastronautics Advisory Group for the Defense Department's Discoverer program, and serves as a NASA liaison representative to the Space Science Board of the National Academy of Sciences.

The author of numerous medical articles, Dr. Randt has made fundamental contributions in sensory neurophysiology and understanding of the effects of

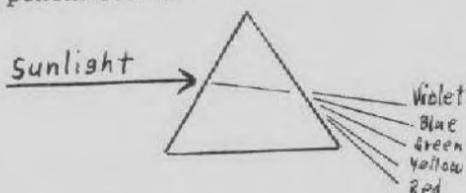
(Continued on Page 6)

Astroventuring... with walt krumm

THE MILKY WAY GALAXY

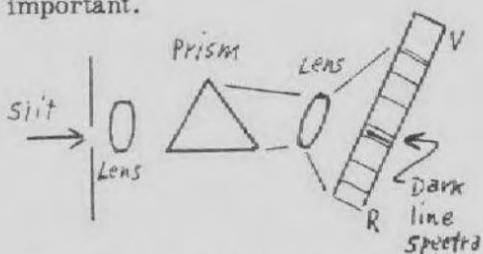
How do we know!
Spectral Class?

If you pass light through a prism a rainbow of color is produced. Light is broken down into its component colors.



The bank of colors produced is called a continuous spectrum. In the case of our rainbow, each droplet of water acts as a prism to break the sunlight down into its component colors.

Fraunhofer, the German scientist, discovered in the early 1800's that if we introduce our light through a 'slit', with an optical system and prism, a color band will be produced with a series of dark lines upon it. He could not explain these dark lines at the time but these have become most important.



Also, under certain conditions there appears in the spectrum bright lines.

In the laboratory, if we use hydrogen for our light source we obtain a dark line spectrum with a definite number of lines at a distinct pattern of spacing. If we use neon we obtain a dark line spectrum also but the lines have a different number and spacing. A dark line spectra can be produced for all the elements - each having its own distinct and definite line pattern. If we take a stellar spectra and match the lines of our known spectrum to it we can determine the elements contained in the star. Some of the elements were known from the Sun's spectrum before they were produced in the laboratory.

Personnel-ly Speaking

DIAL 400 FOR AMBULANCE

As most employees may have noticed, the Ames telephone directory provides on the page captioned "Emergency Telephone Numbers", new instructions for securing an ambulance either day or night. An emergency telephone number "400" was installed to provide a direct connection to the Navy Dispensary for emergency ambulance service. This eliminates the need for going through both the Ames and Navy telephone operators.

The emergency number "400" may be used for ambulance service at any time from any of the Ames local extensions except that on holidays, weekends, and between the hours of 4:30 p. m. and 8:00 a. m. on weekdays phones listed under "Night Connections" are disconnected from the local system and connected directly with the Yorkshire telephone exchange. During these periods, night connection phones should not be used to secure ambulance service unless no other phone is

immediately available. If one of these phones must be used, dial YO 7-6961 and you will be connected with the Navy telephone operator who in turn will connect you with the Navy Dispensary.

Complete, revised instructions on accident procedures will be published shortly in the Ames Procedure Manual and posted on the bulletin boards. Every employee should become familiar with these procedures.

Revised emergency instruction stickers for the telephone handsets are on order and will be installed in the near future.

Another recent change in accident procedures already published in the telephone directory concerned the use of emergency red flares. Red flares are to be placed in front of the building in which an injury has occurred to help guide the ambulance driver to the scene of the accident. A supply of flares has been issued to branch chiefs and group leaders in those facilities where employees regularly work night and weekend shifts.

To define spectra: (1) an incandescent solid, liquid, or compressed gas gives a continuous spectrum, (2) an incandescent gas under low pressure gives a bright-line spectrum, called emission spectra, (3) when light from a source that gives a continuous spectrum passes through a gas whose temperature is lower than that of the source, dark lines appear, called absorption spectra.

Examination of many stellar spectra shows that the stars fit into an orderly sequence, in which a number of properties, mostly pertaining to their spectra, progress by imperceptible gradations. A series called the Harvard Spectral classification was established to designate and place a star in this sequence. This classification allowed only for the differences in spectra and has been replaced by a bilateral system that also designates the size of the star for the reason that spectra alone does not fully classify a star.

Spectroscopic changes correspond to different states of the atoms of the radiating gas (the surface of a star) and different

sets of lines appear as the temperature is raised and the atoms, once neutral, become more and more highly ionized.

This Harvard classification, mentioned above, started with classifications of A, B, C, D, E, etc., with 'A' stars having the highest temperatures. We have had to add to this (and sometimes subtract) so our classification now results in:

- blue-white - O - stars 30,000+
4,000° K or more, and characterized by lines of ionized helium and those of oxygen and nitrogen
- blue-white - B - stars 12,000°
to 25,000° K
- white - A -
- orange - F -
- yellow - G - 6,000° K of which
our Sun is an example
- orange - K -
- red - M -
- red - R -
- red - N -
- red - S -

This could go on for great lengths but let's stop here. This gives an idea of the complexity of stellar classification.

Ames Closeups



RALPH HOLTZCLAW

The weatherman gets a jaundiced glance from Ralph Holtzclaw when he predicts probable rainfall for the ensuing year. Ralph, a do-it-yourselfer, rushed his home to completion in September, 1957, in the Los Altos Hills. Time was getting on and he had a choice of putting in a retaining wall on his hillside homesite or painting the house. Predictions were for a fairly dry year; so Ralph painted the house. Naturally, torrents of rain fell that winter carrying away chunks of high priced real estate. He has never felt quite the same about weather predictions since.

Ralph, currently Section Head of the 6- by 6-, came to Ames in July, 1941, from the University of Washington where he graduated as an Aeronautical Engineer. Recruited by Russell G. Robinson, now Assistant Director at Ames, Ralph was assigned to the 7- by 10-, where he remained until August, 1951, when he transferred to the 6- by 6-. During World War II, he served at Ames as a member of the "Ames Detachment", a group of engineers and scientists technically serving in the Navy, but actually continuing their research efforts at Ames.

Ralph was a native of Missouri but spent the majority of his early years in the Washington-Idaho-Montana area where his father was employed by the government as a member of the border patrol. He received a "liberal" education that involved attendance at a variety of elementary and high schools in the northwest as his family moved about.

With his wife, Jeanne, his son Kevin, 14, and his daughters Joan, 13, and Patrice, 5, Ralph lives in



Dr. DeFrance is shown above presenting an award to Angelo Bandettini. On Bandettini's left is Warren Anderson, on the right are Roger Peterson, Paul Murphy and Dick Regan. Marvin Raby was not present to receive his award.

SIX AMES EMPLOYEES RECEIVE INCENTIVE AWARDS

Incentive awards were made to six Ames employees on Thursday, March 10. Dr. DeFrance made the award to five of the recipients who were present. The sixth was on swing shift.

A cash award of \$55 went to

the Los Altos Hills home which they built acting as their own contractor and with much of their own labor. Ralph even called on his experience with the Forest Service which he had acquired during vacations from college and bulldozed his homesite. Since completion of the house he has been active in his woodworking shop making such furniture as hi-fi cabinet, coffee table, desk, dining room set, floor lamps, and TV stand.

Jeanne, a native of Mountain View, was a computer in the 7- by 10- when they met. She adds her touch to their home by painting murals, raising orchids and working with leather.

Time out for relaxation finds the Holtzclaws trekking off to the High Sierra for trout fishing or camping in the Sonora Pass area. Ralph has covered the area with rod and 35mm. camera.

When he's home and isn't developing a new do-it-yourself project, what keeps Ralph occupied? Well, he says, with three children going to three different schools, being a member of three PTA's, working with the Cub Scouts and the Catholic Youths, what else is there? He's got a point!

Roger H. Peterson and Marvin E. Raby, both of Machine Shop, for proposing a special technique for quickly and accurately cutting slots in wings. The suggestion was submitted jointly by the men and they share the award equally.

An award of over \$12 was given to Warren Anderson, of Unitary, for his suggestion that windows be installed in the swinging doors between the lobby and the stair well in the Unitary Building as a safety measure.

Richard L. Regan, of HBR, was awarded \$120 for his suggestion regarding a pneumatic system to extract the pump tube pistons from the 96-foot pump tube in the Hypervelocity Ballistic Range Branch.

Twenty-five dollars was awarded to Angelo Bandettini, of the 8- by 7-, for his suggestion regarding the installation of a night drop at the Photographic Branch.

Paul Murphy, of Unitary, received \$25 for his suggestion regarding a simplified method of removing the third stage rotor blades of the three stage compressor in Unitary.

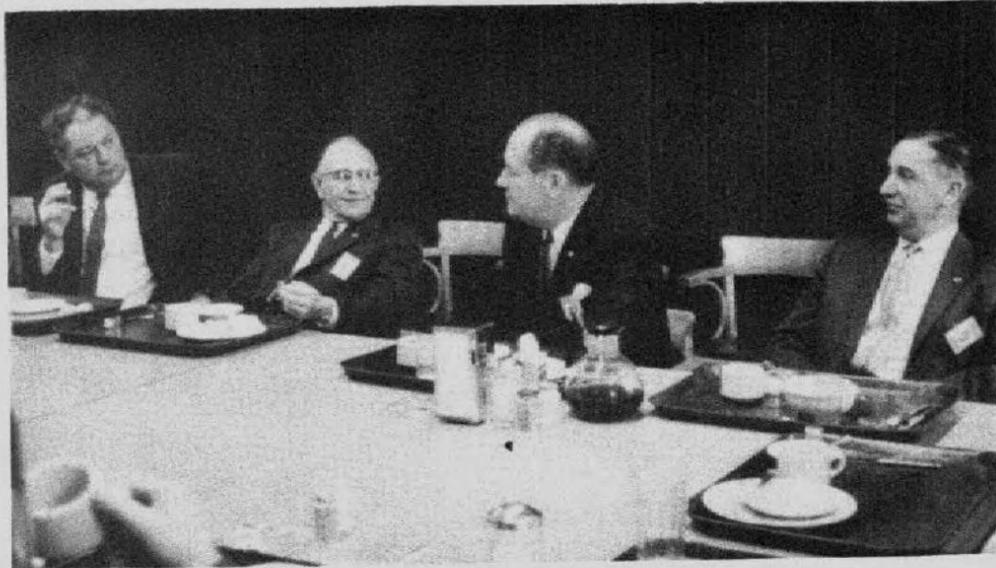
Have you sent in your suggestion yet?

BASKETBALL

The Orphans unleashed an early scoring spree of thirty points in the first half to smother a strong 8- by 7- quint in their second meeting of the season. Jim DeWitt, Ad. Serv., set the Ames Inter-Branch League individual scoring record for a single game by tanking ten markers and two free-throws for twenty-two points to lead the Orphans in their

(Continued on Page 4)

Glennan Visits Ames



Dr. T. Keith Glennan, NASA Administrator, attended a luncheon at Ames Wednesday, March 2, with Division Chiefs and senior staff members. While here, he visited the Instrumentation Division, the 3.5-Foot Tunnel, and the Entry Simulation Branch. Following his schedule at Ames, he travelled to Monterey to attend an NASA staff conference. Representing Ames in the Monterey meeting were Dr. DeFrance, John F. Parsons and Ferril Nickle. Shown above at the Ames luncheon are, left to right, H. Julian Allen, Dr. DeFrance, Dr. Glennan and Mr. Parsons.

Basketball.....

(Continued from Page 3)

victory. Tom Gregory, 9- by 7-, caught on for fourteen points for the 8- by 7-'s to close the gap in scoring to a final total of 44 to 38.

The night cap found the Shops team getting revenge for an early-season loss to the VED five with a 27 to 20 victory. Marnell Smith, Model, scored steadily in each stanza to register for 10 points in the Shops column. Scoring for the VED was characteristically a team effort with Ruben De Los Santos, Dick Petersen and Charles Nysmith sharing scoring honors.

The Shops victory pulled them into tie for first place with VED after four games of league play. The Orphans hold the second spot with a two won and two lost record. 8- by 7- claims domain over the cellar spot with an all-loss slate.

To date, scoring leaders are:

Jim DeWitt, Orphans.....	41
Marnell Smith, Shops.....	31
Ruben DeLosSantos, AM....	25
Jerry Hall, Shops.....	24
Tom Gregory, 9- by 7-.....	24



Ames Cafeteria Menu

WEEK OF MARCH 21

Mon. 90¢ Grilled Pork Chops (2), Applesauce
Potatoes Au Gratin, String Beans
Bread and Butter, Tea or Coffee
Ice Cream or Custard Pudding

Vegetable Soup.....15¢

Tues. 90¢ Roast Sirloin of Beef Au Jus
Snowflake potatoes, fresh carrots
Bread and butter, Tea or Coffee
Ice Cream or Cake

Cream of Celery Soup.....15¢

Wed. 85¢ Chicken Fricassee & Dumplings
Whipped Potatoes, Mushroom Peas
Bread and Butter,
Tea or Coffee
Ice Cream or Peaches

Cream of Asparagus Soup....15¢

Thu. 90¢ Corned Beef and Cabbage
Parsley Potatoes
Bread and Butter, Tea or Coffee
Ice Cream or Apple Cobbler

Split Pea Soup.....15¢

Fri. 90¢ Columbia River Salmon, tartar sauce
Scalloped Potatoes, Harvard Beets
Bread and Butter, Tea or Coffee
Ice Cream or Jello

Clam Chowder.....15¢

SPECIAL.....Meat Entree



WEEK OF MARCH 28

Mon. Hot Beef Sandwich
with mashed potatoes.....65¢
Vegetable.....10¢
Tea.....10¢ Coffee.....5¢
Ice Cream....10¢ Baked Apple....15¢
Minestrone Soup.....15¢

Tues. 90¢ Ham Steak, Fried Pineapple Ring
Oven Brown Potatoes, spinach
Bread and Butter, Tea or Coffee
Ice Cream or Rice Pudding
Navy Bean Soup.....15¢
Side Order of Ham.....50¢

Wed. 90¢ Swiss Steak, Whipped Potatoes,
Buttered Carrots
Tea or Coffee
Ice Cream or Cake
Tomato Rice Soup.....15¢
Side Order of Steak.....50¢

Thu. Hot Pork Sandwich with mashed
potatoes.....65¢
Vegetable.....10¢
Tea.....10¢ Coffee.....5¢
Ice Cream or fresh fruit.....10¢
Split Pea Soup.....15¢

Fri. 90¢ Sea Food Plate, shoestring potatoes
Cole Slaw, Bread and Butter
Tea or Coffee
Ice Cream or Jello

Fish Chowder.....15¢

SPECIAL.....Meat Entree

Ames Airings

..... by
Sharon Scharmen

Wedding bells rang out for MEREDITH WHITESTINE (3.5-Foot) and Marvin Nicoletto on February 26, 1960 at the Lakewood Methodist Church in Sunnyvale. The newlyweds are residing in Mountain View..... CARLINE PIERCE (formerly of Personnel) is the proud mother of a lovely baby girl, Mary Lou, born March 6, 1960. Mother, baby and father doing fine..... Recently back from Denver, Colorado is HAZEL GRANATO (Ad. Serv.) where she visited her mother. Hazel left March 4 by plane and returned March 13..... HELEN JEW (Heat Transfer) was thoroughly surprised at a baby shower given in her honor on Friday evening, March 4, 1960, by employees from Vehicle-Environment Division and Heat Transfer..... Seeing double? Not necessarily! LARRY MAURO (Reproduction) has an identical twin (except for haircut) who also works at Ames now. LEO (Communications) is the one with the butch!..... The men in the Aviation Sheetmetal Shop don't bother looking skyward when they hear a wild goose call anymore, because they realize it's only AL ERCOLINE and KENNETH WILTON experimenting with the various types of goose calls and plastic decoys of wild geese they have been making..... Nuptial vows were spoken at the Lady of the Rosary Church in Palo Alto by JUDITH SHAFFER (Fluid Mech.) and Jack Hollenbeck February 27, 1960. They honeymooned in Yosemite and Southern California and are now residing in Mountain View..... PAUL ERIKSSON (Elec.) spent 11 days at his cabin seven miles from Squaw Valley and attended the Olympics every day. He says the ski-jumps, hockey and figure skating were very outstanding and that it was the best organized entertainment he ever saw..... The family of LOUIS ZEVANOVE (Elec.) welcomed a new member, Steven Louis, weighing 6 lbs, 10 ounces, on February 28, 1960..... BILL SHAW (Admin.) is the newest member of the "Ruptured Disc Group" at Ames. He is reported to be doing nicely after an operation performed Monday, March 7. He will return to work after several weeks of convalescence.

Spring Dance Tickets Go On Sale

Tickets for the annual Ames Spring Dance are scheduled to go on sale Friday, March 18th.

Ames' talented Frank Pfyl and



a local dance studio will highlight the evenings entertainment, while Irving Israel and Bob George will be on hand to serve hot apple pie, hot dogs and coffee and Jerry Hall and Burt Skow will provide keg beer, soft drinks and lots of chips and dips.

Music "out of this world" will be furnished by Stan Schmidt, popular Ames pianist.

Awards will be presented to the best couple in the Waltz, Fox Trot and Charleston contests.

Admission is 75¢ per person. Ticket chairman is Mike Bondi, ext. 293.

The ASTROGRAM, an official publication of the Ames Research Center, NASA, Moffett Field, Calif., is published bi-weekly in the interest of Ames employees. Send contributions to The ASTROGRAM -- phone 385. Deadline: Thursday between publication dates.

Editor: B. P. Wilson

Reporters: NASA Employees.

Faget Gets Flemming Award

NASA Space Task Group's Max A. Faget has recently been named one of the ten most outstanding young men in government.

A distinguished panel of some of the nations top business leaders selected Faget to receive the 12th annual Arthur S. Flemming Award for outstanding contribution to science as a U. S. Government employee in 1959. He originated the design for the shape of the Project Mercury capsule, contoured astronaut couch and capsule escape system. Chief of Langley (STG) Flight Systems Division, his concept for the contoured capsule couch was cited as a key element permitting use of non-lifting drag re-entry to afford the astronaut protection from high "G" loads involved in re-entry.

Faget, was the first in NASA to receive the award. Under NACA four men previously received the award, including Ames' Dr. Alfred Eggers, Jr., (VED) 1957; Richard T. Whitcomb, Langley, 1956; William M. Kauffman, formerly of Ames, 1955; and George E. Cooper, (Oper.) Ames, 1954.



One of ten outstanding young men in the U. S. Government, Max Faget was recently cited for his development which will aid the United States program for the conquest of space. A member of the NASA's select Space Task Group at Langley Research Center, Virginia, he received the Arthur S. Flemming Award for his design concepts for Project Mercury. Pictured with Faget is his wife Nancy.

ENTERTAINMENT COMMITTEE PLANS BARBECUE

An early announcement of the annual Ames Barbecue has been made by the Ames Entertainment Committee for those who like to make their plans well in advance. Scheduled for August 13, the 1960 barbecue will be held at the Blackberry Farm Sycamore Grove from 10:00 a.m. to 10:00 p.m.

The menu will include steaks, chicken and hot dogs, plus salad, barbecued beans, ice cream and coffee. Food and refreshments will also be served ala carte.

"Music to eat by" plus "Music to dance to" will be offered. Special event of the day will be the election of "Miss Barbecue Queen". There will be games for all ages. The barbecue promises to be another Ames must. Prices will be announced at a later date.

DRYDEN RECEIVES PRESIDENTIAL HONORS

NASA Deputy Administrator Dr. Hugh L. Dryden has recently been named by President Eisenhower to receive the highest honor for career civil servants, according to a release by United Press International.

Dr. Dryden is one of five government employees to receive the Presidential gold medal award for distinguished Federal civilian service.

In announcing the awards President Eisenhower said, "The distinguished service of these men in the fields of administration, accountancy, science and medicine contribute much to the general welfare of our country and to the progress of our world in justice and freedom.

Their achievements provide an inspiring example for all government employees, each of whom must perform at peak levels of productive effort if we are to solve successfully the complex problems of our times."

Dr. Dryden became head of the NACA as Director of Aeronautical Research in September, 1947, after 29 years service in the Bureau of Standards. In August 1958 he was appointed Deputy Administrator of NASA by President Eisenhower.

Life Sciences.

(Continued from Page 1)

anesthesia on the brain. His current research has been concentrated on sensory deprivation, particularly in the areas of weightlessness, isolation, and confinement.

WANT ADS

For Sale--30-06 star gaged 1903 model match rifle made in Springfield Armory August 1932 Fired only in 1936 National Matches. Complete with case, cleaning rod, sling, and sight covers. Price \$52.50. Call WH 8-2377.

Wanted--To buy Marks Mechanical Engineers' Handbook, 4th edition or newer. Phone Arne Ilog, ext. 202, 323.

For Rent--3 bedroom house off Lawrence Station Road, Santa Clara. Minimum year's lease desired; cul de sac location, nice yard for children. \$140 per month. Call E. Neves, ext. 345.

For Sale--GMC 1/2 ton pickup (1950), completely rebuilt, A1 condition, with radio and heater. \$500. Call Jim Gysan, ext. 294.

For Rent--Furnished room, board optional, carport, close to town in Mountain View. Call Mrs. Sweeney, YO 7-2280.

Wanted--Anyone interested in forming an Ames Boat Club. Please call Gordon Reid-Seith, ext. 401.

For Sale--3 bedroom house in Mountain View, by owner. 2 bath, cul de sac location one block from school and park. Newly painted. \$16,950. YO 8-2705.

For Sale--1956 Ford Victoria, original owner, 35,000 miles. Automatic transmission, Thunderbird engine, power brakes, safety dash, rear speaker. Condition excellent. \$1100 or offer. Call J. A. Laurmann, ext. 266.

Wanted--One more act for the Ames Dance, Friday, April 22. A Barber Shop Quartet would be ideal. Please call Dick Kurkowski, ext. 247.

For Sale--3 bedroom, 2 bath home. Lovely living room with fireplace, floor to ceiling windows, living and dining room carpeted, house completely draped, yard, landscaping and fencing all established. Price \$15,500. 4 1/4% FHA loan can be assumed. Shown by appointment. Phone Alpine 2-3267.

Recent Arrivals

Employees recently reporting to work include ELOUISE PRICE of San Jose assigned to Fiscal as a Card Punch Operator; DOROTHY RUSTAY of San Jose assigned to the 8- by 7-Foot Wind Tunnel as a Mathematics Aid; DOLORES BLOCHER of Sunnyvale, assigned to HBR as a Clerk-Stenographer; LULA B. PITTS, a former employee, assigned to Fiscal as a Card Punch Operator; JOSEPH ZUCCARO, a former employee, assigned to VIR as an Aeronautical Research Engineer; FRIEDA SELLERS, a former employee, assigned to Fiscal as a Time, Leave and PayRoll Clerk; BARBARA MARTINEZ, of Menlo Park, assigned to Administrative Services, as a Clerk-Stenographer; KENNETH GROVER, a graduate of the University of Washington, assigned to Guidance & Control as an Aeronautical Research Engineer; BETTY BRADY, of Mountain View, assigned to Personnel as a Clerk-Typist; JEAN NEWELL, of Washington, D.C. assigned to Administrative Services, as a Clerk-Stenographer; CARROLL SHIPMAN, a former employee, assigned to Photo as a Clerk-Typist; ROBERT SANDERS of Sunnyvale, assigned to Administrative Services as a Driver & Messenger; DONALD E. SCHILLING, a graduate of San Jose State College, assigned to Personnel as a Personnel Assistant; MARIA A. DOLLIMORE of San Jose, assigned to the 8- by 7-Foot Wind Tunnel as a Mathematics Aid.

ICE FOLLIES RESERVATIONS ARE COMING IN FAST

Reservations for the Ice Follies are steadily coming in to Hy Zimmer, who has announced that only a little more than a hundred seats are still available.

As soon as the tickets arrive here a seating chart will be posted in the private dining room of the cafeteria and those holding reservations may select their seats.

Posters and pictures of the Ice Show will be in evidence soon around Ames.

For reservations contact Hy Zimmer or call ext. 258. Tickets are \$2.90 and \$2.40, a saving of \$1.10 over the gate price.

For Sale--By owner, attractive 2 bedroom home. Excellent condition, large kitchen, near parks, schools, shopping. \$15,750. 3492 Bryant Street, Palo Alto. Phone DA 3-1294.

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOLUME II

MARCH 31, 1960

NUMBER 12

Ames Recovers Re-entry Model

Ames scientists have succeeded in the laboratory in recovering a small test model after a simulated entry at earth satellite speed. The successful accomplishment is believed to be the first of its kind.

The achievement is significant because it gives a high degree of added confidence in United States technological ability to conquer the heating problem of recoverable satellites.

The satellite recovery experiment on a laboratory scale was accomplished on February 27. Since that date, Ames scientists have been analyzing the results of the test and continuing a series of related experiments.

Scene of the successful recovery was the Ames Atmosphere Entry Simulator, which consists of a special trumpet-shaped nozzle which accelerates a flow of high pressure air so that it duplicates accurately the way in which the Earth's atmosphere becomes thinner with increasing altitude. At the widest part of the nozzle, air thins to the very low densities typical of the region where re-entry flight begins. As the nozzle narrows, air density increases to match conditions at ever lower altitudes. A model flying through the simulator experiences the same changes in air density and velocity as an actual object re-entering the Earth's atmosphere.

The successfully-recovered satellite model flown through the simulator was just under one-fourth inch in diameter and made of a plastic material. It was shaped similar to the blunt forward face of the project Mercury capsule being developed for NASA's manned space flight program. The test served to confirm the validity

Dryden Awarded Cresson Medal

Announcement of further honors being awarded to NASA Deputy Administrator Dr. Hugh L. Dryden has been made recently, following his Presidential gold medal award early this month.

Dr. Dryden has been notified that he will be awarded an Elliot Cresson Medal of the Franklin Institute, Philadelphia, Pennsylvania, in October.

The Citation will read: "In consideration of his many scientific and practical contributions to the theory and application of aerodynamics which greatly advanced the art of wind tunnel and aircraft design and for his guidance of and personal contributions to the design and development of the world's first automatic radar homing guided missile."

Medals of the Franklin Institute are awarded annually. Dr. Dryden's award was recommended by the Committee on Science and the Arts.

of the type of heat shield selected for Project Mercury by completing re-entry at more severe conditions than the Mercury Capsule will experience.

A three-stage shock heated gun, using helium as the propellant gas, launched the model at 17,000 miles per hour. Burning gunpowder provided the launching energy through a series of shock waves inside the gun's three stages, similar to the staging in rocket launching vehicles. Both the gun and the simulator into which it fires were devised by Ames scientists.

Optical instruments along the flight path of the satellite model recorded the luminous streak created as it plunged through the air in the simulator. Meteors make similar streaks as they enter the Earth's atmosphere. Spark shadow-

(Continued on Page 2)

NASA Huntsville Facility Named

The NASA facility at Huntsville, Alabama has just been designated as the George C. Marshall Space Flight Center by Presidential Executive Order.

In his order naming the recently acquired facility, President Eisenhower declared that the Center is destined to play a major role in man's conquest of outer space. He further declared that it is fitting that the facility, dedicated to the use of space for peaceful purposes for the benefit of all mankind, bear the name of a distinguished and revered American.

The late General of the Army George C. Marshall, who devoted his life to the service of his country and to the advancement of the cause of peace throughout the world, the announcement read, was such a man.

Eggers Speaks in Lecture Series

"Problems of Atmospheric Entry and Landing of Space Ships" will be discussed next Monday evening in Palo Alto by Dr. A. J. Eggers, Jr., of Ames Research Center.

Dr. Eggers, Chief of the Vehicle Environment Division, is the seventh speaker in the popular Foothill College lecture series, "Space--the World's Frontier". Among the topics to be covered are human deceleration and heat tolerances, rocket versus atmospheric drag braking and an analysis of the atmospheres of the various planets.

The lecture will begin at 8 p.m. in the Palo Alto High School auditorium and is open to the public without charge.

Astroventuring... ★ with walt krumm

THE MILKY WAY GALAXY

Double and Multiple Stars
These double and multiple stars are just what the name implies. Two or more stars in our line of sight that appear to be a system in themselves. There are several types.

If a star appears to be double where in actuality one is just in line with the other but at a much greater distance, we have an optical double. If the two stars are sufficiently close enough together to be gravitationally connected we have a twin star system. The first example (optical double) is always labeled as such, but the other (the twin star system) is often just labeled a "double star" because they are much more numerous. In the double star one revolves about the other or the two revolve about a common point in space. It has been estimated that about half the stars in the sky are double.

In a few cases where one star of the pair is especially large and the center of gravity of the system lies within the larger star we have a circulatory or "planetary" system. Here, the smaller star revolves about the larger in much the same manner as a planet about its sun.

Multiple stars, where there are three or more components to the system, are much less numerous and the number decreases as the number of components increases. The astroventurer knows of two six-star systems (Castor, of Castor and Pollux, the Gemini twins, is a six-star system and the Trapezium in the dagger of Orion is another) but none of 7 or more.

If the double star revolves with sufficient speed we call the system a binary pair and after repeated observations over a period of years we can plot the orbit of the secondary. In binary star work, the larger star is assumed to be stationary in space but in actuality this is not true. Also, if by chance as one star revolves about the other with the plane of the orbit along our line of sight, we have an eclipsing binary as one star passes in front of the other. These are most interesting and an entire issue will be set aside for them later on.

We also have some double

stars where there is insufficient data for classification and they are called indefinite doubles, of course. Also the spectroscopic doubles that we will mention later on. For double and multiple stars the amateur must depend on the professional astronomer for classification as he does not have the equipment necessary for this.

To the amateur astronomer the double and multiple stars are of interest for a number of reasons. We measure the separation of a double star in seconds of arc which gives us a feel for measurement in the sky. If a pair has a large enough separation we can see them by naked-eye (Alcor and Mizar at the bend in the handle of the "Big Dipper"; or Theta₁-Theta₂ Tauri, the pair below Aldebaran in the "V" of Taurus the Bull). The "rule of thumb" goes like this ----- we can see a pair as double by naked eye if they are separated by approximately 100 seconds. To see a 1 second pair as separate stars we need 100 power on our telescope. But with this rule the size of the telescope also, for the formula says ----- separation in seconds of arc is equal to $4.55/D$ where D is the diameter of the objective in inches.

So! It follows that there are some double stars that are too close to separate with even the largest instruments and these are called the spectroscopic doubles. They are called this because in a spectrograph there appears two separate spectra. Two stars that can be fun if the spectra is the same and the lines all double or distinguishable only because of the red shift of one.

Then too, when viewing the double stars as a hobby, one finds many pairs that are of different colors. These colored doubles are very pleasing to view. Get someone to show you Albiero in Cygnus the Swan (in the morning sky now) for one is blue and the other yellow or gold. Many of the "gamma" stars in the constellations are colored doubles.

The double stars furnish an interesting test for the "seeing" quality of the evening and the performance of the telescope. If one of the pair cannot be seen, even though the telescope is capable of seeing below its magnitude then the "seeing" is poor. If one cannot resolve a pair into two separate stars when the separation is great enough we question the optics and/or the alignment of the telescope.

Now! Try some of these and

NOTE OF THANKS

The AM-FM stereo tuner kit has been fun to assemble and will, I'm sure, continue to be a source of pleasure and a constant reminder of a lot of wonderful friends.

With sincere appreciation for your thoughtfulness,

Ed Schritker

FOOTHILL SUMMER SESSION SCHEDULED

Forty-six courses will be offered by Foothill College during its 8 week summer session which opens on June 20. Classes will be held in twilight and evening sessions.

Courses will be offered in the following fields: art, biology, business, chemistry, economics, electronics, engineering, English, German, health, history, mathematics, music, philosophy, physics, political science, psychology, Russian, sociology and speech.

Part time students will be limited to no more than four units, according to William Harwood, director of the summer session.

Registration extends from June 6 to 17.

Model Recovery..... (Continued from Page 1)

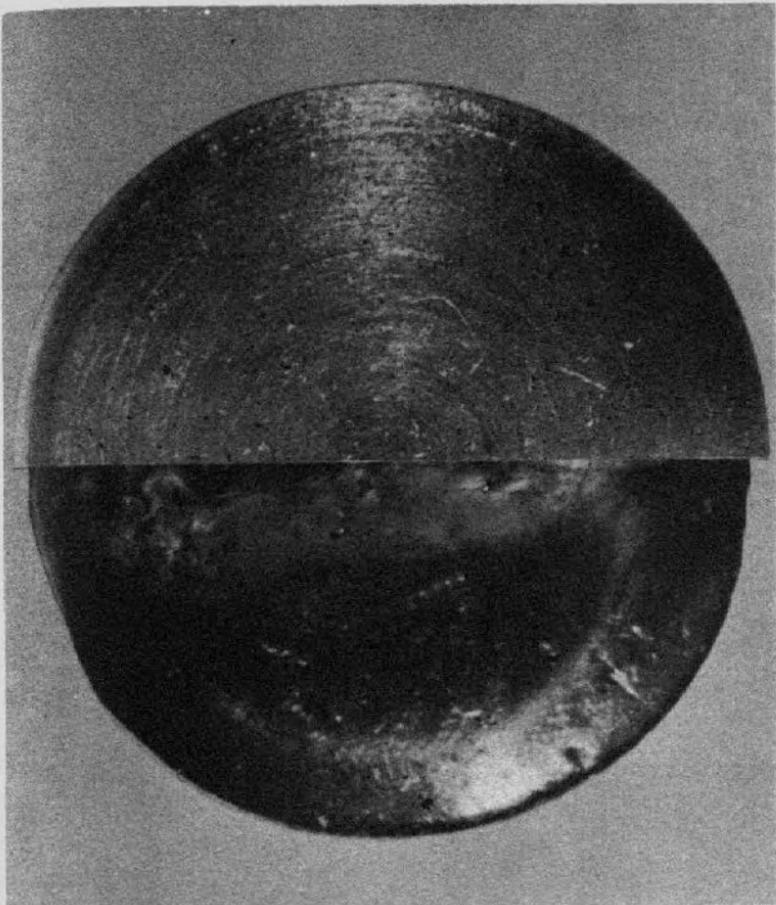
graph pictures were taken to permit study of the shock wave and wake generated by the flying test object.

The recovered model was carefully weighed and analyzed to find out how much material was lost by vaporization at the extreme temperatures experienced during re-entry flight. It was found that well under five per cent of the plastic ablation material of which the model was made had been vaporized during flight. Peak temperatures near 20,000°F occurred in the air just ahead of the model during flight.

The successful satellite recovery test is part of a program in which NASA scientists are trying to reach ever higher speeds under laboratory test conditions. They are now hoping to duplicate in the laboratory speeds typical of spacecraft re-entries from lunar or planetary missions.

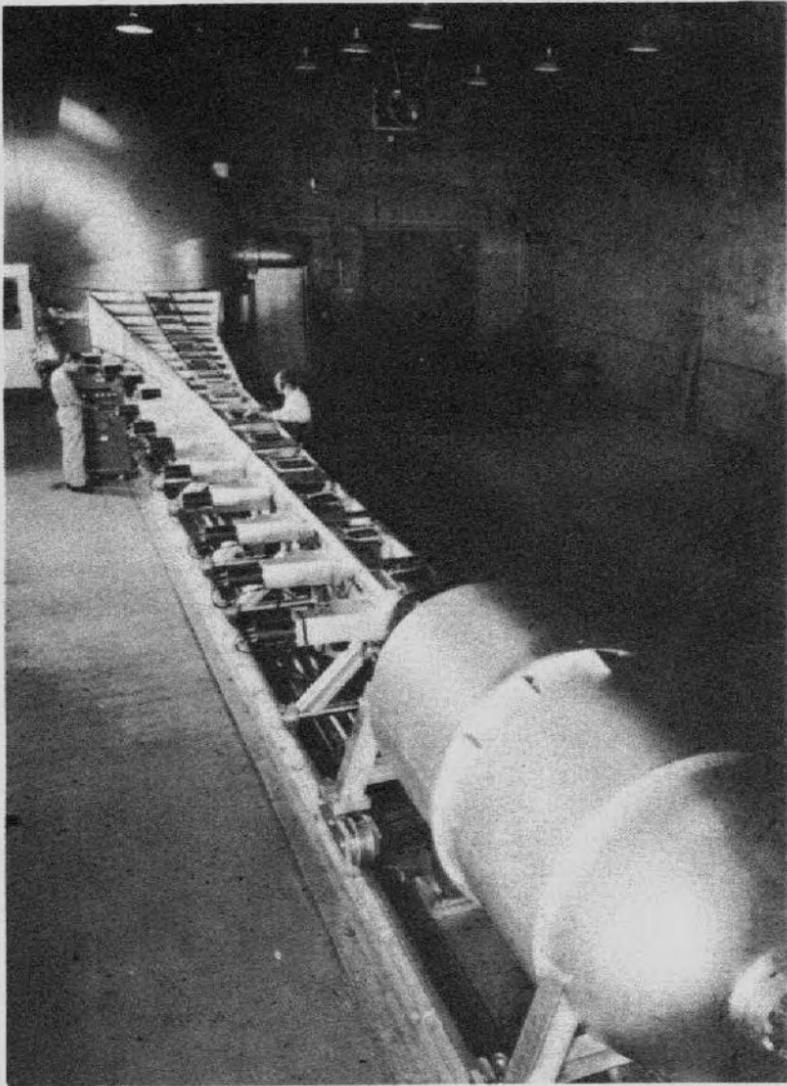
(See Pictorial Page 3)

see for yourself. A pair of 7 x 50 binoculars should separate 5" of arc easily and see to the 10 magnitude nicely. A small telescope even more.



TEST MODEL

This composite photograph shows a successfully recovered test model before and after its flight. Made of a plastic material, it was found to have lost less than 5% of its mass due to vaporization in the 20,000°F heat encountered in flight. The lower portion shows the condition of the model after it flew at 17,000 mph in the simulator.

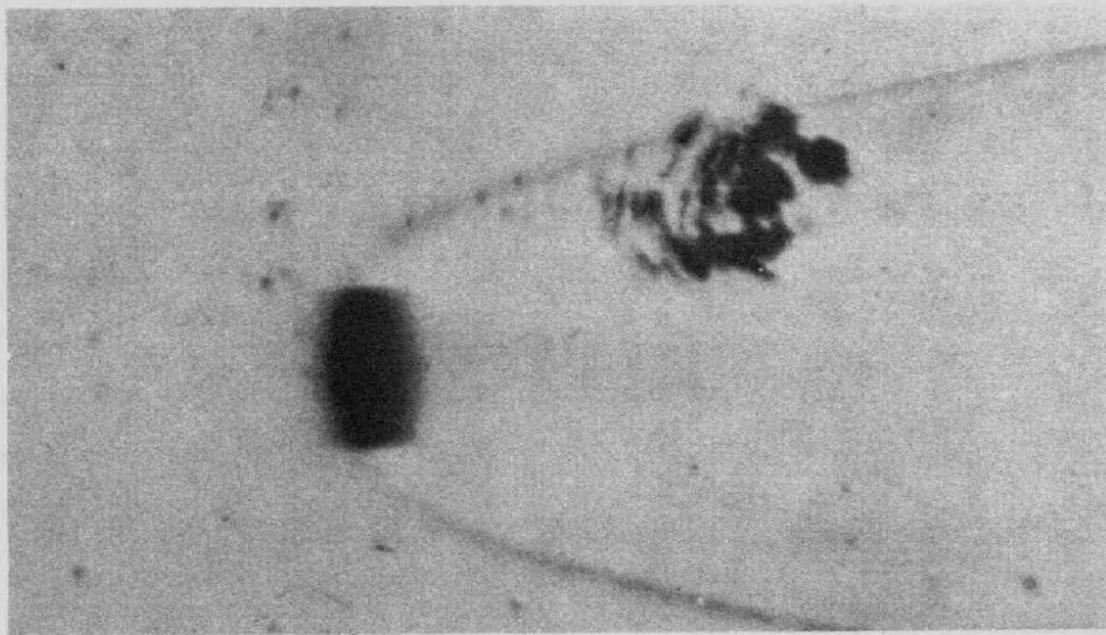


ENTRY SIMULATOR

In this Atmosphere Entry Simulator Ames scientists have succeeded in recovering a test model after a simulated atmosphere entry at earth satellite speed, 17,000 mph. In the center of the picture is a special trumpet-shaped nozzle, contoured so that air flowing through it gradually changes in density in the same way that the Earth's atmosphere changes in density with altitude.

SHOCK WAVE

This shadowgraph, made by a special optical device, provides a view of the heavy shock wave typical of blunt shapes in high speed flight, like NASA's Project Mercury manned satellite vehicle. The irregular dark spot is a flaw in the glass window through which the photograph was made.



U.S. & Australia Agree On Space Research

The Department of State and the NASA recently announced that Australia and the United States have signed an agreement which will extend the cooperative efforts of the two nations in space research. The agreement provides for the continued operation of tracking stations established during the International Geophysical Year and the establishment of tracking facilities for Project Mercury and deep space probes.

Under the terms of the agreement, the United States will provide electronic equipment; Australia will provide sites for the

NASA Tour Deadline April 1

Tomorrow, April 1, is the deadline to make reservations for the NASA sponsored tour of Europe this spring. The 30-day sight-seeing trip will start Saturday, May 14 at New York's Idlewild Airport and include visits to England, Belgium, Germany, Switzerland, Austria, Italy, France, Monte Carlo and Liechtenstein. Saturday, June 12 will be the date of return to New York.

The overwater portions of the tour will be in a fully pressurized

tracking facilities and assist in their operation and maintenance.

TWA Jetstream liner, with first class service including full course meals and beverages aloft. The land tour will be made in a luxury motor coach with an experienced English-speaking European courier.

Full cost of the all-expense paid tour is \$795. Those wishing to take the flight to London only may do so for a cost of \$325 round trip. If insufficient reservations are received, full refund of the ticket price will be made.

Send check in full with application to Universal Travel Service, Universal Building, 1825 Connecticut Avenue, N. W., Washington, D. C.

Brochures may be obtained by contacting Sharon Scharmen, Personnel, Room 111.

Ames Cafeteria Menu

WEEK OF APRIL 4

Mon. 85¢ Ground Chuck Steak, Fried Onions
French Fries
Bread and Butter, Tea or Coffee
Ice Cream or Peaches

Cream of Tomato Soup..... 15¢

Ala Carte - Creamed Chipped Beef on Toast
and Vegetable..... 55¢

Tues. 90¢ Old Fashion Beef Stew and Vegetables
Whipped Potatoes
Bread and Butter, Tea or Coffee
Ice Cream or Cake

Split Pea Soup..... 15¢

Ala Carte - Baked Beans and Weiners..... 60¢

Wed. 85¢ Stuffed Bell Peppers
Scalloped Potatoes, Buttered Carrots
Bread and Butter, Tea or Coffee
Ice Cream or Blackberry Cobbler

Vegetable Rice Soup..... 15¢

Ala Carte - Country Sausage and Vegetable... 55¢

Thurs. 90¢ Roast Leg of Pork, Dressing, Applesauce
Snowflake Potato, Minted Peas
Bread and Butter, Tea or Coffee
Ice Cream or Plums

Cream of Mushroom Soup..... 15¢

Ala Carte - Baked Beef Heart and Vegetable... 60¢

Fri. 90¢ Fried Eastern Oysters, Tartar Sauce
French Fried Onion Rings, Cole Slaw
Bread and Butter, Tea or Coffee
Ice Cream or Jello

Clam Chowder..... 15¢

Ala Carte - Chili Burger and Vegetable..... 55¢

SPECIAL --- Meat Entree

Breakfast Introduction:

Monday April 4 - 7:15 a.m. to 7:45 a.m.



WEEK OF APRIL 11

Mon. 90¢ Corned Pork, Cabbage
Parsley Potatoes
Bread and Butter, Tea or Coffee
Ice Cream or Pears

Vegetable Soup..... 15¢

Ala Carte - Macaroni and Tuna Au Gratin... 55¢

Tues. 85¢ Turkey Pot Pie and Vegetable
Whipped Potatoes
Bread and Butter, Tea or Coffee
Ice Cream or Cherry Cobbler

Navy Bean Soup..... 15¢

Ala Carte - Spaghetti and Meat Sauce..... 60¢

Wed. 85¢ Meat Loaf and Spanish Sauce
Snowflake Potatoes
Bread and Butter, Tea or Coffee
Ice Cream or Bread Pudding

Split Pea Soup..... 15¢

Ala Carte - Ham and Lima Beans..... 55¢

Thurs. 90¢ Braised Sirloin Tips, Buttered Noodles
Fresh Carrots
Bread and Butter, Tea or Coffee
Ice Cream or Pineapple

Potato Ala Jackson Soup..... 15¢

Ala Carte - Link Sausage and Vegetable... 55¢

Fri. 85¢ Grilled Halibut Steak, Tartar Sauce
Scalloped Potatoes, Spinach
Bread and Butter, Tea or Coffee
Ice Cream or Jello

Clam Chowder..... 15¢

Ala Carte - Hot Beef Sandwich, Potatoes... 65¢
SPECIAL --- Meat Entree



Free Coffee and Doughnuts

Plans For Spring Dance Near Completion

Plans for the annual Ames Spring Dance to be held Friday, April 22, are nearing completion. Tickets are being sold in each branch office for this colorful event.

Dancing from 8:30 til 12:30 to the music of the Aristocrats and a sparkling floor show will highlight the evenings festivities, to be held in the Ames Cafeteria.

Piano antics by Stan Schmidt of the Dynamics Analysis Branch and a bit of comedy by Frank Pfl of the 3.5-Foot Branch will be featured along with a guest appearance by the Sunnyvale Cosmopolitans, a group of talented young amateurs who will present several songs and dances.

Admission is by ticket, obtainable at the door or at each branch office for \$.75 each.



Three members of the Sunnyvale Cosmopolitans are, left to right, Pat Sallee, Wilma McDougall and Gloria Merzario.

ICE FOLLIES TICKETS GOING, GOING, GONE!

Hy Zimmer, Chairman of the Ames Entertainment Committee, has announced that most of the tickets available at special reduced rates for the Ice Follies have been purchased and only a few are left at \$2.40 each.

The AEC arranged for the special ticket purchase for Sunday evening, July 10. Those interested in reserving the last few seats should call Zimmer at 258.

Zimmer said he wished to express the appreciation of the committee for the excellent response to this program and for the promptness with which Ames employees requested their reservations.

Ames Airings

.....by Sharon Scharmen

Destination -- Europe! That's where you will find NICK PICCOLO (Mach.) and his wife, RALPH IGLER (Constr. Inspec.) and his wife spending three wonderful months touring approximately 10 European countries. They plan to leave April 9, returning July 10, 1960. They will fly to New York where they board a ship for the voyage across. After arriving in Europe, each family plans to buy a Volkswagen, and do lots of sightseeing.....Richard Allen Jones, 9 lbs., 4 ounces, arrived at the home of LEE JONES (Photo) March 3, 1960..... Time marches on -- while many of us have forgotten our pledges to the Ames Givers Fund. It's easier to pay in small payments rather than let them pile up. Contact the collector in your branch to settle your pledge soon.....

.....Leap Year baby, Ian Carlisle, born to ALAN FAYE (FSS) February 29, 1960. Ian Carlisle weighed in at 8 lbs., 3 ounces....

.....SHIRLEY ("TIGER") HICKERSON and BETTY BRADY (Pers.) together with spouses, enjoyed a day of skiing at Dodge Ridge on March 13. This was a new experience for the foursome, who returned battered and bruised from skiing in a horizontal position! (Especially "Tiger" who limped back to work a day late)...

.....ROBERT HUERTA (Heat Trans.) and his wife welcomed a baby girl, Audrey Dean, 8 lbs, 7 ounces, born March 9, 1960..... A fourth little boy was welcomed into the household of JAMES PAPPAS (DA) on March 15, 1960. John Peter weighed 3.09 kilograms.....

.....MARION HANSEN (VIR) and his wife are flying to Hawaii for 2 weeks of vacationing. They plan on leaving April 11, 1960. We will hear more from them when they return.

COLOR SLIDE FESTIVAL SLATED

A second annual Ames "Festival of Color" has been scheduled for this fall, it has been announced recently.

All Ames 35mm slide enthusiasts are invited to submit entries and suggestions for this event to

YOU ARZ A KZY PZRSON!

Zvzn though my typzwritzr is an old modzl, it works quitz wzll, zxzpt for onz of thz kzys. I wishzd many timz that it workzd przfctly. It is truz that thzrz arz 46 kzys that function wzll znough, but just onz not working makzs thz diffzrzncz.

Somztimzs it szzms to mz that our safzty program is somzwhat likz my typzwritzr--not all thz kzy pzoplz arz working propzrly.

You may say to yourszlf, "Wzll, I am only onz pzrson, I won't makz or brzak a program." But it dozs makz a diffzrzncz bzcausz a safzty program, to bz zffzctivz, nzzds thz activz participation of zvzry zmployzz--both on and off thz job.

Rzmbzbr my typzwritzr and say to yourszlf, "I am a kzy pzrson in our safzty program and my zfforts arz nzzdzd vzry much."

YOUTH BAND SCHEDULES CONCERT

The Santa Clara Valley Youth Band has scheduled a concert on April 1 at the San Jose State College Music Building.

Formed last fall, the Band is made up of young musicians from seventh grade to college age, and is directed by Clement J. Hutchinson, Associate Professor of Music at SJS and Mr. Whiteside, Director of Music at Curtis Intermediate School.

This concert is one of a series designed to prepare the Band for an invitational competition scheduled June 11th at the Hollywood Bowl in Southern California.

In order to insure the Band's continued participation in events such as this, Associate Members are being sought to help sponsor the group.

Interested persons are invited to contact S. Yamada, 12-Foot, ext. 288.

the Ames Entertainment Committee.

A standing-room-only audience at last year's show prompted the repeat of what could become a springboard to fame to members of the amateur photography set at Ames. Start now to capture those unforgettable moments at home or on vacation that just might win a blue ribbon!

For further information call Emerson N. Shaw at 218 or Hy Zimmer, 258.

GOLF

The first tournament of the year for the Ames Golf Club was held Saturday, March 19, at Hillview Golf Course. This best ball tournament was marked by some outstanding team efforts. The first flight ended in a tie between the team of Otto Meckler and Bill Fietzer and the team of Jim Nelan and Cleo Wagoner. The cheers of the club members are still ringing in Jim's ears for his round of 77 with a handicap of 16 for a net of 61 (which was the low individual net score for the day). Cheers for this effort are also ringing in the ears of Ted Plum, handicap chairman.

The second flight was won by the team of Ernie Medeiros and George White, whose low net of 59 was the best team score of the day.

The next tournament is scheduled for Gilroy Golf and Country Club on April 16. Tournament director will be Otto Meckler of the Structural Fabrication Branch.

BOWLING

The All-Ames Handicap Bowling League is entering its final three weeks of competition for this season. With 9 more games and 12 points to be decided, the race is on to determine which team will meet the first half champions, the Afterburners. One point is given for each of the three games played each week, plus one point for high total pins in each match.

League standings as of March 22:

Team	Won	Lost
Pinbusters	32.5	15.5
Mach. Shop 1	31.5	16.5
SSFF	29	19
Mavericks	28	20
Five Jets	28	20
Heat Transfer	27	21
EMC	25	23
Electrical	24	24
Mach. Shop 2	22.5	25.5
Hangar Hoods	22	26
HBR	22	26
Afterburners	21.5	26.5
Struc. Fab.	21	27
Hangar Instr.	21	27
Spoilers	17	31
Designers	12	36

BLOOD MOBILE VISIT

The Santa Clara Valley Bloodmobile will visit Ames Thursday, April 14, from 9 a.m. until noon.

All Ames employees who wish to donate blood on that date may sign up on the sheet provided for

BASKETBALL

The Ames Inter-Branch Hoop League closed its first full season of regular play, since the demise of the league in 1950, with a pair of games Monday evening, March 21. The entire program, from the opening game to the last, proved a success and provided sponsored recreation and friendly competition for more than fifty Ames employees.

The parity of team strength was borne out by the final standings. Shops, Orphans and VED were knotted in a three-way tie for first place with the 8- by 7- holding undisputed ownership of last place.

The VED aggregation sputtered to a close win over the 8- by 7- five in the opener. Neither team was able to find the basket for better than a 17 to 16 standoff. Pres Nelms (8- by 7-) was the game's scoring leader with an impressive 10 point production. The nearest VED could come to matching Nelms' total was Ruben DeLosSantos' five points. However, pairs of markers by John McDevitt and Dick Peterson and single markers scored by Joe Cleary and John Rakich provided the margin of victory. Walt Isler, Tom Gregory and Alan Levin, all of 8- by 7-, each contributed two pointers in a fruitless effort to top the opposition.

Seesaw scoring efforts marked the late contest between the Orphans and the Shops. The Orphans, scoring in the final seven seconds of play on a basket hooked in from the top of the key, spilled the Shops from the League leader position and hoisted themselves into the three-way tie. A paucity of scoring kept this game to the pattern set by the earlier contest, the Orphans garnering only 18 points to the Shops' total of 17. Willie White (Orphans) shared scoring honors with Otto Meckler (Shops) at five and six points respectively. Conservative play making and deliberate shooting played a large role in keeping the score down as both these teams have exceeded a forty point output in previous games.

Playoff rounds were organized to determine the ultimate victor and were scheduled for succeeding Mondays beginning March 28 at the Mountain View Gym at 7:15 p.m.

that purpose in each branch office. As before, members of an employee's family may donate on that date also.

Blood on deposit at the Blood Center is available to all Ames personnel and their immediate families.

WANT ADS

Wanted--Good used car, under \$75. Call RE 6-3890.

Wanted--Someone to help drive and share expenses from San Jose to Lamar, Colorado through U. S. 50. Leaving April 2, 1960. Will take one or two passengers. Call Gay Trueblood, CY 2-3588.

For Sale--1956 Rambler station wagon. Radio & heater, power brakes, power steering - good condition. \$1150. Call B. Christensen, ext. 294 or RE 6-5894.

For Sale--Used washer, Kenmore, with suds-saver. \$80. Call Whitecliff 8-2633.

For Sale--House in Lancaster, near Edwards. Owner must buy up here, would consider deal with someone moving down there. Contact Bill Evans, ext. 244.

For Sale--15' fiberglass boat, double bottom, crash tank, controls, tailored cover, accessories, small wheel trailer with extra tire and wheel. \$550. P. Laut, ext. 252.

For Sale--4 x 5 camera F 2:5 lens, 1/10 to 1/1000 focalplane shutter, graflex 4 x 5, and 2 1/4 x 2 1/4, 35mm magazines. For sports by flight work. R. M. Addison, ext. 230.

For Sale--35mm camera F 2: lens compour shutter revolving back with ground glass and 2 magazines - filters. R. M. Addison, ext. 230.

For Sale--Circulating gas heater (brown) - \$30. Call CL 8-9524.

Will Trade--Two books of S&H green stamps for two Blue Chip books. Call C. Shapero, ext. 293.

For Sale--Fiat '57, 1100 4 dr. deluxe, 1 owner, 14,000 miles. \$810. Call ext. 334 or AX 6-1354 after 6.

The ASTROGRAM, an official publication of the Ames Research Center, NASA, Moffett Field, Calif., is published bi-weekly in the interest of Ames employees. Send contributions to The ASTROGRAM -- phone 385. Deadline: Thursday between publication dates. Editor: B. P. Wilson Reporters: NASA Employees.

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOL. II

APRIL 14, 1960

NUMBER 13

Hartman Given Australia Post

Edwin P. Hartman, of NASA's Western Operations Office, has been assigned to the Department of Supply of the Commonwealth of Australia as the NASA Senior Scientific Representative. With offices in Melbourne, Hartman will be responsible for maintaining direct liaison between the Department of Supply and NASA Headquarters. Other duties will include assisting NASA technical representatives in presenting special support requirements to the Department of Supply, coordinating over-all program planning, funding, and a multitude of related activities.

Hartman joined NACA as a research engineer at Langley. One of his first jobs was in the Propeller Research Wind Tunnel Division there under Don Wood, now of the Director's Office here at Ames. Shortly after the establishment of the Western Coordination Office by Russell G. Robinson, now Assistant Director



at Ames, Hartman took over the direction of this function. He remained as head of the Western Coordination Office until the establishment of the new Western Operations Office in August, 1959, when he was assigned to its Technical Division.

Currently, Hartman is making plans for an exploratory trip to Australia.

Joint NASA-USAF Conference Held

The first NASA-USAF joint technical conference since NASA absorbed NACA's functions has been held this week at Langley Research Center.

The title of the four-day meeting which was opened Monday, April 11 is the "Joint NASA-USAF Conference on Manned Hypervelocity and Re-entry Vehicles."

Papers on various related research subjects were presented by representatives from NASA Centers, USAF officials and industrial research scientists.

Speakers from Ames included Donald A. Buell, Raymond C. Savin, George G. Edwards, Harry E. Bailey, Glen Goodwin, John O. Reller, Jr., Alvin Seiff, Bradford H. Wick, Brent Y. Creer, Melvin Sadoff, G. Allan Smith and John S. White.

Reviewers and other participants from Ames were David E.

(Continued on Page 4)



Service Pins Awarded

Friday afternoon, April 8, witnessed one of the rare occasions when all Ames employees are assembled under one roof. The event held in the large hangar, was the awarding of pins for 10, 15, 20 and 30 years service. The picture on the right



shows Dr. DeFrance presenting Ray Braig of Technical Services with his 30 year pin. One year pins were awarded by the individual branches. Those persons absent from work on Friday and who have not received their pins as yet may pick them up at the Personnel Office.

MODEL SHOP HOLDS OPEN HOUSE

More than 50 representatives of the Bay Area's leading research and technology organizations were present at an equipment demonstration at the Model Construction Branch, Tuesday, March 29.

The main attraction of the afternoon's activities was the introduction and demonstration of the Branch's newest item of equipment, the Plasma-jet spray coating gun, one of the first in the area and equipped with the latest components available. The gun is capable of coating nearly any surface with metal oxides, powders and refractories at extremely high temperatures and is credited with a high degree of success in making these coatings stick.

The unit consists of a control console and the gun itself, which weighs only five pounds and can be handled almost as easily as a paint sprayer. Simplified, the process is this: Argon gas in cylinders is led to the gun through two hoses. One hose is routed through a hopper attached to the console and furnishes low pressure to drive the powder from the hopper through a metering device and into the heat chamber in the gun. The other hose goes directly to the rear of the chamber and furnishes ejection pressure. A separate power supply furnishes 12 KW to the cathode arc system within the chamber. During operation, the powder or refractory is superheated (from 5,000 to 20,000°F according to needs) in the chamber and sprayed on the surface to be coated in an unoxidized state. The semi-hollow phenolic chamber is water-cooled, with up to two and one-half gallons per minute circulated through it.

Present at the Open House to answer questions on the technical and capabilities aspects of the gun was Joseph Rosener, President of the Giannini Plasma-dyne Corporation of Santa Ana, manufacturers of the equipment. According to Rosener, the process was first used in Germany about 30 years ago, but has not been fully developed until recently.

William D. Angwin, of the Model Construction Branch, demonstrated the gun by spraying a piece of aluminum with successive coats of aluminum oxide, tungsten powder and zirconium oxide. Andre T. Bogart, also of MCB, acted as host and answered questions on the techniques of spraying with the gun.



John F. Parsons, Associate Director of Ames, is pictured above as he presented Dr. T. Keith Glennan, NASA Administrator, with the first test model to be flown at 17,000 mph and recovered by Ames engineers. The model was embedded in plastic and inscribed, "First Man-Made Object Recovered After Atmosphere Entry at Earth Satellite Speed; Simulates 5.5 ft. Diameter 5500 lb. Satellite; February 27, 1960, Atmosphere Entry Simulator, NASA Ames Research Center." It was presented to Dr. Glennan at NASA Headquarters, Washington, D. C., on March 29.



Members of the Ames Entertainment Committee are busily engaged in preparing decorations for the Spring Dance scheduled for Friday evening, April 22. Featuring local talent and special entertainment events, the dance will be held in the Ames Cafeteria.

Ames Airings

Visiting the Los Angeles area for 10 days was SYBIL HEATON (ATD), who drove down enjoying beautiful weather all the way. A couple of spots she visited were the San Diego zoo and Marineland. A 6 lb. 8 ounce baby girl was welcomed into the family of SARAH OGATA (Ad. Serv) on April 1, 1960. FLOYD MOFFITT (DA) and his wife are visiting relatives in Arkansas. They left April 4 and are returning April 15, 1960. Elsa Jean Grover made her debut in the home of KENNETH GROVER (Guidance & Control) on March 30, 1960. He says the baby's weight is 0.55 stone (or approximately 7½ lbs). This makes the fifth little Grover. A surprise bridal shower was given in honor of BETTY SCARBROUGH (Off. of Director) on Saturday, April 9, 1960 by ELEANOR HOLT and ADENE SCARBROUGH (Fiscal). About 30 people attended and admired the lovely decorations of orchid and pink, accented with white flowers. Frances Hamaker, daughter of FRANK HAMAKER (Entry Simulation) brought back an award of merit for her exhibit of California shell families in the eighth grade section of the Bay Area Science Fair.



FRC WINS 1959 SAFETY CONTEST

A first place divisional award was presented the NASA Flight Research Center at Edwards, California, in recognition of a perfect safety record in connection with a nation-wide Aeronautical Industries Safety Contest recently.

The award plaque, forwarded to Paul F. Bikle, right, FRC Director, was accepted on behalf of Center employees by Clyde G. Bailey, Safety Officer and Head of the Maintenance and Manufacturing Branch.

Statistics compiled by the National Safety Council, contest sponsors, indicate that the Center experienced only two disabling injuries in 1958, none in 1959 and none in 1960. The report also shows that the Center's 375 personnel have worked 1,000,000 manhours since the last disabling injury.

Ames Cafeteria Menu

WEEK OF APRIL 18

- | | |
|--------|---|
| Mon. | Meat Loaf, Creamed New Potatoes, Peas
85¢
Ice Cream or Cake |
| | Vegetable Soup. 15¢
Ala Carte - Ravioli, Sauce, Tossed Salad. 60¢ |
| Tues. | Veal Scallopini and Mushrooms, Mashed Potatoes,
90¢
String Beans, Ice Cream or Sliced Peaches |
| | Cream of Tomato Soup. 15¢
Ala Carte - Chiliburger and Vegetable. 55¢ |
| Wed. | Weiners, Potato Salad, Vegetable or Green Salad,
85¢
Thousand Island Dressing, Ice Cream or Blackberry
Cobbler |
| | Potato Ala Jackson Soup. 15¢
Ala Carte - Creamed Giblets, Mashed Potatoes. 55¢ |
| Thurs. | Choice Rib Steak, Potatoes Au gratin, Spiced Beet
\$1.30
Salad or Vegetable, Ice Cream or Baked Apple |
| | Split Pea Soup. 15¢
Ala Carte - Macaroni-Ham Casserole. 55¢ |
| Fri. | Fillet of Sole, Tartar Sauce, Scalloped Potatoes,
85¢
Cole Slaw or Vegetable, Ice Cream or Jello |
| | Coney Island Clam Chowder. 15¢
Ala Carte - Beef Hash, Vegetable. 55¢ |



WEEK OF APRIL 25

- | | |
|--------|--|
| Mon. | Fresh Veal Cutlet, Pan Gravy, Snowflake Potatoes,
90¢
Peas or Corn, Ice Cream or Pears |
| | Vegetable Soup. 15¢
Ala Carte - Turkey Loaf, Potatoes. 60¢ |
| Tues. | Cross Rib Roast, Au jus Sauce, Whipped Potatoes,
90¢
Green Salad or Vegetable, Ice Cream or Apple
Cobbler |
| | Cream of Mushroom Soup. 15¢
Ala Carte - Chipped Beef and Vegetable. 55¢ |
| Wed. | Spaghetti and Meat Balls, Italian Sauce, Tossed
85¢
Salad or Vegetable, Ice Cream or Cake |
| | Split Pea Soup. 15¢
Ala Carte - Hot Beef Sandwich, Potato. 65¢ |
| Thurs. | Roast Tom Turkey and Dressing, Mashed Potatoes,
90¢
Giblet Gravy, Green Peas, Ice Cream or Jello |
| | Cream of Tomato Soup. 15¢
Ala Carte - Baked Beans, Salad. 50¢ |
| Fri. | Fried Prawns, Potatoes Au gratin, Spinach, Tartar
85¢
Sauce, Ice Cream or Prunes |
| | New England Clam Chowder. 15¢
Ala Carte - Tamale and Chili. 60¢ |

Complete Luncheon Includes
BREAD & BUTTER and TEA or COFFEE

NASA-USAF CONFERENCE.....
(Continued from Page 1)

Reese, Jr., Clarence A. Syvertson, Merrill H. Mead, Russell G. Robinson, Victor I. Stevens, Jr., Steven E. Belsley, Richard S. Bray, Dr. Alfred J. Eggers, Jr. and Myles D. Erickson.

WANT ADS

For Sale--Maytag electric ironer in good condition - \$60. One pair woman's hip boots like new - size 6. \$7.50. Call C. C. Jern, ext. 358 or CY 2-2375.

For Sale--3 1/2 bedroom, 1 bath home, has weather stripping, insulation, garbage disposal, and water softener. 75 x 148 landscaped lot including family orchard. Priced at \$18,000. 4% G.I. loan. Located on Mountain View - Los Altos line. Phone YORKshire 7-1613 after 2:00 p.m. daily.

Wanted--One girl's 26-inch bicycle. Contact L. L. Monroe, ext. 348.

For Sale--1952 M. G. TD 60,000 miles. Engine and transmission recently overhauled. Heater and toneau cover. Sacrifice at \$985. Contact William Jibby, ext. 226 or YO 8-2860.

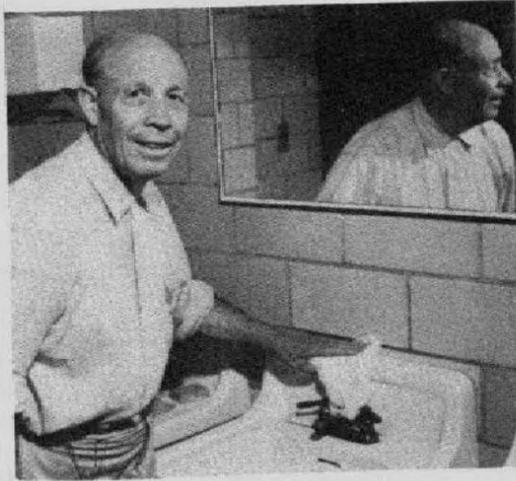
Found--Man's gray-blue tweed sport jacket, size 44, may be claimed at Heat Transfer Branch, computing room.

For Sale--In smog free Sonoma County near Russian River. 17 acres of apples and prunes or will subdivide in 3 or 5 acre lots reasonable. Call Andy Cracolice, ext. 214 or ES 7-7566 after 5 p.m.

For Sale--1959 Volvo 2-door sedan, \$600.00 equity. Take over payments or will take trade. Call after 5 p.m. YO 7-8713.

Free--A male puppy dog, approximately 4 months old. Part terrier and part ?. A fine pet for some child. Vitamins, feeding dish, etc. Call CHerry 3-3390 after 5 p.m.

For Sale--12' runabout, motor, ski equipment and trailer. New paint job. Reasonable. Call AL 2-4986.



ANTHONY COSTANZA TO RETIRE

Anthony Costanza of Maintenance, will retire April 15 after more than fourteen years employment at Ames.

Born in Barcelona, Italy, he came to this country at the age of twenty and settled in Chicago for a time while working for the North Western Railroad. During the years 1915 to 1919 he was in business for himself as a restaurant owner in Montana. He moved to San Jose with his family in 1919, where he continued in the food business. He now lives in the house he built in 1948 at 322 N. 9th Street, San Jose with his wife.

Costanza came to work at Ames in 1945 after being employed by the Food Machinery Company during the war. He recalls that the 12-Ft. Wind Tunnel was under construction and the 40-by 80-, 14-Ft., 1- by 3- and the old hangar were about the extent of testing facilities at that time.

His plans for the future include being with his six grandchildren, fishing, lots of rest and perhaps a part-time job later on.

Wanted--Stenographers, Typists! Must have civil service status or pass steno or typing test. Test can be given at Ames. Refer your friends, wives, relatives, etc. to Personnel Office for information.

For Rent--New deluxe apartment at 1040 W. Iowa, Sunnyvale. One bedroom, all furnished, electric kitchen, water and garbage paid. \$125 per month. Call Elsie Burnett, RE 6-3505.

Home for Trade--Lovely 3 bedroom, den, air conditioned desert home in choice area of Lancaster. Close to NASA Edwards. Owner transferred to Sunnyvale, would like to trade equity for similar type peninsula property. CLayburn 8-3452.

FOUR AMES EMPLOYEES HONORED BY AMERICAN LEGION

Forty Year Membership Awards were presented to Dr. Smith J. DeFrance, Director, Ray S. Loucks, Transportation, Louis A. Sinz, Structural Dynamics and Clifford O. Hall, Entry Simulation at the recent American Legion Past Commander's Dinner in Mountain View.

The awards were made April 4 by members of the Leon Robart Post 248, American Legion.

SPACE BIOLOGY NEXT IN FOOTHILL SERIES

"Biological Problems of Space Flight" will be discussed by Dr. Heinrich W. Rose of Lockheed April 18 in the Palo Alto High School auditorium at 8 p.m.

Dr. Rose is the eighth speaker in the lecture series "Space--the World's Frontier."

A question and answer period will follow the discussion.

GOLF

Ames "Scotch pasture billiards" enthusiasts will congregate at Gilroy Golf and Country Club Saturday, April 23 in the Ames Golf Club's second tournament of the year.

This "scratch and scramble" tournament is designed to bring out the best in all players both on the course and in computation of scores after the match. It is planned to choose team members by lot so that club members may become better acquainted.

Otto Meckler is tournament director and will draw up the playing teams. Individual prizes will be awarded for low gross, low net and fewest putts in addition to team prizes.

Entry fees and membership dues should be paid to Mitch Radovich of the Machine Branch by Thursday, April 21.

The ASTROGRAM, an official publication of the Ames Research Center, NASA, Moffett Field, Calif., is published bi-weekly in the interest of Ames employees. Send contributions to The ASTROGRAM -- phone 385. Deadline: Thursday between publication dates. Editor: B. P. Wilson Reporters: NASA Employees

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOLUME II

April 28, 1960

NUMBER 14

NASA Headquarters Awards Service Emblems

The NASA recently awarded official honorary emblems for Government service to 312 employees at NASA Headquarters.

Heading the list of recipients at ceremonies held in Washington was Dr. John F. Victory, Assistant to the Administrator, with over a half-century of service. Dr. Victory, the first employee of NASA's predecessor, the National Advisory Committee for Aeronautics, was cited for "50 years of leadership in this nation's aeronautical development."

Cited for more than 40 years of Federal service were Dr. Hugh L. Dryden, Deputy Administrator of NASA, 42 years, 13 with NACA and NASA; and Miss Catherine Wheeler, Assistant to the Director of Advanced Research Programs, 41 years of service, all with NACA and NASA.

APPLICATIONS FOR GRADUATE STUDY LEAVE DISTRIBUTED

Application forms for graduate study leave have been distributed to all research and engineering branches. Summer study applications should be filed with your Branch Offices by May, 1960.

Applications for the regular school year (September 1960 through June 1961) should be submitted by July 15, 1960. For further information call John Leveen, extension 411.

ADDITIONAL ICE FOLLIES TICKETS AVAILABLE

In response to continued demand for Ice Follies tickets, Hy Zimmer of the Ames Entertainment Committee has been able to secure 15 additional reserved seats for the 5:30 p.m. perform-

Strong Sees First Aid Film--Saves Granddaughter's Life

A tragedy in the home of Jerry Strong, Mechanical Instrument Branch was averted recently because of a film on oral resuscitation he had seen in the First Aid course given at Ames last month.

Dana Marie, his 8 months old granddaughter had been put down for her nap at 3:00 p.m. in apparent good health. At 5:30 p.m. the child's father picked her up and found that she had stopped breathing and was a bluish color. Jerry had just come home from work. He took the child from the distraught father's arms and began administering mouth-to-mouth resuscitation. Fifteen breaths later the child was breathing normally. Jerry gave her five more breaths for good measure just as the fire department arrived.

Later it was found that the child had an ear infection that suddenly raised her temperature beyond the "breaking point" and caused her to stop breathing.

It is all over now and Jerry can look back with humor to the first act of the firemen upon arriving at the scene. They took one look at Jerry and set up their equipment in case he needed aid after his harrowing few minutes.

This incident has prompted Ames to buy a copy of the film to be shown to all employees as the best method of artificial respi-

ance Sunday, July 10.

Price discounts are: \$4.00 tickets for \$2.90; \$3.50 tickets for \$2.40. Tickets for those who have made reservations will be available in 2 or 3 weeks. Printing problems have been responsible for the present distribution delay.

For reservations to the Ice Show call Zimmer at 258.

Bogart Named "Employee of Year"

Announcement that Andre T. Bogart of the Model Construction Branch has been awarded the title of "Federal Employee of the Year" has just been made here.

The S. F. Federal Business Association, sponsors of the award, selected Bogart over Federal employees throughout the entire Bay Area for this distinctive honor. Nominations for this title were made on the basis of superior performance, exceeding normal requirements.

Bogart was nominated for the work he has done in developing test equipment for the design and use of the pebble-bed heater for the 3.5-foot Hypersonic Wind Tunnel, the design of a heater that will reach temperatures around 4000°F, the development of ceramic coatings that will withstand such temperatures, exploration of the plasma-jet spray coating gun for Ames purposes and the development of equipment to measure thermal expansion and load bearing characteristics at elevated temperatures.

Presentation of the award will take place at a luncheon in San Francisco sponsored jointly by the Federal Business Association, San Francisco Chamber of Commerce and Federal Employee and Personnel Groups to honor the Federal Executive of the Year, Staff Man of the Year and Employee of the Year.

ration yet devised. David C. Robinson, Assistant Chief of Electronic Instrument Branch and James H. Rummings of 11-foot agree that this is undoubtedly the best method. Both received cracked ribs while "being revived" the old way at a recent First Aid class.

Astroventuring... ★ with walt krumm

THE MILKY WAY GALAXY

How do we know!
Magnitude? Brightness?
Luminosity?

The ancients divided the naked-eye stars into six classes or magnitudes. The brightest stars were termed 1st magnitude and the faintest visible to the eye the 6th magnitude. This rule-of-thumb definition still is used though it has been highly refined.

For example, with the advent of the telescope our magnitude scale had to be lengthened to include those stars below the visible, and it was found that we needed partial magnitude to more accurately define a star.

Early measurements showed that what the human eye appreciates as equal intervals are in fact equal ratios of brightness, so that stars that differ by 5 magnitudes have brightness which differ by a factor of approximately 100. The magnitude scale was refined and so defined that - a difference of 5 magnitudes is the equivalent of a brightness ratio of exactly 100. In doing this, some of the brighter stars now have zero and minus magnitudes. To further refine the magnitude scale a survey was made of the stars in the northern sky and accurate magnitudes were established. Other stars were given magnitudes comparable to this 'north polar sequence' survey.

In variable star work, which the star's magnitude changes with time, a skilled observer can estimate magnitude to 1/10th. Photography has assisted the astronomer with the magnitude scale also, and the photo-electric photometer is able to measure a star's magnitude to 1/100th. Color enters into the difficulty also, for the human eye is more sensitive to one color than another. The photographic film has this difficulty also but can be calibrated more accurately.

We have been discussing apparent magnitude - how one star appears with respect to another. How about the actual differences in the stars? Absolute magnitude is the term used. This is the magnitude of a star IF the star were at a distance of 10 parsecs. To do this most of the stars would have to be moved toward us and a few away.

NASA OFFICIAL CITED FOR FLIGHT SAFETY

Melvin N. Gough, Director of NASA Operations at the Atlantic Missile Range, has been honored by the Flight Safety Foundation for outstanding contributions in the field of aviation safety.

Gough was recipient of the Laura Taber Barbour Air Safety Award at the National Aeronautic Meeting of the Society of Automotive Engineers last week in New York City. The award was given for his activities as chief test pilot and chief of the Flight Research Division at Langley Research Center covering the period 1942 to 1958. He held these positions until his transfer to AMR in December, 1958.

The citation accompanying the award commends Gough for: "Formulating, as former chief test pilot of the NACA Langley Aeronautical Laboratory, the basic NACA philosophy and techniques for the safe prosecution of advanced flight research experiments, which have facilitated the successful penetration of many frontiers of aircraft performance and have provided a model for other flight research organizations throughout the world; for directing, as chief of the Flight Test Research Division, a dynamic program of research to promote flight safety including the evaluation of errors in air-speed measurement systems, basic criteria for the safe altitude separation of aircraft, the basic nature of tire friction under various runway conditions; for championing, through unstinting personal activity, the cause of flight safety by lectures, membership on safety panels and invaluable assistance in accident investigations."

Sirius, the brightest star in the sky (-1.52 mag), would dim to +1.3 absolute magnitude. Rigel, the bright star in Orion would become -6.5 magnitude or almost 1/2 as bright as the moon.

Magnitude and brightness scales both have their advantages. Magnitude is much better suited to visual estimates of the stars, and encompasses the range of stars more efficiently - from the brightest to the faintest being about 23 magnitudes. On the other hand, brightness gives us physically meaningful units as brightness is proportional to the actual energy received per second.

Luminosity - another term used to define the brightness of a star - is defined as the ratio of

SPACE ENVIRONMENT SUBJECT OF FOOTHILL LECTURE

"The Environment of Space" will be discussed by Dr. Martin Walt, consulting scientist in nuclear physics at Lockheed Missiles and Space Division. Dr. Walt is the ninth speaker in the Foothill College lecture series "Space--the World's Frontier."

A question and answer period will follow the discussion, to be held May 2 in the Palo Alto High School Auditorium at 8 p.m.

A REMINDER TO AMES MOTORISTS

Recently a number of traffic citations have been issued to Ames personnel on the Navy side. The nature of these violations is described below in the hope that the number of future citations may be reduced, if not eliminated.

In a single afternoon four Ames motorists were cited for failing to come to a complete stop at the intersection of Cummins and West-coat adjacent to the large Navy hangar.

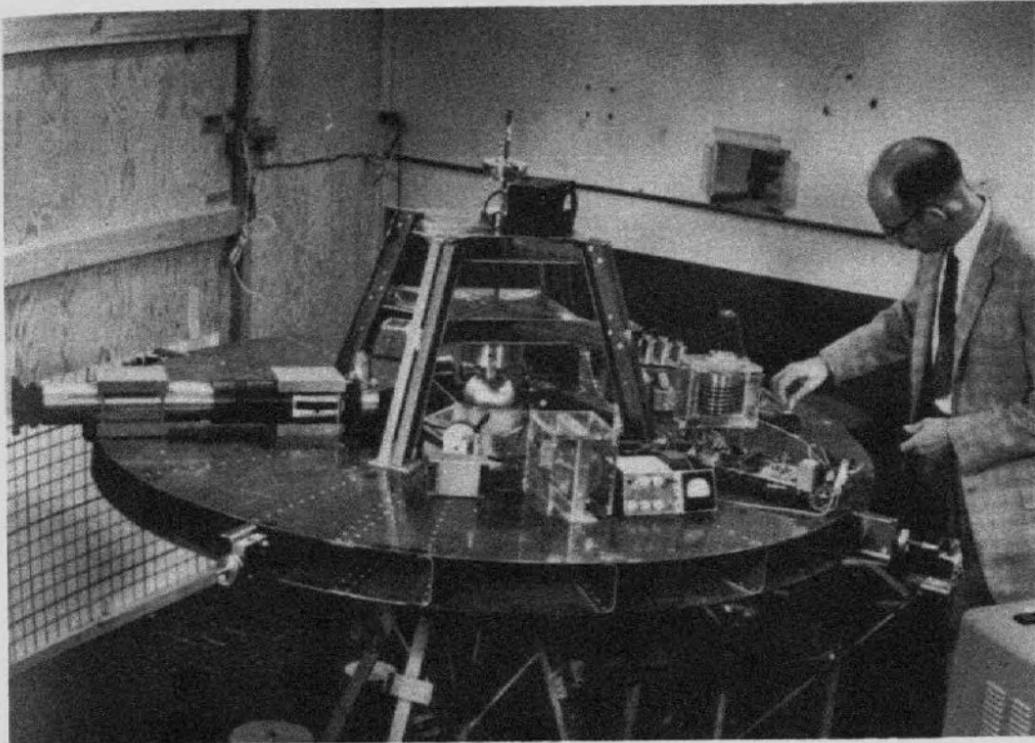
Another citation was issued an Ames employee for parking along an unpainted curb area. Street parking is permitted only where the curb is painted green and only for the time limit posted.

The speed limit on the Navy side is 25 miles per hour unless otherwise posted. In the vicinity of the landing strips and on the east side 35 mph is permitted. Tickets have been given for driving 35 in a 25 mph zone and 45 in a 35 mph zone. One Ames sports-car enthusiast learned too late that 70 mph on the base is bound to receive special attention.

Appearances before the Navy traffic court can be avoided. The inconvenience of being restricted from driving on the base is not worth the few minutes or seconds saved.

the amount of light which we would receive from the star to the amount which we would receive from the Sun if both were removed to the same distance from us, say, 10 parsecs. Luminosity gives us a large range to work with also. One of the most luminous stars (S Doradus) is about 600,000 times as luminous as our Sun while the intrinsically faintest star so far recognized (known as BD + 404048) is only 1/550,000th the Sun (our faintest star, if it were in the Sun's place, would appear about 1/2 as bright as the moon). Thus far the known luminosity range is some 330 billion.

Ames Engineers Take Part in Satellite Studies



Ames engineers devised this circular table balanced upon a metal sphere supported by a cushion of compressed air to simulate the friction free environment of space. Information gained in research utilizing the table will aid NASA in launching an astronomical satellite in 1963. John S. White of Vehicle Instrumentation Branch is shown working on the sensitive experimental stabilizing equipment.

Preliminary work on stabilizing control is being done at Ames as part of NASA's development of an astronomical satellite. The satellite, scheduled to be launched in 1963, will have a payload of about 3500 pounds of instruments designed to probe the nature of the stars.

A key element in the astronomical satellite is a control system of unprecedented accuracy, and Ames staff members, with long experience in control systems, are finding ways to accomplish the task.

For testing and comparing several different ways to obtain the very precise control required, staff engineers have built and are using an extremely low torque platform to simulate as closely as possible the friction-free environment of space. The Ames platform is supported on a thin film of compressed air called an air bearing. It is a type of ball and socket joint with a cushion of air between the two parts. So little friction is present that very small forces cause the platform to move.

On this special simulator, engineers mount the types of control systems being studied. They provide a small disturbing

force, then measure the ability of the controls to return the simulator table to a desired position.

If the controls can be made to work with sufficient accuracy in the laboratory, more will be known about their ability to do the required job when the astronomical satellite is orbiting in space.

The satellite will be oriented by stellar check points.

Among the instruments mounted on the platform are a telescope with error detectors and photodetectors. An artificial light source simulates a star, and corrective action of the control system orients the platform to within one second of arc; it is anticipated that the necessary accuracy to one-tenth of a second will be achieved.

Experiments to be made by the satellite include ultra-violet stellar spectrography, ultra-violet photometry, ultra-violet sky mapping, high dispersion stellar photometry and solar studies.

The sequence to be followed during operation is this: Immediately after injection into orbit, the payload's sun-seeker orients the satellite with the sun. A television camera transmits a picture

Spring Dance



The Annual Ames Spring Dance was held Friday evening, April 22 in the Ames Cafeteria. Dancing from 8:30 till 12:30 to the music of the Aristocrats and a sparkling floor show along with piano pranks by Stan Schmidt highlighted the evening's activities. Prizes were won by Mr. and Mrs. Harry Simin (FM), Waltz; Mr. and Mrs. Anyalone, Foxtrot; and Mr. Anyalone and Mrs. Peggy Larson (Entry Sim.), Charleston.

to an astronomer at a ground control station. The astronomer then orients the satellite in accordance with the displayed information and sends it toward a target star to be examined. Near the star an automatic tracking system takes over and the remaining operation automatically records the programmed data. Power for the operation probably will be solar cells and storage batteries.

Estimated cost of the as yet unnamed project is \$25 million, which does not include the Atlas-Agena-B boosters and unforeseen problems.

Ames part of the project, headed by Robert M. Crane, Chief of the Aero-Thermodynamics Division includes basic research, feasibility studies, drawing of specifications for contract bidding and reviewing of findings. Engineers taking part in this work include John Dimeff, Assistant Chief of Instrumentation Division; G. Allan Smith, Chief, John V. Foster, Assistant Chief, and John S. White, Fred H. Shigemoto, Marion Hansen and James R. Swain all of the Vehicle Instrumentation Branch; and William C. Triplett, Assistant Chief and project coordinator, Stuart C. Brown and Bruce E. Tinling of Guidance and Control Branch.

Ames Closeup



HANK COLE

If you happen to be near Structural Dynamics Branch some day after hours, walk by the office of Henry A. Cole, Jr. and glance in. You may be unlucky and only see a very busy young engineer absorbed in his work. Or you may have the good fortune to see him during a moment of respite when his gaze is just a little out of focus and he is leaning back in his chair, for the moment out of contact with the figures before him. This is a different Hank Cole. This man is lying on the warm sands of the French Riviera, enjoying a cool Mediterranean breeze and toying with the formulation of his next great dramatic novel. You are observing a new star on the literary horizon.

In real life, bachelor Hank Cole has no time for that first great book. He has instead limited himself to being published both here and in Europe in various aviation magazines featuring model airplane design and flight. In the current issue of *Der Flugmodellbau* (Germany) are the plans for the plane pictured above. The author of countless flight articles, he has practiced what he preached and has come away from quite a few national and international meets with high honors and heavy gold cups. He has held the national Class A speed record of 85 mph, holds two current endurance records, won the national Wakefield class in 1959 and was a member of the three-man Nordic team who went to the European finals in 1955.

Born in Seattle, Washington, he attended local schools and was graduated from the University of Washington with a B.S. in Aero-

nautical Engineering in 1943. At that time he entered the U. S. Navy and served as Aircraft Maintenance Officer on an escort aircraft carrier. Lt. j. g. Cole helped 'keep em flying' in such battles as Leyte Gulf, the Marianas, Lingayan Gulf and action against Okinawa, Saipan and Guam. At the war's end he was ducking Kamikaze attacks and keeping air patrols flying over the northern Japanese islands.

Hank Cole opened a model airplane shop in Seattle after the war and soon was appearing in model airplane meets and magazines. He began working on a research Fellowship at the University for a Masters degree, and his swept wing project gained the attention of NACA who aided in the work and took a good look at Hank, too. In 1951 the project was complete and he accepted NACA's offer and moved to Ames. He was put to work in the old Flight Research Branch, where he continued work until the reorganization last fall put him in the Structural Dynamics Branch.

He lives in Palo Alto's "Whiskey Gulch" area and manages to write an article or so a year, and squeezes in a skiing trip when he can.

Hank still enjoys telling his favorite Navy experience: During the Saipan invasion a submarine alert was sounded and his ship was given the command, "Emergency Turn!", meaning turn right. Unfortunately, the Officer of the Deck confused it with "Turn Emergency," meaning turn left. They turned left and sailed right over the sub, fouling the whole depth charge attack. The consequences to the erring O. D. ? He spent the rest of the war back in the U. S. on recruiting duty!

Ames Airings

..... by
Sharon Scharmen

Basking in warm, sunny weather in Palm Springs for two weeks, were ARLENE GAAR (Fiscal) and her husband. They flew down on April 2 and returned April 13. She said they had a wonderful time swimming, and especially enjoyed attending the annual Policemen's Show with such stars as: Art Linkletter, Danny Thomas, Dean Martin, Milton Berle, Tony Curtis, Ginny Simms, etc..... SIGMUND SWINCKY (Machine) be-

Cafeteria Menu

WEEK OF MAY 2

Mon. Ground Chuck Steak, Fried Onions, Mashed Potatoes, Choice of Cottage Cheese and Fruit Salad or Cream Corn, Ice Cream or Cake.....85¢
Vegetable Soup.....15¢

Tues. Grilled Pork Loin Chops, Celery Dressing, Apple Sauce, Snowflake Potatoes, String Beans, Ice Cream or Plums.....90¢
Navy Bean Soup.....15¢

Wed. Short Ribs of Beef Spanish Style, Baked Potato, Creamed Celery or Beets, Ice Cream or Apple Cobbler.....90¢
Cream of Tomato Soup.....15¢

Thurs. Beef Stew with Fresh Vegetables, Whipped Potatoes, Ice Cream or Peaches.....90¢
Split Pea Soup.....15¢

Fri. Fried Eastern Oysters, Tartar Sauce, Lemon Wedge, French Fries, Choice of Vegetable or Cole Slaw, Ice Cream or Coconut Custard.....90¢
Clam Chowder.....15¢
SPECIAL --- Meat Entree

WEEK OF MAY 9

Mon. Choice Top Round Roast Au Jus, Whipped Potatoes, Asparagus, Ice Cream or Fresh Fruit.....90¢
Vegetable Soup.....15¢

Tues. Meat Balls and Spaghetti, Grated Cheese, Choice of Tossed Salad or Vegetable, Ice Cream or Pears.....85¢
Navy Bean Soup.....15¢

Wed. Turkey Loaf and Cream Peas, Oven Brown Potatoes, or Green Salad, Ice Cream or Fruit Jello.....85¢
Split Pea Soup.....15¢

Thurs. Roast Leg of Pork and Dressing, Apple Sauce, Snowflake Potatoes, Choice of Spinach or Beets, Ice Cream or Rice Pudding.....90¢
Tomato Rice Soup.....15¢

Fri. Grilled Halibut Steak, Tartar Sauce, Lemon Wedge, Potatoes Au Gratin, Cole Slaw, Ice Cream or Jello.....85¢
Clam Chowder.....15¢
SPECIAL --- Meat Entree

Complete Luncheon Includes
BREAD & BUTTER and TEA or COFFEE

came the proud grandfather of a baby girl born Friday, April 15. This is his first time around as a grandfather. So this almost makes him the "proudest man at Ames."..... A baby girl arrived at the home of GERALD NITZBERG (Off. of the Director) on Saturday, April 9, 1960, weighing 8 lbs, 8 ounces, and named Martha Ellen..... ED HOIN (Oper.) is at this very moment in the Hawaiian Islands for a two weeks vacation. He left by plane the week of the 17th and will return the first of May..... Twin girls were born to the household of NICK VOJVODICH (Heat Transfer) on Saturday, April 16. They each weighed approximately 4 1/2 lbs. and are named Nancy and Katherine..... New York was the scene for a visit by BARBARA THOMPSON (Ad. Serv.) and her family for several days. They left April 6 and returned April 18. Enjoying all the New York sights, they were especially pleased with the entertainment at the Latin Quarter.

BOWLING

MACHINE SHOP 1 WINS ALL AMES BOWLING LEAGUE

The All Ames bowling league closed its season Tuesday night, April 19 with the annual Sweepstakes night. The winners of the first half of the season, the Afterburners, played the winners of the second half, Machine Shop 1, for the league championship. Final results showed that the Machine Shop team emerged champions and gained possession of the Ames perpetual trophy. While these two teams bowled for first place, the rest of the league members shot for the six individual prizes offered for that night. The winners are listed below.

Juan Yepiz (Airc. Serv.)
high game division 1
John Peterman (Mech. Eng.)
high series div. 1
John Traverso (Struc. Fab.)
high game div. 2
Robert Sagramola (Elec.)
high series div. 2
Harold Lagergren (EMC)
high game division 3
Manuel Vieira (ASM)
high series div. 3

At the end of the evening trophies were presented to individuals of both the championship team and the runners up and for the men and women bowling the high games and high series for the season. In addition, the American Bowling Congress award for the most improved male bowler went to Rod Peery (DA) and the Women's International Bowling Congress award for the most improved woman bowler went to Beverly Saich (SSFF).

This bowling league, which is a handicap league made up entirely of bowlers from Ames Research Center provided an interesting winter's activity for more than 100 people. Next year's officers, Abe Brass, president, and Charles DeRose, secretary, hope that the season will be just as successful. For those bowlers who like to keep going during the summer, a summer league has been formed and will begin activity May 5 at the Camino Bowl in Mountain View. Further information on this league can be obtained from president Charles McFadden, ext. 275 or secretary Robert Redmond, ext. 275.



The Champion Machine Shop 1 team is pictured after being presented with individual team trophies. Kneeling are (l to r) Captain Abe Brass and Joe Contro. Standing are (l to r) Herb Pankratz, Sigmund Swincky and Donald Carter.



Winners of season trophies in the All Ames Bowling League are pictured above. Kneeling are (l to r) Robert Sheaffer (EMC) tied for high game scratch and Gaeton Faraone (Photo) high series scratch; standing (l to r) are Don Oishi (HBR) high game handicap, Janet Konrath (Fluid Mech.) women's high series, Ronni McCoy (Security) women's high game and Otto Meckler (Struc. Fab.) tied for high game scratch.



Laurel Wheeler, granddaughter of Eugenia McKay of the Library Staff, has been named first prize winner in the national "Tiny Traveler Contest." Laurel and her parents have been awarded an all expense paid trip to Hawaii plus other wonderful prizes. Eugenia is accompanying them on the trip.

WANT ADS

- For Sale--2 bedroom, 1 bath home, west side location near the Emporium in Santa Clara, city bus and stores. \$16,950. Call Nothwang, ext. 404 or AX 6-3757.
- For Rent--Lakewood Village - 3 bedroom, 2 bath home, fenced yard, patio, stove and refrigerator. \$125 per month. One year lease. Call DA 6-6410.
- For Sale--1955 Buick Special convertible. Full power equipment, radio and heater, green and white. Call CHerry 3-6467 after 6:00 p.m.
- For Rent--In Sunnyvale a 2 bedroom unfurnished apartment with w.w. carpeting, all-electric kitchen, garbage disposal, laundry conveniences, storage, carport. No children or pets. \$135 per month. Call DA 3-0576.
- Wanted--Person or persons to share driving and expenses to Denver, Colorado. Leaving about June 1. Call AN 4-4764 between 8 p.m. and 9 p.m.
- For Sale--8-foot boat, ideal for small lake fishing. 2 1/4 H.P. motor, oars and car top carrier. \$95. Call G. Nothwang, ext. 404 or AX 6-3757.
- For Sale--1958 camping trailer approximately 12' unfurnished. Asking \$300. Call Dee Armstrong at ext. 317 or AL 2-7299 after 6 p.m.
- For Sale--One Harvard upright piano in good condition \$125. Call A. Lopez, ext. 288 or CH 5-0073.
- Wanted--One person with car to join existing ride group of three. Live near Santa Clara-Saratoga highway and Payne Avenue. 7:30 to 4:00 shift. Call Jim Gabbard, ext. 232.
- For Sale--3 bedroom home, w.w. carpet, fireplace, venetian blinds throughout, electric stove, gas refrigerator, fenced yard, landscaped. 4% existing loan, in Sunnyvale. 3/4 blocks to school, 4 blocks to shopping. Call Don Moody, REgent 6-5393.
- For Sale--3 bedroom, w.w. carpet, corner fireplace, 16x26 ft. covered patio, fenced, landscaped. 4% existing loan, in Sunnyvale. 3 blocks to shopping, 4 blocks to school. Call Don Moody, REgent 6-5393.
- For Sale--Unused textbook on "Modern Probability Theory" by Parzen. Bought in advance for course at Stanford, but author came out with new edition. Cost \$8 plus tax. Will sell for \$4.50, no tax. Call Kirk, ext. 275.
- For Sale--Enlarger, Solar-Matic 120, 35mm to 2 1/4 x 2 1/4, with glassless negative carriers for 35mm and 2 1/4 x 2 1/4. New; \$141, sale price - \$65. Excellent condition. Call Harry Blomquist, ext. 218, 219.
- For Sale--Two glass top blond end tables and coffee table. Excellent condition. Call CH 5-1141.
- For Sale--Baby's bassinet, like new condition, quilted lining and mattress, folding caster legs. \$12. Call Fred Dietrich, ext. 232.

SOFTBALL ORGANIZATIONAL MEETING SCHEDULED

All Ames after dinner athletes are invited to attend an organizational meeting of the proposed softball loop Friday, April 29 (tomorrow) in the Cafeteria's private dining room at 11:30 a.m.

Since the size of the league and success of the season depend upon a good turnout, this meeting is a must for all interested persons. For further information call Robert McPhee at ext. 418 or 419.

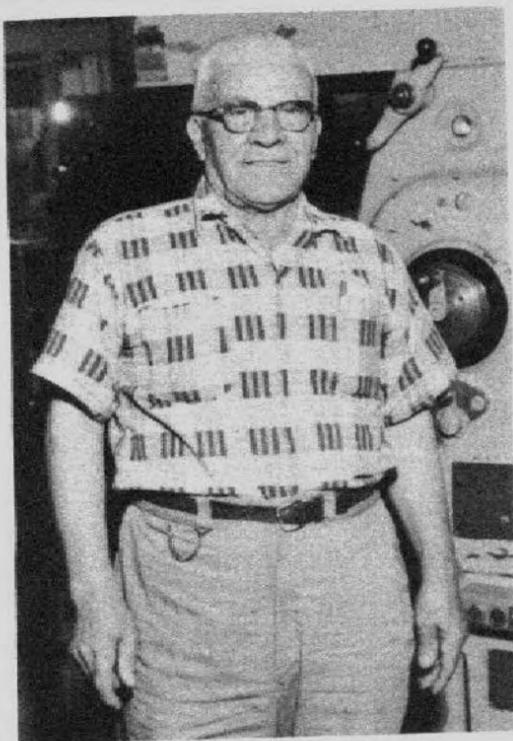


RETIREMENT LUNCHEON HELD FOR ANTHONY COSTANZA

Anthony Costanza of Maintenance was honored April 13 at a luncheon held by the Fluid Mechanics Branch at the Moffett Field Officers Club.

Costanza, who retired April 15 after more than fourteen years employment at Ames, was presented with two articles of patio furniture and a garden cart during the luncheon.

He is pictured above surrounded by his gifts and receiving a scroll from Elliot Katzen, Assistant Branch Chief. Brad Wick, Branch Chief, was at Langley and unable to be present.



JOHN ROISO RETIRES

John Roiso of Maintenance will retire tomorrow after more than seventeen years service at Ames. His first day of work was March 16, 1943, his birthday.

Born on the isle of Sicily in 1891, he came to this country in 1913. During the years between 1913 and 1927 he worked as a laborer, dishwasher, sandwich maker, soldier, foundryman and steel worker, living at various times in New York; McKeesport, Pennsylvania, Wheeling, West Virginia; and Albany, New York.

He came to San Jose, California in 1927 and worked as a farm laborer until 1941 when he was employed by the Richmond Packing Company of San Jose. When the war started he worked in several Bay Area shipyards until coming to Ames.

Roiso has four sons, a daughter and two granddaughters all living in California. He makes his home at 454 No. 20th Street, San Jose.

His plans for retirement include maintaining the two homes he rents and fishing at Santa Cruz.

SQUARE DANCING CLASS OFFERED

Ames couples interested in forming a square dancing class are invited to contact Hy Zimmer of Ames AEC, ext. 258.

A caller with more than six years experience in the forming and teaching of such groups is available at a cost of fifteen dollars per evening. A minimum of fifteen couples is needed to form the class in order to share the caller's fee. The instructor has several other classes already and furnishes his own equipment and records. Time and place of the class have not been announced.

The ASTROGRAM, an official publication of the Ames Research Center, NASA, Moffett Field, Calif., is published bi-weekly in the interest of Ames employees. Send contributions to The ASTROGRAM -- phone 385. Deadline: Thursday between publication dates.
Editor: B. P. Wilson
Reporters: NASA Employees.

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOLUME II

MAY 12, 1960

NUMBER 15

Ames Soaring Club In Contest



Astrogram readers whose interest in soaring might be aroused by the story of Earl Menefee's hobby in this issue's Ames Closeup column have the opportunity of seeing the Ames Soaring Club in action during the coming Memorial Day weekend May 28, 29 and 30. The Ames Club will participate in a competition sponsored by the Northern California Soaring Association at a special glider field near Livermore, California.

At the present time the Ames Soaring Club is composed of about seventeen members and owns two sailplanes. One is a two-place trainer and the other a single-place kit the members are just completing. Both "machines" are or will be certificated aircraft capable of good soaring flights.

The ASC base of operations is "Hummingbird Heaven", operated by NCSA. The airport is an 80 acre field purchased principally as a soaring site leased by NCSA and sub-leased by individual sailplane owners, one of which is the Ames Club. A specially designed hangar houses 11 assembled sailplanes and the NCSA Super Cub tow plane.

Spectators should arrive early in the day to see all of the activities, including the aircraft preparation, towed take-off, climb to release altitude, release and local soaring before the aircraft heads cross-country. Most planes are in the air by 10:30 a.m.

Contest site is about 5 miles east of Livermore at the western base of the Altamont hills, 1 mile south of U. S. highway 99 adjacent to the University of California Radiation Laboratory.

FOOTHILL LECTURE FEATURES SPACE SCIENCE PROBLEMS

Robert T. Jones of Theoretical Branch, Ames Research Center, will speak on "Space Science - Problems and Accomplishments" Monday, May 16 in the Palo Alto High School Auditorium at 8 p.m.

Jones is the final speaker in the current Foothill College astronautics lecture series which has included discussions of space problems by scientists from Lockheed, Ames, Stanford Research Institute and Aerojet-General Corporation.

A question and answer period will follow the discussion.

Dr. Rose To Speak On Space Weightlessness

Bio-Medical aspects of weightlessness will be discussed by Dr. Heinrich W. Rose of Lockheed at the next IAS dinner meeting, to be held at 7:00 p.m., Thursday, May 19, at Rickey's Studio Inn, Palo Alto.

Among the many problems posed by manned space flight, the possible effects of operation in a zero-g field are of primary importance. Weightlessness will be discussed by Dr. Rose with special emphasis on bio-medical effects on blood circulation, muscle tonus and nutrition. Special consideration will be given to the loss of sensory input and its effects on orientation in space.

Dr. Rose graduated from the University of Munich Medical School in Germany in 1933. He then was engaged in the study of astronomy and in private practice as an ophthalmologist. Since 1939 he has had extensive experience in the field of aviation and space medicine, including 12 years with the U. S. Air Force School of Aviation Medicine, where his work included problems in night vision, depth perception, and protection against ionizing radiation and high-speed foreign bodies. He has been with Lockheed since 1959 as a research staff scientist in the general field of space medicine. He is the author of a very extensive series of technical publications and was the recipient of the U. S. Air Force Exceptional Civilian Service Award.

A Social Hour preceding the dinner will begin at 6:30 p.m. For reservations call ext. 267.

Astroventuring... ★ with walt krumm

THE MILKY WAY GALAXY

How do we know!
Temperature?

The effective temperature of the radiating surface, of a star, like that of the sun's surface, may be determined by means of the laws of radiation, but in the case of the stellar temperatures this is more difficult to determine. The principal data of observation of temperatures are in the form of color indices, heat indices (for a very few), and spectral-energy curves. The temperature may also be estimated by the degree of ionization as shown by the enhanced lines of the spectra.

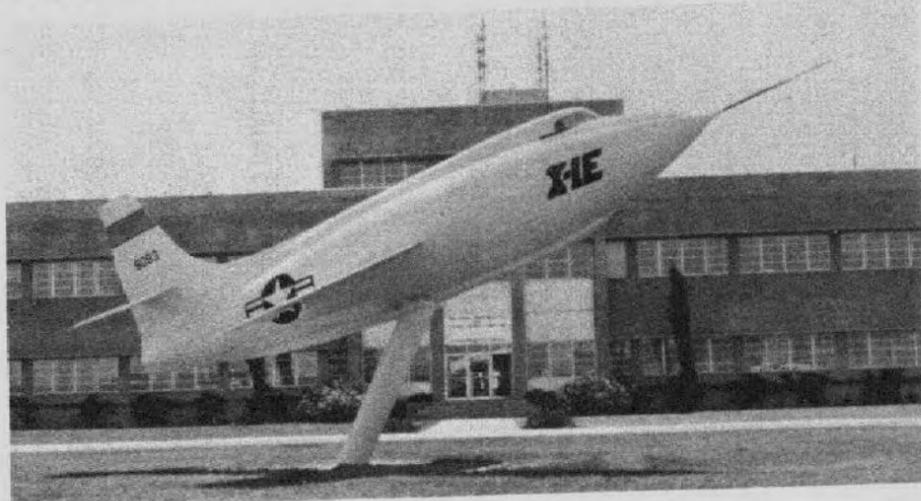
As the eye is most sensitive to yellow light and the ordinary photographic film to blue, a red star appears fainter, relative to a white one, on the photograph. The color indices are obtained by subtracting the visual magnitude from the photographic with the white stars designated zero and the red as unity. Color index varies, of course, with spectral class and is an indication of temperature. The white stars are hotter than the red stars just as a white hot piece of iron is hotter than one that just glows red.

The total radiation of a star is measured with a radiometer and the greatest success has been attained with the vacuum thermocouple. A star's heat index is the difference between the "radiometric" and the visual magnitudes. This is a direct method of obtaining a star's temperature.

Spectral-energy curves are made by plotting wave length against energy with temperature as the variable from values obtained by the laws of radiation. Temperature of the star is thus obtained by using data obtained observationally - luminosity, and spectral class - and checking these against the curves for temperature.

An atom that has lost an electron is said to be ionized and the spectrum of an ionized atom is entirely different from that of the normal. The spectrum is modified by the emergence or strengthening of certain lines which are referred to as the enhanced lines. The temperature and pressures at which different elements become ionized are very different and the relative intensity of the enhanced lines in the spectra gives a key to the star's temperature.

Historic NASA Research Aircraft Retired



The rocket aircraft that first carried a civilian pilot beyond the once-feared "sound barrier" in 1948 has been retired to a place of honor at the site of its historic flights, NASA Flight Research Center, Edwards, California. With a total of 88 rocket flights, the X-1-E was in service longer than any other "X" series vehicle. It flew from December, 1946 to November, 1958. Its final flight was the last rocket aircraft flight in the United States until the X-15 made its first powered flight in September, 1959.

Ames Airings

.....by
Sharon Scharmen

BILL WARD (Model Constr.) sailed to the British West Indies on the Swedish line freighter "Silver Gate" on May 9, 1960 for approximately 4 months of "island hopping." His main reason for visiting this part of the world is to capture its beauty on canvas. As many of us know, Bill is an accomplished artist; so he should have quite a lovely collection of paintings to bring back with him.

.....WILLIAM WEHREND (6x6) is learning to fold diapers for his firstborn, Bill, who arrived April 18, 1960, weighing in at 7 lbs, 4 ounces. Just returned from the Orient on April 25 is SKIP FLETCHER (8x7). He visited such exotic places as Japan, Thailand, Phillipines, Hong Kong, Vietnam, and others. One of the colorful personalities he saw during his 3½ weeks was the King of Siam. Skip says the weather was just about perfect all the time he was there. If you happened to be driving down Highway 101 early Saturday morning, April 16 and saw two people energetically bicycling southward, we can clue you in that they were CARLTON and NATALINE JAMES (SSFF & 6x6). They hopped on their bikes and headed for Los Angeles -- and made it. Five days later they arrived at their sister's home for lunch. This



Shown above are Pete Patterakis and his bride the former Democratia Volanis, of Greece. Pete flew to Greece to meet his bride-to-be for the first time last March. Democratia and Pete corresponded for some time before meeting. They were married in Canea, the capitol of Greece on March 18, 1960, and honeymooned several days in Athens, returning to the United States April 6.

was their first such trip and they are ready to go again. The weather was beautiful all the way, allowing Carlton to take many pictures. Visiting relatives in Dixieland for three weeks are SHIRLEY HICKERSON (Pers.) and her husband. They left May 6 by car and are planning on visiting Arkansas and Tennessee. She says they are sure looking forward to eating some good old Southern fried chicken, corn fritters, and corn bread.

Ames Closeup



EARL O. MENEFEE

"Silence is Golden" would seem to be the motto of Earl Menefee, Engineering Designer of Mechanical Engineering Branch, if his hobby and personality are any indication. Menefee, the strong, silent type, is a man of few words except when the subject of gliders and soaring is being discussed.

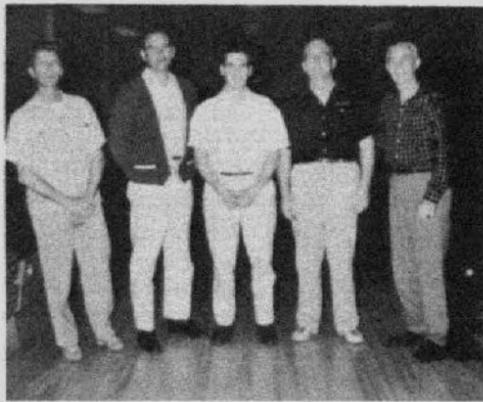
He says he can't remember when he didn't have the urge to fly, and gliders in particular have held an appeal because of the detachment from all earthly sound and motion which is found in soaring several thousand feet above the plains and valleys, riding on the crests of warm air currents and updrafts along California's mountain ranges.

Menefee, who began his career at Ames in January of 1941, was one of the founders of the Ames Soaring Club, which started with a war surplus glider and fourteen dedicated enthusiasts back in 1947. One day he happened to mention gliders to the late Ralph D. Salisbury of the 40- by 80- while they were working together on a project. The spark that was kindled in Salisbury's eyes that day inflamed the interest of Jack D. Stephenson and other Ames individuals, and the Club was formed. Three months after purchasing the two-place sailplane Menefee, Stephenson, Salisbury and his wife Betty took it east to the Texas Nationals, where they gained little prize hardware but much experience. The Soaring Club has grown through the years and a current club project is assembling a recently purchased glider kit.

In 1956 Earl toured Europe attending glider meets from Oslo to Rome, taking a total of more than 1200 color slides. It was at

BOWLING

The Ames 805 Bowling League held its roll off Monday evening, May 2, between the Missiles, first half winners, and Mechanical Engineering, second half winners, with the Missiles coming out on top, 2½ to 1½.



Pictured above is the winning team, (l to r) L. May (Property), P. Barisich (Machine), J. Marvin (HT), F. Cleary (Supply), J. Wardell (Machine). High game winner, shown at left below, was E. Baker (ME). At his left is F. Cleary, high series winner and L. Levy (FM), most improved bowler.



an International Soaring meet in France that he first saw the plane he wanted to own. Built in Austria, the plane, pictured above, had to be shipped to San Francisco in crates via the Mediterranean Sea and the Panama Canal.

An example of the plane's (and Earl's) flying ability is a flight taken last May from Oroville to Dinuba, a distance of 239 miles. The flight took 7 hours 45 minutes and was made at an average altitude of 6,500 feet; sole means of power was Earl's locating rising air columns and the plane's exceptional ability to stretch out its glide angle to about 34 feet to every foot it drops.

Earl estimates he spends a minimum of 52 weekends per year at the sport. His favorite flying location is at the base of Altamont Pass near Livermore, where he

Cafeteria Menu

WEEK OF MAY 16

Mon. Pot Roast of Beef and Noodles, Crisp Green Salad or Peas, Thousand Island Dressing, Ice Cream or Pears.....90¢
Vegetable Soup.....15¢

Tues. Ground Chuck Steak, Fried Onions, Creamed New Potatoes, Spiced Beet Salad, Ice Cream or Upsidedown Cake.....90¢
Cream of Tomato Soup.....15¢

Wed. Roast Pork and Celery Dressing, Apple Sauce, Whipped Potatoes, String Beans, Ice Cream or Baked Apple.....90¢
Pearl Barley Soup.....15¢

Thurs. Beef Stew and Fresh Vegetables, Mashed Potatoes, Ice Cream or Custard Rice Pudding.....90¢
Split Pea Soup.....15¢

Fri. Halibut Steak Grilled, Potatoes Au Gratin Tartar Sauce, Wedge of Lemon, Choice of Cole Slaw or Buttered Carrots, Ice Cream or Stewed Prunes.....85¢
Clam Chowder.....15¢
SPECIAL --- Meat Entree

WEEK OF MAY 23

Mon. Grilled Ham Steak, Braised Pineapple, Baked Yams or Whipped Potatoes, Toss Salad or Peas, Ice Cream or Lazy Susan Cake...90¢
Vegetable Soup.....15¢

Tues. Choice Top Round of Beef Roast, Scalloped Potatoes, Assorted Vegetables, Ice Cream or Baked Apple.....90¢
Tomato Macaroni Soup.....15¢

Wed. Meat Loaf, Spanish Sauce, Choice of New Potatoes and Creamed Peas or Bean Salad, Ice Cream or Fresh Fruit.....85¢
Split Pea Soup.....15¢

Thurs. Grilled Pork Chops, Dressing, Apple Sauce, Baked Potato, String Beans, Ice Cream or Fruit Jello.....90¢

Fri. Fish Sticks, Tartar Sauce, Wedge of Lemon, Whipped Potatoes, Choice of Vegetable or Salad, Ice Cream or Fresh Fruit.....85¢
Clam Chowder.....15¢

SPECIAL --- Meat Entree
Complete Luncheon Includes
BREAD & BUTTER and TEA or COFFEE

AMES AWARDS ION ACCELERATOR CONTRACT

Ames has awarded a contract for two ion accelerators to Applied Radiation Corporation of Walnut Creek.

The contract, which calls for the first accelerator to be delivered at the end of this year and the other at the beginning of 1961, is in the amount of \$170,000.

These accelerators, which supplement existing facilities in the Physics Branch, will extend Ames present research capabilities in space flight problems,

and fellow enthusiasts hold distance contests, speed runs and other forms of competition.

Born in Alameda, Earl spent most of his early life in Truckee and the Bay Area. After attending San Francisco Junior College, he held various drafting positions before coming to Ames. He now lives in Palo Alto where he has engaged in Air Scout work.

WANT ADS

- For Rent--2 units, 2 bedroom duplex. Brand new, unfurnished. Rent \$110. Will be available approximately May 15th. Ext. 262, B. Greene.
- For Sale--1952 Mercury sedan, overdrive, white wall tires, radio and heater, clean, excellent condition, original owner, 30,000 miles. Make offer. Call ext. 317, Mrs. Baker.
- For Sale--Cherry Maple butch, like new, \$80. Call CH 8-0321.
- For Sale--Four-burner white gas apartment size stove. \$30 as is. Call RE 9-2871.
- For Rent--2 bedroom unfurnished apartment, all electric kitchen, w.w. carpeting, no children or pets. \$125. Located 1002 W. Iowa, Sunnyvale. Call DA 3-0576 evenings, Sundays and Mondays.
- For Sale--Lovely 2 bedroom home, large lot, covered patio, fruit trees, nicely landscaped in top Willow Glen area. By owner. Call AN 9-4589.
- For Sale--Two 8-weeks old kittens, tortoise-shell color, mother Burmese, father scalawag. Contact Craig, ext. 275.
- For Rent--Studio apartment, furnished, w.w. carpeting, all-electric kitchen, garbage disposal. Available for one person - \$97.50 or two persons - \$105. Located 1010 Iowa Street, Sunnyvale. Call DA 3-0576.
- For Sale--1958 Simca hardtop sedan. Radio, heater, reclining seats. Call Bob Redmond, ext. 275 or EL 6-2290.
- For Sale--O'Keefe and Merritt gas range, automatic oven, clock, and chrome grill, very good condition. \$35. Call YO 7-6101 after 5.
- For Sale--Hand powered lawn mower. Good condition, but needs adjusting. \$10. Contact F. Gustina, ext. 281 or DR 9-1446.
- For Rent--In Woodside area lovely furnished bedroom, tile bath, private entrance, garage, in lower portion of a new two-story home. Telephone privileges, linens furnished. Located close to town. \$70, to the right person. Call EM 9-3203 days or UL 1-0445 evenings and week-ends.
- For Sale--Girl's 24" B & H bicycle. Excellent condition. New tires and tubes. \$25. Call L. L. Monroe, ext. 348.
- For Sale--1956 4-door Renault with radio, gray, \$450. Call Sarabia, ext. 401 or YO 7-5292.
- For Sale--Girl's 20" lightweight bicycle, w/basket and training wheels, good condition. \$20. Call J. Delaney, ext. 372 or AX 6-8559.
- Found--Trenchcoat (raincoat) in Conference Room of 3.5-foot on May 3, 1960. See F. Pflyl for return.
- For Sale--Boy's 24" Schwinn bicycle, excellent condition. \$20. Call K. G. McCormick, ext. 261.
- For Sale--Westinghouse electric range, two ovens, deepwell which can be converted to fourth burner. Excellent condition. Price \$150. Call WH 8-1702.
- For Sale--Unused textbook on "Modern Probability Theory" by Parzen. Bought in advance for course at Stanford, but author came out with new edition. Cost \$8 plus tax. Will sell for \$4.50, no tax. Call Kirk, ext. 275.
- For Sale--Car radios in good condition, 1949-50 Ford \$17.50, Volkswagen \$17.50. Call YO 8-1190.
- For Sale--1957 V-W with sun top, 12,000 miles since new. \$1,245 or best offer. Call YO 8-1190.
- For Sale--One Harvard upright piano in good condition. \$125. Call A. Lopez, ext. 288 or CH 5-0073.

NEW CREDIT UNION HOURS

The Moffett Field Employees' Credit Union, located in Navy Building 63, has announced new hours. The new hours will be 10:30 to 1:30 and 3:00 to 4:30, effective immediately.

GOLF

Gilroy Golf and Country Club was host for an Ames Golf Club outing Saturday, April 23. Otto Meckler (Struc. Fab.) acted as director for the "Scratch and Scramble" tournament which combined scores, handicaps and number of putts in assorted fashion to determine the winners.

Meckler failed to arrange fair weather, however, as players were alternately exposed to rain, cold winds from various directions and occasional sunshine. In spite of repeated donning and shedding of jackets the tourney was judged a success and the course was in excellent condition.

Winner's laurels went to Dick Petersen (3.5-foot) and Ed Stepnoski (DA) for a combined net score of 137. Second place winners were Frank Lazzeroni (6-by 6-) and Loren Bright (9-by 7-) with 139. Third place went to Al Petretti (Mach) and Larry Graham (FM) at 142; fourth, Al Puccinelli (Airc. Mod.) and Vernon Fietzer

(Mach), 149; fifth, Otto Meckler and Bernard Cunningham (Ent. Sim), 150.

Additional prizes were awarded to Dick Petersen for low gross of 75, Loren Bright for low net of 61 and Al Petretti for low number of putts.

The next tournament is scheduled for May 14 at Almaden Golf Course, under the guiding hand of Paul Barisich of Machine Shop. Paul or Mitch Radovich (Mach) will accept entry fees and the earlier the better as final arrangements at Almaden must be made earlier than other courses on which the Club plays.

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Editor: B. P. Wilson
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Are You Feeling Psycho-Ceramic??

(The following article appeared in the April issue of the Jet Propulsion Lab's "Lab Oratory" and had such a profound effect on some of the members of Personnel that they have already plunged into the experiment recklessly and obtained their own rubbing stones. Be careful, it might happen to you!... Ed.)

Some time ago, we read about psychologists giving smooth stones to mentally agitated patients to rub. The idea was to rub the stones when you felt harassed. Some of the stones were round, some flat, some oddly shaped--depending on how a person felt about it.

Lately around JPL, the practice is being revived. Everybody has a "Rubbing Stone" to help them calm down. It seems like the thing appeals to a person's tactile sense like chewing gum, smoking or sucking your thumb.

Usually a newcomer views the practice with incredulity. But when he gets a nice smooth rubbing stone in his hand and his fingers caress the polished surface, a cryptic smile will cross his face as he realizes that he likes it. He does not know why. He does not care why. All he knows is that he likes it.

An anonymous bard wrote the following verse:
What's eating you, Dad? Your nerves gone bad?

Try a rubbing stone.

Got the seven-year itch, or a nicotine twitch?

Try a rubbing stone.

If you need a smoke, if you're sick or broke, or about to croak,

Try a rubbing stone.

There's a hole in your shoe and a house payment due,

Try a rubbing stone.

You're overdrawn and your Miltown's gone,

Try a rubbing stone.

There's your income tax, and the battle-ax...don't worry! Relax!

Try a rubbing stone!

It looks a bit strange, but just for a change,

Try a rubbing stone.

Your neighbor may smirk--ignore him, the jerk!

Try a rubbing stone!

There's nothing to gain overloading your brain--So who wants to be sane?

Try a rubbing stone!

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOLUME II

MAY 26, 1960

NUMBER 16

Langley's Dr. Reid Relinquishing Director's Position



DR. H. J. E. REID

Dr. Henry J. E. Reid, veteran of nearly four decades of Federal Government service and internationally known figure in the realm of flight is relinquishing his position as Director of NASA Langley Research Center, a post he has held continuously for more than 34 years. Dr. T. Keith Glennan, NASA Administrator, announced last Friday.

At the same time, Dr. Glennan announced that Floyd L. Thompson, Associate Director at Langley for the past eight years, has been named Director to succeed Dr. Reid. Thompson's appointment climaxes a Langley career he began in July 1926.

Dr. Glennan said he has approved a request by Dr. Reid that he be relieved of the Director's responsibilities and be permitted to continue in service during a transition period to assist the new director.

In yielding the Director's reins he has held since January, 1926, Dr. Reid will assume a new position at Langley, that of Senior Staff Associate, serving as Senior Staff Advisor to Thompson in connection with operation of the \$150 million research center.



FLOYD L. THOMPSON

Dr. Reid directed the following message to members of the Langley staff on May 20:

"As many of you know, I have for some months been contemplating retirement within the next year or so. In view of my approaching retirement, although I am willing to serve the organization for some time yet, I have thought it best to relinquish my duties as your Director at this time so that direction of this Center's programs now in formulation can be placed in other hands at the earliest practicable date.

"I have proposed this change in my duties to Dr. Glennan and he has agreed to my request with the understanding that I will be retained in the capacity of senior staff associate. Dr. Glennan has appointed Mr. Floyd L. Thompson, now Associate Director, to be the new Director of the Langley Research Center, effective Monday, May 23, 1960.

"I want to thank all staff members for your excellent cooperation and support which have inspired and strengthened me in carrying out my duties. I know you will continue to demonstrate the same spirit of cooperation to assist Mr. Thompson as your new Director."

Federal Health Benefit Program Enrollment Begins Next Week

The new Federal Employees Health Benefits Program will go into effect here at Ames July 10, 1960. The program is complex and employees must give careful thought to selection of the plan which most suits their needs. Brochures detailing the features of the various plans will be distributed to all employees during the first week in June.

Several plans are being offered, and most will have two options, one having greater benefits and higher costs than the other. After selecting a plan, an employee will have only one opportunity to change to another plan, except that there are special provisions for an employee who has a change in family status or transfers to another locality not covered by the plan he has. The earliest opportunity for this change will be October 1, 1961.

The government's monthly contribution toward the cost of the plans has been set at \$6.75 for a family, \$2.80 for employee only and \$3.90 for a female enrolling for a family including non-dependent husband.

Employees cannot be excluded or charged more because of age, sex, race or physical condition, and none of the plans can charge more for physical disabilities or illnesses in existence at the time of enrollment, but benefits may be limited in those cases where the employee or dependent was in a hospital on the date his policy went into effect. None of the plans can have a waiting period clause, as in the case of maternity, for instance.

Registration of employees for the benefits of the program will commence on June 3rd. Employees will receive an enrollment form and instructions from

(Continued on Page 4)

Ames Closeup



JOHN DIMEFF

Instrumentation Division's dynamic Assistant Chief John Dimeff could well have become an outstanding professional football player had not a muscle injury terminated his brief appearance on Harvard's practice fields during his freshman year. Dimeff, who today looks fit enough to block a kick or down a hard-charging fullback, had to be content with handling line coach duties and scouting opposing teams his remaining undergraduate years.

Born in Detroit, he moved with his family to Los Angeles and later to San Jose where his father was engaged in the restaurant business. A product of Los Gatos High's Class of '38, he went on to Harvard on a James B. Conant Scholarship. After being graduated in 1942 with a Bachelor's degree in Physics, he was employed at the Naval Research Laboratory in Washington, D. C., where he became head of the Magnetron Development Group. His third and final year at the Laboratory was spent as a Commissioned Officer in the U. S. Navy.

In 1945 he received his release from the Navy and returned to the San Jose area. He began working on plans to set up a commercial radio station in this area, but became convinced such an enterprise would not be profitable. Another commercial venture in designing and manufacturing food machinery was in the planning stages when patent rights difficulties served to entangle matters and lead his footsteps toward Ames.

Howard W. Kirschbaum of Instrumentation interviewed Dimeff in June of 1946 and put him to work. His first job at Ames was designing a dew point meter for C-46 aircraft. Since then he

Cafeteria Menu

Mon. HOLIDAY WEEK OF MAY 30

Tues. Baked Virginia Ham, Raisin Sauce, Sweet or Whipped Potatoes, Green Peas, Ice Cream or Fruit..... 90¢
Split Pea Soup..... 15¢

Wed. Choice Short Ribs of Beef, Potatoes Au Gratin, Buttered Carrots, Ice Cream or Rice Pudding..... 90¢
Bean and Vegetable Soup..... 15¢

Thurs. Chuck Meat Loaf, Mushroom Gravy, Mashed Potatoes, String Beans, Ice Cream or Cherry Cobbler..... 85¢
Tomato Rice Soup..... 15¢

Fri. Fried Eastern Oysters, Lemon Wedge, Scalloped Potatoes, Onion Rings, Cole Slaw, Tartar Sauce, Ice Cream or Fruit Jello... 90¢
Clam Chowder..... 15¢
DAILY SPECIAL---Meat Entree
Steak Sandwich on Toasted Bun..... 55¢

WEEK OF JUNE 6

Mon. Swiss Steak, Mashed Potatoes, Stewed Tomatoes or Creamed Celery, Ice Cream or Fruit..... 90¢
Vegetable Soup..... 15¢

Tues. Ground Chuck Steak, Fried Onions, French Fries, Creamed Corn, Ice Cream or Cake..... 90¢
Tomato Macaroni Soup..... 15¢

Wed. Beef Ravioli, Italiane Meat Sauce, Tossed Salad or Vegetable, Ice Cream or Apple Cobbler..... 85¢
Split Pea Soup..... 15¢

Thurs. Beef Stew with Fresh Vegetables, Whipped Potatoes, Ice Cream or Pears..... 90¢
Potato Ala Jackson Soup..... 15¢

Fri. Fillet of Sole, Lemon Butter, Tartar Sauce, Scalloped Potatoes, Ice Cream or Coconut Custard..... 90¢
Clam Chowder..... 15¢
DAILY SPECIAL---Meat Entree
Steak Sandwich on Toasted Bun..... 55¢

has worked on more challenging projects including a pressure transducer system on which he delivered a report before the NATO Advisory Group for Aeronautical Research and Development in London in 1958, and was chairman of the Low Level Multiplexing at High Speeds section of the Instrument Society of America meeting last October in Chicago.

His off-duty hours are occupied by supervising construction of his home which he designed featuring a reverse floor plan, and acting as President and assistant coach of the East Side Swim Club of San Jose. The club, which meets at the James Lick High School Pool several times a week, is for young swimmers and beginners of grammar school and junior high age. His own two children, Craig, 12, and Carol, 9, are members of the club and participate in swimming meets. Dimeff particularly enjoys working with 7 and 8 year old beginners and helping them become polished swimmers.

Flight Research Hangar Addition Nearing Completion

The hum of analog computers can be heard along with the sounds of sawing and hammering in the new portion of the Flight Research Hangar this week as the Dynamics Analysis and Vehicle Instrumentation Research Branches set up equipment in the wake of carpenters, painters and electricians. Occupancy was scheduled for the middle of this month, but will not be complete until late in June, when construction will be finished. Guidance and Control Branch will occupy the rooms vacated by Dynamics Analysis.

The new addition has many built-in features that will result in increased operational efficiency and convenience of equipment installation and modification. For example, both the floor and ceiling in most of the ground floor are "false." The finish floor is 19" above the concrete slab sub-floor to allow pipes, cables and lines to be arranged to suit current demands. The finish floor is made up of sections which can be easily lifted out of place to furnish access to the space below. The ceiling, also made up of removable sections, is acoustical material which controls the noise level and covers an air space which contains air conditioning equipment, ducts and electrical conduits. Sensitive electronic equipment (as well as operators) needs controlled ambient air temperatures to function accurately. The heat from the present 280 amplifiers would become unbearable were it not for this floor-ceiling design. Where ever cool air is needed, a section of the floor and ceiling is removed and forced air currents flow through. This feature will prove invaluable when 200 additional amplifiers are installed some time in 1961.

Another feature of the building is its separate power supply. A 440 volt electric motor drives a generator rated at 100 kilowatt capacity and smooths out all transient power fluctuations that would result in inaccurate operation of the analog computers.

The Conference Room is designed for maximum security, convenience and comfort. Sound-

Continued on Page 3, Col. 2

Dimeff, his wife Virginia and the children are presently residing at 273 Doris Avenue in San Jose and anticipate moving into the new home this summer.

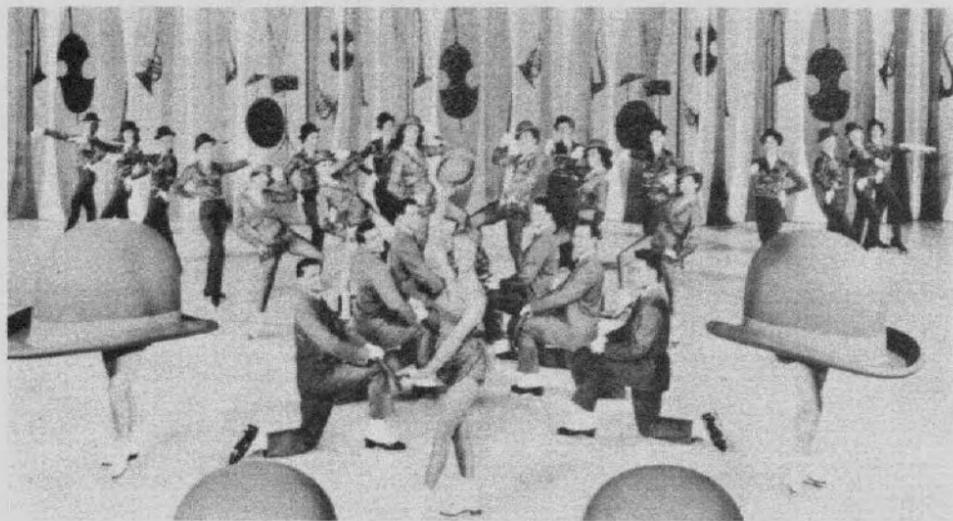
Ames Airings

.....by
Sharon Scharmen

JACK PARSONS (Assoc. Director) recently underwent major surgery at the Palo Alto-Stanford Hospital. He is now at home where he is reported recovering nicely. However, it will be several weeks before he returns to Ames.....

.....Enjoying the splendor of Kentucky, is JACKIE WILLIAMS (Off. of Director). Jackie left by car May 13 for 2 weeks and will return May 31.....HELEN JEW (Formerly of Heat Transfer) is the proud mother of a baby boy, born May 13. Darryl Wayne weighed 7 lbs, 5½ ounces at birth..... Visiting relatives in Minnesota for 2 weeks is MILT WEBER (Struc. Fab.). Milt left very early May 13, at 3:00 a.m. to be exact, driving all the way..... Looking for highly polished "rubbing stones" in Yosemite over the holiday week-end will be the Astrogram editor, BRAD WILSON and his wife. He is leaving May 27 and will return May 31..... On sick leave since March 24, 1960, FERGUS BROWN (Model Constr.) is really missed by his co-workers. They want to wish him a quick return and hope he is feeling better every day..... LEONARD MC GEE (DA) has been walking the floor these nights with his new "female type" offspring, born April 29. Sandra Ann has brown eyes, he guesses, and a "whole mop of hair."..... DR. STANLEY SCHMIDT (DA) just returned May 24 from a combined business and pleasure trip. He flew to Dearborn, Michigan to visit his brother-in-law, and then on to Huntsville, Alabama, St. Petersburg, Florida, and Langley Research Center..... JOHN DUSTER-BERRY (Elec.) is carrying his thumb about with CAUTION. It seems he could not tell the difference between his thumb and the NAIL. Two stitches had to be taken. The intern wanted to know if John was a carpenter..... DAVE GARNER (EIB) was married to Dianne Bieker on April 16 in Reno, Nevada. It seems he pulled a fast one, as he was married for 3 weeks before telling anyone..... PAUL ERIKSSON, CARL SORENSON, RED NORMAN, JOE AUBY, JIM KLEM AND MARTY MARGOLIS of the Electrical

More Ice Follies Tickets Available



Sunday, July 10 has been designated "NASA Day" at Shipstad and Johnson's Ice Follies of 1960, according to Hy Zimmer, Ames Entertainment Committee Chairman. The designation was prompted by the enthusiastic response of Ames employees in purchasing all of the original 210 reserved seats available here, plus demands for more. As a result of "NASA Day", thirty more reserved seats at \$2.40 have been made available at Ames, which will bring the number of Ames spectators at the show up to 270.

Persons interested in securing reserved seats may contact Hy Zimmer at ext. 258.

Branch roughed it over the week-end of May 14th at the palatial mansion of Paul Eriksson at Lake Tahoe. They were feeling Psycho-Ceramic and searched for "rubbing stones" of which a goodly supply was brought back.

..... April 25 welcomed a new addition to the TED PAS-SEAU (EIB) household, by the name of Christopher Dana, weighing 7 lbs, 10 ounces.. The writer and her husband enjoyed a leisurely week-end on May 21 and 22 at Carmel, bumming around the beaches, basking in the sunshine, and breathing fresh sea air..... One final thought -- if you are planning to go on a trip over Memorial Day week-end, DRIVE CAREFULLY. We would like to be able to write you up in the Ames Airings when you return, but not as a casualty!

FLIGHT RESEARCH HANGAR Continued from Page 2

proofed throughout, the room is paneled on two sides with ash veneer and has two full walls of blackboard and tack board area. The room is provided with air conditioning, a projection booth and built-in screen and has the capability for closed-circuit TV operation if needed.

One of VIR's favorite features in the new quarters is its "isolated slab." This is a solid chunk of concrete embedded in the ground entirely independent of the building, and will allow engineers to

DONALD H. HEAPHY VICTIM OF HEART ATTACK

Donald H. Heaphy, 59, Wind Tunnel Mechanic in Fluid Mechanics Branch was fatally stricken at his home Sunday evening, May 15, victim of a heart attack.

Heaphy, who came to Ames in May of 1948, has been employed in the Fluid Mechanics Branch and 1- by 3- tunnel.

Born in Bradley, South Dakota, he held several jobs as a mechanic in the mid-west before opening up his own auto repair shop in Gold Beach, Oregon in 1934. In 1942 fire destroyed his shop and he moved with his family to the Sunnyvale area, where he held several positions until coming to work at Ames.

make precision measurements. A normal building has far too much vibration to attempt the accuracy needed in astronomic calculations.

The new addition will also house the offices of Branch Chiefs Stan Schmidt and G. Allan Smith as well as their staffs.

Cost of the project was approximately \$909,000 which includes some \$260,000 for new equipment. Plans for the addition were begun in September of 1958, and construction commenced in August of last year. In addition to the new construction, remodeling and painting was done in other parts of the hangar.

FEDERAL HEALTH BENEFITS...
(Continued from Page 1)

their Branch Insurance Representative. Every eligible employee will be required to complete and file a registration form whether he wishes to use the benefits of the program or not. Completed forms must be returned to the Insurance Representatives as soon as possible, and in any event not later than June 15, 1960.

John Leveen, Health Benefits Officer, is in charge of the enrollment. All questions concerning the program or the various plans should be put in writing and given to the Branch Representative, and they will be answered as quickly as possible. Please do not call or come to the Personnel Branch with questions pertaining to this program.

FOOTHILL COLLEGE
ANNOUNCED SUMMER
COURSES

Forty-six courses will be offered by Foothill College during its eight-weeks summer session which opens on June 20. Twilight and evening classes only will be offered.

The schedule of classes for the summer session is now available through your Training Officer, Room 109, Administration Building, at the college and at local libraries and Chambers of Commerce without cost.

Full-time summer session students will be limited to eight units. Part-time students may take no more than four units, or one course. Counseling examinations will be given on June 11 and 16 in the college library. The registration period runs from June 6-7.

Courses are scheduled for the summer session in the following fields: Art, Biology, Business, Chemistry, Economics, Electronics, Engineering, English, German, Health, History, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Russian, Sociology and Speech.

The ASTROGRAM, an official publication of the Ames Research Center, NASA, Moffett Field, Calif., is published bi-weekly in the interest of Ames employees. Send contributions to The ASTROGRAM -- phone 385. Deadline: Thursday between publication dates.

Editor: B. P. Wilson
Reporters: NASA Employees

WANT ADS

For Sale--1950 Ford, new engine. Call Kirk, ext. 291 or RE 9-9363.

For Sale--Lake Tahoe lot. Rancho Bijou. Ideal building site 70 x 125, on sewer line, one block from golf course, walking distance of beach, one mile from Heavenly Valley, 1 3/4 miles from Stateline. Call YO 7-9166 after 5 p.m., or see Pete Calande, 14-Foot.

For Sale--12-foot runabout, 15 hp Johnson, trailer. Ideal for compact or sports car. Call A. Weber, ext. 293 or RE 6-5530.

For Sale--(1) Webcor 4-speed disc-changer, excellent condition. Cost \$55. Price \$28. (2) Remington noiseless standard typewriter, new cover, new metal table, good condition. Price \$25. (3) New touch typing course, records with illustrated book. Cost \$19.95. Price \$15. (4) Ladies English riding boots, size 5 1/2 C, custom made in England, used once. Price \$15. Call YO 7-3738.

For Sale--5 gallon butane tanks, regulators double and single. Also racks that fit trailers or pickups. Call B. H. Locks, ext. 349.

For Sale--3 bedroom, 1 bath home, 2 car garage, fireplace, patio, brick fireplace, 76 x 126 lot, fruit trees, berries, and grapes. Near schools, churches and shopping. Interior recently painted. Located in Sunnyvale. Cal-Vet loan, immediate possession. Call RE 9-0851.

Will Swap--Winchester model 88 lever action .308 caliber rifle with KV Weaver scope for Rolleiflex in good condition. Rifle in excellent condition, used only twice on range. Call Glen Weidlich, ext. 218.

For Sale--Accordion, practically new, 120 base, Pezzolora La Medlosiosa. Original price, \$450. Will sell for \$250. Call E. Wunn, ext. 262 or DA 2-9580 after 5 p.m.

Wanted--Gardening, odd jobs, etc. on Saturdays. Call 357, Lazaro Alvarez. RE 9-6547 after 8 p.m.

For Sale--Walnuts, 25¢ lb. Tillman, ext. 214.

Ride Wanted--Desire ride from 1203 Los Palms Drive, Santa Clara, 8:00 to 4:30 shift, or if necessary, 7:30 to 4:00 shift. Call Lee Simpson, ext. 418 or 419.

For Sale--Mobile home, 1959, 46 x 10. Must sell. Take over payments \$76 plus equity. 440 Moffett Boulevard. Space 93. After 5 p.m.

For Sale--Boy's 24-inch Huffy bicycle w/basket, good condition, \$25. Call Mrs. Ramey, ext. 252, or CH 5-1958 evenings.

For Sale--Memberships in the Ames Flying Club. Cessna 120, hangared at San Jose Municipal Airport. Hourly flying rate \$3.60, monthly dues \$5.00, membership \$245. Contact Walt McNeill or Joe Douvillier, FSS, ext. 206.

Ride Wanted--Need daily ride both ways from corner of Middlefield Road and San Antonio Road. 7:30 to 4:00 shift. Marie Palmer, ext. 218.

Wanted--A roommate to share apartment in San Jose or Santa Clara area. Call Phyllis Gourley, ext. 338.

Wanted--Typewriter, standard keyboard. Call Ray Diaz, ext. 293.

For Sale--3 bedroom, 1 bath home, covered patio, fully landscaped, living room with new w/w carpet and drapes, gas stove in kitchen, double garage. 8 minutes from Ames. \$13,750. Call McCloskey ext. 237 or Orchard 7-3027.

For Sale--21-inch "Charcoal Time" barbeque. Adjustable grill, legs and wheels. Used about four times. \$7.50. Also, carpet sweeper, very good condition. \$5.00. Phone ext. 318 or CHerry 8-5764.

GOLF

The Ames Golf Club's third tournament of the year was held Saturday, May 14 at the Almaden Golf Course. This "point par" tourney turned out to be one of the most hotly contested battles of the year.

Winners in each flight were:
Otto Meckler (Ent. Sim) 23 points
Ernie Muselman (Mach) 22 "
Loren Bright (9-by7-) tie 19 "
George White (6-by6-) 19 "
Bruce Tinling (G & C) tie 21 "
Jim Monfort (11-foot) tie 21 "
Armando Lopez (12-foot) 25 "
Ernie Medeiros (Str. Fab) 21 "

The next tournament will be held at the Aptos Beach Golf Course Saturday, June 4. Information regarding this tournament may be obtained from Loren Bright (Ext. 247) or Armando Lopez (Ext. 288).

The breezy Palo Alto Municipal Golf Course was the site of the 4th annual "John's Blind Bogey Golf Tournament," played Wednesday, May 18.

Don Merriman (Mech. Eng.), Jim Monfort (11-foot) and Jack Wyss, Charlie Coe and Bob Sorenson (all of DA) were contestants from Ames, with Jack Wyss emerging as overall winner of the tournament with low net score. His home now features a new 17" portable TV as a result of his efforts. All Ames golfers brought home prizes, and it is expected that next year Ames will be even better represented at this event.

FOUR NEW TECHNICAL
CURRICULUMS TO BE OFFERED
AT FOOTHILL

Seventeen representatives of business and industry including J. S. W. Davidsen, Chief of Mechanical Engineering Branch, met with Foothill College officials recently to draft four new curriculums in technical education. The four new courses include General Drafting Technology, Technical Illustration, Architectural Drafting and Tool Design and Development.

A special advisory committee will be formed for the Tool Design and Development curriculum, which will function in cooperation with the local chapter of the American Society of Tool Engineers.

Firms represented at the meeting included Stanford Research Institute, Hewlett-Packard, General Electric, Sylvania, Lockheed, Ampex, Westinghouse, Mattson Associates and Rhines, Andrews and Associates.

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOLUME II

JUNE 9, 1960

NUMBER 17

Shelby Thompson Appointed Director of New NASA Office

Shelby Thompson has been appointed Director of the newly established Office of Technical Information and Educational Programs, Richard E. Horner, NASA's Associate Administrator, announced today. Mr. Thompson comes to NASA from the U. S. Atomic Energy Commission where he was Deputy Director of the Division of Information Services.

In addition to the responsibility for acquisition and dissemination of technical information, such as scientific reports, Mr. Thompson's office will conduct educational programs about the work of the National Aeronautics and Space Administration. The new office, which became effective May 31, will report to the Associate Administrator.

Mr. Thompson joined the Atomic Energy Commission in 1947 as the agency's first Chief of Public Information Services. In 1955 he was appointed Deputy Director of AEC's division in charge of public and technical information programs. While head of public information, he was in charge of the first observation by U. S. Newsmen and civil defense representatives of a nuclear fission bomb detonation in Nevada. Later he conducted a similar group to the Eniwetok proving ground in the Pacific for observation of a thermo-nuclear bomb detonation.

Earlier assignments have included responsibility for news photo, wire photo, and feature service of the central division of the Associated Press in Chicago, and reporting and editing for daily newspapers and the Associated Press in the Rocky Mountain region.

A native of Cheyenne, Wyoming, Thompson was born July 19, 1907. He attended the University of Wyoming.

Bogart Receives "Employee of Year" Plaque



Andre Bogart of Model Construction Branch is shown at left above receiving a plaque naming him "Employee of the Year" from George Phillips, President of the San Francisco Federal Business Association, sponsors of the award. The 8th annual luncheon honoring the Federal Executive, Staff Man and Employee of the Year was held at the Marine Memorial Club in San Francisco May 23. Bogart was selected for this honor as a result of his record of superior performance of his duties, especially in the field of ceramic research and development.

Included as guests at the luncheon were his wife, Betty, and the following Ames personnel: Edward W. Betts, Chief, Technical Services Division; Andre G. Buck, Chief, Engineering Services Division; Paul Radach, Engineering Services; M. Helen Davies, Personnel Officer; Walter Peterson, Budget; and Ted Smith, Model Construction Branch.

The plaque is currently being displayed in the Personnel Office.

1960-61 FOOTHILL COLLEGE CATALOG AVAILABLE

Foothill College has announced release of its new general catalog for the 1960-61 academic year. These catalogs may be obtained through the registrar's office at 150 El Camino Real, Mountain View, and a few copies are a-

available in the Ames Personnel Office.

Summer session runs from June 20 through August 12, the fall semester from September 6 through January 27, and the spring semester from February 1 through June 16.

Beginning Spanish will be offered this summer if there is sufficient demand.

Astroventuring... with walt krumm

THE MILKY WAY GALAXY

How do we know!
Whither?

Where are our stars going?
This information is not an intrinsic property of a star but knowledge we wish because of its interest and further use we derive from it.

The stars we so often call 'fixed' are in reality in rapid motion. As we survey the stars from time to time we find that they have moved. Even when we subtract out the motions of the earth, earth-sun, and sun we still find effects that remain unaccounted for. These small and usually random changes are called proper motions.

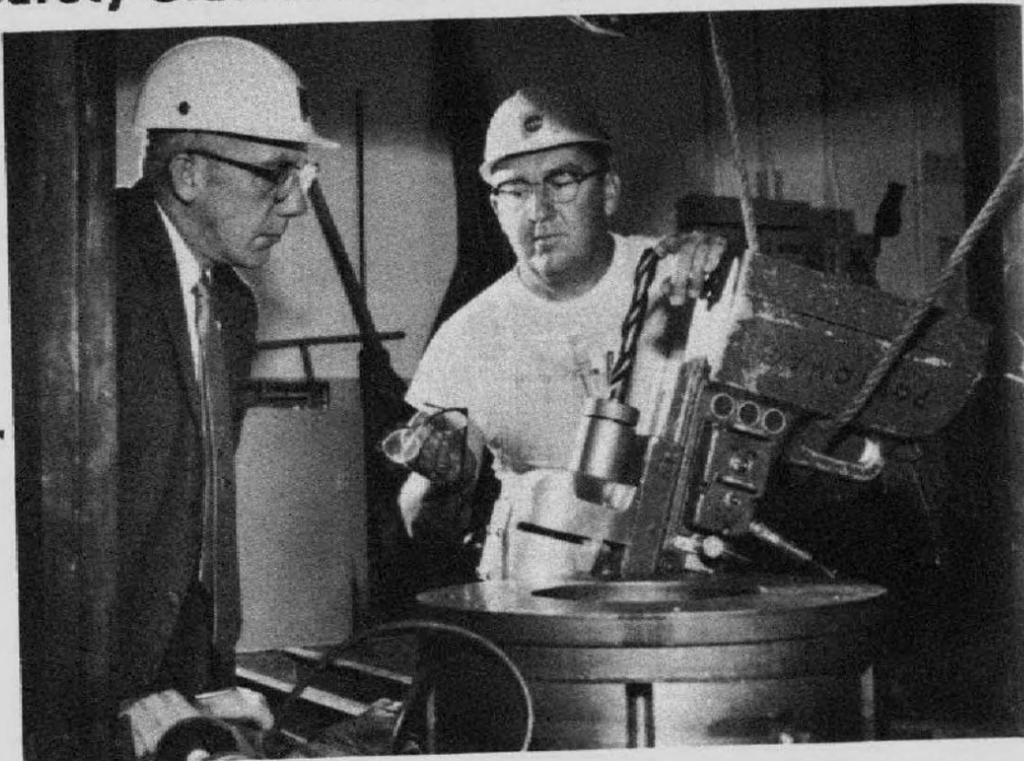
There are three motions to the apparent change in a star's position - space motion, cross motion, and radial motion.

Cross motion is the apparent change in a star's position across our line of sight. As this is an angular measurement we must have the star's distance from us to know how much and if we add a time unit we have the star's proper motion - normally in seconds of arc per year. Fortunately, proper motions are very small or our constellations would soon become unrecognizable. The greatest known proper motion is that for "Barnard's Star" in Ophiuchus of 10.3 seconds per year. This amounts to about the width of the moon in 150 years. Others move so slowly that centuries are needed to detect a change by unaided eye. The normal way of detecting this change is obtained by taking identical photographs with a time lapse of 10, 50, or 100 years. If the stars match on the two photos proper motion is too small to detect. If a shift has occurred they do not match and the distance moved is noticeable and measureable.

Radial motion is the change in a star's position along our line of sight. A movement toward or away from us. This motion is undetectable by eye but gotten from the spectral shift called the Doppler - Fizeau displacement. If the lines of the spectrum are displaced toward the violet, when compared to a standard spectrum, the star is approaching us. If the lines are shifted toward the red the star is moving away. The data is usually accurate to ± 1 mile/sec. To the observed radial velocity must be applied a correction for the motion of the observer.

The resultant of the proper mo-

Safety Glasses Foil Friday the 13th Jinx



John Savage, Tool Maker from the Machine Branch shows Les Briggs, Ames Safety Officer how his left eye was definitely protected from serious injury and possible loss. While Savage was maneuvering the pictured magnetic drill into position for an overhead operation, the 1" drill pulled out of the spindle and hit directly on the left lens of his prescription-type safety glasses. The lens was chipped and the frame bent, but John escaped with only a cut over his eyebrow.

This is but one of many examples of safety glasses preventing serious eye injury.

tion and radial velocity is the space motion of the star. This tells us where our star is going. From this knowledge (space motion) we derive many interesting facts. For example: we find the properties of double stars from this plus other data; we find that the stars of galactic clusters are moving through space at the same speed and direction like a flock of ducks flying south; we find our galaxy to be a "spiral" and slowly spinning about its axis, etc.

Ames Airings

Announcing his arrival into the home of JANIS COLVILLE (Formerly of Ad. Serv.) was Carl David, 7 lbs, 8 ounces, born May 12..... The proud owner of a brand new Master's degree is WALT ISLER (8-by 7-). He received it from San Jose State College..... Thursday, June 2, bade "Bon Voyage" to RAYMOND ISAACSON (Model Constr.) who left for several weeks vacation in Europe. Ray flew over and will do some extensive travelling, including visiting relatives in the Scandinavian

countries..... Proudly strutting around the Administration Building these days is new grandfather JOHN VAN ETTEN (Security). His first grandson is known as Duncan Scott, born May 12, and weighing 10 lbs, 7 ounces. It was Saturday night, May 28, the place was Yosemite. All was still in the camp -- when suddenly a noise awakened SUSIE DUHON (Ad. Serv.). She cautiously looked out of her tent, and saw -- a bear carefully stealing food from their supplies. He not only took food, but dishes and a salt shaker. That was a might hungry bear. Susie had a nice week-end otherwise, enjoying such scenic places as Glacier Point and Bridal Veil Falls, with her children. Visiting for a few weeks in Detroit and Washington, D. C. are BILL ATWILL (Supply) and his wife..... It was pretty hot in the vicinity of Clear Lake, says MARY SCHMIDT (Supply), when she spent the Memorial Day week-end there..... ROBINA SHARP (Supply) spent the holiday week-end at Riverside visiting her sister..... The end of the fiscal year is fast approaching and we would like to remind all AMES GIVERS to make their final payments on their pledges.

'Flying Reeses' Return From Transcontinental Flight

Dave Reese (Technical Assistant to the Director) and his wife, Kathy, recently returned to Palo Alto after a two-weeks' trip to New York which they made in a Cessna 170 aircraft piloted and navigated by Dave.

Their original plans were to fly directly to White Plains, New York for a week-long visit with Kathy's aunt and uncle, and return to Palo Alto via Minneapolis for a short visit with friends. Spring weather conditions across the country turned the flight into a game of hide-and-seek with rain, wind and fog and if it had not been for accurate and courteous help from the Weather Bureau and FAA radio operators, the trip would have been a grueling and frustrating experience.

They left Palo Alto Saturday morning, May 7 in the four-place, single engine ship equipped with a VHF transceiver with omnidirectional navigation gear and a LF receiver for tuning low frequency navigation beams, landing in Rawlins, Wyoming in time for dinner that evening. The next day it continued clear with tail winds and they landed in Moline, Illinois averaging up to 140 mph over Nebraska.

At Moline the next morning they had to change their plans to fly directly to New York, and flew instead to Winston-Salem, North Carolina via Knoxville, Tennessee to skirt a bad weather area. The next morning they made the short hop to Williamsburg, Virginia,

and spent the rest of the day and evening seeing the restored colonial town there. Tearing themselves away from the fascinating historical spot, they flew the rest of the way to New York in poor visibility conditions in one of the most heavily congested air traffic areas in the country. Dave was so relieved to see the airport come into view that he failed to report he was entering the traffic pattern, but was quickly made conscious of his omission by the control tower operator.

After seeing such interesting sights as blooming azaleas and dogwoods and a restored fishing village in Connecticut, they took a train to Philadelphia to visit Kathy's sister and see historical points of interest. They flew back to New York in a commercial airliner on Friday, May 13 and Dave did not put his full weight on the seat until they landed unscathed at Idlewild.

Rain thwarted their plans to leave New York on the 18th, but the next day was bright and clear and they flew to Toledo, Ohio before the weather closed in. The following morning the best weather advice seemed to be "take the train," as a complete storm with wind, squalls, thunder and sleet blocked their way to Minneapolis. Being a day late as it was, Dave and Kathy decided to forego the trip north and headed southwest to go around the storm. Leaving Fort Wayne, Indiana, they had good weather until an hour out of Peo-

ria. From then on they were buffeted with winds up to 35 mph, plagued with static, unable to see more than a mile or two in any direction, out of radio contact with navigation beams for a time and finally landed with the aid of the Peoria control tower.

They continued to angle southwest from Peoria to Topeka, Kansas, in a headwind of about 50 mph, barely keeping up with trucks on the highway they were following. Continuing on, they got as far as Winslow, Arizona, flying through what Dave said was the roughest turbulence he had ever encountered.

The final leg of the journey was covered the following day, flying via Prescott, Arizona and Bakersfield. They were greeted by their last weather problems over the San Joaquin Valley as they hit light snow and cloud cover. When they touched down in Palo Alto they had covered some 6,081 miles in 63½ hours. Average speed to New York was 114 mph, while persistent head winds slowed them to an average of 82 mph returning.

Dave and Kathy thoroughly enjoyed the trip and were greatly impressed with the network of navigation aids, weather reports and information which are available to private pilots flying cross-country. Although he reported back to work a day late, Dave felt the trip was entirely successful and well worth a few hours of being wind-tossed and rain-washed.

STANFORD ANNOUNCES BALLISTIC AND SPACE LECTURE SERIES

A 14-week filmed lecture series entitled Ballistic and Space Vehicle Systems will be offered at Stanford University on Wednesday evenings starting June 15. The series will be administered by Stanford's Aeronautical Engineering Department and jointly sponsored by the United Technology Corporation of Sunnyvale.

The course covers the design of ballistic vehicles from a systems standpoint. Interactions among desired missions, propellant characteristics, payload magnitude, propulsion system, structural capabilities and trajectory variations are considered, as well as exchange ratios and the use of machine programs.

A tuition fee of \$18 is required for attendance, and class notes will be distributed at each meeting.

Cafeteria Menu

WEEK OF JUNE 13

Mon. Chicken Fried Steak, Macaroni Au Gratin, String Beans, Hot Roll, Ice Cream or Custard.....90¢
Vegetable Soup.....15¢

Tues. Corned Pork, Parsleyed Potatoes, Fried Cabbage, Ice Cream or Fruit.....90¢
Tomato Macaroni Soup.....15¢

Wed. Mexican Plate, Tamales, Chili Beans, Tossed Salad, Ice Cream or Berries.....85¢
Split Pea Soup.....15¢

Thur. Roast Leg of Spring Lamb, Mint Jelly, Whipped Potatoes, Natural Sauce, Sugar Peas, Hot Roll, Ice Cream or Fruit.....95¢
Cream of Onion Soup.....15¢

Fri. Sea Food Plate, Cole Slaw, Shoestring Potatoes, Ice Cream or Jello.....90¢
Clam Chowder.....15¢
SPECIAL--Meat Entree
Steak Sandwich and Cole Slaw.....55¢

Completes Luncheon Includes
BREAD & BUTTER and TEA or COFFEE

WEEK OF JUNE 20

Mon. Chuck Pot Roast, Oven Brown Potatoes, Natural Gravy, String Beans, Ice Cream or Bread Pudding.....90¢
Vegetable Soup.....15¢

Tues. Southern Fried Chicken, Hot Potato Roll, Snowflake Potatoes, Cream Gravy, Peas, Ice Cream or Peaches.....90¢
Pearl Barley Soup.....15¢

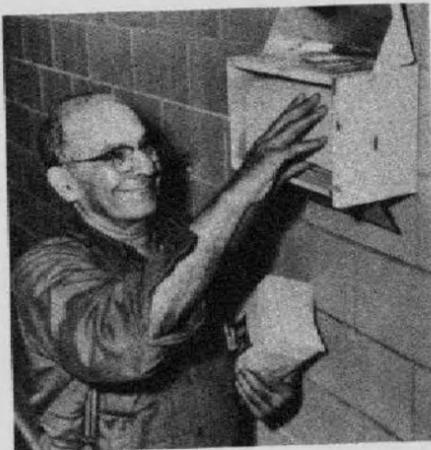
Wed. Baked Beans, Weiners, Tossed Salad, Corn Bread, Ice Cream or Baked Apple.....85¢
Split Pea Soup.....15¢

Thur. Choice Sirloin Steaks, French Fries, Buttered Carrots, Hot Roll, Ice Cream or Fruit.....\$1.35
Cream of Potato Soup.....15¢

Fri. Columbia River Salmon, Tartar Sauce, Cole Slaw, Shoestring Potatoes, Ice Cream or Jello.....90¢
Clam Chowder.....15¢
SPECIAL--Meat Entree
Steak Sandwich and Macaroni Salad.....55¢

Recent Arrivals

Employees recently reporting aboard include NORMA FORMY DUVAL of Irvington, assigned to the 3.5-Foot as a Clerk-Typist; OTTO DAVIDSON, graduate of Stanford, assigned to Heat Transfer as an Aeronautical Research Engineer; KENNETH ATCHLEY of San Mateo, assigned to Mechanical Engineering as an Illustrator; CATHERINE BRUCK of Sunnyvale, assigned to Dynamics Analysis as a Secretary; KAROL VENOS of San Jose, assigned to EMC as a Card Punch Operator; PATRICIA DIGGS of Oakland, assigned to EMC as a Card Punch Operator; ALICE PAYN of Portland, Oregon, assigned to Personnel as a Clerk-Typist; LEONARD MC GEE of Santa Clara, assigned to Dynamics Analysis as an Aeronautical Research Engineer; JUDITH D. CROWNOVER of San Jose, assigned to Fiscal as a Card Punch Operator; MARTIN C. JOHNSON of Orange, California, assigned to Admin. Services as an Administrative Assistant; THOMAS J. PIRTLE of San Jose, assigned to Maintenance as a Cleaner; CHARLES M. MANWARING of San Francisco, assigned to Maintenance as a Cleaner; DONALD C. DUST, a former employee assigned to Dynamics Analysis as an Aeronautical Research Engineer; MARIE F. PALMER of Mountain View, assigned to Photo as a Clerk Typist; CARY O. FISK of San Jose, assigned to Fiscal as an Accountant; LUTHER WILKERSON of Palo Alto, assigned to Maintenance as a Cleaner; HELEN WONG of Mountain View, assigned to Admin. Services as a Clerk Typist; O. DENE SCOTT of San Diego, assigned to Personnel as a Personnel Clerk; ANGEL F. CABEZAS of Sunnyvale, assigned to Maintenance as a Cleaner; JEANETTE MC GEE of San Mateo assigned to Admin. Services as a Clerk Typist; GRACE M. WEBSTER of San Francisco, assigned to Vehicle Instrumentation Research as a Secretary; DOROTHY LYON of Palo Alto, assigned to Physics as a Mathematics Aid; WILLIAM L. CRAWFORD, of the Panama Canal Zone, assigned to Personnel as a Position Classification Specialist; DOROTHY D. SHEFFY of New Mexico, assigned to Admin. Services as an Editorial Clerk Typist; and EVERETT E. GILBERT of Lemoore, California assigned to Security as a Guard.



JOHN ISADORE TO RETIRE

John Isadore of Maintenance will retire June 15 after more than twelve years service at Ames in the 6-by 6- wind tunnel.

Born in Pescadero, California in 1893, he spent his early days working on his father's ranch in Marin County and working as a teamster in the Sacramento Valley, when ditches for the rice fields were being dug with horse-drawn scrapers.

He entered the Navy at 17 and after three years left the service to work in his brother's blacksmith shop in Half Moon Bay. Soon travel once more beckoned to him and he worked in the northwestern states for a time before once more entering the Navy.

He received his discharge in 1918 while he was stationed in New York, and found a job as iron worker there and settled down with his bride, Kathryn, whom he had met while still in the Navy. Their four children, Stanley, now a teacher in Red Bluff; John, now Assistant City Manager of Mountain View; Bill, a mechanic on the Navy side of Moffett Field and Mary, who works at a local pharmacy, were born in New York.

Isadore returned to California with his family and found work in the Mountain View area before coming to Ames in 1948. He now resides at 543 Bush Street, Mountain View.

His plans for the future include purchasing a house trailer and making an extended tour of the Sierras.

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WANT ADS

For Sale--1958 23' Lone Star cabin cruiser with galley and completely enclosed marine head, 60 H.P. Scott Atwater Motor, excellent condition. Berthed Slip 12, Island Marina, Bethel Island. Call K. Thurman, OL 6-1787.

For Sale--3 bedroom, 1 bath home, covered patio, fully landscaped, living room with new wall to wall carpet and drapes, gas stove in kitchen, double garage. 8 minutes from Ames. \$13,750. Call McCloskey, ext. 237 or YOrkshire 7-3027.

For Sale--Thor Auto-Magic washer. \$15. Call Evans, ext. 358.

For Rent--2 bedroom, 1 bath house, College Terrace, Palo Alto. \$122 month. Call Golosman, ext. 293.

For Rent--Brand new spacious apartments, unfurnished, 1 and 2 bedrooms, wall to wall carpeting, sun deck, heated pool. Four Palms Apts, 262 Mariposa Avenue, Mountain View, WH 8-8075, YO 8-5606 or call Frank Pfyl, 3.5-Foot.

Available--Memberships in Ames Soaring Club, 2 certified sailplanes. \$5.00 monthly dues - no charge for flight time. Contact Earl Menefee, ext. 226 for further details.

Ride Wanted--From San Antonio & Alma St. Shift from 8:00 to 4:30. Call Helen Wong, ext. 338.

For Sale--Skin diving equipment complete, have extra equipment. \$150. 14-foot runabout wood and fiber glass with license and lights, windshield, Evenrude controls, trailer and extra tires, \$350. Springfield rifle, 1903A1, \$35. 5 H.P. Sea King, \$35. Call C. Snyder, ext. 291 or CY 3-3017.

For Sale--Pair of tickets to "Redhead", San Francisco light opera Saturday, July 2, \$5.40. Call Yvette, ext. 246.

For Sale--By owner, \$13,500 2 bedroom home, fireplace, patio, sprinklers. Near shopping and schools. Santa Clara. Call AX 6-7580.

For Rent--Room and Board for young man. Laundry, lunches packed, \$25 per week. 554 Marsh Road, Menlo Park, DA 6-2788.

For Sale--Child's stroller, Taylor-Tot, perfect. Cost \$32.50, will take \$10. Call Don Goodsell, ext. 352.

For Sale--Blackstone Ironer. Excellent condition. \$60. Original price \$189. Call YG 7-6006.

For Sale--Shure M7D stereo "custom" dynamic cartridge, 0.7 mil diamond needle, freq. response 20 - 15,000 cps, new \$18. (List \$24). Columbia L.P. 33 1/3 rpm record changer, plays 10" and 12" records, Astatic crystal cartridge. Excellent condition, \$10

NAMES REPLACE NUMBERS!

If you have been reluctant to wear your badge because of the number appearing beneath the picture, your worries are over. Your name now appears on your new badge removing the stigma that may have been attached to wearing a number! The Security Office requests employees to wear their badges at all times within the Center.

If you have not received your new badge, pick it up now in room 114, Administration Building.

The Astrogram

AMES RESEARCH CENTER, MOFFETT FIELD, CALIFORNIA

VOLUME II

JUNE 23, 1960

NUMBER 18

Foothill College to Use Videotape

As a result of the experimental project of seven Foothill electronics students, Foothill College is the first junior college in the nation to have a Videotape recorder for use in its instructional program. The students, under the direction of three faculty members, assembled the recorder from discarded components donated to Foothill by Ampex Corporation of Redwood City.

The Videotape recorder, which is 15 times more complicated than an ordinary television set, sells commercially for \$50,000. Some of the components donated to the college were from old models and others from new models. All were rejects. Thus, it was necessary to rebuild and rewire everything before it could be used. The instructors did not help the students assemble the machine, or find trouble spots, or show them how to correct them, because "We didn't know how." Instruction was really on a trial and error basis.

The Videotape recorder makes possible the instantaneous recording of television images and sound on a 2" wide magnetic tape. The sound and picture can be replayed immediately, without any further processing. Five other four-year colleges in the nation use the Videotape recorder in their instructional program. None of these are in California.

Beginning in the fall, the Videotape recorder will be used by the college in its instructional program, primarily in science, mathematics and modern foreign language. It will also continue to be used as a training aid in electronics.

NASA To Fund Ion Engine

The National Aeronautics and Space Administration has recently selected Hughes Aircraft Company to build an experimental ion engine.

Contract negotiations with the Culver City, Calif., company, one of 11 bidders in the contract competition, will begin immediately. It is estimated the year-long program to design, develop, and laboratory-test the experimental engine will cost more than \$500,000.

The engine development departs from conventional rocket engines in that there is no combustion. It works like this:

An alkalai metal atom (cesium) stream passes through a hot tungsten electrode which pulls an electron away from the cesium atom, creating what physicists call a positively charged ion. This ion stream is accelerated and focused by several more electrodes. Finally other electrons are mixed with the ion stream so that a neutrally-charged beam emerges from the engine. No nozzle is needed.

In the space of just a few inches, the ion stream develops a speed of more than 100,000 miles an hour. The cylindrical ion engine measures only about eight inches long and four inches in diameter.

This laboratory-type engine will be built to develop only about one hundredth of a pound of thrust. If test data prove the program feasible, later engines will be built to develop higher thrust levels.

Ultimately, scientists hope to use engines of this type to propel spacecraft on interplanetary missions. They would require a nuclear auxiliary power source such as SNAP-8 now under development.

New Red Cross Class

A five-class Red Cross course of instruction in the techniques of first-aid, resuscitation and safety will be given starting the second week of July, according to John Leveen, Training Officer.

Registration for the ten hours of instruction can be accomplished by contacting Leveen in the personnel office, ext. 412. All persons who have previously enrolled in a class but have failed to complete the requirements for a certificate are urged to resubmit their names for the new class. A Red Cross Certificate of Completion will be awarded at the end of the course.

A recent incident in the home of Joe Cambra, (FIR) illustrates the value of the course. Cambra had taught his wife the mouth-to-mouth method of resuscitation he learned during the last course given here. A few days ago her mother, ill with the flu, suffered a fainting spell and stopped breathing. Mrs. Cambra immediately administered resuscitation and restored normal breathing to her mother. Such an incident could happen to any one of us at any time. Would you be prepared?

ANNUAL BARBECUE COMMITTEE NAMED BY AEC

The Ames Entertainment Committee is busy planning the Ames Annual Barbecue, scheduled for Saturday, August 13 at the famous Blackberry Farm in Monta Vista, located off Stevens Creed Road.

The committee members include Irving Israel and Barbara Citti, Ticket Sales; Gerry Hall, Steaks and Chickens; Hy Zimmer, Hot Dogs; Burt Skow, Refreshments; Mike Bondi, Ticket Collector; Dick Kurkowski, Script Ticket Sales; Bob George, Games

(Continued on Page 2)



Coming down the aisle in the First Presbyterian Church of Mountain View are the former Betty Scarbrough (Office of the Director) and her new husband David Kay. They were married at 7:00 p.m. May 27, 1960. Betty's ballerina-length dress is white lace lined with light green taffeta. The Kay's are now residing in Mountain View.

Cafeteria Menu

WEEK OF JUNE 27

Mon. Beef Ravioli and Italian Meat Sauce, Crisp Green Salad or Vegetable, Ice Cream or Baked Apple.....85¢
Vegetable Soup.....15¢

Tues. Ground Chuck Steak, Fried Onions, Snowflake Potatoes, Fresh String Beans, Hot Sesame Roll, Ice Cream or Rice Pudding.....90¢
Cream of Tomato Soup.....15¢

Wed. Corned Beef and Cabbage, Creamed new Potatoes, Harvard Beets, Ice Cream or pears.....90¢
Split Pea Soup.....15¢

Thurs. Beef Stew and Vegetables, Buttered Noodles, Hot French Roll, Ice Cream or Apple Cobbler.....90¢
Potato Ala Jackson Soup.....15¢

Fri. Fish Sticks, French Fries, Salad or Spinach, Tartar Sauce, Ice Cream or Jello.....85¢
Clam Chowder.....15¢
SPECIAL --- Meat Entree
Steak Sandwich and Salad.....55¢

WEEK OF JULY 4

Mon. HOLIDAY

Tues. Virginia Baked Ham, Raisin Sauce, Oven Brown Potatoes, Luncheon Salad, Ice Cream or Pineapple.....90¢
Bean Soup.....15¢

Wed. Country Sausage, Cream Gravy, Potatoes O'Brien, Butter Beans, Ice Cream or Cake.....90¢
Split Pea Soup.....15¢

Thurs. Roast Tom Turkey, Celery Dressing, Whipped Potatoes, Sugar Peas, Cranberry Sauce, Hot Sesame Roll, Ice Cream or Pears.....95¢
Tomato Soup.....15¢

Fri. Halibut Steak, Potatoes Au Gratin, Stewed Tomatoes or Salad, Tartar Sauce, Ice Cream or Jello.....85¢
Clam Chowder.....15¢
SPECIAL --- Meat Entree
Steak Sandwich and Salad.....55¢

Complete Luncheon Includes
BREAD & BUTTER and TEA or COFFEE

Barbecue..... (Continued from Page 1)

and Music; and Barbara Citti, Decorations.

This year the various branches may have tables reserved for them and signs designating the branch area will be set up.

Sycamore Grove, site of the barbecue, will seat more than 1000, but ticket sales will be limited to 400 so that long lines to the food will be avoided.

Division Chiefs and Branch Chiefs will act as guest chefs, following the tradition of past barbecues.

A Barbecue Queen will be selected to reign over the day's festivities.

Future issues of the Astrogram will carry more information on tickets, prices, menus and other details.

(See picture at lower right)

FIRE IN 3.5-FOOT EQUIPMENT

A fire caused by overheating of an electrically operated air dryer occurred Wednesday, June 15, 1960, while some of the equipment for the 3.5-Foot Hypersonic Wind Tunnel was being tested by the construction contractors.

One of the electrical heating elements of the air dryer was destroyed and the other damaged. More extensive damage was avoided due to the prompt action of the chief of the construction crew in opening the circuit breaker and cutting the source of power. The Navy Fire Department was able to bring the fire under control quickly. No smoke damage was incurred as the fire was in equipment outside the equipment building proper.

This fire emphasized the fact that many of our employees are not familiar with the procedures for reporting a fire. The telephone ordinarily should not be used to report a fire. All fires should be reported by use of the fire alarm boxes located within or near each facility. The fire alarm boxes are tied in with the Navy Central alarm system and also sound the Ames Fire Horn. Thus, all personnel responsible for responding to a fire are immediately informed of its approximate location. Each Branch Chief should take steps to familiarize employees of his branch with the location of the master and auxiliary fire alarm boxes for his facility and the procedures to be followed in the event of a fire.

WANT ADS

For Sale--1948 Chevrolet Club Coupe, runs good, good tires, radio and heater. Good transportation - \$100. Call Jim Gysan, ext. 294.

For Rent--Spacious apartment, \$90 per month, 2 bedroom, unfurnished, fireplace, carport, 220 wiring, adults only. Located in Santa Clara. Call ANDrews 4-4818.

For Rent--Duplex, one bedroom. From July 1st through December 31, 1960. Cupertino, vicinity of Permanente Cement Co. Call AL 2-2616.

For Sale--Shure M7D stereo "custom" dynamic cartridge, 0.7 mil diamond needle, freq. response 20 - 15,000 cps, new \$18. (List \$24). Columbia L.P. 33 1/3 rpm record changer, plays 10" and 12" records, Astatic crystal cartridge. Excellent condition, \$10. Call H. Turner, ext. 206.

For Sale--Trap drum set, 22-inch bass. 2 years old, hardly used. Am moving, will sacrifice. Call McCloskey, ext. 237 or YO 7-3027.

Vacation Rental--Rio Del Mar beach house, 3 bedroom, 2 baths, choice location, ocean view. \$85 per week. Call ext. 210 or UN 7-3335.

For Rent--2 bedroom home, large kitchen, service porch, fenced yard, no more than 2 children preferred. \$100 per month. 163 Charles Street, Sunnyvale. Inquire at 159 Charles Street, Sunnyvale.

For Sale--Memberships in Moffett Aero Club Inc. Luscombe 90 - 8 F. Fly for 75¢ per hour. Monthly dues \$5.00. Plane insured, based at Reid Hillview Airport, San Jose. Call Vern Kirk, ext. 291 or Jim Neely, ext. 231.

For Sale--Three front row downstairs tickets to the Ice Follies, \$2.90 each. Call Allan Weber, ext. 293.

For Sale--12' cartop boat, light plywood construction, 7 1/2 H.P. Scott, special side-loading carrier extras, good shape. \$170. Pictures in room 210, Unitary. Call T. Gregory, ext. 247.



Barbara Citti, of the AEC, brings fattening fodder to young steer. The committee spares no effort to guarantee the success of its programs!

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Editor: B. P. Wilson
Reporters: NASA Employees.

MEMORANDUM for Staff:

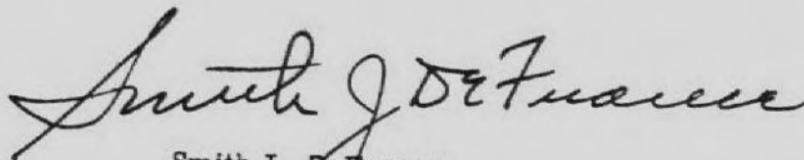
As you are all aware, a series of earthquakes and volcanic eruptions, followed by tidal waves and floods, have caused a major catastrophe in Chile. The damage is very extensive. It will take years of reconstruction to restore the devastated areas.

It is impossible to provide funds for catastrophes of this magnitude from an annual drive. Therefore, the President's Committee on Fund-Raising within the Federal Service has asked Heads of Executive Departments and Agencies to schedule an emergency solicitation appeal to help the stricken people of Chile.

In a recent letter to me, Dr. Glennan said, "I am wholeheartedly behind this worthy cause and I feel certain that NASA can and will respond in a way of which we can be proud. I have set a goal for one-hundred per cent employee participation, and I would like to see this goal met throughout NASA."

When you make your contribution remember that Chile was the first foreign nation to respond to our need for help during the 1906 fire and earthquake in San Francisco. This is our opportunity to return the favor!

Solicitors have been appointed in each branch and will contact you individually in the near future.



Smith J. DeFrance
Director

Ames Closeups



EVELYN HARPER

"The perfect job" is the way Evelyn Harper describes her duties as a Purchasing Agent in Procurement and Supply Branch. Evelyn, who loves searching for a bargain, feels that being paid to do Ames' shopping (knowing that no matter how much she spends she won't have to face a mountain of bills the first of the month) is an absolutely unbeatable way to spend weekdays. She estimates that since coming here in 1948 she has been responsible for the purchase of some \$3,387,658.40 worth of the materials that keep Ames humming. Once she inadvertently caused the telephone lines here to hum when she dialed one oil company, thinking she was talking to another, and bought 800 gallons of gasoline she didn't want. After some hastily made arrangements by phone the gas was disposed of with no loss to Ames.

Her week ends and evenings, however, are taken up by projects and hobbies which indicate a conviction that the best things in life are free. On vacations, she enjoys "returning to nature" by packing back into the Sierras, the Marble Mountain wilderness area, and the Cascade Mountains with pack animals and a group of equally hardy friends, armed only with 35 mm slide cameras.

Closer to home, she enjoys participating in dramatic productions with the Peninsula Little Theater group of San Mateo, collecting relics of the bygone days of San Francisco (she has an 1850 city directory) and attending drawing classes at San Mateo College where she is doing sketching in preparation for learning the techniques of oil painting.

One of her pet hobbies is training dogs for shows; however,

Ames Airings

..... by
Sharon Scharmen

Having enjoyed a wonderful trip to that "great state of Texas", BETTY and JIM BRADY (Personnel and 40- by 80-) returned to work June 13. They visited relatives and friends for two weeks. June 3, 1960 welcomed a new baby girl, Nancy Ann, to the home of ROBERT M. SORENSON (Struc. Dynamics). She weighed a healthy 9 lbs, 7 ounces. Colorado, Nebraska, and Iowa were the states covered by GERALD and RUTH WICHMAN (Machine and Struc. Dynamics) for a four-week vacation where they visited relatives and friends. BOB BOESE (FIR) was recently named for associate membership in the University of Denver chapter of Sigma XI, national honorary society for recognition and encouragement of research in science. Another very proud grandfather beaming around the center this past week is MARTY MARGOLIS (Elec.). An 8 lbs, 8 ounces baby girl becomes his first grandchild born June 14. HELEN DAVIES (Pers.) returned from a wonderful vacation in Mexico for 8 days. She is ready to return there any time. EVE WUNN (Library)

not once during the ten years she has been interested in show dogs has she brought herself to actually subject one of her bluebloods to the rigors of a show. "Too much strain for the dog to undergo," she claims, and contents herself (and the reprieved canine) to practice sessions of obedience and stance at home. Claretone's Golden Ruler, a golden cocker spaniel (Buffy to his friends) is a lucky dog!

Evelyn was born in San Francisco and attended Burlingame schools. She spent her college days at San Mateo College, Stanford and the University of California as a speech and drama major. In 1942 she joined the war effort at Victorville Air Base as a clerk-typist in the armament division, which was involved in testing automatic aircraft equipment.

Through acquaintances on the small, isolated base, she was able to occasionally serve in the unofficial capacity of "navigator trainee" on test flights over the desert in B-17 bombers. During what turned out to be her last

flew by Polar Jet to Germany on June 14. She is going to spend 2½ months there visiting her sister and brother. Some people will do anything to attract attention! Tuesday night, June 7, HAZEL GRANATO tried to drown herself during a party held by the girls in Administrative Services at Club Lanai in Cherry Chase Center, Sunnyvale. Of course, there was a lifeguard present who immediately leaped into the pool to pull Hazel out. We suspect she used this method to attract his attention, since he was the only man present at this 15-girl swim party! Congratulations to three more employees recently receiving advanced degrees from Stanford. ROBERT BARNETT (DA) received his MS in Electrical Engineering, ROBERT PULLEN (Physics) received his MS in Engineering Mechanics, and BERNARD GOLOSMAN (FIR) received his 6th year Engineer's Degree in Electrical Engineering. The world welcomed a new addition into the family of THOMAS CANNING (SSFF) on May 31, 1960. Dubbed "John" he weighed in at 7 lbs, 2 ounces. PARRY ANNIS (Elec.) and his wife recently returned from a two-weeks vacation in Canada. HY ZIMMER (AEC Chairman) has asked us to be sure and remind you to take several slides on your trip for the Color Slide Festival in the fall.

"mission", #3 engine failed on take off and they were just able to clear the high tension lines leading from Boulder Dam. Since the engine was the one which supplied power for lowering the landing gear, returning to the field was impossible until crew members manually lowered the gear. For fifteen minutes they circled the field in the landing pattern, Evelyn strapped in a parachute, until the wheels were lowered and they landed unhurt with engine #2 smoking and spurts of flame issuing forth.

In 1946 Evelyn was assigned as secretary to the Aircraft Storage Officer, known by his associates as the "Pickling Officer". He was in charge of preparing returning war aircraft for storage in plastic coatings. Evelyn had become interested in Ames through NACA teletypes she had seen and in 1948, when everything was thoroughly "pickled", came here to work.

She was promptly assigned to Procurement and Supply and no one has been able to tear her away from her Sears and other catalogs since!